

TOEFL® MAP

6 Full-Length
Practice Tests

ACTUAL TEST

CONTAINS TOPICS RECENTLY PRESENTED

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 MP3 CD INCLUDED

Listening 1

www.e-lifeshop.co.kr

잉글리쉬라이프 ENGLISH LIFE

● 어학교재 총판
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 DARAKWON

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Answers, Scripts, and Explanations ---

HOW IS THIS BOOK DIFFERENT?

CONTAINS PASSAGES MOST RECENTLY PRESENTED

- Has 45 passages in total
- Reconstructs the most frequently asked questions after analyzing real TOEFL® questions

CONSISTS OF VARIOUS TOPICS

- Deals with academic topics such as the humanities, sciences, and arts
- Handles all types of conversations regarding campus life

PROVIDES AN EXPLANATION FOR EVERY QUESTION

- Shows the question types and detailed explanations
- Presents tips for getting a higher score

PRESENTS ALL OF THE LISTENING SCRIPTS AND TRANSLATIONS

- Contains scripts and translations

INCLUDES AN MP3 FILE CD



HOW TO USE THIS BOOK

QUESTION

This book contains every type of question that appears on the TOEFL® iBT. The difficulty level of the questions is the same as those on the actual TOEFL® iBT.

SCRIPT

Readers can check their listening ability by consulting the scripts. The scripts are word-for-word reproductions of the recordings of the conversations and lectures.

WORD REMINDER

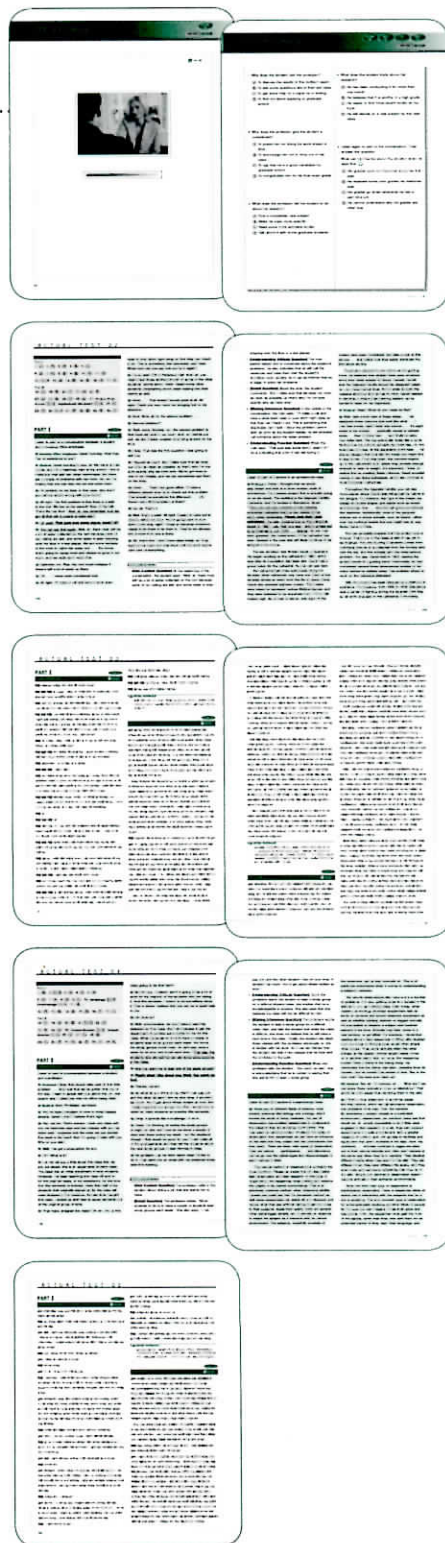
The words and expressions that are frequently presented on the actual TOEFL® iBT are listed in this section. In addition, readers can learn key words related to specific topics.

EXPLANATION

Every question has its own detailed explanation, so readers can learn why some answer choices are correct while others are not.

TRANSLATION

In case some Korean readers cannot fully understand the script, a translation section has been attached to the book. This section can help readers grasp the meanings of certain conversations and lectures.



ABOUT THE TOEFL® iBT

■ TOEFL® iBT Test Sections

Section	Tasks	Time Limit	Questions
Reading	Read 3-5 passages from academic texts and answer questions.	60 – 100 minutes	36 – 70 questions
Listening	Listen to lectures, classroom discussions, and conversations and then answer questions.	60 – 90 minutes	34 – 51 questions
Break: 10 minutes			
Speaking	Express an opinion on a familiar topic and also speak based on reading and listening tasks.	20 minutes	6 tasks
Writing	Write essay responses based on reading and listening tasks and support an opinion in writing.	50 minutes	2 tasks

■ TOEFL® iBT Test Contents

The TOEFL® iBT test is a test given in English on an Internet-based format. The TOEFL® iBT has four sections: listening, reading, speaking, and writing. The test requires approximately four and a half hours to take.

■ Combining All Four Skills: Listening, Reading, Speaking, and Writing

During the test, learners must use more than one of the four basic skills at the same time. For instance, learners may have to:

- listen to a question and then speak a response
- read and listen and then speak a response to a question
- read and listen and then write a response to a question

■ What Is the TOEFL® iBT Test?

The TOEFL® iBT test measures how well learners understand university-level English. The test requires students to use a combination of their listening, reading, speaking, and writing skills to do various academic tasks.

■ Which Learners Take the TOEFL® iBT Test?

Around one million people take the TOEFL® iBT test every year. The English abilities of most people taking the test are anywhere from intermediate to advanced. The following types of people most commonly take the TOEFL® iBT test:

- students who will study at institutes of higher learning
- students who wish to gain admission to English education programs
- individuals who are applying for scholarships or certificates
- learners who want to determine the level of their English ability
- students and other individuals who are applying for visas

■ Who Accepts TOEFL® iBT Test Scores?

In more than 130 countries around the world, over 8,000 colleges, universities, agencies, and other institutions accept TOEFL® scores. In addition, the following places utilize TOEFL® scores:

- immigration departments that use the scores when issuing visas
- medical and licensing agencies that award various certificates
- individuals who are trying to determine the level of their English ability

ABOUT THE LISTENING QUESTION TYPES

Type 1 Gist-Content Questions

Gist-Content questions cover the test taker's basic comprehension of the listening passage. While they are typically asked after lectures, they are sometimes asked after conversations as well. These questions check to see if the test taker has understood the gist of the passage. They focus on the passage as a whole, so it is important to recognize what the main point of the lecture is or why the two people in the conversation are having a particular discussion. The test taker should therefore be able to recognize the theme of the lecture or conversation in order to answer this question correctly.

Type 2 Gist-Purpose Questions

Gist-Purpose questions cover the underlying theme of the passage. While they are typically asked after conversations, they are sometimes asked after lectures as well. Because these questions focus on the purpose or theme of the conversation or lecture, they begin with the word "why." They focus on the conversation or lecture as a whole, but they are not concerned with details; instead, they are concerned with why the student is speaking with the professor or employee or why the professor is covering a specific topic.

Type 3 Detail Questions

Detail questions cover the test taker's ability to understand facts and data that are mentioned in the listening passage. These questions most commonly appear after lectures; however, they may sometimes come after conversations. Detail questions require the test taker to listen for and remember details from the passage. The majority of these questions concern major details that are related to the main topic of the lecture or conversation rather than minor ones. However, in some cases where there is a long digression that is not clearly related to the main idea, there may be a question about the details of the digression.

Type 4 Understanding the Function of What Is Said Questions

Understanding the Function of What Is Said questions cover the test taker's ability to determine the underlying meaning of what has been said in the passage. This question type often involves replaying a portion of the listening passage. There are two types of these questions. Some ask the test taker to infer the meaning of a phrase or a sentence. Thus the test taker needs to determine the implication – not the literal meaning – of the sentence. Other questions ask the test taker to infer the purpose of a statement made by one of the speakers. These questions specifically ask about the intended effect of a particular statement on the listener.

Type 5 Understanding the Speaker's Attitude Questions

Understanding Attitude questions cover the speaker's attitude or opinion toward something. These questions may appear after both lectures and conversations. This question type often involves replaying a portion of the listening passage. There are two types of these questions. Some ask about one of the speakers' feelings concerning something. These questions may check to see whether the test taker understands how a speaker feels about a particular topic, if a speaker likes or dislikes something, or why a speaker might feel anxiety or amusement. The other category asks about one of the speaker's opinions. These questions may inquire about a speaker's degree of certainty. Others may ask what a speaker thinks or implies about a topic, person, thing, or idea.

Type 6 Understanding Organization Questions

Understanding Organization questions cover the test taker's ability to determine the overall organization of the passage. These questions almost always appear after lectures. They rarely appear after conversations. These questions require the test taker to pay attention to two factors. The first is the way that the professor has organized the lecture and how he or she presents the information to the class. The second is how individual information given in the lecture relates to the lecture as a whole. To answer these questions correctly, test takers should focus more on the presentation and the professor's purpose in mentioning the facts rather than the facts themselves.

Type 7 Connecting Content Questions

Connecting Content questions almost exclusively appear after lectures, not after conversations. These questions measure the test taker's ability to understand how the ideas in the lecture relate to one another. These relationships may be explicitly stated, or you may have to infer them from the words you hear. The majority of these questions concern major relationships in the passage. These questions also commonly appear in passages where a number of different themes, ideas, objects, or individuals are being discussed.

Type 8 Making Inferences Questions

Making Inferences questions cover the test taker's ability to understand implications made in the passage and to come to a conclusion about what these implications mean. These questions appear after both conversations and lectures. These questions require the test taker to hear the information being presented and then to make conclusions about what the information means or what is going to happen as a result of that information.

ACTUAL

T E S T

01

— PART I

— PART II

— PART III

Listening Section Directions

This section measures your ability to understand conversations and lectures in English.

The Listening section is divided into separately timed parts. In each part, you will listen to 1 conversation and 2 lectures. You will hear each conversation or lecture only **one** time.

After each conversation or lecture, you will answer some questions about it. The questions typically ask about the main idea and supporting details. Some questions ask about a speaker's purpose or attitude. Answer the questions based on what is stated or implied by the speakers.

You may take notes while you listen. You may use your notes to help you answer the questions. Your notes will **not** be scored.

If you need to change the **volume** while you listen, click on the Volume icon at the top of the screen.

In some questions, you will see this icon:  This means that you will hear, but not see, part of the question.

Some of the questions have special directions. These directions appear in a gray box on the screen.

Most questions are worth 1 point. If a question is worth more than 1 point, it will have special directions that indicate how many points you can receive.

A clock at the top of the screen will show you how much time is remaining. The clock will not count down while you are listening. The clock will count down only while you are answering the questions.

Listening Directions

In this part, you will listen to 1 conversation and 2 lectures.

You must answer each question. After you answer, click on **Next**. Then click on **OK** to confirm your answer and go on to the next question. After you click on **OK**, you cannot return to previous questions.

You may now begin this part of the Listening Section. You will have **10 minutes** to answer the questions.

Click on **Continue** to go on.

MP3 Download. Type exactly the same.

<http://goo.gl/0Tplt>

01-03



1 Why does the student visit the professor?

- (A) To discuss the results of the midterm exam
- (B) To ask some questions about their last class
- (C) To get some help on a paper he is writing
- (D) To find out about applying to graduate school

2 Why does the professor give the student a compliment?

- (A) To praise him for doing his work ahead of time
- (B) To encourage him not to drop out of her class
- (C) To say that he is a good candidate for graduate school
- (D) To congratulate him for his final exam grade

3 What does the professor tell the student to do about his research?

- (A) Find a completely new subject
- (B) Make his topic more specific
- (C) Read some more scholarly books
- (D) Talk about it with some graduate students

4 What does the student imply about his research?

- (A) He has been conducting it for more than one month.
- (B) He believes that it is worthy of a high grade.
- (C) He needs to find more recent books on his topic.
- (D) He will decide on a new subject by the next class.

5 Listen again to part of the conversation. Then answer the question.

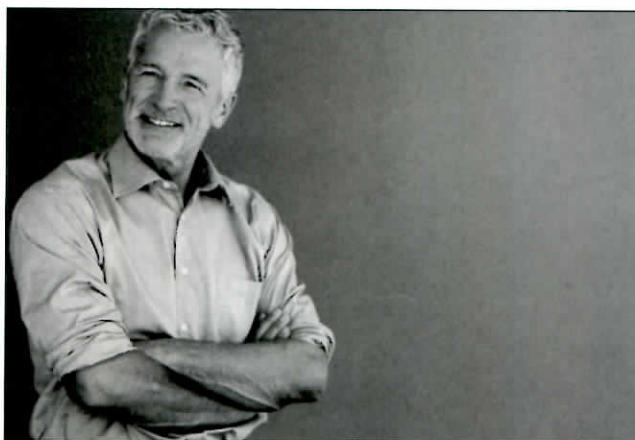
What can be inferred about the student when he says this: 

- (A) His grades have not improved since his first year.
- (B) He received some poor grades his freshman year.
- (C) His grades go down whenever he has a part-time job.
- (D) He cannot understand why his grades are often low.



01-04

Environmental Science



- 6 What aspect of tides does the professor mainly discuss?
- (A) When they most frequently occur in the oceans
 - (B) The difference between spring and neap tides
 - (C) How outside forces cause them to rise and fall
 - (D) Why some tides are higher than others are
- 7 What comparison does the professor make between the sun and the moon?
- (A) The amount of gravitational force they possess
 - (B) The effect that they have on the Earth's tides
 - (C) Their relative sizes as they compare to the Earth
 - (D) The distance from the Earth that both of them are
- 8 What is a spring tide?
- (A) A tide that takes place only during the spring
 - (B) The lowest level that the tide reaches in a year
 - (C) A tide that differs slightly from the normal sea level
 - (D) The tide with the highest level in a month
- 9 What is the professor's attitude toward the student?
- (A) He is tolerant of her constant interruptions.
 - (B) He is complimentary of her for one of her questions.
 - (C) He becomes impatient because she asks several questions.
 - (D) He is pleased that she has read the material.
- 10 Why does the professor discuss the Bay of Fundy?
- (A) To change the topic of the lecture to discuss tidal power
 - (B) To have the students watch a video of the spring tides there
 - (C) To show how tides are affected by the shape of the coastline
 - (D) To answer one of the questions that the student asks him
- 11 What does the professor imply about tidal power?
- (A) It is a more efficient source of energy than fossil fuels.
 - (B) He is in favor of using it for a couple of reasons.
 - (C) It has the potential to be cheap and plentiful.
 - (D) The cost of tidal power stations is currently too high.



01-05

Film Studies



12 What is the lecture mainly about?

- (A) The transition from silent films to talkies
- (B) Charlie Chaplin and other famous movie stars
- (C) Some of the top stars of the Silent Film Era
- (D) The lives of Douglas Fairbanks and Mary Pickford

13 Based on the information in the lecture, indicate whether the statements refer to Rudolph Valentino or Douglas Fairbanks.

Click in the correct box for each statement.

	Rudolph Valentino	Douglas Fairbanks
1 Starred in many action movies		
2 Died when he was in his thirties		
3 Starred in <i>The Sheik</i>		
4 Was a cofounder of United Artists		

14 How is the lecture organized?

- (A) The professor covers the events of the Silent Film Era in chronological order.
- (B) The professor shows film clips of some of the stars from the Silent Film Era.
- (C) The professor details her opinion of some performers in silent movies.
- (D) The professor provides short biographies of some major silent movie stars.

15 According to the professor, why did most silent film stars fail to become stars in talkies?


Click on 2 answers.

- 1 They were unable to act properly.
- 2 They did not have acceptable voices.
- 3 They were uninterested in acting in talkies.
- 4 They tended to misspeak their lines.

16 What will the professor probably do next?

- (A) Dismiss the class for the day
- (B) Show the students a recording
- (C) Initiate a class discussion
- (D) Talk about some more silent film actors

17 Listen again to part of the lecture. Then answer the question.

What does the professor imply when she says this: 

- (A) It was easier to become a movie star in the past.
- (B) People enjoyed watching many movies in the past.
- (C) Modern movies take a fairly long time to make.
- (D) Early movies were not as short as modern movies.

01-06

Listening Directions

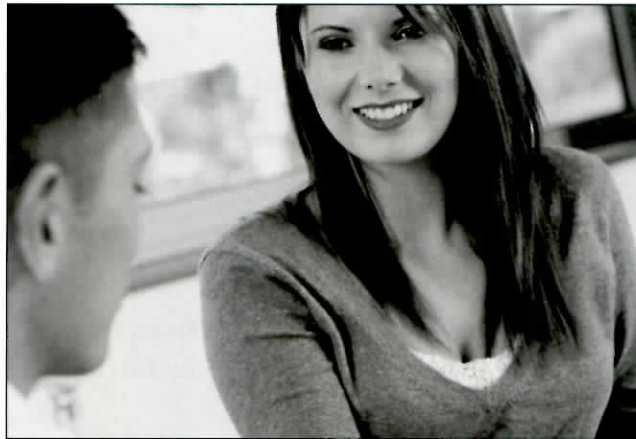
In this part, you will listen to 1 conversation and 2 lectures.

You must answer each question. After you answer, click on **Next**. Then click on **OK** to confirm your answer and go on to the next question. After you click on **OK**, you cannot return to previous questions.

You may now begin this part of the Listening Section. You will have **10 minutes** to answer the questions.

Click on **Continue** to go on.

01-07



18 Why does the student speak with the resident assistant?

- Ⓐ To find out his plans for the Thanksgiving holiday
- Ⓑ To get the train schedule for the weekend
- Ⓒ To ask about transportation to the airport
- Ⓓ To confirm the price of taking a taxi


19 What can be inferred about the student?

- Ⓐ She takes a class with the resident assistant.
- Ⓑ She wants to stay at school for the holiday.
- Ⓒ She has a close relationship with her family.
- Ⓓ She has met the resident assistant before.

20 Why is the student going to visit her family this vacation?


- Ⓐ She will not be able to go home at Christmas.
- Ⓑ One of her aunts is getting married.
- Ⓒ She has not seen them in a long time.
- Ⓓ Her next trip home will be in the summer.

21 Listen again to part of the conversation. Then answer the question.

What does the student mean when she says this: 

- Ⓐ She does not like to spend money.
- Ⓑ She cannot afford to take a taxi.
- Ⓒ She dislikes taking public transportation.
- Ⓓ She is unsure of the price of a taxi.

22 Listen again to part of the conversation. Then answer the question.

What is the purpose of the resident assistant's response: 

- Ⓐ To change the topic of the conversation
- Ⓑ To confirm that he is being serious
- Ⓒ To ask the student for her opinion
- Ⓓ To add some humor to the conversation

01-08

Literature



23 What aspect of Pippi Longstocking does the professor mainly discuss?

- (A) Her family
- (B) Her living situation
- (C) Her characteristics
- (D) Her adventures

24 What comparison does the professor make between Pippi Longstocking and Peter Pan?

- (A) Their wish to remain young
- (B) The popularity of their stories
- (C) The adventures they have
- (D) Their desire to make friends

25 Why does the professor explain Pippi Longstocking's living conditions?


- (A) To focus on the fact that she lives with her father
- (B) To mention Pippi's lack of a quality education
- (C) To emphasize why her father is frequently absent
- (D) To note how it may appeal to some young readers

26 In the lecture, the professor describes a number of facts about Pippi Longstocking. Indicate whether each of the following is a fact about Pippi Longstocking.

Click in the correct box for each statement.


	Fact	Not a Fact
1 She lives with a monkey and a horse.		
2 She does not go to school.		
3 She goes on adventures by herself.		
4 She is incredibly strong.		

27 Listen again to part of the lecture. Then answer the question.

What can be inferred about the professor when she says this: 

- (A) She had expected more students to have read the books.
- (B) The *Pippi Longstocking* books are her favorite stories.
- (C) She will assign the class to read some *Pippi Longstocking* stories.
- (D) The professor feels that the students need to read more.

28 Listen again to part of the lecture. Then answer the question.

What is the purpose of the professor's response: 

- (A) To indicate that the student should continue
- (B) To provide a short answer
- (C) To refuse to acknowledge the question
- (D) To pay the student a compliment

01-09

Physics



29 What aspect of lasers does the professor mainly discuss?

- (A) Who developed them
- (B) How they are produced
- (C) What they are used for
- (D) When they were first theorized

30 According to the professor, what is a gain medium?

- (A) A source of energy that enables a laser beam to be created
- (B) A low-energy state in which the photons are not yet excited
- (C) An optical cavity in a laser through which the light will emerge
- (D) A substance used to increase the energy of the atoms in a laser

31 Why does the professor discuss the lasing threshold?

- (A) To note its relevance to the creation of a laser beam
- (B) To state that it can use crystal, gas, or some types of glass
- (C) To compare its importance with the gain medium
- (D) To explain what use scientists have for it

32 What will the professor probably do next?


- (A) Have the students conduct an experiment
- (B) Draw a diagram of a laser on the blackboard
- (C) Give a short demonstration for the students
- (D) Ask the students if they have any questions

33 Listen again to part of the lecture. Then answer the question.

Why does the professor say this: 

- (A) To admit that he does not know the answer
- (B) To give the student permission to speak
- (C) To request that the students be polite
- (D) To make a remark about the student's comment

34 Listen again to part of the lecture. Then answer the question.

What does the student mean when she says this: 

- (A) The professor needs to explain the information better.
- (B) She thinks that the professor made a mistake.
- (C) The material the class is learning is too difficult.
- (D) She did not understand what the professor said.

01-10

Listening Directions

In this part, you will listen to 1 conversation and 2 lectures.

You must answer each question. After you answer, click on **Next**. Then click on **OK** to confirm your answer and go on to the next question. After you click on **OK**, you cannot return to previous questions.

You may now begin this part of the Listening Section. You will have **10 minutes** to answer the questions.

Click on **Continue** to go on.

01-11



35 What are the speakers mainly discussing?

- (A) A visit to a health clinic the student made
- (B) The student's proposal for a project
- (C) A paper that the student just submitted
- (D) An interview the student is going to conduct

36 Why does the student explain about Dr. Brown's Family Health Clinic?

- (A) To recommend that the professor go there
- (B) To talk about the treatment she received there
- (C) To discuss its connection with her project
- (D) To criticize the owner's marketing techniques


37 What does the professor imply about Dr. Brown's Family Health Clinic?

- (A) Its prices are the cheapest in the city.
- (B) It will likely go out of business sometime soon.
- (C) She will go there the next time she is sick.
- (D) The owner of it is a personal friend of hers.

38 What does the professor tell the student that she ought to do?

- (A) Come up with a new topic
- (B) Submit her proposal
- (C) Rewrite her entire paper
- (D) Interview Dr. Brown

39 Listen again to part of the conversation. Then answer the question.

What can be inferred about the student when she says this: 

- (A) She believes that she made a mistake.
- (B) She is upset by the professor's response.
- (C) She is unfamiliar with how to use email.
- (D) She forgot the professor's address.



01-12

History



40 What is the main topic of the lecture?

- (A) Irish home rule in the 1900s
- (B) A battle during World War I
- (C) The Irish Easter Rebellion
- (D) British-Irish relations in the 1900s

41 According to the professor, how were the Germans involved in the Easter Rising?

- (A) They provided military advice for the Irish.
- (B) They attacked British forces to distract them from Ireland.
- (C) They funded the leaders of the Irish rebellion.
- (D) They attempted to send weapons to the Irish.


42 How is the lecture organized?

- (A) By describing the events in chronological order
- (B) By engaging the students in a class discussion
- (C) By focusing on the key individuals in the revolt
- (D) By stressing the political implications of Irish home rule

43 What will the professor probably do next?


- (A) Continue lecturing on a similar topic
- (B) Begin a class discussion on what he just discussed
- (C) Provide his interpretation of the events he covered
- (D) Talk about revolutions in other countries

44 Listen again to part of the lecture. Then answer the question.

What does the professor mean when he says this: 

- (A) He cannot remember most of the names of the people and organizations.
- (B) He is not going to give the students any names of people or groups.
- (C) The students should look up the names of the leaders by themselves.
- (D) The names of the groups involved are of little historical significance.

45 Listen again to part of the lecture. Then answer the question.

What does the professor imply when he says this: 

- (A) He respects the tactical abilities of the Irish.
- (B) No rebellion with bad military leaders has ever succeeded.
- (C) Ports and train stations are important to armies.
- (D) He has a lot of knowledge about fighting revolutions.

01-13

Zoology



46 What is the lecture mainly about?

- (A) The biological connection between humans and other primates
- (B) The creation of both sign language and lexigrams
- (C) The experience researchers had with Washoe
- (D) Attempts to teach apes to communicate with humans

47 According to the professor, why did researchers first suggest teaching sign language to primates?

Click on 2 answers.

- 1 They thought that primates could use their hands to sign well.
- 2 They believed primates were unable to speak like humans.
- 3 They felt that primates were less intelligent than people.
- 4 They considered primates smart enough to learn complex motions.

48 How does the professor explain lexigrams to the students?

- (A) By showing the students a lexigram keyboard
- (B) By having the students look at some lexigrams in their books
- (C) By drawing some lexigrams on the blackboard
- (D) By asking a student to describe some lexigrams

49 Based on the information in the lecture, indicate whether the statements refer to Washoe or Kanzi.

Click in the correct box for each statement.

	Washoe	Kanzi
1 Uses lexigrams to speak with people		
2 Often signed faster than her trainers		
3 Learned to communicate by watching his mother be taught		
4 Knew around 350 words		

50 What can be inferred about the professor?

- (A) She has trained a primate to communicate with humans.
- (B) She believes it is possible to teach primates to communicate.
- (C) She thinks primates can learn to speak some English words.
- (D) She doubts some of the claims made by Washoe's trainers.

51 Listen again to part of the lecture. Then answer the question.

What can be inferred about the student when he says this: 

- (A) He doubts that Kanzi is trying to speak.
- (B) He is interested in learning more about Kanzi.
- (C) He has seen Kanzi communicate in person.
- (D) He wants the professor to explain in more detail.

**ACTUAL
TEST**

02

PART I

PART II

Listening Section Directions

This section measures your ability to understand conversations and lectures in English.

The Listening section is divided into separately timed parts. In each part, you will listen to 1 conversation and 2 lectures. You will hear each conversation or lecture only **one** time.

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Listening Directions

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You must answer each question. After you answer, click on **Next**. Then click on **OK** to confirm your answer and go on to the next question. After you click on **OK**, you cannot return to previous questions.

You may now begin this part of the Listening Section. You will have **10 minutes** to answer the questions.

Click on **Continue** to go on.

02-03



1 What is the first problem that the student discusses?

- (A) There is water leaking into her dormitory room.
- (B) Both of her roommates make messes in their room.
- (C) Some insects in her room are stinging her.
- (D) She does not get along with her roommates.

2 What can be inferred about the housing office employee?

- (A) He has only been doing his job for a few weeks.
- (B) He is not sure how he can assist the student.
- (C) He attends classes at the school on a part-time basis.
- (D) He is eager to solve the student's problems.

3 According to the student, why are there ants in her dormitory room?

- (A) They came into her room because of the rain.
- (B) Her roommates leave uneaten food on the floor.
- (C) The students next door to her brought them in.
- (D) She is not sure what has attracted the ants.

4 What will the housing office employee probably do next?

- (A) Pay a visit to the student's dormitory room
- (B) Contact someone about the water in the student's room
- (C) Listen to the student describe her room's third problem
- (D) Have the student fill out some forms concerning her room

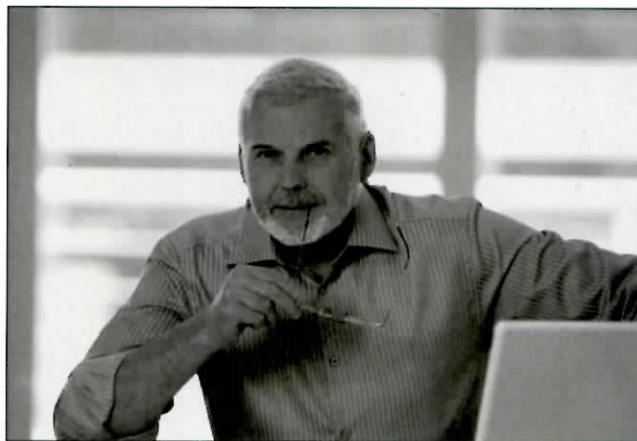
5 Listen again to part of the conversation. Then answer the question.

What does the housing office employee imply when he says this: 

- (A) He did not enjoy the bad weather.
- (B) It is currently the rainy season.
- (C) A lot of rain fell during the storm.
- (D) It rarely rains in their location.

02-04

Architecture



6 What aspect of the Sagrada Familia Cathedral does the professor mainly discuss?

- (A) Its appearance
- (B) Its construction
- (C) Its financing
- (D) Its completion

7 How does the professor organize the information about the cathedral's columns that he presents to the class?

- (A) By encouraging the students to comment upon what they see
- (B) By describing some pictures of the cathedral in the textbook
- (C) By showing slides as he discusses various aspects of them
- (D) By drawing some columns on the blackboard to depict them

8 What comparison does the professor make between the Sagrada Familia Cathedral and Notre Dame?

- (A) The number of visitors that each gets
- (B) The types of statues that each has
- (C) The nature themes that each employs
- (D) The construction time of each place

9 According to the professor, what happened to the Sagrada Familia Cathedral after the death of Antoni Gaudi?

- (A) It was partially damaged during the Spanish Civil War.
- (B) There were problems paying for the cathedral's construction.
- (C) The majority of the work on the cathedral finished in the 1950s.
- (D) New architects tried to decrease Gaudi's influence on the cathedral.

10 What is the professor's opinion of Antoni Gaudi?

- (A) He was a brilliant architect.
- (B) He designed an ugly cathedral.
- (C) He needed more professional training.
- (D) He possessed average skills.

11 Listen again to part of the lecture. Then answer the question.

Why does the professor say this: 

- (A) To make sure the students can understand him
- (B) To correct a mistake he made
- (C) To provide additional information
- (D) To emphasize a key point



02-05

Zoology



12 According to the professor, what do honey ants eat?

Click on 2 answers.

- ☐ 1 Honey
- ☐ 2 Aphids
- ☐ 3 Nectar
- ☐ 4 Insects

13 What can be inferred about storage honey ants?

- ☐ (A) Fewer of them store water than store food.
- ☐ (B) They do not leave the colony during their entire lives.
- ☐ (C) Some of them lead hunting expeditions.
- ☐ (D) There are more of them than forager ants in a colony.

14 What is a likely outcome of an attack by one honey ant colony against another?

- ☐ (A) Most of the ants in the losing colony will be killed.
- ☐ (B) The two colonies will combine into one larger colony.
- ☐ (C) All of the ants in both colonies will fight until they die.
- ☐ (D) Some ants in the losing colony will die of starvation.


15 Why does the professor mention the American Southwest?

- ☐ (A) To say that honey ants were first found there
- ☐ (B) To name one place where honey ants live
- ☐ (C) To focus on the harsh environment there
- ☐ (D) To talk about the research that she did there

16 What does the professor imply about the students in her class?

- ☐ (A) Not all of them are doing their homework.
- ☐ (B) They need to ask more questions in class.
- ☐ (C) Their grades ought to improve soon.
- ☐ (D) Some of them are falling asleep in class.

17 Listen again to part of the lecture. Then answer the question.

What does the professor imply when she says this: 

- ☐ (A) She has eaten honey ants in the past.
- ☐ (B) She understands why animals like honey ants.
- ☐ (C) She wants the students to be more adventuresome.
- ☐ (D) She will prepare some honey ants in a later class.

PART II

TOEFL iBT Listening

CONTINUE

VOLUME

HELP

OK

NEXT

02-06

Listening Directions

In this part, you will listen to 1 conversation and 2 lectures.

You must answer each question. After you answer, click on **Next**. Then click on **OK** to confirm your answer and go on to the next question. After you click on **OK**, you cannot return to previous questions.

You may now begin this part of the Listening Section. You will have **10 minutes** to answer the questions.

Click on **Continue** to go on.



02-07



18 Why does the student visit the professor?

- (A) To ask about the material in a class he is teaching
- (B) To determine the workload in the professor's class
- (C) To find out if she can sit in on one of his classes
- (D) To get put on the waitlist for the professor's class

19 Why does the student want to audit the professor's class?

- (A) She needs to fulfill a requirement for her major.
- (B) She is interested in what will be covered in the class.
- (C) She has heard positive comments about the professor.
- (D) She believes that the coursework will be fairly easy.

20 What does the student say about her schedule for the next semester?

- (A) She does not have enough time to work at her job.
- (B) She is only taking an average number of courses.
- (C) She is going to take a full load of classes.
- (D) She has space for one more class in her schedule.

21 What can be inferred about the student?

- (A) She will not audit the professor's class next semester.
- (B) She is going to change her major to film.
- (C) She will ask the professor to become her advisor.
- (D) She will enroll in the professor's class as a regular student.

22 Listen again to part of the conversation. Then answer the question.

What is the purpose of the student's response:



- (A) To refuse to comply with the professor's requirement
- (B) To tell the professor that she dislikes his grading method
- (C) To complain about the grade that the professor gave her
- (D) To express her disagreement with the professor's opinion

02-08

Art History



23 What is the main topic of the lecture?

- (A) The European influence on American artists
- (B) The artists of the Hudson River School
- (C) Realism and Impressionism in American art
- (D) American art movements in the 1800s

24 What does the professor imply about the works by the Hudson River School artists?

- (A) They were comparable to those of J.M.W. Turner.
- (B) He believes that they look good.
- (C) They should have used more realism.
- (D) Their works were better than those made by the Impressionists.

25 Why does the professor mention Luminism?

- (A) To discuss its use in paintings of the American West
- (B) To state that it was utilized by Thomas Cole
- (C) To explain the effects of a painting technique
- (D) To criticize how it made some paintings look

26 According to the professor, how did painters that used Luminism differ from Impressionist painters?

- (A) The brushstrokes of Luminist painters could not be seen.
- (B) The Luminists were more inspired by European styles.
- (C) Luminist painters used brighter colors than the Impressionists.
- (D) Painters that utilized Luminism focused more on outdoor scenes.

27 Based on the information in the lecture, indicate whether the statements refer to the Hudson River School or the Impressionist Movement. Click in the correct box for each statement.

	Hudson River School	Impressionist Movement
1 It gained influence in the United States in the 1870s.		
2 Its artists focused on one geographical area in the United States.		
3 One of its major artists was Theodore Robinson.		
4 The artists in it often utilized Luminism.		

28 What does the professor imply about Claude Monet?

- (A) He mostly painted landscapes.
- (B) He spent some time in the United States.
- (C) He was an Impressionist painter.
- (D) He was better than most American painters.



02-09

Environmental Sciences



29 What aspect of beaver dams does the professor mainly discuss?

- (A) The reason why beavers make them
- (B) How they create wetlands
- (C) Their effect on the environment
- (D) Which materials they are made with

30 According to the professor, what is an advantage of a beaver dam?

Click on 2 answers.

- [1] It can prevent predators from entering an area.
- [2] It can remove harmful chemicals from the water.
- [3] It can decrease the amount of flooding at times.
- [4] It can create wetlands for endangered animals to live in.

31 Why does the professor mention beaver pond meadows?

- (A) To talk about a negative effect of beaver dams
- (B) To explain what happens when beavers move into a region
- (C) To claim that beavers spend their time on land in them
- (D) To state that they can provide food for many animals


32 What is the professor's opinion of beaver dams?

- (A) They are primarily nuisances to both people and animals.
- (B) They should be torn down because of their effect on humans.
- (C) They are ideal for changing the environment in a natural manner.
- (D) They do nothing to cause harm to the natural environment.

33 According to the professor, what makes the beaver a keystone species?

- (A) Its creation of land that is very fertile
- (B) Its role in turning areas into wetlands
- (C) The fact that it can live in many environments
- (D) The scarcity of beavers in most regions

34 Listen again to part of the lecture. Then answer the question.

What does the professor imply when she says this: 

- (A) Beavers have been known to hunt small animals.
- (B) Beavers rarely move far from where their dams are.
- (C) Predators are unable to get into beavers' dams.
- (D) There are few animals that beavers are afraid of.

A C T U A L

T E S T

03

— PART I

— PART II

— PART III

Listening Section Directions

This section measures your ability to understand conversations and lectures in English.

The Listening section is divided into separately timed parts. In each part, you will listen to 1 conversation and 2 lectures. You will hear each conversation or lecture only **one** time.

After each conversation or lecture, you will answer some questions about it. The questions typically ask about the main idea and supporting details. Some questions ask about a speaker's purpose or attitude. Answer the questions based on what is stated or implied by the speakers.

You may take notes while you listen. You may use your notes to help you answer the questions. Your notes will **not** be scored.

If you need to change the **volume** while you listen, click on the Volume icon at the top of the screen.

In some questions, you will see this icon:  This means that you will hear, but not see, part of the question.

Some of the questions have special directions. These directions appear in a gray box on the screen.

Most questions are worth 1 point. If a question is worth more than 1 point, it will have special directions that indicate how many points you can receive.

A clock at the top of the screen will show you how much time is remaining. The clock will not count down while you are listening. The clock will count down only while you are answering the questions.

03-02

Listening Directions

In this part, you will listen to 1 conversation and 2 lectures.

You must answer each question. After you answer, click on **Next**. Then click on **OK** to confirm your answer and go on to the next question. After you click on **OK**, you cannot return to previous questions.

You may now begin this part of the Listening Section. You will have **10 minutes** to answer the questions.

Click on **Continue** to go on.

03-03



1 Why did the man ask to speak with the student?

- (A) To ask her for an employee's contact information
- (B) To find out when she has her next class
- (C) To discuss her work schedule with her
- (D) To convince her to work a longer shift

2 Why is the student unable to work on Friday?

- (A) She goes out of town then.
- (B) She has a class to attend.
- (C) She goes home every Friday.
- (D) She works at her second job then.


3 How does the woman propose to solve the man's problem?

- (A) She will withdraw from a class in order to work another shift.
- (B) She will ask some of her friends if they want a part-time job.
- (C) She and another student will rearrange the times that they work.
- (D) She will encourage another student to work more hours.

4 What will the student probably do next?

- (A) Telephone one of her coworkers
- (B) Continue working at her job
- (C) Attend her class on Russian history
- (D) Visit the student employment office

5 Listen again to part of the conversation. Then answer the question.

What can be inferred from the man's response to the student: 

- (A) Calvin is one of the best workers he has.
- (B) Calvin and the student are coworkers.
- (C) The student is close friends with Calvin.
- (D) Calvin is considering quitting his job.

03-04

Meteorology



6 What is the main topic of the lecture?

- (A) The cells of air in the atmosphere
- (B) The effect that air has on the weather
- (C) Ferrel and Hadley cells
- (D) The Coriolis Effect

7 What causes the Coriolis Effect?

- (A) The rotation of the Earth
- (B) The changing of the seasons
- (C) The angle of the sun's rays
- (D) The moving of the ocean currents

8 Why does the professor tell the students to open their textbooks?

- (A) To read a passage
- (B) To examine a chart
- (C) To look at a diagram
- (D) To observe a picture

9 What can be inferred about Ferrel cells?

- (A) They are understood much less than Polar cells.
- (B) They are farther away from the equator than Hadley cells.
- (C) They cover less of the Earth's atmosphere than Polar cells.
- (D) They and Hadley cells were discovered by the same scientist.

10 Why does the professor explain the movement of air in Ferrel cells?

- (A) To show the students why the weather in Ferrel cells is fairly unchanging
- (B) To give a reason for the rapid temperature changes in Ferrel cells
- (C) To answer a question about them that a student asks
- (D) To contrast them with the movement of air in Polar and Hadley cells

11 What will the professor probably do next?

- (A) Collect the students' homework
- (B) Let the students go for the day
- (C) Explain a difficult concept again
- (D) Give a demonstration on air flow



03-05

Literature



12 What is the main topic of the lecture?

- Ⓐ The scientific writings of Mary Shelley and Robert Louis Stevenson
- Ⓑ The possibility of people misusing science to do improper experiments
- Ⓒ The role of science in literature written in the nineteenth century
- Ⓓ The need for writers to use accurate descriptions of scientific experiments

13 What is the professor's attitude toward the 1800s?

- Ⓐ It was a relatively normal period of time.
- Ⓑ He considers it to have been a dangerous time.
- Ⓒ He offers no opinion on that time period.
- Ⓓ He is impressed by what happened then.

14 Why does the professor mention the movie versions of *Frankenstein*?

- Ⓐ To credit them for popularizing the novel by Mary Shelley
- Ⓑ To tell the students that they are different from the book
- Ⓒ To admit that they make use of too much pseudoscience
- Ⓓ To confess that he enjoyed them more than he did the book

15 Why does the professor explain galvanism?

- Ⓐ To show the students why it was faulty science
- Ⓑ To say why some people believed that they could create life
- Ⓒ To describe an important part of the plot of *Frankenstein*
- Ⓓ To blame it for having ruined Dr. Frankenstein's life

16 Based on the information in the lecture, indicate whether the statements refer to *Frankenstein* or *The Strange Case of Dr. Jekyll and Mr. Hyde*. Click in the correct box for each statement.

	<i>Frankenstein</i>	<i>The Strange Case of Dr. Jekyll and Mr. Hyde</i>
1 One of the individuals in the story is rejected by the main character.		
2 The main character consumes a potion.		
3 The story ends with the possible suicide of the main character.		
4 Some of a main character's family members are murdered.		

17 What does the professor imply about Jules Verne?

- Ⓐ His works were less popular than Mary Shelley's.
- Ⓑ He thought that science could be a positive force.
- Ⓒ He helped inspire the writings of Robert Louis Stevenson.
- Ⓓ His books often contained stories using real science.

PART II

TOEFL iBT Listening

CONTINUE

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OK

NEXT

03-06

Listening Directions

In this part, you will listen to 1 conversation and 2 lectures.

You must answer each question. After you answer, click on **Next**. Then click on **OK** to confirm your answer and go on to the next question. After you click on **OK**, you cannot return to previous questions.

You may now begin this part of the Listening Section. You will have **10 minutes** to answer the questions.

Click on **Continue** to go on.



03-07



18 What are the speakers mainly discussing?

- (A) A problem the student has with another professor
- (B) The student's desire to improve his class grade
- (C) An upcoming assignment the student must do
- (D) The student's performance on a test that he took

19 Why does the student want to drop his astronomy class?

Click on 2 answers.

- [1] His grade in it will keep him off the Dean's List.
- [2] It starts too early in the morning for him to attend.
- [3] The class is interfering with his other courses.
- [4] He is not enjoying it as much as he had hoped to.

20 What can be inferred about the student?

- (A) He is going to major in astronomy.
- (B) He is not used to getting poor grades.
- (C) He enjoys chatting with his advisor.
- (D) He is going to graduate in one semester.

21 Listen again to part of the conversation. Then answer the question.

What does the student imply when he says this:



- (A) He cannot do math problems without a calculator.
- (B) He will register for a math class next semester.
- (C) He took a math class the previous semester.
- (D) He needs a tutor to help him in his math class.

22 Listen again to part of the conversation. Then answer the question.

What does the professor mean when he says this:



- (A) He agrees with the student's decision to drop the class.
- (B) He wants the student to study harder in the class.
- (C) He believes the student should think more about his options.
- (D) He feels that the student is making a hasty decision.

03-08

Geology



23 What is the lecture mainly about?

- (A) Where in the world most islands are created
- (B) The world's most volcanic islands
- (C) The creation of long chains of islands
- (D) Some ways in which islands are formed

24 Why does the professor explain what happened at the end of the last ice age?

- (A) To note that the water level was once lower than it is today
- (B) To describe how glaciers created some islands
- (C) To say that melting ice increased the water level
- (D) To account for the creation of the Hawaiian Islands

25 According to the professor, how was Iceland formed?

- (A) By a sinking volcano
- (B) By receding glaciers
- (C) By volcanic activity
- (D) By moving tectonic plates

26 What can be inferred about coral atolls?

- (A) There are many of them in the Ring of Fire.
- (B) They are only located in the Pacific Ocean.
- (C) They can form in a rapid amount of time.
- (D) They sometimes sink beneath the ocean.

27 How is the lecture organized?

- (A) The professor compares the different types of islands in the Ring of Fire.
- (B) The professor covers the five major ways in which islands are formed.
- (C) The professor shows slides of islands and talks about their formation.
- (D) The professor focuses on the differences between islands and continents.

28 Based on the information in the lecture, indicate whether the statements refer to islands formed by glaciers or coral atolls.

Click in the correct box for each statement.

	Islands Formed by Glaciers	Coral Atolls
1 Have a lagoon in their centers		
2 Were created when the last ice age came to an end		
3 Are primarily in the Pacific Ocean		
4 May have once had a volcano		



03-09

Anthropology



29 How does the professor organize the information about Neanderthal skulls that she presents to the class?

- (A) By showing slides of Neanderthal skulls
- (B) By providing a handout for the students to look at
- (C) By comparing them with human skulls
- (D) By describing the skulls in minute detail

30 According to the professor, why do anthropologists believe that Neanderthals looked after the elderly and sick?

- (A) They learned that by studying some cave art pictures left by the Neanderthals.
- (B) They arrived at that conclusion after examining the remains of some Neanderthals.
- (C) There is evidence in Neanderthals' DNA that many of them had long lifespans.
- (D) Proof that the Neanderthals made primitive types of medicine has been unearthed.

31 What does the professor imply about the presence of a hyoid bone in Neanderthals?

- (A) It enabled them to become very strong.
- (B) It prevented them from growing tall.
- (C) It permitted them to be able to speak.
- (D) It allowed them to move at fast speeds.

32 Why does the professor mention Cro-Magnon man?

- (A) To cover one theory concerning the extinction of the Neanderthals
- (B) To compare their physical characteristics with those of Neanderthals
- (C) To prove that Neanderthals were less evolved than Cro-Magnons were
- (D) To describe the places where Cro-Magnon man primarily lived

33 Based on the information in the lecture, indicate whether the statements refer to Neanderthals or Cro-Magnons.

Click in the correct box for each statement.

	Neanderthals	Cro-Magnons
1 Were the ancestors of modern humans		
2 Possessed strong hands and arms		
3 Averaged 165cm in height for males		
4 Originally came from Africa		

34 Listen again to part of the lecture. Then answer the question.

Why does the professor say this: 

- (A) To make a joke with the student
- (B) To apologize to the student
- (C) To approve of the student's answer to her question
- (D) To commend the student

Listening Directions

In this part, you will listen to 1 conversation and 2 lectures.

You must answer each question. After you answer, click on **Next**. Then click on **OK** to confirm your answer and go on to the next question. After you click on **OK**, you cannot return to previous questions.

You may now begin this part of the Listening Section. You will have **10 minutes** to answer the questions.

Click on **Continue** to go on.



03-11





35 What problem does the student have?

- Ⓐ She has to pay some overdue book fines.
- Ⓑ She lost some books that she had checked out.
- Ⓒ She cannot find some books she needs.
- Ⓓ She forgot to bring her student ID with her.

36 Why does the librarian explain the library's new program to the student?

- Ⓐ To remind her always to return her books on time
- Ⓑ To let her know an easy way to renew her books
- Ⓒ To show her how to avoid paying some fees
- Ⓓ To prove that the library is trying to improve its services

37 How much money does the student give to the librarian in total?

- Ⓐ One dollar
- Ⓑ Four dollars
- Ⓒ Five dollars
- Ⓓ Six dollars

38 What is the librarian's attitude toward the student?

- Ⓐ He is condescending.
- Ⓑ He is helpful.
- Ⓒ He is amusing.
- Ⓓ He is critical.

39 Listen again to part of the conversation. Then answer the question.

What is the purpose of the student's response:



- Ⓐ To express her appreciation
- Ⓑ To approve of the librarian's actions
- Ⓒ To reject the librarian's offer
- Ⓓ To give the librarian permission

03-12

Linguistics



40 What is the lecture mainly about?

- (A) The importance of environment in learning a language
- (B) Opposing theories on language acquisition
- (C) The lives of B.F. Skinner and Noam Chomsky
- (D) The best manner for children to be taught a language

41 According to the professor, what is Noam Chomsky's area of specialization?

- (A) Language stimulation
- (B) The development of language
- (C) Foreign languages
- (D) Grammar structures

42 What can be inferred about the professor?

- (A) He supports aspects of both Skinner's and Chomsky's theories.
- (B) He believes that environment has little effect on language development.
- (C) He is more familiar with Chomsky than he is with Skinner.
- (D) He is able to speak more than three languages fluently.

43 How is the lecture organized?

- (A) The professor individually describes the opinions of two academics.
- (B) The professor provides details of his own research and defends his conclusions.
- (C) The professor focuses only on the defensible parts of each man's theory.
- (D) The professor points out how both theories have major flaws in them.

44 Based on the information in the lecture, indicate whether the statements refer to B.F. Skinner or Noam Chomsky.

Click in the correct box for each statement.

	B.F. Skinner	Noam Chomsky
1 Wrote a book that the other criticized		
2 Felt children were born with no ability to learn language		
3 Claimed a person could never learn a second language perfectly		
4 Believed in the reinforcement theory		

45 Listen again to part of the lecture. Then answer the question.

Why does the professor say this: 

- (A) To repeat his main point
- (B) To explain a new theory
- (C) To make a clarification
- (D) To ask for student feedback

03-13

Zoology



46 What aspect of camels does the professor mainly discuss?

- (A) The places where they live
- (B) Their physical characteristics
- (C) Their usefulness to humans
- (D) Their traits as mammals

47 What comparison does the professor make between camels and some other mammals?

- (A) The amount of hair on their bodies
- (B) The number of toes on their feet
- (C) The physical sizes of their bodies
- (D) The distances that they can travel

48 How are the dromedary camel and the Bactrian camel different from one another?

- (A) The Bactrian camel is smaller than the dromedary camel.
- (B) The dromedary camel is easier to tame than the Bactrian camel.
- (C) There are fewer Bactrian camels than dromedary camels.
- (D) They each have a different number of humps on their backs.

49 Why does the professor mention the shape of camels' red blood cells?

- (A) To explain how well blood flows in camels' bodies
- (B) To note that this prevents camels from ever getting dehydrated
- (C) To stress that the blood cells look like circles
- (D) To state that the shape helps camels breathe more easily

50 In the lecture, the professor describes a number of facts about the camel's ability to survive in the desert. Indicate whether each of the following is a fact or not.

Click in the correct box for each statement.

	Fact	Not a Fact
1 Uses its nose to retain water		
2 Becomes inactive during cold desert nights		
3 Does not sweat at all		
4 Can drink lots of water at one time		

51 Listen again to part of the lecture. Then answer the question.

Why does the student say this: 

- (A) To state a fact
- (B) To bring up a key point
- (C) To argue with the professor
- (D) To express his surprise

ACTUAL

T E S T

04

— PART I

— PART II

Listening Section Directions

This section measures your ability to understand conversations and lectures in English.

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PART I

TOEFL iBT Listening

CONTINUE

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OK

NEXT

04-02

Listening Directions

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You must answer each question. After you answer, click on **Next**. Then click on **OK** to confirm your answer and go on to the next question. After you click on **OK**, you cannot return to previous questions.

You may now begin this part of the Listening Section. You will have **10 minutes** to answer the questions.

Click on **Continue** to go on.

04-03



1 What are the speakers mainly discussing?

- (A) A teaching assistant position that is available
- (B) A job that the professor wants the student to do
- (C) A class that the student would like to enroll in
- (D) A study group that the student often goes to

2 What does the professor tell the student about the study groups?

Click on 2 answers.

- [1] Her classes have had them for the past ten years.
- [2] She is going to select two students to lead them.
- [3] Their leaders will be just like teaching assistants.
- [4] The students that run them will receive money.

3 What does the professor imply about the student?

- (A) He is knowledgeable in physics.
- (B) He would make a good graduate student.
- (C) He needs to try harder in her class.
- (D) He is capable of lecturing in her classes.

4 What can be inferred about the student?

- (A) He is going to take five years to graduate from school.
- (B) He accepted the job because he needs to earn some money.
- (C) He did well in the classes he previously took with the professor.
- (D) He is uninterested in doing activities that he considers difficult.

5 Listen again to part of the conversation. Then answer the question.

What is the purpose of the professor's response:



- (A) To tell the student that he is correct
- (B) To compliment the student on his grades
- (C) To admit that he would be a good teacher
- (D) To imply that he is the best student in the class



04-04

Psychology



6 What aspect of observation does the professor mainly discuss?

- (A) The most recent developments in observation methodology
- (B) The ideal way for scientists to observe their subjects
- (C) The varying manners in which people make use of it
- (D) The importance of watching animals in their natural habitats

7 Why does the professor explain how animals in captivity change their behavior?

- (A) To name one downside to the laboratory observation method
- (B) To show why scientists prefer not to observe captive animals
- (C) To decry the inhumanity of keeping wild animals in captivity
- (D) To express his doubt that observing these animals is useful

8 How does the professor organize the information about natural observation that he presents to the class?

- (A) By stressing that it is the best of the three main observation methods
- (B) By telling the students about his own experiences with it
- (C) By giving several real-life examples to illustrate it
- (D) By focusing more on its drawbacks than its benefits

9 What can be inferred about the professor?

- (A) He prefers to rely on laboratory observation for his research.
- (B) He has done participatory observation of primitive tribes.
- (C) He believes a perfect method of observation does not exist.
- (D) He is morally opposed to using laboratory observation on animals.

10 Based on the information in the lecture, indicate whether the statements refer to advantages or disadvantages of various observation methods. Click in the correct box for each statement.

	Advantage	Disadvantage
1 Primitive people may begin to act differently.		
2 Scientists can work in a controlled environment.		
3 The subject cannot be observed at all times.		
4 Researchers can avoid getting too close to the animals they are observing.		

11 Listen again to part of the lecture. Then answer the question.

What does the professor mean when he says this: 

- (A) Primitive tribes make good subjects for participatory observation.
- (B) There are many advantages to participatory observation.
- (C) Participatory observation only works in certain situations.
- (D) Doing participatory observation can be dangerous at times.

04-05

History



12 What is the professor's attitude toward the prospectors who first discovered gold in the Yukon?

- (A) They were tough men able to withstand the harsh northern climate.
- (B) They were lucky to have discovered such a large amount of gold.
- (C) They resorted to violence too many times when they were upset.
- (D) They acted thoughtlessly by telling people about their discovery.

13 According to the professor, why were so many Americans willing to go to Alaska to look for gold?

- (A) They were obsessed with the notion of becoming millionaires.
- (B) The United States was experiencing economic difficulties then.
- (C) The weather at the time of the discovery was not that harsh.
- (D) They felt that the natural obstacles were not too hard to overcome.

14 Why does the professor discuss the Northwest Mounted Police?

- (A) To talk about their role in dealing with incoming prospectors
- (B) To mention their relationship with the Royal Canadian Mounted Police
- (C) To criticize the actions that they took against the prospectors
- (D) To accuse them of trying to keep prospectors out of Canada


15 Why did the Canadian police confiscate the prospectors' guns?

- (A) To cut down on the illegal hunting some prospectors were doing
- (B) To stop the prospectors from attacking native Canadian tribesmen
- (C) To put an end to the robberies which were plaguing the Yukon
- (D) To prevent violence from erupting in the Yukon gold fields

16 What does the professor imply about the gold fields discovered near Juneau, Alaska?

- (A) They were extremely hard for most people to get to.
- (B) They required prospectors to travel by river for several days.
- (C) They were not as rich as the gold fields in the Yukon were.
- (D) They saw more violence than any other areas where gold was found.

17 Listen again to part of the lecture. Then answer the question.

What does the professor mean when he says this: 

- (A) The prices people paid for goods in Alaska were somewhat fair.
- (B) Many people lacked enough money to buy the proper equipment.
- (C) The merchants were charging more money than was necessary.
- (D) It was easier to make money selling equipment than panning for gold.

PART II

TOEFL iBT Listening

CONTINUE

VOLUME

HELP

OK

NEXT

04-06

Listening Directions

In this part, you will listen to 1 conversation and 2 lectures.

You must answer each question. After you answer, click on **Next**. Then click on **OK** to confirm your answer and go on to the next question. After you click on **OK**, you cannot return to previous questions.

You may now begin this part of the Listening Section. You will have **10 minutes** to answer the questions.

Click on **Continue** to go on.

04-07



18 Why does the student visit the student activities office?

- Ⓐ To register as a member of one of the student clubs
- Ⓑ To state her intention to run for president of a club
- Ⓒ To sign up for a table during the student club day
- Ⓓ To advertise for her club in the student newspaper

19 Why is the upcoming event important to the student?

- Ⓐ She hopes to increase the number of members in her club.
- Ⓑ She wants to become the president of the drama club.
- Ⓒ She is going to put on a performance during the event.
- Ⓓ She believes she can raise some money for her club.

20 What can be inferred about the student?


- Ⓐ She has been the president of her club for more than a year.
- Ⓑ She knows little about the events that take place on campus.
- Ⓒ She feels that she has too many responsibilities for her club.
- Ⓓ She devotes more time to her club than she does to her studies.

21 What does the student have to do to get a table at the event?

Click on 2 answers.

- 1 Pay a fee
- 2 Register online
- 3 Complete a form
- 4 Show her student ID

22 Listen again to part of the conversation. Then answer the question.

Why does the woman say this: 

- Ⓐ To inspire the student
- Ⓑ To answer the student's question
- Ⓒ To attempt to be positive
- Ⓓ To change the student's mood

04-08

Physiology



23 What is the main topic of the lecture?

- (A) How muscles provide energy for the body
- (B) The types of muscles and their roles
- (C) The differences between cardiac and striated muscles
- (D) Where in the body the muscles are found

24 Why does the professor explain what voluntary muscles are?

- (A) To provide another name for striated muscles
- (B) To compare their roles with those of smooth muscles
- (C) To point out where in the body they are located
- (D) To tell everyone which actions they are responsible for

25 Based on the information in the lecture, indicate whether the statements refer to striated or smooth muscles.

Click in the correct box for each statement.

	Striated Muscles	Smooth Muscles
1 Control involuntary actions in the body		
2 Are located in the esophagus and bladder		
3 Are composed of sarcomeres		
4 Are connected to the bones in the body		


26 Why does the professor tell the students about the muscles that control breathing?

- (A) To prove that they are smooth muscles
- (B) To mention their connection with the heart
- (C) To respond to a student's question
- (D) To state that breathing is an involuntary action

27 How does the professor organize the information about muscles that he presents to the class?

- (A) By engaging the students in a discussion in which they answer his questions
- (B) By showing the students a chart of the body and pointing out the muscles on it
- (C) By naming the types of muscles and discussing their characteristics and roles
- (D) By focusing on sections of the body and stating what muscles are found in them

28 Listen again to part of the lecture. Then answer the question.

What does the professor imply when he says this: 

- (A) There is not much time left in the class.
- (B) Some of the words he said are hard to spell.
- (C) It is all right for the students to misspell the words.
- (D) He is afraid of making a spelling mistake.



04-09

Art History



29 What aspect of Surrealism does the professor mainly discuss?

- (A) Its most famous artists
- (B) Its influence on later art movements
- (C) Its origins and early history
- (D) Its connection with Salvador Dali

30 What is the professor's opinion of Dadaist art?

- (A) It is brilliant.
- (B) It is creative.
- (C) It is not real art.
- (D) It is strange.

31 Why does the professor discuss Andre Breton?

- (A) To cover his role in founding Surrealism
- (B) To provide details on his connection with Dadaism
- (C) To describe some of the art he created
- (D) To talk about his friendship with Jacques Vache


32 According to the professor, what did Salvador Dali do?

- (A) He helped found the Surrealist Movement.
- (B) He introduced automatic drawing to Surrealism.
- (C) He produced Surrealist works of great imagination.
- (D) He was one of the first artists to join the Surrealists.

33 What can be inferred about Surrealism?

- (A) It produced art superior to that of other twentieth century movements.
- (B) Some of its artists have sold their works for millions of dollars.
- (C) Its influence on the art world is currently in dispute.
- (D) There are few art historians who study it nowadays.

34 Listen again to part of the lecture. Then answer the question.

What does the professor imply when she says this: 

- (A) Andy is the only student not to have turned in his paper.
- (B) Andy has permission to answer her question.
- (C) It is Andy's turn to give his presentation.
- (D) Andy needs to raise his hand before speaking.

ACTUAL

T E S T

05

— PART I

— PART II

— PART III

Listening Section Directions

This section measures your ability to understand conversations and lectures in English.

The Listening section is divided into separately timed parts. In each part, you will listen to 1 conversation and 2 lectures. You will hear each conversation or lecture only **one** time.

After each conversation or lecture, you will answer some questions about it. The questions typically ask about the main idea and supporting details. Some questions ask about a speaker's purpose or attitude. Answer the questions based on what is stated or implied by the speakers.

You may take notes while you listen. You may use your notes to help you answer the questions. Your notes will **not** be scored.

If you need to change the **volume** while you listen, click on the Volume icon at the top of the screen.

In some questions, you will see this icon:  This means that you will hear, but not see, part of the question.

Some of the questions have special directions. These directions appear in a gray box on the screen.

Most questions are worth 1 point. If a question is worth more than 1 point, it will have special directions that indicate how many points you can receive.

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PART I

TOEFL iBT Listening

CONTINUE

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OK



NEXT



05-02

Listening Directions

In this part, you will listen to 1 conversation and 2 lectures.

You must answer each question. After you answer, click on **Next**. Then click on **OK** to confirm your answer and go on to the next question. After you click on **OK**, you cannot return to previous questions.

You may now begin this part of the Listening Section. You will have **10 minutes** to answer the questions.

Click on **Continue** to go on.



05-03



1 Why does the student visit the professor?

- Ⓐ To request that he grade her paper again
- Ⓑ To learn how to write a proper report
- Ⓒ To have him go over an assignment with her
- Ⓓ To prove that some of her facts are correct

2 Why does the student feel her grade should be higher?

- Ⓐ She knows a lot about the topic of her paper.
- Ⓑ The professor is known to be an easy grader.
- Ⓒ She tried very hard while writing her paper.
- Ⓓ She has perfect attendance in the class.

3 What is the professor's opinion of the student's paper?


- Ⓐ It was poorly written.
- Ⓑ It needed more facts.
- Ⓒ It had many grammatical mistakes.
- Ⓓ It covered the wrong topic.

4 Listen again to part of the conversation. Then answer the question.

Why does the professor say this: 

- Ⓐ To prove that he did not make a mistake
- Ⓑ To criticize the student's choice of words
- Ⓒ To hint that the student should leave his office
- Ⓓ To show that he is upset with the student

5 Listen again to part of the conversation. Then answer the question.

What does the professor imply when he says this: 

- Ⓐ The student might be able to get a better grade.
- Ⓑ He believes the student can get an A in his class.
- Ⓒ The student needs to work hard to get a high grade.
- Ⓓ Only a few students in his class get A's or B's.

05-04

Marine Biology



6 What is the main topic of the lecture?

- (A) The manner in which artificial reefs are created
- (B) Common organisms that live in artificial reefs
- (C) Some advantages of artificial reefs over natural reefs
- (D) Why artificial reefs are beneficial to humans

7 What is the professor's opinion of artificial reefs?

- (A) They have more positive effects than negative ones.
- (B) People should not be making so many of them.
- (C) The price of making them is worth the investment.
- (D) People need to learn to make them more efficiently.

8 According to the professor, what materials are good for building artificial reefs?

Click on 2 answers.

- 1 Automobiles
- 2 Subway cars
- 3 Ships' hulls
- 4 Tires


9 Why does the professor explain how a reef ball looks?

- (A) Because he thinks the students should be aware of all aspects of artificial reefs
- (B) Because he feels that a reef ball's size greatly affects the reef it creates
- (C) Because he wants to show the students why reef balls are so effective
- (D) Because he believes that the students are unfamiliar with its appearance

10 What can be inferred about artificial reefs?

- (A) It takes many years for them to develop into complete ecosystems.
- (B) Over time, they appear to look exactly like natural reefs do.
- (C) The cost of producing them is decreasing, so more people are making them.
- (D) The best artificial reefs are built in deep water far off the coast.

11 Listen again to part of the lecture. Then answer the question.

What is the purpose of the professor's response to the student: 

- (A) To encourage the student to think about what she just said
- (B) To agree with part of what the student claimed
- (C) To inform the student that her assumption is incorrect
- (D) To provide evidence disputing the student's declaration

05-05

Psychology



12 Why does the professor discuss various emotions?

- (A) To get the students to remember some positive memories
- (B) To show how they are connected to memories
- (C) To make a point about retaining negative memories
- (D) To note their importance to people with Alzheimer's disease

13 What does the professor say about people's memories of everyday activities?

- (A) People forget them after one or two days because of their unimportance.
- (B) They are unclear because there are no strong emotions associated with them.
- (C) There are few people who are able to retain memories of these events.
- (D) Because they are short-term memories, people cannot remember them well.

14 Which of the following events is a person most likely to remember in great detail?

- (A) A class
- (B) A sporting event
- (C) A traffic accident
- (D) A presentation

15 According to the professor, why do women retain memories better than men?

- (A) Their emotions are more intense than men's emotions.
- (B) Their brains release more cortisol than do men's brains.
- (C) The hippocampus in women's brains tends to be large.
- (D) Men are less likely than women to have emotional experiences.

16 Why does the professor explain how the brain controls memories?

- (A) It is next on her list of topics to cover.
- (B) A student asks her a question about that.
- (C) She wants the students to study the brain in depth.
- (D) She believes the brain is crucial to memory.

17 What will the professor probably do next?

- (A) Show the students a film
- (B) Visit the class website
- (C) Examine the human brain
- (D) Return to talking about emotions

PART II

TOEFL iBT Listening

CONTINUE

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OK

NEXT

05-06

Listening Directions

In this part, you will listen to 1 conversation and 2 lectures.

You must answer each question. After you answer, click on **Next**. Then click on **OK** to confirm your answer and go on to the next question. After you click on **OK**, you cannot return to previous questions.

You may now begin this part of the Listening Section. You will have **10 minutes** to answer the questions.

Click on **Continue** to go on.

05-07



18 Why does the student visit the student employment office?

- (A) He wants to know when his job interview is.
- (B) He is trying to find some part-time work.
- (C) He has some job-related questions to ask.
- (D) He wants to pick up his paycheck from his job.

19 According to the student, why is he receiving financial aid this semester?

- (A) His parents are having financial difficulties.
- (B) The school raised tuition for the semester.
- (C) He was recently fired from his part-time job.
- (D) He had some unexpected expenses during vacation.

20 What will the student probably do next?

- (A) Continue answering the woman's questions
- (B) Go to the computer lab in Bronson Hall
- (C) Make a telephone call to Lee Travers
- (D) Schedule an interview with Stephanie

21 Listen again to part of the conversation. Then answer the question.

What does the student imply when he says this:



- (A) He spends a lot of his time in the library.
- (B) He prefers to stay home than to go out.
- (C) He seldom engages in physical activities.
- (D) He has some experience working in an office.

22 Listen again to part of the conversation. Then answer the question.

What does the student mean when he says this:



- (A) He is interested in the job.
- (B) He will think about the woman's offer.
- (C) He needs some more information.
- (D) He does not have any time for the job.

05-08

Biology



23 Why does the professor explain about the lengths of the Amazon and Nile rivers?

- (A) He is telling the students where each river originates.
- (B) He is arguing that the Nile is shorter than the Amazon.
- (C) He is comparing their lengths to those of other rivers.
- (D) He is responding to a student's question about them.

24 What does the professor say about the outflow of water from the Amazon River?

- (A) It is what causes the Amazon River to flow slowly.
- (B) It vastly increases the amount of water in the Atlantic Ocean.
- (C) It is the reason why the Amazon River's mouth is so wide.
- (D) It is greater than that of any other river in the world.

25 Why does the professor show the students a map of the Amazon River?

- (A) To let them see where its source in the Andes is
- (B) To point out the huge amount of land that it drains
- (C) To focus on the terrain that it flows through
- (D) To emphasize how many countries it affects

26 What aspect of the Amazon Rainforest does the professor mainly discuss?

- (A) Its diversity of life
- (B) Its primary animal species
- (C) Its location and size
- (D) Its indigenous people

27 What would be the likely result if much of the Amazon Rainforest were cut down?

- (A) Farmers could use much of the land to grow crops on.
- (B) People in South America would have more land to live on.
- (C) The amount of carbon dioxide on the Earth would increase.
- (D) The weather in South America would undergo major changes.

28 What does the professor imply about the Amazon Rainforest?

- (A) Humans still have much to learn about it.
- (B) It is smaller than some rainforests in Asia.
- (C) Nearly half of it has been deforested.
- (D) Some cities are being built in parts of it.

05-09

Anthropology



29 What is the lecture mainly about?

- (A) The common ancestor of all primates
- (B) The similarities in DNA of various primates
- (C) The evolution of monkeys and apes
- (D) The manner in which primates differ from one another

30 What happens to the melting point of DNA when the DNA of two different species is combined?

- (A) It decreases.
- (B) It increases.
- (C) It remains the same.
- (D) It fluctuates randomly.

31 Why does the professor tell the students about the handout?

- (A) To advise them to look at it while he continues to lecture on the topic
- (B) To let them know that it has a few mistakes which need to be corrected
- (C) To inform them that they should study the pictures which are on it
- (D) To tell them that they do not have to take notes on some material


32 Put the following animals in the order in which they diverged from their common ancestor. Click in the correct box for each statement.?

Animal	Order
1 Gibbon	
2 Monkey	
3 Chimpanzee	
4 Human	

33 What does the professor imply about humans?

- (A) They have around the same level of intelligence that apes do.
- (B) There are several species of humans that have evolved.
- (C) Humans have virtually no similarities to monkeys.
- (D) They diverged from a common ancestor that lived in Africa.

34 Listen again to part of the lecture. Then answer the question.

What can be inferred about the professor when she says this: 

- (A) She recognizes the difficulty of the material she is discussing.
- (B) She expects the students to recall everything she tells them.
- (C) She will have the students answer some questions in class soon.
- (D) She thinks that the topic she is covering is of great importance.

05-10

Listening Directions

In this part, you will listen to 1 conversation and 2 lectures.

You must answer each question. After you answer, click on **Next**. Then click on **OK** to confirm your answer and go on to the next question. After you click on **OK**, you cannot return to previous questions.

You may now begin this part of the Listening Section. You will have **10 minutes** to answer the questions.

Click on **Continue** to go on.

05-11



35 What are the speakers mainly discussing?

- (A) The required classes the student must take
- (B) Some classes the student is presently enrolled in
- (C) Which history class the student would enjoy more
- (D) The student's schedule for the next semester

36 What is the student's major?

- (A) Italian
- (B) Art History
- (C) Mathematics
- (D) History

37 What can be inferred about the student?

- (A) She is better at math than she is at chemistry.
- (B) She values the professor's opinion.
- (C) She is in her sophomore year.
- (D) She has no interest in the sciences.

38 Why does the professor tell the student about lab classes?

- (A) To warn her about their level of difficulty
- (B) To stress the amount of work required in them
- (C) To mention he knows a professor who will teach one
- (D) To recommend that the student enroll in one

39 Listen again to part of the conversation. Then answer the question.

What does the student imply when she says this:

- (A) She expects to receive a low grade in her math class.
- (B) She objects to math being a required course.
- (C) She will need tutoring to get a good grade in math.
- (D) She must take more than one math class to graduate.

05-12

Physics



40 What is the main topic of the lecture?

- (A) The damage that radiation can do to people
- (B) The origins and various types of radiation
- (C) Ways to prevent exposure to radiation
- (D) The main sources of ionizing radiation

41 What does the professor imply about ultraviolet waves and microwaves?

- (A) They are less dangerous than X-rays and gamma rays.
- (B) Their wavelengths are longer than those of visible light.
- (C) Even in large doses, they pose no danger to humans.
- (D) They are produced by the sun and other stars.

42 What can be inferred about uranium?

- (A) It is found in abundance in many places.
- (B) It is difficult for people to detect.
- (C) It is safe when consumed by humans.
- (D) It is a radioactive element.


43 How is the lecture organized?

- (A) The professor shows the students important information from a website.
- (B) The professor lectures without accepting any input from the students.
- (C) The professor randomly moves from one topic to another while lecturing.
- (D) The professor asks questions and then proceeds to answer them himself.

44 What is a rad?

- (A) A dangerous form of ionizing radiation
- (B) A unit that measures exposure to radiation
- (C) A source of background radiation
- (D) A measurement of the wavelengths of radioactive substances

45 Listen again to part of the lecture. Then answer the question.

What does the professor imply when he says this: 

- (A) The final exam for his class will take place sometime next week.
- (B) He is willing to help students who need assistance for the final exam.
- (C) The students will be tested on the information found on the class website.
- (D) It is important for the students to do well on the final exam.

05-13

History



46 What aspect of Dutch history does the professor mainly discuss?

- (A) The wars the Dutch fought against Spain, France, and England
- (B) The advances the Dutch made in trade, transportation, and science
- (C) A period of success the Dutch experienced in the 1600s
- (D) The time in the 1500s when the Spanish attacked the Netherlands

47 What does the professor imply about the Netherlands?

- (A) It was larger in the past than it is today.
- (B) The majority of its people are Catholics.
- (C) It plays a crucial role in modern European politics.
- (D) It is still heavily influenced by France.

48 What event important to Dutch history took place in the sixteenth century?

Click on 2 answers.

- [1] The Protestant Reformation
- [2] The founding of the Dutch East India Company
- [3] Spain's conquest of the Netherlands
- [4] The independence of the Dutch from the Spanish

49 What is the professor's opinion of the Dutch system of pumps and levees?

- (A) It was highly advanced.
- (B) It was impressive.
- (C) It was inefficient.
- (D) It was too costly.

50 Why does the professor tell the students about the Dutch East India Company?

- (A) To note its role in the trade the Dutch engaged in with European countries
- (B) To emphasize the importance of trade in the Netherlands
- (C) To claim it was responsible for the founding of a stock market in Amsterdam
- (D) To state that it played a major role in Dutch colonies

51 Based on the information in the lecture, indicate whether the statements refer to the causes or effects of the Dutch Golden Age.

Click in the correct box for each statement.

	Cause	Effect
[1] The Dutch spent much money on the arts.		
[2] The Netherlands gained its independence from Spain.		
[3] England and the Netherlands fought three wars in the 1600s.		
[4] Dutch ships carried goods to many ports in Europe.		

ACTUAL

T E S T

06

— PART I

— PART II

Listening Section Directions

This section measures your ability to understand conversations and lectures in English.

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PART I

TOEFL iBT Listening

CONTINUE

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OK

NEXT

06-02

Listening Directions

In this part, you will listen to 1 conversation and 2 lectures.

You must answer each question. After you answer, click on **Next**. Then click on **OK** to confirm your answer and go on to the next question. After you click on **OK**, you cannot return to previous questions.

You may now begin this part of the Listening Section. You will have **10 minutes** to answer the questions.

Click on **Continue** to go on.

06-03



1 Why does the student visit the financial aid office?

- (A) To apply for a scholarship
- (B) To pay the remainder of her tuition
- (C) To sign a form for a student loan
- (D) To inquire about getting more aid

2 How does the student pay for her tuition?

Click on 2 answers.

- ☐ 1 Student loans
- ☐ 2 An academic scholarship
- ☐ 3 Work-study programs
- ☐ 4 A school grant

3 What is the student's opinion of her grades?

- (A) She is embarrassed by them.
- (B) She feels they could be better.
- (C) She has no opinion of them.
- (D) She is proud of them.

4 Why does the man tell the student about special scholarships?

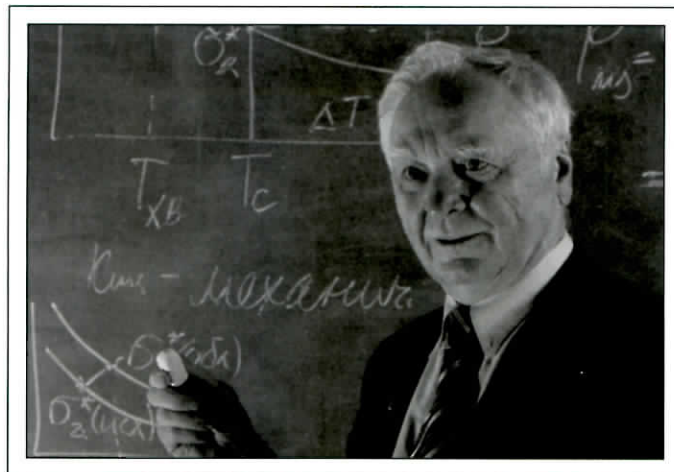
- (A) To get the student to describe her personal finances
- (B) To let the student know about a possible source of financial aid
- (C) To encourage the student to apply for one of them
- (D) To instruct the student on which forms she should fill out

5 What can be inferred about the student?

- (A) She will likely get to attend school next semester.
- (B) She is going to ask her parents for some more money.
- (C) She is disappointed with the woman's treatment of her.
- (D) She believes that she needs to improve her grades.

06-04

Economics



6 What is the lecture mainly about?

- (A) What kinds of commodities people trade
- (B) The first commodities market in the United States
- (C) How the commodities market operates
- (D) The reasons why commodity prices fluctuate

7 Why does the professor discuss Chicago?

- (A) To explain why wheat farmers often had to visit it
- (B) To focus on the railroads that went through the city
- (C) To compare its markets with those found in other cities
- (D) To detail its role in the founding of the commodities market

8 What is a speculator?

- (A) A person only interested in profiting on the commodities market
- (B) A person primarily focused on selling various commodities
- (C) A person who acts as a go-between for farmers and dealers
- (D) A person that provides loans to people buying futures contracts

9 In the lecture, the professor describes a number of facts about the commodities market. Indicate whether each of the following is a fact about the commodities market.

Click in the correct box for each statement.

	Fact	Not a Fact
1 The first commodities market was established in Chicago, Illinois.		
2 More items are traded on it than on the stock market.		
3 It was founded to make buying and selling easier.		
4 The commodities that are sold on the market are all standardized.		

10 What comparison does the professor make between the commodities market and the stock market?

- (A) The prices that people pay for commodities and stocks
- (B) The conditions under which people buy and sell items
- (C) The amount of time people may hold onto commodities and stocks
- (D) The commissions buyers and sellers pay brokers

11 What is the professor's opinion of the commodities market?

- (A) It is too risky to invest his own money in it.
- (B) It is a good idea that could be more efficient.
- (C) He thinks more commodities should be sold on the market.
- (D) He finds the potential to make large profits appealing.

06-05

Literature



12 What is the lecture mainly about?

- (A) The impossibility of time travel
- (B) Time machines in various science fiction books
- (C) Works of literature that use time travel
- (D) The works of H.G. Wells and Mark Twain

13 How does the Time Traveler in *The Time Machine* travel into the future?

- (A) By going into suspended animation
- (B) By using a chair that creates a time bubble
- (C) By inventing a room that can leap through time
- (D) By swallowing a pill that he made

14 Why does the professor explain the method of time travel in *A Connecticut Yankee in King Arthur's Court*?

- (A) To contrast Hank Morgan's experiences with the Time Traveler's
- (B) To focus on Mark Twain's interest in how his character went back in time
- (C) To encourage the students to read the book since none of them is familiar with it
- (D) To talk about a book that uses a means of time travel not reliant on machinery

15 What is the student's opinion of the book *Replay*?

- (A) He considers the book to be a masterpiece.
- (B) He claims that it is his favorite book.
- (C) He states that he enjoyed the book a lot.
- (D) He believes the book could have been better.

16 How is the lecture organized?

- (A) The professor asks the students for their input on time travel stories.
- (B) The professor focuses on her favorite stories that incorporate time travel.
- (C) The professor gives examples of different methods of time travel.
- (D) The professor goes over excerpts from stories that use time travel.

17 Listen again to part of the lecture. Then answer the question.

Why does the professor say this: 

- (A) To talk about a scientific fact
- (B) To add some humor to her lecture
- (C) To contradict what Einstein believed
- (D) To let the students know her opinion

PART II

TOEFL iBT Listening

CONTINUE

VOLUME

HELP

OK

NEXT

06-06

Listening Directions

In this part, you will listen to 1 conversation and 2 lectures.

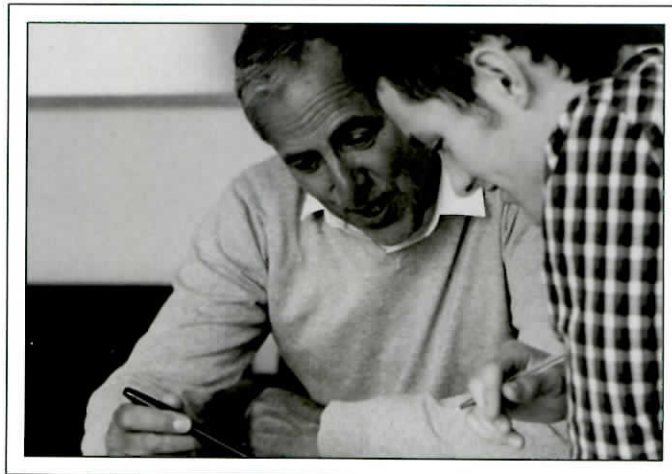
You must answer each question. After you answer, click on **Next**. Then click on **OK** to confirm your answer and go on to the next question. After you click on **OK**, you cannot return to previous questions.

You may now begin this part of the Listening Section. You will have **10 minutes** to answer the questions.

Click on **Continue** to go on.



06-07



18 What are the speakers mainly discussing?

- (A) A conversation they had with Professor Douglas
- (B) A job the professor wants the student to do
- (C) A lab class that the student is going to teach
- (D) An opportunity for the student to take a lab class

19 What can be inferred about Professor Douglas?

- (A) He speaks with the student about personal matters.
- (B) He works in the same building as the professor.
- (C) He frequently has lunch with the professor.
- (D) He serves as the student's academic advisor.

20 Why does the professor have an opening in his laboratory?

- (A) He had to fire a lab assistant.
- (B) There are too many students in his class.
- (C) One of his student employees quit school.
- (D) The school gave him some additional funding.

21 Why does the professor explain what the student will do in the laboratory?

- (A) To describe the work that he needs done
- (B) To note why the student must work so many hours
- (C) To justify the money he will pay the student
- (D) To prove that he trusts the student to lead a lab class

22 What can be inferred about the student?

- (A) He will only work on the weekend.
- (B) He cannot always attend lab classes.
- (C) He will accept the professor's offer.
- (D) He has no interest in cleaning the lab.

06-08

History of Science



23 What is the main topic of the lecture?

- (A) Ancient models of the universe
- (B) Planetary orbits of the sun
- (C) The composition of the solar system
- (D) Ptolemy's and Copernicus's lives

24 Why does the professor discuss the *Almagest*?

- (A) To show what the ancient Greeks thought about the universe
- (B) To point out the mistakes which were made in it
- (C) To describe Ptolemy's version of the universe
- (D) To compare the information in it with that learned by Galileo

25 According to the professor, why was Ptolemy's model of the universe believed for so long?

- (A) Telescopes were not used until centuries after his death.
- (B) Knowledge advanced at a slow pace in the past.
- (C) Ptolemy's work had the support of the Church.
- (D) Arab astronomers stated that his model was correct.

26 Based on the information in the lecture, indicate whether the statements refer to the model of the universe proposed by Ptolemy or Nicolas Copernicus.

Click in the correct box for each statement.

	Ptolemy	Nicolas Copernicus
1 Believed that the Earth was stationary		
2 Described a sun-centered universe		
3 Was described in <i>On the Revolutions of Heavenly Spheres</i>		
4 Put the moon in a sphere closer to Earth than anything else		

27 What will the professor probably do next?

- (A) Continuing discussing Copernicus
- (B) Begin to talk about Galileo
- (C) Show models of two separate universes
- (D) Give the students a break

28 Listen again to part of the lecture. Then answer the question.

Why does the professor say this: 

- (A) To ask the students a question about some terminology
- (B) To let the students know how to spell a term
- (C) To avoid having to give his opinion on a topic
- (D) To explain the derivation of an important word

06-09

Microbiology



29 What does the professor imply about the class?

- (A) It is going to end in a few minutes.
- (B) He will give a short quiz after his lecture.
- (C) It is the last one before the final exam.
- (D) He thinks the students need to pay closer attention.

30 What does EPS do?

- (A) Helps biofilm increase in size by breaking down foreign material
- (B) Enables biofilm to communicate with others of its kind
- (C) Allows biofilm to spread infections and diseases to organisms
- (D) Permits biofilm to attach itself to various surfaces

31 What is the likely outcome of applying the same disinfectant to biofilm over a long period of time?

- (A) The biofilm will have all of its harmful material removed.
- (B) The biofilm will lose its ability to cling to a certain surface.
- (C) The biofilm will develop a resistance to the disinfectant.
- (D) The biofilm will no longer be able to transmit diseases.

32 According to the professor, what is a benefit of biofilm?


- (A) It can assist in the cleanup of spilled oil.
- (B) It can remove plaque from people's teeth.
- (C) It can eliminate barnacles from ships' hulls.
- (D) It can protect crops from harmful diseases.

33 Listen again to part of the lecture. Then answer the question.

What does the professor mean when he says this: 

- (A) It is easy to destroy biofilm if people spot it in its early stages.
- (B) Biofilm is more common in manmade environments than in natural ones.
- (C) The biofilm that grows in manmade environments can be dangerous.
- (D) He has not told the students all of the places where biofilm may exist.

34 Listen again to part of the lecture. Then answer the question.

What is the purpose of the professor's response to the student: 

- (A) To alleviate the student's concern
- (B) To offer a possibility the student had not considered
- (C) To confirm the student's statement
- (D) To suggest the student reread the material

- Answers, Scripts,
and Explanations

ACTUAL TEST 01

ANSWERS

Part I

1. (C) 2. (A) 3. (B) 4. (D) 5. (B)
6. (C) 7. (B) 8. (D) 9. (B) 10. (C) 11. (B)
12. (C) 13. Rudolph Valentino: [2], [3] Douglas
Fairbanks: [1], [4] 14. (D) 15. [1], [2] 16. (B) 17. (C)

Part II

18. (C) 19. (D) 20. (C) 21. (B) 22. (B)
23. (C) 24. (A) 25. (D) 26. Fact: [1], [2], [4] Not a
Fact: [3] 27. (A) 28. (D)
29. (B) 30. (D) 31. (A) 32. (C) 33. (B) 34. (D)

Part III

35. (B) 36. (C) 37. (C) 38. (D) 39. (A)
40. (C) 41. (D) 42. (A) 43. (A) 44. (B) 45. (C)
46. (D) 47. [2], [3] 48. (C) 49. Washoe: [2], [4] Kanzi:
[1], [3] 50. (B) 51. (A)

PART I

Page 16

CONVERSATION

01-03

Listen to part of a conversation between a student and a professor.

M Student: Professor Higgins, I know I scheduled our meeting for two o'clock, but, uh, is it all right if I come in a little early? Do you mind?

W Professor: Of course not, Allen. I don't mind if you drop in ten minutes early. Besides, I was just waiting for you to arrive, so you're helping me by being here now.

M: Sweet. Thanks.

W: All right . . . So you asked for this meeting after class yesterday. What exactly do you need to talk about? Are you having some problems following the material in class?

M: Oh, not at all. You know, I thought this class would be pretty difficult and that I might wind up having to drop it, but I find that I understand the material pretty well.

W: If I remember correctly, you got a 97 on your midterm exam, so I'd have to agree with your

assessment. So it's not the material. Then, uh, what is it?

M: The paper.

W: The paper?

M: Yes, the big paper we need to turn in at the end of the semester. I've already decided on a topic, and I'm trying to do the research now.

W: Good for you. I love it when students show initiative.

M: "Uh, thanks. I just don't like waiting for the last minute to do papers. I tried that my freshman year two years ago, and . . . Ugh. You wouldn't believe how badly that worked out."

W: Actually, I probably would. I have several student advisees, and I see that happen each and every semester. Some of them, fortunately, see the light and shape up. It sounds like that's what you've done.

M: I'd like to think so. My grades have steadily improved since my first year. Anyway, uh, back to the paper.

W: Sure.

M: I decided to focus on the migration patterns of large mammals in Africa. You know, how they migrate depending on weather patterns . . . What troubles they encounter along the way . . . Where they breed and bear their young . . . That kind of stuff. But, uh . . .

W: Overwhelming, isn't it?

M: You can say that again.

W: First of all, Allen, it's great that you're being ambitious. But what you are proposing sounds more like a master's thesis than a ten-page paper. If you intend to go to graduate school, you could make that a course of study for a yearlong project. But you'd have to be really general for a paper on that topic in my class. And that's something I don't want.

M: Then what do you propose that I do?

W: Easy. Pare down your topic. First, focus on just one animal that migrates. I don't care which one it is. Just choose one. Next, look at only one aspect of its migrating habits. And then go into that in as much

depth as you possibly can.

M: All right. That makes sense to me.

W: Do you know which animal you're going to choose? If you do, then I can suggest a few books that will definitely help you with your research.

M: I'm not positive yet, but I have a couple in mind. Let me think about it, and I will talk to you after class tomorrow. Then, if it's all right with you, I'll pick your brain for some research material.

EXPLANATIONS

- 1 **[Gist-Purpose Question]** The student tells the professor he wants to talk about "the big paper we need to turn in at the end of the semester."
- 2 **[Understanding Function Question]** The student says that he has already decided on a topic for his paper and is doing the research for it. The paper is due at the end of the semester, and they have only recently taken the midterm exam. The professor then says, "Good for you. I love it when students show initiative." She compliments him because he is doing his work ahead of time.
- 3 **[Detail Question]** The professor tells the student, "Pare down your topic. First, focus on just one animal that migrates. I don't care which one it is. Just choose one. Next, look at only one aspect of its migrating habits. And then go into that in as much depth as you possibly can." So she wants him to focus on a more specific topic rather than a general one.
- 4 **[Making Inferences Question]** The student tells the professor that he needs to think about his topic and that he will talk to her after tomorrow's class. So he implies that he will decide on a new subject by the next class.
- 5 **[Understanding Attitude Question]** When the student says, "You wouldn't believe how badly that worked out," he implies that some of his grades during his freshman year were poor.

Page 15

LECTURE

01-04

Listen to part of a lecture in an environmental sciences class.

M Professor: The world's ocean level rises and falls daily. This action is called the tide as you no doubt already know. Typically, the tide rises and falls twice a

day, but it may happen only once a day in some places. Tides usually rise and fall over the course of many hours. When the water level begins rising or falling, this is called the turning of the tide. The time it takes for the tide to rise and fall varies from place to place, but, like I just said, most places experience four changes a day. Additionally, one low tide is lower than the other and is called the, uh, the lower low tide. Got that . . . ? Excellent.

So, uh, why do the tides occur . . . ? The tides occur because of gravity. The moon has a great effect on the Earth's tides. Think about it . . . The moon's gravity is trying to pull the Earth toward it, yet it is unsuccessful. However, the water on the Earth is not as resistant as the rest of the planet. Therefore, the water moves toward the moon. Of course, it doesn't go, uh, spiraling off into space because Earth has its own gravity, which is keeping the water on the planet. Nevertheless, the moon's gravitational pull on the water is noticeable in coastal regions where it manifests in the form of tides.

The sun also causes tides in much the same manner as the moon. But despite the sun's much greater size, the moon has a greater influence on the Earth's tides due to the fact that it's much closer to the planet. Just in case you're interested, the sun's gravitational influence on the Earth's tides is less than fifty percent of the moon's. However, since the two act in conjunction, they can have a significant effect on the tides. Here's an example . . . During a full moon or a new moon, the moon, sun, and Earth are all in conjunction. That is, uh, they're all lined up with each other. During these times, the gravitational forces of the moon and sun work together to produce the highest tides each month. These are called spring tides, and they happen twice a month.

W Student: I have a question. Does this mean that halfway between a new moon and a full moon that, uh, the tides are lower?

M: You figured that out rather quickly, Melissa. Yes, when the sun and moon are at roughly ninety-degree angles to one another, which happens in both the first and third quarters of the moon's phases, the tides don't change much. These are called neap tides, and they also occur twice a month. Another question?

W: Yes, please. How big is the difference in terms of the height of the water between neap tides, spring tides, and normal tides?

M: Well . . . There's no simple answer to that question. I would estimate that the difference is

roughly, oh, let's say, around twenty percent or so. But that's not an exact figure since the difference in water levels varies from place to place. The reason for this is that there are other forces which also affect the tides. For example . . . the Earth's rotation, the tilt of the Earth's axis, the condition of the seafloor, the currents, the depth of the coastal water, and the shape of the coastline. All of those factors play a role in how high and low the tides are. Oh, yeah, and remember that the distance of the moon from the Earth varies slightly as it orbits the planet. Depending on how close or how far from the Earth the moon is, the moon's effect on the tides can change.

Let's take a look at how the shape of the coastline can affect the tides. Up here on the screen is a scene from a port on the Bay of Fundy in Nova Scotia, Canada. As we watch this video, which has been accelerated to account for the passing of time, notice how extreme the tidal changes are. They're almost twenty meters in some places, making these tidal changes among the greatest in the world. See how much the tides are changing . . . Incredible, isn't it?

Now, look at this map of the Bay of Fundy. Notice that the bay is long and narrow and shaped like a funnel. That's why the tides are so high. The mass of water in the bay has nowhere to go when the gravitational forces pull on it. It can't spread out across the wide ocean, so it causes very high tides.

W: There must be a lot of tidal power stations there.

M: You'd think so, but, as far as I'm aware, there's only one small tidal power station in the Bay of Fundy. Some people are concerned it may negatively impact the environment, so no larger ones have been built yet. Hopefully, they'll start constructing more soon. Tidal power is cheap and clean. Anyway, I don't want to get distracted talking about that. Let's get back to discussing the tides.

EXPLANATIONS

- 6 **[Gist-Content Question]** During the lecture, the professor mostly talks about how the sun and the moon can affect the tides and cause them to rise and fall.
- 7 **[Connecting Content Question]** The professor tells the students, "The sun also causes tides in much the same manner as the moon. But despite the sun's much greater size, the moon has a greater influence on the Earth's tides due to the fact that it's much closer to the planet. Just in case you're interested, the sun's gravitational influence on the

Earth's tides is less than fifty percent of the moon's."

- 8 **[Detail Question]** The professor says, "During these times, the gravitational forces of the moon and sun work together to produce the highest tides each month. These are called spring tides, and they happen twice a month."
- 9 **[Understanding Attitude Question]** After the student asks a question, the professor answers, "You figured that out rather quickly, Melissa." Listen to his tone of voice. He has a praising tone of voice. So he is very complimentary of the student.
- 10 **[Understanding Organization Question]** About the Bay of Fundy, the professor states, "Now, look at this map of the Bay of Fundy. Notice that the bay is long and narrow and shaped like a funnel. That's why the tides are so high. The mass of water in the bay has nowhere to go when the gravitational forces pull on it. It can't spread out across the wide ocean, so it causes very high tides."
- 11 **[Making Inferences Question]** When the professor mentions tidal power stations, he claims, "Hopefully, they'll start constructing more soon. Tidal power is cheap and clean." So it can be inferred that he is in favor of tidal power for a couple of reasons.

Page 20

LECTURE

01-05

Listen to part of a lecture in a film studies class.

W Professor: Now that we've covered Charlie Chaplin's career, let's look at some of his lesser-known contemporaries. The Silent Film Era had many stars, both male and female. Among the greats were Rudolph Valentino, Douglas Fairbanks, and Mary Pickford. While none of them ever achieved the same fame as did Chaplin . . . nor did any of them have his lasting impact . . . in their day, they were three of the top stars of American filmdom.

Rudolph Valentino was a major star back then. Valentino was an Italian immigrant who came to the U.S. when he was eighteen. After spending time in New York, he moved to California, where he managed to get some work in motion pictures. He started as an extra in silent films, but he soon became a major star. He's best remembered for his handsome looks, flashing eyes, and dramatic poses in such movies as *The Sheik* and *Blood and Sand*. Due to his Italian heritage, Valentino was often cast as an ethnic character, so he played a wide variety of nationalities. He was also cast as the romantic lead in many

movies and attained a reputation as a Casanova of sorts. Interestingly, although many American women loved Valentino, a lot of American men disliked him since he came off as rather effeminate and didn't play the tough action heroes they preferred. Sadly, at the height of his fame, when he was only thirty-one, Valentino died in 1926 because of an infection he got after having an appendectomy.

Now, uh, Douglas Fairbanks is often regarded as Valentino's opposite. Fairbanks starred in many adventure movies and frequently did his own stunts. He's best remembered for the movie *The Thief of Bagdad* and also for his Silent Era versions of Robin Hood and Zorro. Fairbanks was regarded as the epitome of the tough man of action and was revered by both American men and women. Fairbanks was rather multitalented as he produced, wrote, and directed several of the movies that he starred in. Fairbanks was also one of the movie stars who founded the studio United Artists. D.W. Griffith, Charlie Chaplin, and Mary Pickford, who was Fairbanks' future wife, were the other founding members. The movie stars were, well, they were tired of being controlled by the big studios, so they, along with Griffith, a director, formed their own studio in 1919. A year later, Fairbanks and Pickford got married, but they later divorced in 1936. Fairbanks himself died of a heart attack in 1939 at the age of fifty-six. He was a heavy drinker for most of his life, which contributed to his early death.

Mary Pickford, Fairbanks' wife, was a famous star in her own right. In fact, she was far more famous than her husband. Pickford was yet another international star, having come from Canada. Remember that although Fairbanks was American, Chaplin was British while Valentino was Italian. As a child, Pickford, her mother, and her younger brother and sister traveled around the U.S. seeking acting jobs. ¹⁷ In 1909, she met D.W. Griffith and did a screen test for him. Soon afterward, she was being cast in many short movies. She often shot about, oh, one movie a week . . . Yeah, they churned them out a lot faster back then than they do today. Pickford usually played the role of a young girl who found herself in some kind of trouble but eventually came out on top thanks to her pluck and determination.

In her first few years of acting, Pickford made so many movies that she quickly gained fame both in the U.S. and abroad. She even earned the nickname "America's sweetheart." By 1916, she was so famous that she'd gained some measure of control over her films and was also the highest-paid actress in the

country. But Pickford was dissatisfied with how the movie business was run, which led her to become a cofounder of United Artists. She remained a star well into the 1920s, but the death of her mother—and the subsequent deaths of her brother and sister—took a toll on her. Sadly, she fell into depression and began drinking heavily. By the 1950s, Pickford was living as a recluse in her Hollywood mansion called Pickfair. I think you can see where that name came from. She died in 1979, but she never made another movie after the 1950s.

M Student: Did any of these stars make sound pictures like Charlie Chaplin did?

W: Unlike Chaplin, most of the Silent Era film stars couldn't make the transition to talkies. Perhaps Valentino could have, but he died before talkies were first made. Pickford made a few sound pictures and even won an Oscar for one in 1929. Fairbanks made a few as well. But there really weren't many others. Why . . . ? Well, some silent film stars had voices that weren't suited for talkies. Others couldn't adapt to the new acting styles required for talkies. Here, uh, let me show you what I mean. I'm going to show you some clips from silent films and some early talkies. Notice how different the acting styles are.

EXPLANATIONS

- 12 **[Gist-Content Question]** During her lecture, the professor talks about several of the top actors and actresses of the Silent Film Era.
- 13 **[Connecting Content Question]** According to the lecture, Rudolph Valentino died when he was in his thirties after he had an appendectomy. Also, he starred in the movie *The Sheik*. As for Douglas Fairbanks, he was the star of many action movies, and he also helped cofound United Artists.
- 14 **[Understanding Organization Question]** During the lecture, the professor briefly covers the lives of Rudolph Valentino, Douglas Fairbanks, and Mary Pickford, all of whom were major silent movie stars.
- 15 **[Detail Question]** As to why most silent film stars did not become stars in talkies, the professor notes, "Well, some silent film stars had voices that weren't suited for talkies. Others couldn't adapt to the new acting styles required for talkies."
- 16 **[Making Inferences Question]** At the end of the lecture, the professor says, "I'm going to show you some clips from silent films and some early talkies. Notice how different the acting styles are." So she will probably show the students a recording.

- 17 [Understanding Function Question] The professor notes that some of Mary Pickford's movies were shot in only a week. Then, she says, "Yeah, they churned them out a lot faster back then than they do today." In saying that, she implies that modern movies take a fairly long time to produce.

PART II

Page 24

CONVERSATION

01-07

Listen to part of a conversation between a student and a resident assistant.

W Student: Dave, I've got a couple of things that I need to talk to you about. Do you have a moment or two to spare?

M Resident Assistant: Sure, Susan. What can I help you with?

W: Well, uh, I'm planning to go home for the Thanksgiving holiday that's coming up in a couple of days. I didn't get the opportunity to go home during summer vacation since I was here taking classes, and my parents really want to see me even if it's just going to be for a few days. After all, my entire family, including all of my aunts and uncles, is getting together this year.

M: That's great. I'm glad to hear that.

W: Yeah, so, uh, I'm going to be heading to the airport on Wednesday morning to catch my flight. But the airport's kind of far away from the school you know.

M: You're totally right about that. Hey, I'd offer to drive you there in my car, but I'm going home on Tuesday night, so unless you want to spend the night in the airport, I don't think that I will be able to help you out.

W: Oh, you're going home as well? I had no idea that you were leaving.

M: It's been a while since I've seen my family, so I thought I'd go back home. But I live all the way across the country, so I have to take the redeye to get there.

W: Cool. Anyway, thanks for the offer, but I'm going to go to the airport on Wednesday in the morning. So, uh, that brings me to my question.

M: Which is?

W: Is there a bus that goes to the airport? ²¹ I mean, I usually just go there with a friend of mine, but nobody that I know is going to the airport at the same time as me. And I heard that a taxi to the airport can cost

something like forty dollars. That's way out of my price range.

M: ²² Actually, there's a bus that leaves from campus and goes straight to the airport.

W: No way. Are you serious?

M: I wouldn't pull your leg about that. It's a new service. That's probably why you haven't heard about it. It leaves from the school services building. You can go there and get a schedule from them.

W: Awesome. I didn't know that at all. Thanks a lot for the information.

M: No problem.

W: Oh, wait. So does that mean that the bus picks up students at the airport and takes them back to campus as well?

M: That's right. But what time are you going to get back?

W: A little after midnight on Sunday. Why do you ask?

M: Ah, the bus stops running at eleven at night. You're either going to have to take a taxi or the train to get back to school. In case you don't know, the train runs all night, but it's on a reduced schedule after ten p.m.

W: Okay. Thanks for letting me know. I'll go to the student services building later and see if I have to make a reservation or anything for the bus. And I'll try to get a train schedule and figure out how I can get back here.

M: No problem. Oh, and if I don't see you before you leave, have a great holiday.

EXPLANATIONS

18 [Gist-Purpose Question] After chatting with the resident assistant, the student then asks him, "Is there a bus that goes to the airport?" Right before then, she says, "So, uh, that brings me to my question." So she speaks with him to find out about transportation to the airport.

19 [Connecting Content Question] The student and the resident assistant chat about their personal lives. They also know each other's first names, and they appear to be comfortable with one another. Thus it can be inferred that the student has met the resident assistant before.

20 [Detail Question] The student comments, "I didn't get the opportunity to go home during summer vacation since I was here taking classes, and my

parents really want to see me even if it's just going to be for a few days." So it has been a long time since she has seen her family.

21 [Understanding Attitude Question] When a person says that something is out of his or her price range, it means that the person cannot afford that item. So the student cannot afford to take a taxi to the airport.

22 [Understanding Function Question] When a person "pulls someone's leg," it means that he or she is joking with that person. The resident assistant says that he would not pull the student's leg about the bus, so he is indicating to her that he is telling the truth and not joking.

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LECTURE

01-08

Listen to part of a lecture in a literature class.

W1 Professor: For today's class, I thought that we would do something a little different. Instead of studying some, um, serious literature from the twentieth century, I'd like to look at some examples of children's literature instead. I think you'll find that not only are some works for children quite well written but they also tell wonderful stories that both children and adults can enjoy. The first author I'd like to discuss today is Astrid Lindgren. Does anyone know which books she's most famous for having written . . . ? Julie?

W2 Student: 27 She wrote the *Pippi Longstocking* books. I love those books.

W1: Indeed she did. Now, how many of you have read those books . . . ? Just three hands? Out of a class of thirty-five students? My goodness. I'm stunned. May I assume that few of you are familiar with Astrid Lindgren herself as well . . . ? Okay. In that case, let me tell you a little about her.

Astrid Lindgren . . . That's A-S-T-R-I-D . . . L-I-N-D-G-R-E-N . . . was born in Sweden in 1907 and died at the age of ninety-four in 2002. She was an avid reader who wrote stories in her youth. In the mid-1940s, she published her first children's story in Sweden. Soon afterward, the first of her three full-length *Pippi Longstocking* books was published. She created other characters and wrote many other stories, so, by the time she died, she had published around sixty children's books that sold more than 150 million copies.

Of all Lindgren's books and characters, the most memorable one she wrote was Pippi Longstocking.

There's an interesting story behind Pippi's creation. One night, Lindgren's nine-year-old daughter was ill and wanted to hear a bedtime story. So Lindgren made up a story about Pippi Longstocking. Of course, she had already written some children's stories and had a rather vivid imagination, so it's not like she created Pippi out of thin air. Nevertheless, I'm sure that she was thankful that her daughter wanted a new story that particular night.

Who is Pippi? Let's see . . . Pippi is a nine-year-old girl—just like Lindgren's daughter at the time of Pippi's creation—and she never wants to grow up. I suppose she's like Peter Pan in that regard. You all do know Peter Pan, don't you . . . ? Well, that's a relief . . . Pippi has reddish-orange hair that is in braided pigtails that stick out from the side of her head. She lives in a small Swedish village in a house called Villa Villekulla with a monkey named Mr. Nilsson and a horse she calls Old Man. Pippi is good friends with two neighborhood children, Tommy and Annika, who are siblings. These characters take part in most of Pippi's adventures.

What else . . . ? Pippi is almost always happy and has a goofy grin on her face most of the time. She's stubborn and always wants things to go her way, but she's not mean-spirited about it. Her most distinguishing feature is her superhuman strength. She can pick up a horse with just one hand. She also excels at telling lies and conning adults into believing her, but she only does this in good fun. Pippi especially likes to trick adults who treat children badly, and many of the best passages in the books concern how Pippi fools these adults. She typically does this by telling false stories that cause the adults to believe things that make them look foolish in the end. I think that's one reason the *Pippi Longstocking* books are so popular with kids: because of the way adults are treated in them.

Ah, I almost forgot . . . Pippi lives without any adult supervision and doesn't attend school. I suppose those might be two more selling points with some kids, huh? Anyway, in the stories, Pippi's lack of education means that she isn't the brightest child, but her common sense and knowledge of how the world works give her an edge in her adventures.

The first book about Pippi is simply entitled *Pippi Longstocking*. It was published in 1945. Two others, *Pippi Goes on Board* and *Pippi in the South Seas*, were published later. These are the only three full-length *Pippi Longstocking* books. There are seven others, which are more like picture books rather than

full-length stories. I've got photocopies of some excerpts from the books that I'm going to give you all to read in a minute. Yes, question?

M Student: 26 How did critics respond to the books, particularly, uh, Pippi's lack of adult supervision, as you put it?

W1: That's an insightful question, Brad. Well, many critics loathed her books for that reason. They saw Lindgren as sending the wrong message to young children. But Lindgren noted that Pippi had a father. He was a sailor so was infrequently home. And Pippi travels with her dad in a few of her adventures. But Lindgren always remarked that adults should treat children as human beings, not as kids who need to be controlled by adults. She said that she never wanted to incite children to rebel against their parents. She only wanted to show children a humane view of the world.

EXPLANATIONS

- 23 **[Gist-Content Question]** Concerning Pippi Longstocking, the professor mostly talks about her characteristics in the stories about her.
- 24 **[Connecting Content Question]** The professor says, "Pippi is a nine-year-old girl—just like Lindgren's daughter at the time of Pippi's creation—and she never wants to grow up. I suppose she's like Peter Pan in that regard."
- 25 **[Understanding Organization Question]** The professor mentions, "Pippi lives without any adult supervision and doesn't attend school. I suppose those might be two more selling points with some kids, huh?"
- 26 **[Detail Question]** According to the lecture, Pippi Longstocking "lives in a small Swedish village in a house called Villa Villekulla with a monkey named Mr. Nilsson and a horse she calls Old Man." Also, she does not attend school, and "her most distinguishing feature is her superhuman strength. She can pick up a horse with just one hand." However, she does not go on adventures by herself. Her friends Tommy and Annika go with her.
- 27 **[Understanding Attitude Question]** When the professor says that she is stunned, she makes this comment after only three of her students indicate that they have read the *Pippi Longstocking* books. So it can be inferred that she had expected more of her students to have read the books.
- 28 **[Understanding Function Question]** When a

person tells another that a question is "insightful," the person is paying the other one a compliment.

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LECTURE

01-09

Listen to part of a lecture in a physics class.

M Professor: Lasers are no longer fantasies found exclusively in science fiction books and movies. Today, they are a reality and are used in a multitude of applications. For instance, we use lasers in CD and DVD players, in many types of surgery, and in the transmitting of electronic communications, to name but a few of their uses.

What is a laser? It's a type of light, but it is light that flows in one direction. Additionally, all the light particles in a laser are a single color, which means that they have the same wavelength. Just so you know, when something is a single color, it's said to be monochromatic. As for how a laser is made . . . Well, it's the result of the stimulated emission of photons. What happens is that a photon . . . uh, that's the basic unit of light . . . so a photon strikes an atom that's in an excited state. This causes the atom to release another photon, which is identical to the first one. Both photons travel in the same direction. They begin striking other atoms, which causes this release of more photons. Then, a chain reaction of sorts occurs as the laser beam is formed. ³³ This is actually why we use the name laser. It's an acronym for Light Amplification by Stimulated Emission of Radiation. That spells L-A-S-E-R. Janice, you have your hand up?

W Student: Yes, sir. Who discovered—or invented I guess I should say—the laser?

M: Good question. Hmm . . . The principles behind the laser were first proposed by Albert Einstein in a paper he wrote in 1917. Since then, several scientists around the world worked on making a practical laser, but the first one wasn't built until the 1960s. This happened in the United States, but there wasn't just one person responsible. Instead, it was many people and one company, Bell Labs, that together played a significant role in making lasers a reality. The main problems they encountered in building a practical laser were first getting the atoms to become excited and then finding a way to focus the photons in a single direction. ³⁴ You see, uh, when more atoms in a substance are in an excited state than in a low-energy state, you have what's called population inversion. To get these atoms excited to a state of population

inversion, what's needed is an optical cavity with a gain medium as well as a source of power such as electricity. Understand . . . ?

W: I'm sorry, sir, but that went completely over my head.

M: All right . . . It appears that some of you are a bit confused. Let me define these terms for you then. First, the optical cavity. That's merely an enclosed space. Inside the optical cavity is something called a gain medium. That's a substance which allows the atoms to increase in energy so that they can reach the population inversion stage. Typical substances include crystals, gases, and special types of glass. The optical cavity also has two or more mirrors, which reflect light back and forth through the gain medium to the point that the atoms become excited and start releasing photons. One side of the optical cavity is more transparent than the other. This side is the direction that the focused beam of light—the laser itself—will emit from the optical cavity. This entire contraption requires a power source, which is most often electricity. The energy source is called the energy pump, and the process of applying energy is called pumping. Does that make sense for everyone now . . . ? Let's continue then.

Importantly, no laser will be produced if the energy pump is insufficient. Why's that? Well, the light passing through the gain medium won't produce enough of an excited state to enable a sufficient number of atoms to reach population inversion. Simply put, there won't be a laser beam unless enough energy gets pumped into the optical cavity. The point at which there's a sufficient amount of energy to create a laser beam is called the lasing threshold. The lasing threshold varies, by the way, depending upon the type of gain medium being used. And just so you know, everything I've described happens extremely fast . . . In the blink of an eye really.

There are many types of lasers, and they're built in different ways. Their intensity can be increased or lowered. Their intensity also depends on the distance they travel. For instance, over short distances, most laser beams are focused in a pencil-thin shape and are quite intense. Over longer distances, that same beam may diffuse and become wider, which makes it less intense. Additionally, lasers are either continuous or pulsed. A continuous beam operates at a steady rate while a pulsed laser has its beam interrupted at intervals.

Today, as I indicated a couple of minutes ago, lasers are used in a variety of applications. Since they can generate heat, they can be used as cutting tools in surgery and industry. But the most commonly used laser today is a laser diode. That's a small simple laser used in electronic devices. Let me show you in brief how one of these works right now.

EXPLANATIONS

- 29 [Gist-Content Question] The professor mostly focuses on the process of how lasers are produced.
- 30 [Detail Question] The professor tells the class, "Inside the optical cavity is something called a gain medium. That's a substance which allows the atoms to increase in energy so that they can reach the population inversion stage. Typical substances include crystals, gases, and special types of glass."
- 31 [Understanding Organization Question] About the lasing threshold, the professor says, "The point at which there's a sufficient amount of energy to create a laser beam is called the lasing threshold. The lasing threshold varies, by the way, depending upon the type of gain medium being used." So the professor discusses it to mention its relevance to the creation of a laser beam.
- 32 [Making Inference Question] At the end of the lecture, the professor states, "But the most commonly used laser today is a laser diode. That's a small simple laser used in electronic devices. Let me show you in brief how one of these works right now." So he will probably give the students a short demonstration.
- 33 [Understanding Function Question] When the professor asks the student, "You have your hand up?" he is acknowledging her and giving her permission to ask her question.
- 34 [Understanding Attitude Question] When something "goes completely over one's head," it means that the person does not understand something. Thus the student means that she did not understand what the professor just told the class.

Listen to part of a conversation between a student and a professor.

W1 Student: Professor Marconi, what did you think of my proposal for the class project?

W2 Professor: ³⁹ Proposal? What proposal?

W1: The one that I submitted to you by email this morning. You didn't get it? I must have sent it to the wrong address or something.

W2: Ah, sorry, Kelly, but I haven't checked my email since last night. I've been up to my eyeballs with work, so I haven't gotten the opportunity to get on the Internet today. But since you're here, why don't you tell me what you propose to do? How does that sound?

W1: Perfect. Thanks.

W2: Okay. So, um, what do you want to do for your project?

W1: Are you familiar with that new medical clinic that's located near the campus?

W2: Which one?

W1: It's right across the street from Baker Hall. The name of the clinic is Dr. Brown's Family Health Clinic. There's a fairly big sign in front of the building. You can't miss it if you drive by it.

W2: Ah, sure. I know which clinic you're talking about. Hmm . . . I'm curious. What does that clinic have to do with your project?

W1: Well, I noticed that the clinic has been advertising on campus as well as in the local newspapers and elsewhere. So I thought that I would take a look at exactly how effective Dr. Brown's marketing techniques are.

W2: What exactly are some of them?

W1: For one, patients don't require appointments when they feel ill. They can just walk right in and see a doctor within a few minutes. Also, the clinic doesn't accept health insurance but charges very small fees. According to Dr. Brown, he can still make money since he doesn't have to pay a bunch of people to do a lot of paperwork processing insurance claims.

W2: Hmm . . . That does sound interesting. Do you happen to know how popular his clinic is?

W1: Er, yes. I actually have firsthand experience with

the clinic. And lots of people that I know have been there as well. Everyone I have spoken with has been highly satisfied.

W2: All right. I'll be sure to check it out myself in the future.

W1: So does this mean that my proposal is okay?

W2: Tentatively, yes. But I want to know what kind of approach you're going to take. And I also hope that you will be able to schedule an interview with Dr. Brown so that you can find out from him how effective his marketing techniques are. And be sure to interview as many patients—both satisfied and unsatisfied ones—as you can.

W1: Don't worry, ma'am. I explain how I intend to do all of those things in my proposal. And I actually have an interview with Dr. Brown scheduled for this weekend.

W2: Outstanding. I look forward to seeing the results.

W1: Thanks.

W2: I'll check my email later today, and then I will get back to you tonight with a definite yes or no. But I imagine that the answer will be yes. And I'll provide some feedback for you as well. You know, uh, suggestions on what kinds of questions you can ask and stuff like that.

W1: All right. That would be great. Anyway, um, I'll leave you to get back to your work in that case. It looks like you're pretty busy now.

W2: Sounds good. I'll talk to you later, Kelly.

EXPLANATIONS

35 [Gist-Content Question] Most of the conversation is about a proposal for a project that the student must do.

36 [Gist-Content Question] The student wants to do her project on the marketing techniques used by the health clinic, so that is why she talks to the professor about it.

37 [Making Inference Question] The professor tells the student that the health clinic's marketing techniques sound interesting. Then, she says, "I'll be sure to check it out myself in the future." So she implies that she will go there the next time that she is sick.

38 [Detail Question] The professor tells the student, "And I also hope that you will be able to schedule an interview with Dr. Brown so that you can find out

from him how effective his marketing techniques are."

- 39 [Understanding Attitude Question] When the student says that she must have sent the email to the wrong address, it can be inferred that the student believes that she made a mistake, so that is why the professor has not read her email.

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LECTURE

01-12

Listen to part of a lecture in a history class.

M Professor: Today, Ireland is an independent nation, but, at one time, the entire place belonged to the British Empire. The island was formally made a part of Great Britain in the Act of Union in 1801. Until then, Ireland had had its own parliament, but, after the passing of the act, the Irish Parliament was closed down, and the Irish were given representation in the British Parliament. Over the next century or so, various attempts were made to grant Ireland something c-c-c-called home rule. This basically meant that the Irish Parliament would be revived, thereby giving the Irish some degree of autonomy. Unfortunately, all attempts at home rule failed. This, in turn, led to more radical forces in Ireland starting to push for an armed insurrection to throw the British out of the country.

The most significant event in the Irish struggle for freedom took place in 1916 at the height of World War I. This became known as the Easter Rebellion, or the Easter Rising. On Easter Monday, April 24, 1916, Irish nationalists seized several crucial points in Dublin, the capital city. For the next seven days, fighting took place in and around Dublin until the British succeeded in reestablishing control. The immediate results were that the rebellion was crushed, the leaders were captured and, in many cases, executed for treason, and Ireland's bid for independence seemed doomed. However, the Easter Rebellion sparked the building of an independence movement within Ireland that led directly to a wider war of independence, which saw the Irish nationalists achieve most of their goals by 1922.

⁴⁴ As for the 1916 Easter Rebellion . . . There were many factions involved. There were so many that listing them would cause you to drown in a sea of names and organizations. So I won't distract you with them. Suffice it to say, not all of these factions worked together, nor were all involved in the Easter Rebellion. Interestingly, many of these organizations sought help from the Germans. Remember that World

War I pitted the Germans against the British, among others, so it seemed prudent for the Germans to get involved with the Irish in order to distract the British from the fighting on the European mainland. Thus the Germans supplied arms and a ship to transport them to Ireland. Unknown to them and the Irish nationalists, the British had broken the Germans' secret codes, so they knew the ship was heading to Ireland. On April 20, the Royal Navy intercepted the ship, yet its crew managed to sink it when they were forced into a harbor. Obviously, the weapons went to the bottom of the sea along with the ship.

This loss almost caused the Irish to abandon their plans, but they pressed on anyway. They merely delayed action from Easter Sunday, April 23, to the next day, Easter Monday, April 24. On that day, around 1,200 armed men took control of some key places in Dublin, including the post office, which became their headquarters. The Irish nationalists then declared the independence of the Irish Republic. Yet the Irish failed to take one key place: Dublin Castle. This was the center of British power in all of Ireland and was seen as a symbol of the hated British. Keeping the castle let the British maintain some measure of control in Dublin.

W Student: Didn't the British know the rebellion was going to take place? It seems that they must have since they knew about the German ship.

M: Well, they knew something was going on, but since it was Easter, they felt that nothing would happen then. The British did, however, have plans to arrest many of the people whom they believed were leading the movement, yet orders approving the arrests didn't arrive from London until after the rebellion had already begun. So, yes, the British were caught by surprise, and, in some clashes on the first day, many British soldiers were killed, uh, along with some nationalists and civilians who were caught in the crossfire.

⁴⁵ What happened next? Well, the British moved quickly to suppress the uprising. They were unintentionally helped by the Irish, who had failed to capture the port facilities or main train stations. Obviously, the leaders of the rebellion didn't possess much knowledge concerning military matters. Anyway, this tactical error let the British move in reinforcements, including heavy artillery. The local commander declared martial law, and then the British slowly, but surely, began to regain control of Dublin. The next few days were a bloody affair. The British wore down the Irish mostly with artillery. There were some battles between infantry, during which the

Irish inflicted a large number of casualties on advancing British troops. Still, by the next Sunday, the Irish were forced to surrender.

Many of the Irish leaders were killed. Those who survived were mostly captured, tried, and either executed or imprisoned. But the flame of rebellion had been lit. The Irish would be inspired to try both political and military means of gaining their independence. So let me tell you what they did next.

EXPLANATIONS

- 40 **[Gist-Content Question]** The lecture is about the Irish Easter Rebellion and the events that happened during it.
- 41 **[Detail Question]** The professor notes, "Thus the Germans supplied arms and a ship to transport them to Ireland." However, the ship sank, so the Irish never received the weapons.
- 42 **[Understanding Organization Question]** The professor describes the events of the rebellion in chronological order.
- 43 **[Making Inferences Question]** The professor states, "Many of the Irish leaders were killed. Those who survived were mostly captured, tried, and either executed or imprisoned. But the flame of rebellion had been lit. The Irish would be inspired to try both political and military means of gaining their independence. So let me tell you what they did next." So he is likely to continue lecturing on a similar topic.
- 44 **[Understanding Attitude Question]** The professor indicates that there were many names and organizations involved in the Easter Rebellion. Then, he states that he will not distract the students with them. This means that he will not give the names of any of the people or groups to the students.
- 45 **[Understanding Function Question]** The professor comments that the Irish did not capture the port facilities or main train stations. Then, he declares, "Obviously, the leaders of the rebellion didn't possess much knowledge concerning military matters." The professor thus implies that ports and train stations are important to armies.

humans and other primates shared a common ancestor millions of years ago. However, while we humans acquired the ability to use language, other primates did not. Well, uh, at least they didn't learn any sort of verbal communication that we can understand. However, here's an interesting question: Since primates—particularly gorillas and chimpanzees—share more than ninety-five percent of the DNA that humans have, could they not be taught to communicate as humans do? Could they, in fact, be taught to communicate with us? In recent decades, some researchers have put primates to the test, and they've reported that, in several cases, they've taught these primates how to communicate with humans. Nevertheless, the results are somewhat controversial.

I think that I first need to explain about how primates can talk with humans since they don't vocalize words like, uh, a parrot does. Instead, researchers use two main methods to achieve communication. The first involves sign language. You know, what deaf and mute people use to communicate with others. Sign language was first proposed as a means of communication with primates for three reasons. First, many researchers thought primates weren't intelligent enough to use verbal language. Second, others believed that primates couldn't imitate sounds they heard in the way that human children do. Third, researchers thought that primates' vocal cords were physically incapable of making human-sounding vocalizations. As for the second method, it uses lexigram keyboards. Lexigrams, by the way, are symbols used to represent words. Let me write a couple on the board here . . . See this . . . And this one . . . Here's another . . . I think you can figure out what those mean. They're rather simple. Lexigrams are relatively new, with the first being made back in the early 1970s. Anyway, by using a lexigram keyboard—a keyboard with pictures of lexigrams—primates can communicate with humans.

Researchers have experienced success with both methods. Let me tell you about a couple of them. The first involves a female chimpanzee named Washoe. In the early 1970s, Washoe learned American Sign Language. Her caretakers raised her as if she were a human child, and they only used sign language with her. They didn't speak in front of Washoe since they thought that might confuse her and slow down her progress in learning sign language. After a few years of training, Washoe began using sign language. Eventually, she learned around 350 words.

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LECTURE

01-13

Listen to part of a lecture in a zoology class.

W Professor: The evidence appears irrefutable that

Interestingly, Washoe learned to use many of these signs in combinations that had not been taught to her. In doing so, she demonstrated the ability to put words into sentences in a spontaneous manner. After a while, Washoe became so proficient at signing that she was sometimes faster than her own trainers and often had to slow down so that they could understand her.

There's an ongoing experiment involving Kanzi, a male bonobo chimpanzee. Kanzi communicates by using a lexigram keyboard. Years ago, one researcher was trying to teach Kanzi's mother how to use a lexigram keyboard while Kanzi was merely observing. One day, Kanzi just, uh, just started using the keyboard to communicate. He learned ten words quickly, and, since then, he has picked up thousands of new words. He can make sentences, he follows instructions, and he even makes vocalizations.

⁵¹ Some recent studies involving Kanzi have proven that, when he makes a vocalization at the same time when he presses a key on his keyboard for a word, the vocalization he's making represents that particular symbol.

M Student: I'm sorry, but are you saying that Kanzi is actually speaking?

w: Well, yes, he is in his own particular way. The team that handles Kanzi believes he might be trying to articulate English words; however, his vocal range is too high for them to understand what he's saying. If that hypothesis turns out to be true, that would be a, well, a remarkable breakthrough in primate-human communications.

There are lots of people—many of whom are experts on language—who claim that examples like Washoe and Kanzi are just that; they're examples. Uh, that is, they're exceptions to the general rule that primates lack the intelligence to communicate like humans do. This argument has some validity since, of the many primates that researchers have tried teaching, only a few have successfully managed to communicate. And the two examples I gave you are the best of the bunch. Some skeptics even question these success stories. These doubters say that, although the primates can make some words in sign language or with a keyboard, they're merely imitating actions they saw rather than making language. They state that the primates are simply trying to please their trainers instead of communicating their thoughts and feelings. Additionally, these skeptics note that, compared to the relative ease that human children learn language, primates lag far behind in the learning

curve. That's certainly true. Yet it doesn't mean that primates can't communicate at all. In fact, I'm certain we'll see more success stories like Washoe and Kanzi in the future.

EXPLANATIONS

- 46 **[Gist-Content Question]** The lecturer describes two separate attempts that people have made to teach apes to communicate with humans.
- 47 **[Detail Question]** The professor states, "First, many researchers thought primates weren't intelligent enough to use verbal language," and, "Third, researchers thought that primates' vocal cords were physically incapable of making human-sounding vocalizations."
- 48 **[Understanding Organization Question]** While talking about lexigrams, the professor says, "Lexigrams, by the way, are symbols used to represent words. Let me write a couple on the board here . . . See this . . . And this one . . . Here's another . . . I think you can figure out what those mean."
- 49 **[Connecting Content Question]** According to the lecture, Washoe learned to sign very quickly and often had to slow down because she was so fast. She also knew around 350 words. As for Kanzi, he uses lexigrams to speak with people. He also learned to communicate with people by watching his mother be taught by researchers.
- 50 **[Making Inference Question]** At the end of the lecture, the professor declares, "Yet it doesn't mean that primates can't communicate at all. In fact, I'm certain we'll see more success stories like Washoe and Kanzi in the future." Thus she implies that it is possible to teach primates to communicate with humans.
- 51 **[Understanding Function Question]** The student's tone of voice is important. He sounds very skeptical when he says, "I'm sorry, but are you saying that Kanzi is actually speaking?" He clearly doubts that Kanzi is trying to speak.

ANSWERS

Part I

1. (A) 2. (D) 3. (D) 4. (B) 5. (C)
6. (A) 7. (C) 8. (B) 9. (B) 10. (A) 11. (D)
12. (2), (3) 13. (A) 14. (D) 15. (B) 16. (A) 17. (A)

Part II

18. (C) 19. (B) 20. (C) 21. (A) 22. (D)
23. (D) 24. (B) 25. (C) 26. (A) 27. Hudson River
School: (2), (4) Impressionist Movement: (1), (3) 28. (C)
29. (C) 30. (2), (3) 31. (D) 32. (D) 33. (B) 34. (C)

PART I

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CONVERSATION

02-03

Listen to part of a conversation between a student and a housing office employee.

M Housing Office Employee: Good morning. How may I be of assistance to you?

W Student: Good morning to you, sir. My name is Lisa Carter, and I'm a freshman here at the school. I live in Patterson Hall with two other roommates. But there are a couple of problems with our room. So, uh, I'm hoping that you can help me out and solve them.

M: I'll certainly do my best. In that case, why don't you tell me what's wrong with your dorm?

W: All right. The first problem is that there is a leak in the roof. We live on the seventh floor of the hall. That's the top floor. ⁵ And, uh, you remember how we got all that rain a couple of days ago?

M: Oh yeah. That sure was some storm, wasn't it?

W: You can say that again. Well, uh, there must still be a lot of water collected on the roof because parts of our ceiling are wet, and some water is even dripping onto the floor in a few places. We put some buckets in the room to catch the water, but . . . You know, that's going to cause mold and mildew to grow in our room, and we really don't want that.

M: Definitely not. Plus, the roof could collapse if there's still a lot of water up there.

W: Oh . . . I never even considered that.

M: All right. I'll make a call and have a work team

head to your dorm right away so that they can check it out. This is something that absolutely can't wait. What room did you say that you're in again?

W: I'm in room 705 in Patterson Hall. And, uh, you might have those workers knock on some of the other students' rooms since I think I heard some other students complaining about water leaking into their rooms as well.

M: Hmm . . . That doesn't sound good at all. All right. Thank you very much for bringing that to my attention.

W: Sure. Now, as for the second problem . . .

M: Second problem?

W: Yeah, sorry. Anyway, um, the second problem is that there are ants in our room. And, no, before you ask, we don't leave uneaten food lying around on the floor.

M: Okay. That was the first question I was going to ask you.

W: I figured as much. But I make sure that we keep our room as clean as possible, so that's why I'm not sure exactly why we have ants. We've got them in one of our closets, and we can sometimes see them on the floor.

M: Hmm . . . That's not good either. I'll have a different person drop by to check out that problem. That should be sometime this afternoon . . . Uh, there's not a third problem, is there?

W: No, sir. That's it.

M: Well, that's a relief. All right. Expect to have some visitors within the hour. You're going back to your dorm room now, right? I hope so because someone needs to be there to let them in. They're not allowed into a room if no one is there.

W: Ah, that's fine. I don't have class today, so I'll go back to my room and stay there until the work teams take care of everything.

EXPLANATIONS

- 1 [Gist-Content Question] At the beginning of the conversation, the student says, "Well, uh, there must still be a lot of water collected on the roof because parts of our ceiling are wet, and some water is even

dripping onto the floor in a few places.”

- 2 [Understanding Attitude Question] The man seems helpful and is concerned about the student's problems. He also indicates that he will call the repairmen and have them visit the student's dormitory room quickly. So it can be inferred that he is eager to solve her problems.
- 3 [Detail Question] About the ants, the student comments, “But I make sure that we keep our room as clean as possible, so that's why I'm not sure exactly why we have ants.”
- 4 [Making Inferences Question] In the middle of the conversation, the man says, “I'll make a call and have a work team head to your dorm right away so that they can check it out. This is something that absolutely can't wait.” Since the problem cannot wait, as soon as the student leaves, he will probably call someone about the water problem.
- 5 [Understanding Function Question] When the man says, “That sure was some storm, wasn't it?” he is indicating that a lot of rain fell during it.

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LECTURE

02-04

Listen to part of a lecture in an architecture class.

M Professor: Today, I thought that we would skip ahead and look at a more modern work of architecture. It's a unique project that is actually going on as we speak. The building is the Sagrada Familia Cathedral, and it's located in Barcelona, Spain.

¹¹ Here you can see a picture of this massive unfinished cathedral that's in the middle of the city's urban landscape. Please note that I said unfinished. You see, construction on the cathedral began in 1882—yes, that long ago—and is scheduled to be finished in, um, 2026 . . . Maybe. As you may have guessed, the construction of the cathedral has been delayed in the past and will likely continue to be delayed in the future.

The key architect was Antoni Gaudí, a Spaniard. He began working on the cathedral in 1883, which was after its foundation had been laid. Gaudí had a grand vision for the cathedral. As you can see here . . . the cathedral has three elaborately designed facades. Most cathedrals only have one. Each of the facades shows an event from the life of Jesus Christ. Gaudí also planned eighteen towers. The towers were meant to represent various Biblical figures, and they were intended to be anywhere from 115 to 168 meters high. As of now, however, only eight of the

towers have been completed, but take a look at this picture . . . and notice how they easily dominate the Barcelona skyline.

Gaudí also planned to use nature as his guiding force. He believed that straight lines were unnatural since they rarely appear in nature. Instead, he felt that the Sagrada Família should be designed based on, um, more natural lines. But in order to build the massive structure that he had in mind, Gaudí needed to develop a unique load-bearing system, so he turned to trees for his inspiration.

W Student: Trees? What do you mean by that?

M: Well, take a look here at these slides . . . He designed these columns that look like what . . . ? Like tree trunks, right? Note this column . . . It's eight sided at the bottom . . . gradually moves to sixteen sides . . . then to thirty-two . . . and finally to sixty-four sides here. The top practically looks like a circle. Notice how the column spreads out much like, uh, the branches of a tree. At the separation point here . . . he placed designs that look like the knots you might find in tree trunks. From this point, the columns branch up to the cathedral's roof, where they provide enough strength to bear its weight. It's important, I think, to realize that by creating these columns, Gaudí avoided having to use flying buttresses, which are common in most European cathedrals.

Throughout the Sagrada Família, you can see more places where Gaudí was influenced by nature in his designs. For instance, the tops of the towers are based on crystal shapes and plants such as wheat and lavender. See . . . And the tall spires are latticed like beehives. Additionally, most of the gargoyle statues are of actual animals, such as lizards, rather than the mythical beasts that you might see at, say, Notre Dame in Paris.

You can probably imagine that this project cost a fortune. That's one of the reasons why it has yet to be finished. The only funding it receives comes from individual donors or is collected from the tourists who visit the site. But this actually isn't the most serious problem. You see, Gaudí died in 1926, leaving the project bereft of a guiding hand. Fortunately, he had completed several three-dimensional models of his vision before he passed away. This enabled others to work on the cathedral afterward.

Still, the project has been plagued by a plethora of problems. For instance, from 1936 to 1939, Barcelona was a center of fighting during the Spanish Civil War, so all work stopped on the cathedral. Fortunately,

while many of Gaudi's models were destroyed then, the cathedral wasn't damaged by the fighting. After the war ended, Spain was left too poor, so the project had trouble getting financing for a while. It wasn't until the 1950s that steady work on the cathedral began again. Okay. Before I go into more detail on the cathedral, are there any questions? Tina, you have another one?

W: Well, it's not really a question. It's more of an observation. I'm, uh, a little hesitant to say this, but, um . . . that cathedral is kind of ugly.

M: You're not the first to think that, Tina. And you probably won't be the last. In fact, the people of Barcelona have been divided on the Sagrada Família ever since it first underwent construction. Some consider it to be a monstrous example of bad architecture while others have embraced it wholeheartedly. As for me? Well, I think that Gaudi was a genius, particularly with regard to his adaptation of nature themes. In fact, he is considered a forefather of biometrics, which is the use of nature in engineering. Now, let me show you some more slides, and perhaps I can get some of you to change your opinions on it.

EXPLANATIONS

- 6 **[Gist-Content Question]** The professor mostly describes the appearance of the cathedral and what various parts of it look like.
- 7 **[Understanding Organization Question]** When talking about the columns, the professor says, "Well, take a look here at these slides." Then, he describes what the columns look like.
- 8 **[Connecting Content Question]** The professor says, "Additionally, most of the gargoyle statues are of actual animals, such as lizards, rather than the mythical beasts that you might see at, say, Notre Dame in Paris."
- 9 **[Detail Question]** The professor describes a number of problems after the death of Antoni Gaudi. Among them, he says, "After the war ended, Spain was left too poor, so the project had trouble getting financing for a while."
- 10 **[Understanding Attitude Question]** The professor remarks, "Well, I think that Gaudi was a genius, particularly with regard to his adaptation of nature themes."
- 11 **[Understanding Function Question]** The professor stresses the word "unfinished" by saying it again. So

he is emphasizing a key point about the cathedral.

LECTURE

Listen to part of a lecture in a zoology class.

W Professor: Here is another species of ant up on the screen . . . Note its distended abdomen . . . how swollen it is. It's so big that it looks like it's the size of a grape or a cherry. What you're looking at is a honey ant—well, one species of honey ant at least. Honey ants have an unusual capability. They can store food in their bodies so that it can later be used by other members of their colonies.

Not all honey ants can do this though. Only certain females can. What happens is that some ants go out, gather food from various sources, and then carry the food back to the colony. Then, they pass this food on to certain females, who store the food in their bodies for a long period of time. These females hang from the interior roof of the colony. Hundreds—even thousands—of ants in one colony will store food for the benefit of others. As these ants gather more food, their abdomens swell until they are enormous. In fact, the bodies of the honey ants that store food typically become so swollen that those ants can neither leave the colony nor even move through the colony's tunnels for that matter. Over time, however, their abdomens shrink as the food they've stored internally is regurgitated and then consumed by the other ants in the colony.

Notice here . . . how some of these ants with swollen abdomens are amber in color . . . while others are more whitish. They all look as if they're ready to burst open, but, in fact, their abdomens are incredibly strong.

M Student: Professor Popper, what do these ants eat?

W: Honey ants eat a variety of foods. They enjoy sugary carbohydrates that come from the nectar of flowers. They also consume honeydew, which is produced by aphids. This sugary food accounts for the amber color in most of the swollen abdomens of the storage honey ants. Additionally, honey ants need to provide protein for the growing larvae, ah, the baby ants, in the colony. To obtain this protein, the food foragers often drag the bodies of dead insects back to the colony. The ants sometimes even form groups that attack other insects. Honey ants lack stingers like many ants, but they can spray a substance that's similar to caustic acid. This disables other insects and let the honey ants kill them. Later, the dead insects

are offered to the storage honey ants. Finally, a few storage ants consume and store water, which accounts for the whitish color on some of their abdomens.

The abdomen of a storage honey ant is rather unusual. It contains many layers of a soft membrane that remains hidden under the hard outer plates, or segments, of the abdomen. When a honey ant starts to gorge on food, the plates move, and the soft membrane begins to expand. The abdomen is like a mammal's stomach in that it's flexible and has the ability to expand to a great size in order to store large quantity . . . er, quantities, of food. But the food is not digested, um, as it would be in the stomachs of mammals. Instead, it's stored for others to use.

Interestingly, these honey ants are frequently subject to attack. ¹⁷The storage ants are considered a delicacy by some predators, such as, uh, badgers, and even humans are known to eat them. Seriously. You should try it sometime. It's quite good. You don't eat the entire ant . . . although other animals do. Instead, you eat the sugary nectar, which is squeezed out of the stomach. It tastes rather like, hmm . . . molasses I'd say. Okay, I'll stop since some of you are looking a little squeamish now. Ah, one more thing though . . . Honey ants often attack other honey ant colonies to try to capture their food storage ants. The victors drag the storage honey ants back to their own colonies as if the ants were spoils of war.

You're probably wondering what the motive behind the gathering and storing of food is, right? It's not too complicated. Many honey ant species live in dry climates such as the American Southwest. In desert-like conditions, food becomes scarce at times. So the food preserved by the storage honey ants enables the other colony members to survive. Without the benefit of the storage honey ants, it's likely that many species of honey ants would have gone extinct by now.

All right. I believe that we're at a sufficient stopping point for today. What I'd like for you all to do before our next class is read chapter ten in your textbooks. It's the chapter on arachnids, which is what we're going to turn our attention to for the next couple of lectures. Please be sure you read it as our class discussions haven't been as good as I've been expecting them to be. Are there any questions for me . . . ? Okay. I'll take your silence as a no. In that case, I'll see all of you this Friday. Enjoy the rest of the day, everyone.

EXPLANATIONS

- 12 [Detail Question] The professor says, "They enjoy sugary carbohydrates that come from the nectar of flowers," and, "This disables other insects and lets the honey ants kill them. Later, the dead insects are offered to the storage honey ants."
- 13 [Making Inferences Question] The professor states, "Finally, a few storage ants consume and store water, which accounts for the whitish color on some of their abdomens." Since she mentions this at the end of her description of the food that storage honey ants consume, it can be inferred that only a few of them store water while more store food.
- 14 [Connecting Content Question] The professor says, "Honey ants often attack other honey ant colonies to try to capture their food storage ants. The victors drag the storage honey ants back to their own colonies as if the ants were spoils of war." Then, she states, "In desert-like conditions, food becomes scarce at times. So the food preserved by the storage honey ants enables the other colony members to survive. Without the benefit of the storage honey ants, it's likely that many species of honey ants would have gone extinct by now." Thus it can be assumed that, without the storage honey ants, some ants in the losing colony will die of starvation.
- 15 [Understanding Organization Question] The professor tells the students, "Many honey ant species live in dry climates such as the American Southwest."
- 16 [Understanding Attitude Question] The professor says, "What I'd like for you all to do before our next class is read chapter ten in your textbooks. It's the chapter on arachnids, which is what we're going to turn our attention to for the next couple of lectures. Please be sure you read it as our class discussions haven't been as good as I've been expecting them to be." She implies that not all of the students are doing their homework.
- 17 [Understanding Function Question] When the professor comments, "It's quite good," she is implying that she has eaten honey ants before.

PART II

Page 50

CONVERSATION

02-07

Listen to part of a conversation between a student and a professor.

W Student: Hello. You, uh, you wouldn't happen to be Professor Van Buren, would you?

M Professor: Yes, I would. That's me. How may I help you today?

W: Ah, great. It's, um, it's good to meet you, sir. My name is Della Smith.

M: The pleasure is all mine, Della. Uh . . . I'm sorry, but I don't recognize you from any of my classes. You're not one of my students, are you?

W: Oh, no, sir. I'm not. Well, not yet at least.

M: Not yet? What do you mean?

W: Oh, well, you see, uh, I noticed in the course catalog that you are teaching a class on the history of cinema next semester. I'm not a film major, but I've been fascinated by the movie industry ever since, uh, well ever since I can remember really. I'd totally love to sign up for your class.

M: It's wonderful that you are so interested in film. I think that you'll make a fine addition to my class. And, as far as I know, there are still a few spots left in next semester's class, so I don't think that you will have any problem registering at all. Just remember to pay a visit to the Registrar's office, and that should be all that you have to do.

W: Uh, well . . . You see, I'm planning to take a full load next semester. I'm already signed up for twenty credits, and one of the classes that I'm enrolled in is a seminar. So . . .

M: Yes?

W: I was, uh, I was wondering if I could audit your class. You know, uh, I'd like to just sit in on the class and listen to your lectures but not get any credit for it. I asked my advisor, and she said that I have to get your permission to do that. So, uh, that's what I'm here to do.

M: Ah, I see . . .

W: So, uh, what do you think?

M: Well . . . the class has three papers and a final exam. Do you think that you'll be able to keep up with the work in my class since you've got such a heavy load in your other classes?

W: Papers? Test? Um, I'm confused. Why should I worry about them if I'm going to be auditing the class?

M: Oh, good question. You see, I only allow students to audit my classes if they agree to do the same work that the other students do.

W: Huh? Why is that?

M: Well, those are just my rules. I want every student in my class to do the same amount of work.

W: But don't you think that's a little unfair? After all, the whole point of auditing a class is to let someone just hear the lectures. I mean, uh, if I have to write the papers and take the final exam, then I might as well enroll in the class. What's the point of me doing that if I just want to hear the lectures?

M: I'm sorry you feel that way, but that is what I require of anyone who audits the class.

W: I see . . . Well, thank you for your time, sir. Perhaps in the future, when I have a little less work, I'll be able to enroll in one of your classes.

EXPLANATIONS

18 [Gist-Purpose Question] The student asks the professor, "I was, uh, I was wondering if I could audit your class. You know, uh, I'd like to just sit in on the class and listen to your lectures but not get any credit for it."

19 [Detail Question] The student says, "I'm not a film major, but I've been fascinated by the movie industry ever since, uh, well ever since I can remember really. I'd totally love to sign up for your class."

20 [Detail Question] The student notes, "You see, I'm planning to take a full load next semester."

21 [Making Inferences Question] At the end of the conversation, the student tells the professor, "Well, thank you for your time, sir. Perhaps in the future, when I have a little less work, I'll be able to enroll in one of your classes." So it can be inferred that she will not audit the professor's class next semester.

22 [Understanding Function Question] When the student responds, "But don't you think that's a little unfair?" she is indicating that she disagrees with the professor.

Listen to part of a lecture in an art history class.

M Professor: We're going to continue examining American art by moving on to some movements in the nineteenth century. As I hope you remember from our last class, American artists during the colonial period in the eighteenth century concentrated mostly on portrait painting although some painted landscapes and other works. Many American artists during that time also traveled to Europe to learn the artistic techniques being taught there. These artists were, as you would expect, greatly influenced by European styles. This trend continued during the nineteenth century as various schools of European art, such as, uh, Impressionism, had a great impact on American artists. Still, American artists developed their own styles, and we can definitely state that, during the nineteenth century, American art began to develop a distinct style of its own.

The Hudson River School was one important art movement in the nineteenth century. As you can surmise from its name, the artists in it were associated with the Hudson River Valley, which is located in the eastern part of New York. Most of the paintings done by artists in this movement were landscapes depicting the natural scenery of the valley as well as the nearby Catskill and Adirondack Mountains. And, I'd like to add, it is one of the most beautiful regions in the entire country. If you ever visit it, you'll see why it captivated so many artists during this period. That's actually exactly what happened to Thomas Cole, the widely acknowledged leader of the Hudson River School. In 1825, he took a boat trip up the length of the Hudson River. He promptly began painting landscapes of the area. Many of Cole's contemporaries took note of the landscapes he painted, and they, quite understandably I'd say, began traveling to the region in order to emulate his work.

Many of the Hudson River School artists were influenced by landscape artists such as J.M.W. Turner and John Constable of England, yet they also strove to make something new, something that was, well, uniquely American. Now, let me show you some works that the Hudson River School artists made. I'm just going to flash through them as I keep talking. First, note that their works were done in a panoramic style and showed the natural scenery of the valley and nearby mountains . . . Their paintings were romanticized versions of the landscape . . . and

were often attempts to make a connection between nature and God. The artists frequently utilized light to make their paintings more dramatic . . . see here . . . and here. This is called Luminism. Luminism was primarily used during the latter half of the nineteenth century. Paintings that used Luminism had elements of water and sunlight that gave them a serene look. They typically depicted the landscape underneath a soft hazy sky and painted reflections on the water.

W Student: It sounds a lot like Impressionism.

M: In some ways, yes, but the Hudson River School actually predates the Impressionist Movement. Also, the Hudson River School artists who used Luminism tried to hide their brushstrokes whereas the brushstrokes in the works of the Impressionists can be clearly seen.

Now, besides Thomas Cole, there were other famous artists in the Hudson River School. Frederic Church, who was one of Cole's students, was famous in his own right. Thomas Doughty, Sanford Gifford, and George Innes were some other notable artists. The Hudson River School remained influential in the U.S. until the 1870s. It was around that time that American artists once again began to be influenced by Europeans.

Most of this influence came from the Impressionists. Impressionism, which began in the 1860s and became more prominent in the 1870s, used light and heavy brushstrokes to give an impression, or, uh, an idealistic view of the natural world. The movement spread to the U.S. in two ways. First, in the 1880s, there were exhibits of Impressionist art in cities throughout the country. Second, some American artists traveled to Europe to study art and were influenced directly by Impressionist artists.

Theodore Robinson was the first major American Impressionist. He lived in France for eight years and studied under the painter Claude Monet. Upon his return to the U.S., Robinson worked as an art teacher to support himself, so he spread Impressionist ideas to his own students. Up here, notice some of Robinson's works . . . Nice, huh . . . ? You can clearly see the influence Monet had on him when you take a look at this work by Robinson here . . . and this one by Monet . . .

Another theme in nineteenth century American art concerned the works done of the American West and its people. Artists such as George Catlin and Frederic Remington painted dramatic landscapes of the great wide-open spaces in the American frontier in the

West. They also painted images of Native Americans and the settlers who moved to the West to start new lives. Their works were of a more realistic nature than were those of the Hudson River School artists or the Impressionists. Let's look at some of their works right now.

EXPLANATIONS

- 23 **[Gist-Content Question]** During the lecture, the professor talks about three different art movements in the United States during the 1800s.
- 24 **[Understanding Attitude Question]** The professor says, "Many of Cole's contemporaries took note of the landscapes he painted, and they, quite understandably I'd say, began traveling to the region in order to emulate his work." So she implies that his paintings look good.
- 25 **[Understanding Organization Question]** About Luminism, the professor comments, "This is called Luminism. Luminism was primarily used during the latter half of the nineteenth century. Paintings that used Luminism had elements of water and sunlight that gave them a serene look. They typically depicted the landscape underneath a soft hazy sky and painted reflections on the water." So she explains its effects.
- 26 **[Detail Question]** The professor states, "Also, the Hudson River School artists who used Luminism tried to hide their brushstrokes whereas the brushstrokes in the works of the Impressionists can be clearly seen."
- 27 **[Connecting Content Question]** According to the lecture, the Hudson River school focused on the geographical area around the Hudson River Valley. Also, its artists often used Luminism as a painting method. As for the Impressionist Movement, it became influential in the United States during the 1870s, and Theodore Robinson was one of its major artists.
- 28 **[Making Inferences Question]** The professor lectures, "Upon his return to the U.S., Robinson worked as an art teacher to support himself, so he spread Impressionist ideas to his own students. Up here, notice some of Robinson's works . . . Nice, huh . . . ? You can clearly see the influence Monet had on him when you take a look at this work by Robinson here . . . and this one by Monet." Since Robinson, who was an Impressionist, was influenced by Monet and had a painting very similar to one by Monet, it can be inferred that Monet was

an Impressionist painter.

LECTURE

02-09

Listen to part of a lecture in an environmental sciences class.

W Professor: One of the most important things in nature that helps protect and create wetlands is the beaver dam. Beaver dams are, simply put, vital to wetland ecosystems. They provide numerous benefits that make wetlands stable environments. In fact, because of the importance of beaver dams, experts have classified the beaver as a keystone species.

Now, first I think I need to ask a question that I am sure many of you have wondered at one time or another: Why do beavers build dams . . . ? The best answer that we have thus far is that beavers build dams in order to create places where they feel safe. Beavers are excellent swimmers but move very slowly on land. If you watched the video that I assigned for homework in the last class, you should have noticed that. Beavers merely waddle on land but are perfectly at home in the water. So beavers build dams to avoid predators such as wolves, coyotes, and bears.

³⁴When a beaver make a dam, it blocks a stream. When the water behind the dam backs up, it provides the beaver with a closed-off aquatic environment in which it can freely swim and avoid land predators. Beavers also build their homes within their dams, so they use them as places of refuge.

By the way, a beaver's home is known as a lodge. That's just a little factoid for you.

As for the dams themselves, beavers work on them mostly at night. They gather trees, branches, stones, and even mud. Then, they build their dams across streams. Most dams are tens of meters wide, but some can actually be hundreds of meters wide. That would be a rather impressive sight, wouldn't it?

Once a beaver's dam is finished, what happens is that there is an area of still water, uh, a pond, that's created behind the dam. That's, uh, on the upstream side of the dam. This pond attracts all kinds of life. Fish go there, and they attract birds and other animals. So, in effect, a beaver dam creates its own microecosystem in the middle of a forest. A beaver dam also acts like a flood control system, just as manmade dams do. A beaver dam blocks the flow of water during rainy times and spring snow melts. As a result, less water flows downstream, which helps prevent flooding.

But beaver dams don't completely block the streams they're built on. Some water gets through of course. Interestingly, a beaver dam often acts like a natural filter for this water. Pesticides and other chemicals in the water sometimes get filtered out as the water slowly flows through the dam. This makes the water downstream cleaner and safer than the water upstream. The dam also prevents silt from flowing downstream. Over time, so much silt often builds up that the pond behind the dam becomes totally filled. When that happens, the beaver—or beavers—merely stop repairing the dam and instead abandon it. Eventually, the dam breaks, and the water remaining in the pond flows out, leaving dry land behind. This creates a beaver pond meadow. Because of all the rich silt, vegetation grows in abundance in beaver pond meadows, and they become places where many animals go to graze.

M Student: It sounds like beaver dams have a lot of benefits. Aren't there any drawbacks to them?

W: Not to nature. No. But there are disadvantages to people. The biggest one is flooding. If a beaver dam is built too close to where people live, they might be affected when the stream is blocked. Sometimes, roads and railway beds get washed out because of the flooding caused by beaver dams. Also, farmers may lose crops when beaver dams create ponds on their land. And beaver dams can disrupt recreational boating and other water sports since they present obstacles to movement.

Because of that, sometimes beaver dams have to be destroyed. But this doesn't always happen. Sometimes, plastic pipes, uh, like drainage pipes, can be pushed through the dams, and this allows more water to flow through and thereby reduces the size of the pond created. Occasionally, the beavers are caught in traps and moved to less populated areas. Also, beaver dams aren't really much of a problem nowadays since the beaver population is rather low. They were once incredibly plentiful, but people hunted and trapped them for their pelts. Fortunately, the beaver is making a comeback in many states today. There's even a beaver dam just a few miles away from the school here.

Anyway, I mentioned that the beaver is considered a keystone species. Why is that? Well, its role in controlling flooding, creating wetlands, and providing places to live for many other species of animals is the reason for this. Now, if you'll all take a look at the handout I gave you at the beginning of class, you can see exactly which species the beaver affects. Let's

look. Okay?

EXPLANATIONS

29 [Gist-Content Question] The professor mostly talks about how beaver dams affect the environment.

30 [Detail Question] The professor says, "Pesticides and other chemicals in the water sometimes get filtered out as the water slowly flows through the dam. This makes the water downstream cleaner and safer than the water upstream." Also, the professor notes, "A beaver dam also acts like a flood control system, just as manmade dams do. A beaver dam blocks the flow of water during rainy times and spring snow melts. As a result, less water flows downstream, which helps prevent flooding."

31 [Understanding Organization Question] The professor states, "Because of all the rich silt, vegetation grows in abundance in beaver pond meadows, and they become places where many animals go to graze." When animals graze, they are eating the vegetation growing in an area.

32 [Understanding Attitude Question] When a student asks the professor if beaver dams have any drawbacks, the professor responds, "Not to nature. No."

33 [Detail Question] The professor remarks, "Anyway, I mentioned that the beaver is considered a keystone species. Why is that? Well, its role in controlling flooding, creating wetlands, and providing places to live for many other species of animals is the reason for this."

34 [Understanding Function Question] When the professor notes that beaver dams are places of refuge, she implies that they are safe, so this means that predators cannot get into them.

ANSWERS

Part I

1. (C) 2. (B) 3. (C) 4. (A) 5. (B)
6. (A) 7. (A) 8. (C) 9. (B) 10. (D) 11. (B)
12. (C) 13. (D) 14. (B) 15. (C) 16. *Frankenstein*:
[1], [4] *The Strange Case of Dr. Jekyll and Mr. Hyde*: [2], [3]
17. (B)

Part II

18. (D) 19. [1], [4] 20. (B) 21. (C) 22. (A)
23. (D) 24. (B) 25. (C) 26. (A) 27. (B) 28. Islands
Formed by Glaciers: [2] Coral Atolls: [1], [3], [4]
29. (C) 30. (B) 31. (C) 32. (A) 33. Neanderthals:
[2], [3] Cro-Magnons: [1], [4] 34. (D)

Part III

35. (A) 36. (B) 37. (C) 38. (B) 39. (C)
40. (B) 41. (D) 42. (A) 43. (A) 44. B.F. Skinner: [1],
[2], [4] Noam Chomsky: [3] 45. (C)
46. (B) 47. (B) 48. (D) 49. (A) 50. Fact: [1], [4] Not
a Fact: [2], [3] 51. (D)

PART I

Page 60

CONVERSATION

03-03

Listen to part of a conversation between a student and a student center employee.

W Student: Mr. Wilkinson, you need to talk to me about something?

M Student Center Employee: Yes, Susan, I do. Uh, but first, uh, is your shift over yet? I don't want to interrupt you if you're busy working.

W: I'm all done for the day. I just finished up about five minutes ago. So after we're done chatting, I can go back to my dormitory for a couple of hours until my next class starts.

M: That's great to hear. Okay, this, uh, shouldn't take too long to discuss. I just wanted to let you know that there's another shift available for you to work this semester. I remember that you told me you wanted to work twelve hours this semester. Right now, uh, I believe that you're only working nine. That's correct, isn't it?

W: Yes, sir, it is. So, um, there's another shift that's available? That sounds great. What is it?

M: Let me check my list here . . . It's at Friday from eleven to two. How does that sound? I know it's almost the weekend, but, uh, it's the best that I can do.

W: Friday . . . Oh, no, I can't do it.

M: Huh? How come?

W: I've got a Russian history class that finishes at eleven thirty. It's on the other side of campus, too, so I wouldn't be able to get here until noon. Um, is there any way that, uh, the person working before me could stay until noon? That way I could at least get two more hours of work. What do you think of that?

M: Sorry, Susan, but that's totally impossible. Calvin actually leaves a few minutes before eleven so that he can get to his class on time. There's no way that he'd be able to stay any later. Oh well, I guess I'll have to find someone else.

W: Um . . .

M: Yes?

W: How about if I talk to a couple of other workers? I'm thinking of Peter and Rajiv. If I could convince one of them to take that shift and then switch one of their shifts with me, would that be okay with you?

M: To be honest, it doesn't matter to me at all which employee works which shift. All that I'm interested in is making sure that the shifts get filled.

W: All right. In that case, how about giving me half an hour to talk to both of them? I should be able to convince one of them to make a change . . . Uh, assuming that their schedules match of course.

M: Be my guest. You have their numbers?

W: I do. Peter and I live on the same floor in our dorm, and Rajiv and I are lab partners in physics. I actually know both of them pretty well.

M: Oh, I had no clue. Okay. It sounds like you should be able to solve my problem then. But, uh, if neither one of those two can handle that shift, then I'm going to have to post this job opening at the student employment office. So you need to be sure to get back to me as soon as possible. All right?

W: No problem, Mr. Wilkinson. I'll call you back on the office phone within thirty minutes.

M: Sounds great. Okay. I'll be waiting for your call.

W: Sure thing. Talk to you in a bit.

EXPLANATIONS

- 1 **[Gist-Purpose Question]** The man tells the student, "I just wanted to let you know that there's another shift available for you to work this semester."
- 2 **[Detail Question]** The available shift begins at eleven, but the student has a class that finishes at eleven thirty, so she cannot work on Friday.
- 3 **[Detail Question]** The student says, "How about if I talk to a couple of other workers? I'm thinking of Peter and Rajiv. If I could convince one of them to take that shift and then switch one of their shifts with me, would that be okay with you?" So she will try to rearrange her schedule with that of another student employee.
- 4 **[Making Inferences Question]** The man tells the student to hurry up and to call the students, and she indicates that she will get back to the man within thirty minutes. So she will probably call one of her coworkers next.
- 5 **[Understanding Function Question]** Since they are talking about Calvin working one of his shifts, it can be inferred that the student and Calvin are coworkers.

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LECTURE

03-04

Listen to part of a lecture in a meteorology class.

W1 Professor: All right. Those are the layers of the atmosphere. Now, let's explore how the atmosphere circulates. The atmosphere is not static. Instead, it's in constant motion. The fact that it circulates has a profound effect on atmospheric temperature as well as weather systems. In order to understand why the atmosphere circulates, we must first understand how it's heated by the sun. Sunlight strikes the Earth at different angles depending on the latitude. At the equator, sunlight is almost directly focused on the planet all year around. As a result, the equator gets more sunlight and more heat energy than other parts of the planet. As you move away from the equator and toward the poles, the angle of the Earth to the sun changes, so the planet's surface receives less sunlight and heat energy.

Because of this, the atmosphere near the equator is warmer than the atmosphere north and south of it. As we know from our studies, warm air rises and expands, which makes it less dense. On the other hand, cool air sinks and contracts, becoming denser as it does so. Warm air at the equator rises and

moves north and south. As this air flows away from the equator, its temperature falls, so it eventually sinks and becomes cool. Then, the newly cooled air flows back toward the equator, where it will warm up again, rise, flow north or south, cool, sink, and then flow back toward the equator. It's, as you can see, circulating. This movement forms a convection cell of moving air. Christina, you have a question?

W2 Student: I do. Does the warm air from the equator flow as far as the North and South poles before it sinks?

W1: Not quite. This doesn't happen because another factor is involved: the Earth's rotation. Because the Earth rotates, it produces something that we call the Coriolis Effect. This is what causes water to spin quickly as it drains down a bathtub or toilet. What the Coriolis Effect does is cause large moving masses of air to shift sideways. It also breaks up the flow of warm air into three smaller types of convection cells in areas both north and south of the equator. Do you see the diagram on page seventy-three of your books . . . ? Now, keep in mind that the diagram is an idealized version of what we believe convection cells look like. The reality is a bit more chaotic and unpredictable for the most part. Still, the diagram should enable you to visualize what's happening.

So, uh, the convection cell closest to the equator is roughly between zero and thirty degrees latitude on both sides of the equator. These two convection cells—one in the north and one in the south—are called Hadley cells. Next to the Hadley cells are two more convection cells. They're called Ferrel cells. Both the Hadley and Ferrel cells are named for the scientists who first theorized their existence. Finally, above each of the poles are two more convection cells. They are aptly named Polar cells.

In each cell, the air circulates differently. Let me focus just on the Northern Hemisphere right now. In the Hadley cell, warm air rises at the equator and flows to around thirty degrees north. Then, it cools, sinks, and flows south again. The air in the Polar cell acts in the same manner. Oh, the Polar cell covers the area from roughly sixty to ninety degrees north latitude. Anyway, there, warm air rises, flows north, sinks, and then flows south again. Both the Polar and Hadley cells are considered to be complete convection cells.

The Ferrel cell, meanwhile, acts differently. It lies between thirty and sixty degrees north latitude. There, warm air moves north along the surface. Then, it

rises, becomes cool, and flows south. In the south, it sinks and repeats the process of moving north again. Why does the air in this cell behave in a reverse manner to the other two cells? One main factor is the jet stream. This moving current of air plays a role in moving warm air north. However, let me point out that the Ferrel cell is not a complete circular movement of air like the Polar and Hadley cells. At times, air does not flow as smoothly in the Ferrel cell as it does in the other two. The Ferrel cell also acts as a sort of buffer between the Polar and Hadley cells. It's kind of like a . . . hmm, like a ball bearing that is bouncing unstably between the other two stable convection cells. Another difference is that in both the Polar and Hadley cells, weather patterns can be predicted fairly accurately, but weather in the Ferrel cell tends to be unstable and unpredictable.

So what all this circulating air does in tandem with the Coriolis Effect is create the planet's wind and weather patterns. It also plays a role in how ocean currents move. Between the different cell systems are regions of mostly high and sometimes low pressure. These factors all combine to play a role in making our weather, which, since we don't have any more time, is something we'll explore in our next class.

EXPLANATIONS

- 6 **[Gist-Content Question]** The professor mostly talks about cells of air in the atmosphere during the lecture.
- 7 **[Detail Question]** The professor states, "This doesn't happen because another factor is involved: the Earth's rotation. Because the Earth rotates, it produces something that we call the Coriolis Effect."
- 8 **[Understanding Function Question]** The professor asks, "Do you see the diagram on page seventy-three of your books?"
- 9 **[Making Inferences Question]** The professor says, "So, uh, the convection cell closest to the equator is roughly between zero and thirty degrees latitude on both sides of the equator. These two convection cells—one in the north and one in the south—are called Hadley cells. Next to the Hadley cells are two more convection cells. They're called Ferrel cells." Since Hadley cells are next to the equator, then Ferrel cells must be farther away from the equator than Hadley cells.
- 10 **[Gist-Purpose Question]** The professor says, "However, let me point out that the Ferrel cell is

not a complete circular movement of air like the Polar and Hadley cells. At times, air does not flow as smoothly in the Ferrel cell as it does in the other two." So she contrasts the movement of air in the cells.

- 11 **[Making Inferences Question]** At the end of the lecture, the professor says, "These factors all combine to play a role in making our weather, which, since we don't have any more time, is something we'll explore in our next class." Since she notes that they do not have any more time, she will probably let the students go for the day.

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LECTURE

03-05

Listen to part of a lecture in a literature class.

M Professor: The 1800s was a fascinating time, especially for the people who were living in it. There were all sorts of changes occurring in society. For instance, many colonies were gaining their independence, and there were revolutions in countries around the world, most notably in Europe. Not only were countries gaining their freedom, but so were people as slavery came to an end in the West. The Industrial Revolution was going on, so a number of practical and, uh, revolutionary, new inventions were being made. And there were great discoveries in the realm of science as well.

That's what interests me today: science. In the 1800s, people began to take a more scientific look at the world. The secrets of science were starting to get unlocked. This fact simultaneously fascinated and frightened people. I think that you can see proof of this in the literature that was written during the 1800s. There was a genre that was produced then . . . we can call it science fiction, science horror, or even just plain horror I suppose . . . that focused on science to drive the plots of the stories. In many cases, the writers stressed the dangers of science and what bad—or even evil—things could result from science that was misused. In other instances, though, writers took a more positive view of science and looked at the great possibilities that existed when it was used properly. There were three major writers of this new genre. They were Mary Shelley, Robert Louis Stevenson, and Jules Verne.

Mary Shelley is best known for her novel *Frankenstein; or The Modern Prometheus*. Nowadays, we normally just shorten it to *Frankenstein*. Mary Shelley was from England and was the wife of the

poet Percy Bysshe Shelley. Now, due to the numerous movies based on *Frankenstein*, there are several misconceptions about the novel. So let me cover it in brief. The plot focuses on the life of Dr. Victor Frankenstein and the monster that he created. And, no, the monster is not named Frankenstein in the novel. Thank Hollywood for that error.

Anyway, here's what happened. Dr. Frankenstein, who had studied at a university, was fascinated by the possibility of creating life from death. We'd call that pseudoscience today, but, in Mary Shelley's time, this notion was rather popular. The method thought to be able to create life was called galvanism. People back then believed that, um, by conducting electricity through the body of a dead person or other animal, the dead being would come back to life. The creature would be galvanized that is. Anyway, Dr. Frankenstein assembles a creature from spare parts and runs electricity through it. It comes alive but is misshapen and hideous to look at. Dr. Frankenstein is repulsed by the monster as is everyone else who sees it. The monster—an innocent at first—becomes a vengeful creature and seeks revenge on Dr. Frankenstein and those closest to him after being scorned and rejected. It essentially destroys Dr. Frankenstein's life and murders both his wife and some family members.

Shelley's work is a clear warning that science in the hands of the wrong person can have tragic consequences. Of course, galvanism isn't a real science, but that wasn't known back in Shelley's time. Now, Robert Louis Stevenson was another author who wrote about the dangers the misuse of science could pose in his work *The Strange Case of Dr. Jekyll and Mr. Hyde*. Dr. Jekyll is, as you can guess, a scientist. A good man, he becomes interested in exploring his darker, evil side. To do this, he concocts a potion that lets him transform into another person: Mr. Hyde. Hyde serves as Jekyll's alter ego in the story. Jekyll embodies that which is good while Hyde is the epitome of evil. To transform into Hyde, Jekyll must drink the potion. However, Hyde sometimes randomly attacks and even murders people as he walks the streets of London.

Eventually, Hyde begins to take over Jekyll and at times transforms even when Jekyll hasn't drunk any of the potion. In order to change back into himself, larger quantities of the potion need to be consumed by Jekyll. Needless to say, the story ends with the complete disappearance of Jekyll and the eventual death—possibly by his own hand—of Mr. Hyde. Much like Shelley in *Frankenstein*, Stevenson is warning

people about the dangers that science poses. See, uh, Stevenson makes it clear that Dr. Jekyll doesn't totally understand the potion he has created. Unbeknownst to him, his first batch of the potion contained a chemical with an impurity that allowed him to transform back into himself. However, when Jekyll runs out of that particular chemical, he purchases more of it, and the new batch is in its pure form. When the pure chemical is added to the potion, Jekyll cannot easily transform back into his real self. In Stevenson's world, that's one of the consequences of messing with things that you don't completely understand.

While Shelley and Stevenson wrote warnings about the use of science, that's not quite the same for Jules Verne. He had an opinion of science that was the opposite of theirs and often wrote about how humanity could use it to its benefit.

EXPLANATIONS

- 12 [Gist-Content Question] During the lecture, the professor talks about the role of science in the works of three writers in the nineteenth century.
- 13 [Understanding Attitude Question] At the beginning of the lecture, the professor comments, "The 1800s was a fascinating time, especially for the people who were living in it. There were all sorts of changes occurring in society. For instance, many colonies were gaining their independence, and there were revolutions in countries around the world, most notably in Europe. Not only were countries gaining their freedom, but so were people as slavery came to an end in the West. The Industrial Revolution was going on, so a number of practical and, uh, revolutionary, new inventions were being made. And there were great discoveries in the realm of science as well." He is clearly impressed by that period of time.
- 14 [Understanding Organization Question] The professor states, "Now, due to the numerous movies based on *Frankenstein*, there are several misconceptions about the novel. So let me cover it in brief. The plot focuses on the life of Dr. Victor Frankenstein and the monster that he created. And, no, the monster is not named Frankenstein in the novel. Thank Hollywood for that error." So he is letting the students know that the movie versions are different from the book.
- 15 [Gist-Purpose Question] The professor states, "The method thought to be able to create life was

called galvanism. People back then believed that, um, by conducting electricity through the body of a dead person or other animal, the dead being would come back to life. The creature would be galvanized that is." Then, he notes that Dr. Frankenstein used galvanism to make the monster come alive. This is therefore an important part of the plot of the book.

16 [Connecting Content Question] According to the lecture, the monster is rejected by Dr. Frankenstein. Also, the monster murders some of Dr. Frankenstein's family members as well as his wife. As for *The Strange Case of Dr. Jekyll and Mr. Hyde*, Dr. Jekyll must consume a potion to make the transformation into Mr. Hyde. Also, at the end of the story, Mr. Hyde dies, "possibly by his own hand," which means that he may have committed suicide.

17 [Making Inferences Question] At the end of the lecture, the professor remarks, "While Shelley and Stevenson wrote warnings about the use of science, that's not quite the same for Jules Verne. He had an opinion of science that was the opposite of theirs and often wrote about how humanity could use it to its benefit." So the professor implies that Jules Verne believed that science could be a positive force.

PART II

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CONVERSATION

03-07

Listen to part of a conversation between a student and a professor.

M1 Professor: What's with that dejected look you've got on your face, Bruce? It seems like something bad happened. Is something not okay with you?

M2 Student: I'm not really doing very well, sir. I, uh, I kind of got some bad news today.

M1: Bad news? Goodness. Are your parents okay? I hope that nothing has happened to them.

M2: My parents? Oh, no. It's nothing like that. My parents are totally fine.

M1: All right. That's a relief. Well, why don't you take a seat over there and tell me about what's going on?

M2: Yes, sir.

M1: Here . . . Have a cup of coffee. I just made some on my coffee machine here. A cup of this should help you out a bit I imagine.

M2: Thank you for your kindness, sir. I really appreciate it.

M1: All right then . . .

M2: Ah, yeah. My problem. Here . . . Take a look at this test that I just got back a few minutes ago . . .

M1: A sixty-four? Er . . . Didn't you study for the test, Bruce? I don't think that I've ever seen you get a grade this low. And, uh, as your advisor, I get to see pretty much all of your grades. What happened?

M2: That's the problem, sir. I have no idea what happened.

M1: Explain. What exactly do you mean by that?

M2: Well, I thought that this astronomy class I had signed up for was going to be a lot of fun. You know, maybe we'd go to the school's observatory, look at some stars at night, and do other cool stuff like that . . . But this class is nothing like what I had imagined. It's just one boring lecture after another. 21 Not only that, but I am also totally lost in that class. There is a lot more math than I'm used to doing. Uh, math, as you remember from last semester, isn't really my strong point. And it's not like I didn't study for the test either. I studied for three straight days. And do you know the worst part?

M1: No. What's that?

M2: I still don't understand why I missed all of those questions. The professor went over the answers with us in class, but I just . . . I just didn't get it.

M1: What are you thinking of doing about this?

M2: Well . . . I think that the best idea for me is simply to drop the course. I mean, uh, I've already fulfilled my science requirements, so this is just an elective course. And if I stay in this class, there's no way that I'm going to make it onto the Dean's List this semester. That would kill my chances of getting into a good graduate school after I finish up here.

M1: 22 It sounds to me like your mind's already made up about dropping the class. Well, you have my blessing. But be sure to do that by tomorrow. That's the last day you can withdraw from a class without having it appear on your transcript.

M2: Oh, thanks for the reminder. In that case, I'm going to get a withdraw slip and visit Professor Danielson in his office right now. I know he's having office hours, so he'll definitely be there.

EXPLANATIONS

18 [Gist-Content Question] The student and the professor mostly talk about the student's poor

performance on the astronomy test that he took.

- 19 **[Detail Question]** The student says, "And if I stay in this class, there's no way that I'm going to make it onto the Dean's List this semester." He also says, "Well, I thought that this astronomy class I had signed up for was going to be a lot of fun. You know, maybe we'd go to the school's observatory, look at some stars at night, and do other cool stuff like that . . . But this class is nothing like what I had imagined. It's just one boring lecture after another."
- 20 **[Making Inferences Question]** The professor tells the student, "Didn't you study for the test, Bruce? I don't think that I've ever seen you get a grade this low." Also, the student is clearly upset about his low grade, so it can be inferred that he is not used to getting poor grades at school.
- 21 **[Understanding Function Question]** The student says, "Uh, math, as your remember from last semester, isn't really my strong point." So he implies that he took a math class last semester.
- 22 **[Understanding Attitude Question]** When a person states, "You have my blessing," the person is giving permission to another to do something. So the professor is telling the student that he agrees with the student's decision to drop the class.

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LECTURE

03-08

Listen to part of a lecture in a geology class.

M Professor: There are literally hundreds of thousands of islands all over the world. But please don't think of all islands as being the same. That's a mistake some people make. In fact, there are several types of islands. By this, I'm referring to how the islands themselves were actually created. Right now, I want to briefly go over five major ways in which islands are created. Then, we're going to look at the creation of a few islands in more detail.

As you're aware, all throughout Earth's existence, the face of the planet has changed dramatically. We already studied the theory of plate tectonics and discussed how the Earth's surface has moved over time. We talked about Pangaea as well as some of the other supercontinents that once existed. As the continents were busy moving around, all this movement occasionally resulted in some relatively small pieces of land getting separated from the larger pieces. Most geologists believe that the majority of our big islands . . . New Guinea, the British Isles, Newfoundland, and Baffin Island, to name just a few

. . . uh, these islands were once probably parts of larger continents. They merely broke off.

W Student: Dr. Davidson, is Australia another example of this type of island?

M: Well, Mary, technically, Australia is a continent and not an island. I mean, okay, if you want to get fussy, we could call the Eurasian-African landmass an island, right? And the same could be said for the landmass that contains North and South America. After all, they're both land that's surrounded by water, aren't they? However, we don't do that, so that's why, uh, despite how it looks on a globe, we don't consider Australia to be an island. It's a continent. But that's a good question. Thanks for bringing that up.

The second way some islands formed happened at the end of the last ice age several thousand years ago. When the ice age ended, lots of water had been trapped as ice. The ice melted, which caused the ocean level to rise all around the world. One result of this was that islands were created from high points of land that were surrounded by lower ground which was suddenly covered in water. At the same time, large ice sheets, uh, glaciers, carved out the ground, making depressions that became both lakes and inland seas as soon as water filled them. However, the glaciers didn't carve the ground evenly, so the levels of the lakes and seas varied. In many places, high points of land in these lakes and seas suddenly became islands.

A third way in which islands were created was volcanic activity in the ocean. Volcanoes underneath the ocean's surface spewed molten magma, which cooled and formed solid rock underwater. Over time . . . er, millions of years that is . . . some volcanoes erupted again and again. Eventually, enough volcanic rock built up in places that the surface of the ocean was breached and islands were formed. In some cases, the volcanoes kept erupting, which, uh, which resulted in the creation of fairly large islands. Iceland was formed this way. So were major archipelagos such as Indonesia. There are volcanic islands and island chains scattered all around the world, but most, as you would presume, are found along the Earth's hot spots. Those are the places where volcanoes and earthquakes are the most common. The Pacific Ocean is home to many volcanic islands, particularly in the area known as the Ring of Fire.

Sometimes, these island chains created by volcanoes are the results of a hot spot that moves as the Earth's tectonic plates also move. It's believed that the Hawaiian islands were created this way. You

see, one weak spot in the Earth's crust on a tectonic plate allowed magma to bubble up from below. As the tectonic plate that this weak spot was on moved in an eastward direction over millions of years, every time there was considerable volcanic activity, new islands were formed. Take a look at a map of Hawaii sometime. You'll notice how it's a chain of islands that stretches from west to east.

The fifth way in which islands, most notably those in the Pacific Ocean, were created, um, is from coral. I'm referring to coral atolls. These are islands made from the remains of dead coral. Coral, by the way, are living organisms that attach themselves to shallow spots on the ocean floor. Over time, coral secrete a calcium substance that hardens. As the coral die, they get incorporated into this mass of solid material. This forms coral reefs. Gradually, coral reefs can grow so large that they break the ocean's surface and form islands. Most coral reefs are circular and surround—or almost completely surround—an inner body of water called a lagoon. It's thought that this lagoon once contained a volcanic island that sank into the ocean. Scientists base this belief on the fact that most coral reefs form close to islands. So here's what probably happened . . . A volcanic island rose from the ocean. Over time, a coral reef formed around it. Then, as time passed, forces in the Earth caused the volcano to sink beneath the water. But the coral reef remained and gradually became a coral atoll.

EXPLANATIONS

- 23 [Gist-Content Question] The professor describes the five major ways in which islands are formed.
- 24 [Gist-Purpose Question] The professor mentions the end of the last ice age to talk about the glaciers that melted during this time. It was these glaciers, the professor says, which caused many islands to form.
- 25 [Detail Question] The professor tells the class, "In some cases, the volcanoes kept erupting, which, uh, which resulted in the creation of fairly large islands. Iceland was formed this way."
- 26 [Making Inferences Question] The professor comments that coral atolls are believed to have formed around a volcanic island that sank into the ocean. Since the professor also notes that there are many volcanoes in the Ring of Fire, it can be inferred that many coral atolls are found in the Ring of Fire as well.
- 27 [Understanding Organization Question] During

the lecture, the professor individually covers the five major ways in which islands are made.

- 28 [Connecting Content Question] According to the lecture, many islands were formed by glaciers when the last ice age ended. As for coral atolls, they have a lagoon in their centers. Also, most of them are in the Pacific Ocean, and they are believed to have once contained a volcano but that it sank beneath the ocean.

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LECTURE

03-09

Listen to part of a lecture in an anthropology class.

W Professor: Neanderthals lived in Europe and parts of Asia and the Middle East between around 200,000 to 30,000 years ago. For years, we didn't know much about them. That changed when the first virtually complete set of Neanderthal remains was discovered in 1856 in a limestone quarry in the Neander Valley near Dusseldorf, Germany. That's where the name "Neanderthal" comes from. And if you're wondering, *thal* is the German word for "valley." Anyway, the remains of this hominoid were carefully preserved and then studied. The researchers examining it soon came to realize that it was a unique specimen that wasn't like modern humans.

M Student: How exactly do Neanderthals differ from modern humans, Dr. Watson?

W: In a number of ways. First, Neanderthals had stronger skeletons and larger bones than modern humans. On average, their hands and arms were much stronger than those of modern humans. They also had quite powerful legs. As for their height, male Neanderthals stood 165 centimeters tall on average while the females averaged about, um, about ten centimeters less in height than the males. Neanderthals' heads were also shaped differently from those of modern humans. ³⁴ I believe that there is a picture of a Neanderthal skull in your books. I can't remember the page number off the top of my head though . . .

M: It's page 324, Dr. Watson.

W: You're on the ball today, Tom. Thanks . . . Ah, yes, does everyone see it now . . . ? Notice how it compares to the human skull next to it. As you can see, the Neanderthal skull is longer . . . the facial area around the nose protrudes more . . . and the jaw is larger as well. Note, however, that the forehead and chin do not protrude. Instead, the forehead is sloped back while the chin recedes. Finally, Neanderthals had large cranial cavities. That's the place in the skull

where the brain is. So Neanderthals had brains that were slightly larger than those of modern humans. Does this mean that Neanderthals were more intelligent than modern humans . . . ? Hmm . . . That's hard to say. No one knows for sure.

That's enough about the physical aspects of Neanderthals. Let's proceed now to their behavior. First, like all early humans, Neanderthals were hunter-gatherers. They created simple stone tools, such as scraping tools, and they used spears for weapons. In their waning years, it's believed that they may have made tools from animal bones and antlers, but we don't have enough information to confirm the validity of that claim yet. Neanderthals did, however, know about fire and made use of it.

Anthropologists believe that Neanderthals lived in small social groups, much like our modern-day families. It's thought that they took care of the elderly and sick members of their groups. This evidence is based on the fact that some unearthed remains in caves appear to be those of Neanderthals who were rather old. Some of the bones bear evidence of healed injuries . . . uh, broken bones and stuff . . . as well as diseases. There's some evidence that Neanderthals buried their dead, but not everyone agrees as the evidence is rather, um, scanty. Another thing anthropologists are unsure of is whether or not Neanderthals could talk and, if they could, if they had language. Their brains were big enough to suggest intelligence, so the possibility exists that they produced both speech and language. Also, in some Neanderthal remains, a hyoid bone has been found. That's the bone in our throats that's attached to the larynx and that we use mainly to make speech.

Now, Neanderthals are obviously extinct. What caused them to die out is a question that has sparked a great deal of debate among experts. As you can guess, there are lots of unanswered questions about Neanderthals. Anyway, as to their extinction, one theory is that another hominid species, Cro-Magnon man, played a significant role. This hominid, from which modern man descended, originated in Africa and arrived in Europe around 40,000 years ago. For 10,000 years or so, Cro-Magnons and Neanderthals lived in close proximity to one another in Europe. But the Neanderthals then disappeared while the Cro-Magnons thrived. What happened? Did the Cro-Magnons outcompete the Neanderthals for resources? Did they purposely kill the Neanderthals? Again, we're not sure of the answers. What we do know is that by around 30,000 B.C., the Neanderthals

were gone, and the Cro-Magnons were the dominant species in much of Europe.

M: Are Neanderthals related to modern humans?

W: Ah, that's yet another question whose answer we aren't positive about. It seems likely that Neanderthals and Cro-Magnons lived amongst one another for thousands of years. Did they come together and produce offspring? Well, there are no physical characteristics in modern humans that suggest we're related to Neanderthals. However, thanks to modern DNA testing, we have the answer. Around one to four percent of the DNA of Europeans and Asians comes from Neanderthals. This suggests that, sometime after Cro-Magnons left Africa, some of them reproduced with Neanderthals. Interestingly, there is no Neanderthal DNA in Africans, which lends weight to the theory that this comingling happened only on the Eurasian landmass.

EXPLANATIONS

29 [Understanding Organization Question] When the professor talks about Neanderthal skulls, she says, "Notice how it compares to the human skull next to it. As you can see, the Neanderthal skull is longer . . . the facial area around the nose protrudes more . . . and the jaw is larger as well. Note, however, that the forehead and chin do not protrude. Instead, the forehead is sloped back while the chin recedes." So she compares them with human skulls.

30 [Detail Question] The professor says, "Anthropologists believe that Neanderthals lived in small social groups, much like our modern-day families. It's thought that they took care of the elderly and sick members of their groups. This evidence is based on the fact that some unearthed remains in caves appear to be those of Neanderthals who were rather old. Some of the bones bear evidence of healed injuries . . . uh, broken bones and stuff . . . as well as diseases."

31 [Making Inferences Question] The professor notes, "Also, in some Neanderthal remains, a hyoid bone has been found. That's the bone in our throats that's attached to the larynx and that we use mainly to make speech." So she implies that having the bone enabled Neanderthals to speak.

32 [Understanding Organization Question] When the professor discusses Cro-Magnon man, she talks about how Cro-Magnon man may have been responsible for having caused the Neanderthals to become extinct.

33 [Connecting Content Question] According to the lecture, Neanderthals' "hands and arms were much stronger than those of modern humans. They also had quite powerful legs" Also, "As for their height, male Neanderthals stood 165 centimeters tall on average while the females averaged about, um, about ten centimeters less in height than the males." As for Cro-Magnons, the professor states, "Anyway, as to their extinction, one theory is that another hominid species, Cro-Magnon man, played a significant role. This hominid, from which modern man descended, originated in Africa and arrived in Europe around 40,000 years ago."

34 [Understanding Function Question] When a person tells another, "You're on the ball," that person is giving a compliment. So the professor is commending the student for knowing the correct page number.

PART III

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CONVERSATION

03-11

Listen to part of a conversation between a student and a librarian.

W Student: Good evening. This is where I go to pay my library fines, isn't it?

M Librarian: That's correct. You have some fines? I'm really sorry to hear that.

W: Yeah, me too. I just hope that my overdue books aren't going to cost me that much.

M: So do I. Well, let's find out, shall we? Do you happen to have your student ID with you? I need to take a look at it so that I can scan your name on the computer.

W: Oh, yeah. Right . . . Here you are.

M: All right . . . Your name is Rebecca Mills, yes?

W: That's me. And I believe that I turned in two books late a couple of days ago.

M: That is correct. The books were . . . *The Fatal Conceit* by F.A. Hayek . . . Uh, that one was eight days overdue, and . . . *The Knowledge Web* by James Burke . . . Excuse me, That one appears to be eight days overdue as well.

W: Yes, those are the two books that I returned. I can't believe I didn't renew them beforehand. I just didn't have time to visit the library since I've been so busy nowadays.

M: Actually, uh, you don't have to visit the library to renew your books. There are a couple of options available to you. Let's see . . . You can call us on the phone anytime that we're open and renew your books that way. And we have a new program that lets you renew your books online as well. So you can do that from the comfort of your own dorm room. Of course, you can always drop by the circulation desk here if you want. That's what a large number of students and faculty prefer.

W: Yeah. I guess I'm just used to doing that. But thanks for the information. I didn't know that we're able to renew books over the Internet. I'll have to check that out.

M: Excellent. We're hoping that a lot of students start doing that.

W: So, uh, anyway . . . How much do I owe?

M: Ah, yes. You owe two dollars for each book. So that's a total of four dollars. Would you like to pay that now or have it put onto your bill that you pay at the end of the semester?

W: Well, it's tempting to let my parents take care of it, but I don't think they'd appreciate me making them pay for my overdue books. Here's five dollars.

M: Thank you very much. And here's your change.

W: Oh, uh, actually . . . Since I'm here, would you mind renewing the books that I have checked out right now? I think that I've got five of them.

M: ³⁹ That won't be a problem at all. And . . . yes, you're right. You have five books. Do you need to know the titles?

W: That's all right. I know which books they are.

M: Oh, no . . . It looks like one of them is four days overdue. I can renew it, but you're going to have to pay a fine. If you want to take care of that now, I'm going to need that dollar back.

W: I can't believe it. I'm so forgetful. Here's the dollar. And I'm going to be sure to check out that Internet renewal system from now on.

EXPLANATIONS

35 [Gist-Content Question] At the beginning of the conversation, the student asks, "This is where I go to pay my library fines, isn't it?"

36 [Gist-Purpose Question] The librarian tells the student, "Actually, uh, you don't have to visit the library to renew your books. There are a couple of

options available to you. Let's see . . . You can call us on the phone anytime that we're open and renew your books that way. And we have a new program that lets you renew your books online as well. So you can do that from the comfort of your own dorm room." So he is letting her know an easy way to renew her books.

- 37 [Detail Question] The student first pays the librarian four dollars for her overdue books. Then, she gives him another dollar after she renews another overdue book. So she gives him a total of five dollars.
- 38 [Understanding Attitude Question] The librarian is considerate and polite to the student. He also is helpful by telling her about the new program and by renewing her books for her.
- 39 [Understanding Function Question] When the student says, "That's all right," she is rejecting his offer. She knows the titles of the books she has checked out, so she does not need him to tell her the titles.

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LECTURE

03-12

Listen to part of a lecture in a linguistics class.

M Professor: One issue that has troubled those studying education—particularly those in the field of language learning—is whether a child has an innate ability to learn a specific language or whether a child can be programmed to learn any language due to various influences on the child's environment. Two of the great minds that have touched on this subject are Americans B.F. Skinner and Noam Chomsky. Interestingly, they disagree widely on this aspect of learning. Their debate has shaped the fields of behaviorism and linguistics since the 1950s. Both men and their theories have supporters and detractors, and each of their theories has, well . . . each theory makes sense yet also has problems. Often, that's just the way it is in academia. Anyway, I'd like to give you a balanced account of both theories and leave it up to you to decide which theory is more appealing.

I'm going to start with Skinner's ideas on language learning. Skinner believed that children are born without any ability to perceive language. Their minds are clean slates in his view. Gradually, by interacting with their surrounding environment, they begin to learn language. This learning is aided by parental guidance and other outside stimuli. Skinner's views led to the development of what he called verbal

behavior. In verbal behavior, verbal actions lead to responses from others. A central aspect of Skinner's theory is something he named the reinforcement theory. For example, let's say that a child learns the word, um . . . water. All right. So a little girl says, "Water," and her parents give her a glass of water. The child associates the word "water" with the actual thing, and, as time passes, this association is reinforced. As the girl ages, she acquires a larger vocabulary, becomes able to string words together to make sentences, and comes to understand grammatical structures as well. All of these things are conditioned into the child and are reinforced by her environment and the responses she gets from her parents whenever she speaks.

W Student: You're saying Skinner believed that a child born into any family could learn that family's language, right?

M: In Skinner's view, yes. And he's been proven correct time and time again. How is that? Well, think of all the international adoptions that take place nowadays. Say that a Russian baby is adopted by English-speaking American parents. The baby learns English, not Russian, and will never master the language of his birth parents even if he studies it for many years. Of course, there's a problem with Skinner's theory. Many people believe that it's only in our early years—our childhoods—that we can learn a language perfectly and that, as we age, our ability to learn a language diminishes even if we're totally immersed in the culture of the language we're trying to learn for many years. According to Skinner, the person should be able to learn the language by being in the environment and from other stimuli. But that doesn't always happen, does it?

What about Chomsky's theory? In 1957, Skinner published a book entitled *Verbal Behavior*, and Chomsky wrote a response to it. Chomsky, in case you don't know, is a linguist who specializes in grammar structures. He believes that all people are born with an innate ability to understand and learn the inherent grammatical structures of any language. ⁴⁵ Imagine that you have a black box in your head when you're born. This black box contains a code that is just waiting to be programmed with a language. That's what Chomsky believes. Uh, not in an actual black box of course. I'm referring to the idea. See, Chomsky feels that as a child grows and learns, the child discovers this innate ability and, over time, will fully develop the grammatical structures of his or her language.

Chomsky further notes that the rapid acquisition of language by a child is one thing that Skinner's theory does not account for. At certain stages, children learn languages by leaps and bounds . . . often, it seems, without having their language skills reinforced by any external factors. This makes Chomsky's theory of an innate ability to learn a language more plausible.

Chomsky further believes that after a person's initial language acquisition, that individual can never master a second language to its fullest extent because the human brain is hard-wired so that it only fully comprehends the structure of the first language that a person learns. Of course, there are many exceptions to this since there are a large number of people who have mastered two, three, or even more languages. This is a clear fault in Chomsky's reasoning I believe. Additionally, what about babies adopted into different cultures? Do their brains have the ability to learn their birth parents' language, their adopted parents' language, or both? By observing cases such as those of adoptees, it seems as though there is no, um, pre-assigned language. There's just an innate ability to learn. What language the child will learn depends upon that which the child hears in his or her first few years. Therefore, external stimulus from the child's environment seems essential to language acquisition, just as, uh, just as Skinner suggested.

EXPLANATIONS

- 40 [Gist-Content Question] The professor describes the opposing theories of language acquisition held by B.F. Skinner and Noam Chomsky.
- 41 [Detail Question] The professor states, "Chomsky, in case you don't know, is a linguist who specializes in grammar structures."
- 42 [Understanding Attitude Question] The professor says, "Both men and their theories have supporters and detractors, and each of their theories has, well . . . each theory makes sense yet also has problems." So it can be inferred that he supports aspects of both of their theories.
- 43 [Understanding Organization Question] In his lecture, the professor first describes Skinner's ideas, and then he talks about Chomsky's ideas.
- 44 [Connecting Content Question] According to the lecture, B.F. Skinner's book was criticized by Noam Chomsky. Also, B.F. Skinner believed "children are born without any ability to perceive language. Their minds are clean slates in his view." He also

supported the reinforcement theory. As for Noam Chomsky, he believed that a person could never learn a second language perfectly.

- 45 [Understanding Function Question] When the professor says that he is not talking about an actual black box, he is making a clarification to ensure that the students understand what he is talking about.

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LECTURE

03-13

Listen to part of a lecture in a zoology class.

W1 Professor: Easily the most well-known of all desert animals is the camel. It's the most versatile animal that lives there. In the desert, the camel serves as a means of transportation, a beast of burden, a source of food, and even a commodity that can be traded for money or items.

Physiologically, camels are even-toed ungulates. This is the family of mammals that has an even number of toes on its feet. Ah, the number is typically two or four. In the case of camels, they possess two large toes on their feet. If you're curious, uh, some other animals that belong to this mammalian family include the pig, sheep, goat, giraffe, and cow. Camels are typically found in the desert regions of Africa and Arabia and parts of India, China, Mongolia, and Australia. ⁵¹ The vast majority of them are domesticated. The major exception is the large group of around, oh, a million camels or so, that lives wild in the Australian outback.

M Student: Australia? How did they get there?

W1: Ah, there's an interesting story behind that. In the nineteenth century, a small group of camels was taken to Australia to serve as beasts of burden. Eventually, the people got tired of raising them, so they simply let them go into the wild. Those camels have, uh, been breeding ever since, hence their big numbers. As for other large herds of camels, they exist in Somalia, Ethiopia, and the Sudan in Africa and also on the Arabian Peninsula.

Please be aware that not all camels are the same. That's a common misconception about them. In fact, there are two main groups of camels. They are the dromedary and the Bactrian camel. Telling them apart from one another is rather simple as the dromedary camel has a single hump while the Bactrian camel has two. In addition, the Bactrian camel is sometimes darker in color and tends to have longer hair than the dromedary camel. Take a look at this picture of both of them here . . . Now that you can see them side by

side, it's easy to tell the difference between the two, isn't it? The Bactrian, as you can see, is the larger of the two. By the way, Bactrian camels are mostly found in Central Asia, and virtually all of them are domesticated. Now, the hump is the first thing that most people notice about camels. The hump . . .

W2 Student: I'm sorry to interrupt, Professor Collins, but I have a question.

W1: By all means, please go ahead.

W2: Thanks. Is the hump filled with water? Is that why the camel can travel so far in the desert?

W1: Ah, I was just about to cover that. The hump is not made of water but is actually made of fat. But you are right about one thing: The hump is what helps the camel survive the extreme heat and dryness of the desert. What happens to the fat in the hump is that it gets metabolized into water, so a camel can travel for a long period of time without replenishing its water supply.

Camels have some other features that enable them to thrive in the desert. Among mammals, they are the only ones with oval-shaped red blood cells. Those are what reptiles and fish have. Why is this important? Well, the oval shapes of the cells help the blood flow better than circular cells do when a camel's body gets dehydrated. Therefore, a camel may get dehydrated but can still survive longer than any other mammal because its blood will continue to flow smoothly to vital areas in the body.

Camels also sweat less than most other mammals, and it takes very high temperatures for them to start sweating. A camel won't start sweating until the temperature reaches more than forty degrees Celsius. Humans, on the other hand, sweat at much lower temperatures. Let's see. What other advantages do camels have . . . ? Ah, they can easily withstand the cold desert nights and the rapid changes in temperature between day and night in the desert. They can retain a lot of water because of their unique noses, which help trap water vapor as they breathe, so the water gets returned to their bodies. One other thing that helps them survive is their ability to imbibe massive amounts of water on the occasions when they do drink. They drink so much that consuming the same amount would kill another mammal. Finally, camels can eat almost anything—either plant or animal—although they prefer plants. And thanks to their incredibly hearty digestive systems, their bodies can process whatever they find to eat in the desert. In short, evolution has turned the camel into the perfect

desert dweller.

And that's why camels are used as beasts of burden in the desert. They've been known to travel almost 200 kilometers a day while carrying a person or sixty kilometers a day while carrying loads of up to 200 kilograms. That, along with the camel's side-to-side motion when it walks, is how it received the moniker "the ship of the desert."

EXPLANATIONS

- 46 [Gist-Content Question]** The professor focuses on the physical characteristics of camels during her lecture.
- 47 [Connecting Content Question]** The professor states, "Physiologically, camels are even-toed ungulates. This is the family of mammals that has an even number of toes on its feet. Ah, the number is typically two or four. In the case of camels, they possess two large toes on their feet. If you're curious, uh, some other animals that belong to this mammalian family include the pig, sheep, goat, giraffe, and cow."
- 48 [Detail Question]** The professor notes, "Telling them apart from one another is rather simple as the dromedary camel has a single hump while the Bactrian camel has two."
- 49 [Understanding Organization Question]** The professor remarks, "Among mammals, they are the only ones with oval-shaped red blood cells. Those are what reptiles and fish have. Why is this important? Well, the oval shapes of the cells help the blood flow better than circular cells do when a camel's body gets dehydrated."
- 50 [Detail Question]** According to the lecture, "They can retain a lot of water because of their unique noses, which help trap water vapor as they breathe, so the water gets returned to their bodies." Also, "One other thing that helps them survive is their ability to imbibe massive amounts of water on the occasions when they do drink. They drink so much that consuming the same amount would kill another mammal." On the other hand, the professor does not say that they become inactive at night. And camels sweat, but it takes very high temperatures for them to start sweating.
- 51 [Understanding Function Question]** The student's tone of voice is important. He sounds surprised when he asks about camels being in Australia. He clearly did not expect to hear that camels live there.

ANSWERS

Part I

1. (B) 2. [2], [4] 3. (A) 4. (C) 5. (A)
6. (C) 7. (A) 8. (D) 9. (C) 10. Advantage: [2], [4]
Disadvantage: [1], [3] 11. (B)
12. (D) 13. (B) 14. (A) 15. (D) 16. (C) 17. (C)

Part II

18. (C) 19. (A) 20. (B) 21. [1], [3] 22. (C)
23. (B) 24. (A) 25. Striated Muscles: [3], [4] Smooth
Muscles: [1], [2] 26. (C) 27. (C) 28. (B)
29. (C) 30. (D) 31. (A) 32. (C) 33. (C) 34. (B)

PART I

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CONVERSATION

04-03

Listen to part of a conversation between a student and a professor.

W Professor: Okay, that should take care of that little problem . . . And now that we've gotten that out of the way, I need to speak with you about the, uh, real reason why I called you into my office today, Matt.

M Student: Sure, Professor Jacobson.

W: You've been a student of mine in three classes already, haven't you? I believe that's right.

M: Yes, ma'am. That's correct. I took one class with you my freshman year and two classes with you my junior year. I suppose that the class we just started this week is the fourth that I'm going to take with you. Why do you ask?

W: Well, I've got a proposition for you.

M: Oh? What is it?

W: Let me tell you a little about this class first. As you are aware, this is an upper-level physics class. The class has an initial enrollment of sixty students. However, I've been teaching this class off and on for the past ten years. In my experience, by the time that this semester is finished, more than half of the students that originally signed up for the class will have dropped it. For instance, the last time I taught this class, I ended up with twenty-seven students out of the original group of sixty.

M: That many dropped the class? Uh-oh. Um, is this

class going to be that hard?

W: Not for you, I believe, but it is going to be a lot of work for the majority of the students who are taking it. And this semester, I intend to do something about it. This is where I believe that you can be of great help to me.

M: Uh, how so?

W: Well, unfortunately, we don't have a teaching assistant for this class. But I did manage to get the department to provide some funds for me for this class. What I propose to do is to have a couple of students lead study groups each week. You know, the study groups could meet, oh, let's say, once a week for an hour and a half each time. That way, the students who are behind can get some extra tutoring in the class.

M: And you want me to lead one of the study groups?

W: That's what I like about you, Matt. You catch on fast.

M: Thanks, ma'am.

W: So what do you think of my offer? I can pay you and the other student I hire for your time. It wouldn't be much. You'd get about fifteen dollars an hour. But I really hope that you accept my offer. I would love to retain as many students as possible this semester.

M: Okay. It sounds like a challenge. I'll do it.

W: Great. I'm thinking of having the study groups at night, so why don't you let me know a couple of days and times during the week—not the weekend though—that would be good for you? I can make all of the arrangements and then tell the students about the new study groups in next Monday's class.

M: No problem. Let me think about when I'd like to do it. I can send you an email with my preferred times later this evening.

EXPLANATIONS

- [Gist-Content Question]** The professor talks to the student about doing a job that she wants him to have.
- [Detail Question]** The professor states, "What I propose to do is to have a couple of students lead study groups each week." She also says, "I can

pay you and the other student I hire for your time. It wouldn't be much. You'd get about fifteen dollars an hour."

- 3 **[Understanding Attitude Question]** Since the professor wants the student to lead a study group for a difficult physics class, she implies that he is knowledgeable in physics. She also says that she believes the class will not be difficult for him.
- 4 **[Making Inferences Question]** The professor wants the student to lead a study group for a difficult class. Also, she tells the student that while the class is difficult, she does not believe that he will have a hard time in the class. Finally, the student has taken three classes with the professor previously, so she is familiar with his work. So it can be inferred that the student did well in the classes that he took with the professor in the past.
- 5 **[Understanding Function Question]** When the professor tells the student, "You catch on fast," she is acknowledging that he is correct in saying that she wants him to lead a study group.

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LECTURE

04-04

Listen to part of a lecture in a psychology class.

M1 Professor: In different fields of science, most notably sciences like biology and zoology, which involve the study of living creatures, the use of observation has enabled researchers to understand the subjects they are studying much better. This may seem an obvious truism. However, the types of observation that researchers do can have an influence on the data that they collect and the conclusions that they reach. There are three main types of observation. They are natural . . . participatory . . . and laboratory. Let me go over the advantages and disadvantages of each method in brief.

The natural method of observation is probably the most common. Please be aware that it's also called field observation and field research. In this type of observation, the researcher does nothing but observe the subject in its natural surroundings. This is an extremely common method when observing wildlife. I guess you could say that it's the safest method as well since researchers can stand off at a distance and record what they see without having to get too close to their subjects. Aside from safety, there are several other advantages. Mostly, um, it permits an observer to watch the subject as it interacts with its natural environment. The subjects, hopefully unaware of

the observers, act as they normally do. This is of particular importance when it comes to understanding a subject's behavior.

Yet natural observations also have a-a-a-a number of problems. For one, getting close to a subject in the wild isn't, um, isn't always easy. Even today, when modern technology provides researchers with all kinds of cameras and sound-detection equipment as well as satellite tracking devices on tagged animals, it's impossible to observe a subject one hundred percent of the time. Animals may hide, move to a new territory, or get killed. For instance, I remember reading about a field researcher in Africa who studied how one troop of chimpanzees would often attack other troops. They never actually killed the other chimps as the beaten chimps would merely move on to another place. But, uh, once, the researcher couldn't find a chimp in the losing troop. He concluded that the chimp had died—possibly from its injuries—but he couldn't be certain of that. Yes, in the front row? You have your hand up?

M2 Student: Yes, sir. I'm curious, uh . . . Why don't we just study these animals in a zoo or laboratory? That would be a lot easier than studying them in the wild.

M1: That's a true statement. It would be easier . . . But this method, which we call laboratory observation, has problems of its own. First, the benefits . . . By examining a subject closely in a controlled environment, researchers can conduct many test that would be, uh, simply impossible to do if they were engaged in field research. In a lab, they can conduct experiments in a safe environment, with a greater measure of control, and with access to facilities and equipment that aren't available in the field. Now, the problems . . . Animals confined in cages are taken out of their natural habitats and often don't behave in the same way when they're in captivity. They develop different habits when they aren't in the wild. They eat different food, they have different life spans, and they even mate and reproduce differently than they do in the wild. Simply put, laboratory observation doesn't capture animals in their authentic environments.

Now, the third main type of observation is participatory observation. Here, a researcher takes an active role in interacting with the subjects that he or she is studying. This is a common type of observation for anthropologists studying primitive tribes of people. As I'm sure you can imagine, it has both good and bad points. First, the researcher must gain the trust of the people, enter their lives, stay with them for an extended period of time, learn their language, and

finally observe their lives. This all entails a lot of risk and a steep learning curve. That's particularly true if the people are very primitive, live in a remote setting, or have an obscure language. ¹¹Imagine, for instance, doing participatory observation of, say, a tribe living deep in the Amazon Rainforest. That wouldn't be the easiest of assignments. However, the benefits are myriad. The researcher can get a firsthand working knowledge of the people's society, culture, and ideals. The researcher can likewise learn about the tribe's history and may, if he or she is fortunate enough, be permitted to participate in some of their rituals.

On the downside, some observers may become too involved with the people they are observing. This may cause their judgment to become cloudy, and they become too biased to be impartial observers. Additionally, researchers tend to see primitive people from their own cultural prism. By that, I mean that they might judge these people according to the standards of their own cultures. Finally, the mere presence of an outsider may cause primitive people to change their behavior. They may act differently than normal, and they may hide aspects of their culture they don't want outsiders to know about.

EXPLANATIONS

- 6 **[Gist-Content Question]** The professor gives some examples of how people use the different types of observation when he discusses it.
- 7 **[Gist-Purpose Question]** The professor tells the class, "Now, the problems . . . Animals confined in cages are taken out of their natural habitats and often don't behave in the same way when they're in captivity. They develop different habits when they aren't in the wild. They eat different food, they have different life spans, and they even mate and reproduce differently than they do in the wild. Simply put, laboratory observation doesn't capture animals in their authentic environments."
- 8 **[Understanding Organization Question]** The majority of the professor's talk about natural observation focuses on its drawbacks.
- 9 **[Making Inferences Question]** The professor mentions that each type of observation has advantages and disadvantages. Thus it can be inferred that the professor does not believe that a perfect method of observation exists.
- 10 **[Connecting Content Question]** According to the lecture, it is an advantage that scientists can work in a controlled environment while observing

organisms. It is also an advantage when researchers can avoid getting too close to the animals that they are observing. As for disadvantages, some primitive people may act differently when they are being observed, and it is impossible to observe the subject at all times.

- 11 **[Understanding Attitude Question]** When the professor says, "The benefits are myriad," he means that there are many advantages to participatory observation.

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LECTURE

04-05

Listen to part of a lecture in a history class.

M Professor: Gold . . . There. I knew that would get everyone's attention. Virtually everyone loves gold. So, when the news that gold had been found in the Yukon, which is near Alaska, reached the outside world in the late nineteenth century, there was a rush by people to reach the gold fields in order to get rich. This event is often called the Alaska Gold Rush and sometimes the Klondike Gold Rush. However, to put it into perspective, there were actually two separate gold rushes: The first was in the Yukon in Canada while the second smaller one happened in various parts of Alaska.

In 1896, several prospectors, ah, miners, that is, were panning for gold in a creek in the Klondike region of the Yukon Territory in Canada nearby the border with Alaska. They discovered a large deposit of gold there in August 1896, and they were soon bragging about it. That was a foolish move on their part since many local miners hurried to the area and, by winter, had struck it rich as well. However, because it was winter, the land was frozen, and no one could get out until the weather improved. In July 1897, a boat docked in Seattle, Washington. It was carrying several dozen miners and a few tons of gold. That, in case you are unaware, is simply a phenomenal amount of gold. It was also the first news of the Yukon gold strike to reach the U.S. mainland. Within days, thousands of people in Seattle had abandoned their jobs and were booking passage to Skagway, Alaska, which was the entry point to the Yukon gold fields.

W Student: Is that why it's sometimes called the Alaska Gold Rush, Professor Gorey?

M: Yes, in part because most of the prospectors arrived in Alaska and had to travel overland and then upriver to reach the gold fields. But gold was also

discovered in Alaska, so calling it the Alaska Gold Rush is not a misnomer.

Anyway, within a few years, more than, oh, 100,000 people from all over the world—but mostly from the U.S. and Canada—had gone to Alaska to get to the Yukon gold fields. If you're wondering why that number is so high, be aware that there was an economic depression in the U.S. at that time. As a result, many people felt that they had nothing to lose by heading north and risking their lives to make a fortune.

¹⁷ However, there were numerous obstacles for them to overcome. First, the prospectors needed supplies, and the merchants there charged exorbitant prices for everything. There was some serious price gouging going on by merchants in Alaska. Second, the prospectors had to traverse mountain passes in the Yukon. As there were no roads, they either traveled on foot, on dog sleds, or by boat up various rivers. And they could only travel for a few months each year due to the frigid climate.

Another problem was that at the Alaska-Canada border, the police were stopping everyone. The Northwest Mounted Police . . . uh, they were the predecessors of the RCMP, the Royal Canadian Mounted Police . . . the NMP were the ones who were doing the stopping. They were checking prospectors for two things. First, they wanted to make sure that no known criminals were attempting to enter the region. Second, they took away all of the guns that the prospectors were carrying. They did this since they were hoping to limit any potential violence when some prospectors found gold while others didn't. They were somewhat successful although there were scattered bits of fighting. Ah, there was a third reason as well. The police were ensuring that everyone had enough supplies, especially food. They wouldn't let anyone in if they deemed that person had an insufficient amount of supplies. They did this because in the first year of the gold rush, many people had faced starvation since they hadn't brought enough food with them.

Despite these human and natural obstacles, quite a large number of people . . . hmm, tens of thousands that is . . . reached the gold fields. Like during the California Gold Rush of 1849, the Alaska Gold Rush produced its share of success stories, yet these were often overshadowed by the more numerous failures. Some people just stayed in Skagway and got rich by supplying the prospectors with the food and equipment that they needed. Others moved on to the

Alaska gold fields. After all, gold had been discovered near Juneau, Alaska, in 1880. This find, obviously, didn't immediately attract as many people as did the 1896 Yukon discovery, but some people headed there instead of going to the more perilous Yukon. Also, in 1898, gold was discovered far north of Nome, Alaska. This prompted a second wave of prospectors to head to the region. But Nome is in an extremely remote place, so fewer people went there. Anyway, after a few years, most of the easily accessible gold in the Yukon was taken, and the gold rush died out. Most of the prospectors went back home either bankrupt or wealthy, but some stayed in the Yukon and Alaska and made their homes in those places.

EXPLANATIONS

- 12 [Understanding Attitude Question] The professor remarks, "They discovered a large deposit of gold there in August 1896, and they were soon bragging about it. That was a foolish move on their part since many local miners hurried to the area and, by winter, had struck it rich as well."
- 13 [Detail Question] The professor says, "If you're wondering why that number is so high, be aware that there was an economic depression in the U.S. at that time. As a result, many people felt that they had nothing to lose by heading north and risking their lives to make a fortune."
- 14 [Understanding Organization Question] The professor tells the students, "Another problem was that at the Alaska-Canada border, the police were stopping everyone. The Northwest Mounted Police . . . uh, they were the predecessors of the RCMP, the Royal Canadian Mounted Police . . . the NMP were the ones who were doing the stopping. They were checking prospectors for two things." So he is letting them know how the NMP dealt with the incoming prospectors.
- 15 [Detail Question] The professor states, "Second, they took away all of the guns that the prospectors were carrying. They did this since they were hoping to limit any potential violence when some prospectors found gold while others didn't. They were somewhat successful although there were scattered bits of fighting."
- 16 [Making Inferences Question] The professor says, "Others moved on to the Alaska gold fields. After all, gold had been discovered near Juneau, Alaska, in 1880. This find, obviously, didn't immediately attract as many people as did the 1896 Yukon discovery,

but some people headed there instead of going to the more perilous Yukon." Since the Juneau gold fields did not attract as many people as the Yukon ones, the professor implies that the Juneau fields were not as rich as those in the Yukon.

- 17 [Understanding Attitude Question] When people engage in "price gouging," they are charging more money than is necessary.

PART II

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CONVERSATION

04-07

Listen to part of a conversation between a student and a student activities office employee.

W1 Student: Hi. Do you happen to be Ms. Laura Redding?

W2 Student Activities Office Employee: Yes, that's me. Is there something I can do for you today?

W1: I think so. You're the person in charge of the upcoming student club day, aren't you? One of my friends that works here told me you're the woman I need to speak with.

W2: Ah, yes. You've come to the right person if you're interested in learning about the student club day. I'm in charge of the entire event. What exactly about the program do you need to know?

W1: Well, uh, I need to know how to get a table for the event. I'm the president of the student drama club, and we're trying to recruit some more members. Our membership has been declining in the past couple of years, but I think we might be able to attract some more people if we can, uh, advertise and stuff at the event.

W2: You need a table? Aren't you applying a little late? I mean, the event is supposed to start in two days.

W1: Er . . . Yeah, I guess I'm late. Sorry about that. I actually wasn't aware there was going to be a student club day until last night.

W2: You weren't aware? But we've been advertising for it in the student newspaper every day for the past two weeks. How could you not have seen it?

W1: To be totally honest, I rarely read the student newspaper. I simply don't have the time this semester. Plus, uh, I've never really been impressed with the quality of the writing in it. So I tend to ignore it.

W2: I understand what you're saying, but, as a club president, you need to be aware of these sorts of

activities. It's part of your leadership obligations.

W1: Yes, I can see that now. Thank you for the reminder.

W2: Anyway . . . I tell you what. You seem like you care about your club. That's not always the case for some club presidents. So I'm going to give you a slot. I was saving one last spot in case we got a last-minute applicant, and it seems like you fit the bill.

W1: Seriously? That's great news. Thank you so much.

W2: ²² Now, the only drawback is that it's not in the most public part of the student center. So you won't get a great number of students walking by your table. But I suppose it's better than nothing.

W1: You can say that again. So, uh, what do I need to do to get the table?

W2: Fill out this form here . . . And you need to pay a fee of thirty dollars.

W1: Thirty dollars?

W2: Yes. Oh, don't worry. It doesn't have to come out of your pocket.

W1: That's a relief.

W2: Well, I mean that you need to pay the money now, but you can apply to this office to have the money reimbursed. Yeah, I know that seems a little bureaucratic, but that's the way things get done around here.

W1: All right. If you say so. Here's the thirty dollars. Let me fill out this form. And if you can let me know how I can get my money back, that would be great, too.

W2: Of course. I've got the form for that right here. It will take a week or two for your request to be approved though. So you won't get a refund until then.

EXPLANATIONS

18 [Gist-Purpose Question] The student tells the woman, "Well, uh, I need to know how to get a table for the event."

19 [Detail Question] The student mentions, "I'm the president of the student drama club, and we're trying to recruit some more members. Our membership has been declining in the past couple of years, but I think we might be able to attract some more people if we can, uh, advertise and stuff

at the event.”

- 20 [Understanding Attitude Question] The student says, “To be totally honest, I rarely read the student newspaper. I simply don’t have the time this semester. Plus, uh, I’ve never really been impressed with the quality of the writing in it. So I tend to ignore it.” She also admits that she did not know about the club day event even though it has been advertised for two weeks. So it can be inferred that the student knows little about the events that take place on campus.
- 21 [Detail Question] The woman tells the student, “Fill out this form here . . . And you need to pay a fee of thirty dollars.”
- 22 [Understanding Function Question] When a person says that something “is better than nothing,” the person is not happy about what is happening but is trying to be positive. So the student is not happy about the location of her table, but she is pleased to have one, so she is being positive about the result.

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LECTURE

04-08

Listen to part of a lecture in a physiology class.

M Professor: The skeleton is the frame of the human body, and the muscular system is its power. We use our muscles for many reasons. Let me see . . . Thanks to our muscles, we can move, eat, digest food, make our hearts beat, and breathe, to name just a few actions. There are two main types of muscles in the body. There are those that move voluntarily and those which move involuntarily. Some of the body’s muscles are striated while others are smooth. There is also a third type of muscle—the cardiac muscle—which is found in the heart.

The majority of the muscles in the body are striated. They’re attached to the bones in the skeleton so are therefore often referred to as skeletal muscles. We can move them voluntarily as well, so some people call them voluntary muscles. For instance, if I ask you all to raise your arms and you do so, then you’re making a voluntary movement that you decided to do with your brain. In other words, you made a conscious choice to move.

These muscles are mostly composed of bundles of muscle fibers that are made up of thousands of smaller parts called sarcomeres. ²⁸ These sarcomeres . . . uh, that’s S-A-R-C-O-M-E-R-E in its singular form . . . So, uh, these sarcomeres are themselves made

up of more bundles of much smaller parts called myofibrils. Myofibrils are made up of two proteins called actin and myosin. Uh, I’m not going to spell all of these words. You can look up their spellings in the book. Okay?

So, uh, to continue . . . these proteins, ah, actin and myosin, play key roles in a person’s ability to contract his or her muscles. In the skeletal muscle system, the muscles are long and have a striated appearance. They look as if, hmm . . . as if lines were carved into them. Check out the diagram of the human body on page ninety-four in your textbooks . . . Notice the long bundles of muscle fibers and their striations. Note also that the largest muscles in the body, such as those in the thighs, are skeletal muscles.

It should be obvious to you that skeletal muscles differ from one another not only in size but also in function and in how they work. Some are designed for endurance, so they can resist fatigue, yet other muscles tire more easily. This ability depends upon the number of mitochondria in the muscle fibers. As you should recall . . . at least I hope you recall . . . from my last lecture, mitochondria are like factories in each cell that take oxygen and nutrients to make ATP, the main source of energy for the body. Different muscles also have different blood flow properties and oxidation. For example, the types of muscles that are designed for endurance have more capillaries for blood flow and oxidation and more mitochondria for producing energy than other muscles.

Next up are the smooth muscles. These are the muscles that control involuntary functions. These are actions like digestion, the passing of waste from the body, blood flow, and, um, the opening and closing of the iris in the eye. They are all controlled by the involuntary movements of the body’s smooth muscles. So, naturally, these muscles are found in the eyes, the esophagus, which passes food to the stomach, the stomach, the intestines and bowels, and also the bladder. Additionally, smooth muscles are located in blood vessels as they help pump blood all throughout the body. Like striated muscles, actin and myosin are the two main active proteins that make up smooth muscles and help them function. Smooth muscles, as their name suggests, appear smooth looking without any striations. And remember that smooth muscles are out of people’s control most of the time.

W Student: But what about breathing, Professor Newton? Do smooth muscles control breathing? I

mean, we can control our breathing, but it's normally something that we don't think about.

M: That's a good question, Kimberly. Most of the time, we're unaware that we're breathing. Yet we can hold our breath or breathe faster than normal when we want to. The muscles that control breathing are skeletal muscles in the diaphragm and rib cage. Therefore, they're part of the skeletal muscle group. Perhaps because we constantly do it, breathing has come to seem practically like an involuntary movement of the muscles. But it's not.

Finally, we come to the cardiac muscles, which control the beating of the heart. Cardiac muscles are like skeletal muscles in that they're striated. Yet cardiac muscles are not long like skeletal muscles are. Instead, they're shorter and more compact. They're also different from skeletal muscles because they're more involuntary. Because of these two facts—their striated and involuntary natures—we put cardiac muscles in a category all by themselves. Now, cardiac muscles, which are perhaps the most important muscles in the entire body, are highly resistant to fatigue. They also have a superior ability to take in oxygen and to produce energy with their mitochondria.

EXPLANATIONS

- 23 **[Gist-Content Question]** The professor describes the various types of muscles in the body and explains what their functions are as well.
- 24 **[Gist-Purpose Question]** The professor states, "The majority of the muscles in the body are striated. They're attached to the bones in the skeleton so are therefore often referred to as skeletal muscles. We can move them voluntarily as well, so some people call them voluntary muscles." So he is giving another name for striated muscles.
- 25 **[Connecting Content Question]** According to the lecture, striated muscles are made of sarcomeres and are connected to the bones. As for smooth muscles, they control the body's involuntary actions, and some of them are found in the esophagus and bladder.
- 26 **[Understanding Function Question]** A student asks a question about the muscles that control breathing, so the professor tells the class about them.
- 27 **[Understanding Organization Question]** The professor first names the different types of muscles,

and then he provides their characteristics and talks about their roles in the body.

- 28 **[Making Inferences Question]** The professor spells one word, and then he says some other words that are somewhat unusual. When he says, "Uh, I'm not going to spell all of these words," he is acknowledging that some of the words are difficult to spell. However, he wants the students to look them up in their textbooks to learn how to spell them.

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LECTURE

04-09

Listen to part of a lecture in an art history class.

W Professor: Have you all handed in your reports . . . ? Okay, good. I'm looking forward to reading them. I'll do my best to return them by Thursday of next week. All right. Now that we're done with that, why don't we get started with class . . . ? We're going to take a look at Surrealism in today's class. When I mention Surrealism, what's the first thing that comes to mind? Anyone . . . ? Andy, I believe your hand was the first to go up.

M Student: Thank you, Professor Dodd. When I hear the word Surrealism, I think of melting clocks and Salvador Dali.

W: Those were actually the two responses I was hoping to hear. That particular image and the artist, class, are precisely what most people think of when they consider Surrealism. And that's only natural, especially in the case of Salvador Dali, who was the most famous Surrealist. But I want to start by examining the roots of Surrealism before I hit on the history of the movement.

It's generally agreed that the roots of Surrealism lie in Dadaism, which started in 1916 and lasted for approximately a decade. Dada was a protest movement. Its members were protesting the violent of, uh, violence of World War I. Dadaism started in Switzerland when some intellectuals got together to discuss the war and their feelings about it. They wanted to show their disgust and anger with the war's brutality by doing something that would outrage society. The writings, paintings, and sculptures the Dadaists produced reflected a world gone mad and were very much against the traditions of the art world. Personally, I find Dadaist art to be rather bizarre. It's a feeling many others share, too. Anyway, these artists never intended for Dadaism to become an actual art movement, but that's what happened. After the

war ended, Dadaism slowly died out. It was around 1925 that it had completely disappeared. Well, I suppose it's more precise to say that Dadaism sort of, uh, morphed into Surrealism. One reason was that those who had been attracted to Dadaism were also attracted to Surrealism.

The person most responsible for the founding of Surrealism was the Frenchman Andre Breton. He was a psychiatrist who helped French soldiers recover from the trauma they had suffered on the battlefield. During the war, Breton met a young soldier named Jacques Vache, who was also a writer. Vache's writings about his war experiences were done in a, hmm . . . a nontraditional way I guess I should say. Breton was inspired by Vache's work, and he began associating with some Dadaists in Paris around 1919. With them, Breton started experimenting with what he called automatic writing. This was a method of writing in which he wrote as he thought, um, without any constraints imposed by morality or reason. Basically, it was a way of writing in which he freed his mind of any restrictions. Some Dadaists also engaged in automatic drawing, in which they let their pencils flow freely across the paper without any plan or structure. Some even engaged in dream analysis as a way of expressing their freedom of thought. Essentially, Breton and his fellow Dadaists were trying to unlock the unconscious mind.

In its early years, Surrealism was focused more on automatic writing than on any other type of art. But Surrealism embraced all aspects of art, including filmmaking and, of course, painting. As time passed, more visual artists joined the movement. The Surrealists' experiments with automatic drawing in the mid-1920s started causing the movement's members to stress the more visual aspects of art. So, um, many of the visual artists that had been Dadaists began moving in Surrealist circles, particularly in Paris. Paris became such an important city for the Surrealists that, in 1925, the first exposition of Surrealist art was held there.

Yet Surrealism wasn't confined to France. Its center remained in Paris, but its influence spread throughout Europe. Anyway, in the 1930s, the movement entered its most formative years. Much of this was due to the work of Salvador Dali, a Spaniard who had joined the movement in 1929. In the early 1930s, he produced some of the best known pieces of Surrealist art. His images of melting clocks and wildly imaginative dreamscapes are what most people have come to associate Surrealism with.

Surrealism continued as a movement for decades. It wasn't until Breton himself died in 1966 that many considered the movement to be over. Of course, some art historians argue that Surrealism ended long before that event. Others, naturally, contend that the spirit of Surrealism continued in a number of movements, including Pop Art and Postmodernism. I agree with them. It's also clear that the generation of American writers from the 1950s and 1960s, who were called the Beat Generation, were influenced by Surrealism, particularly automatic writing. Well, I think that's enough of an introduction to the movement. Let's look at some examples of Surrealist art now, and, as we do so, I will fill you in on more aspects of the movement.

EXPLANATIONS

- 29 [Gist-Content Question] In the lecture, the professor focuses on the origins and early history of Surrealism.
- 30 [Understanding Attitude Question] The professor comments, "Personally, I find Dadaist art to be rather bizarre." So she thinks that it is strange.
- 31 [Understanding Organization Question] The professor says, "The person most responsible for the founding of Surrealism was the Frenchman Andre Breton." Then, she describes how he founded the Surrealist Movement.
- 32 [Detail Question] While talking about Salvador Dali, the professor mentions, "In the early 1930s, he produced some of the best known pieces of Surrealist art. His images of melting clocks and wildly imaginative dreamscapes are what most people have come to associate Surrealism with."
- 33 [Making Inferences Question] The professor states, "It wasn't until Breton himself died in 1966 that many considered the movement to be over. Of course, some art historians argue that Surrealism ended long before that event. Others, naturally, contend that the spirit of Surrealism continued in a number of movements, including Pop Art and Postmodernism." As people disagree on the effects of Surrealism, its influence can be said to be in dispute.
- 34 [Understanding Function Question] The professor asks a question. Then, she tells Andy that she saw his hand go up first. So she is implying that he has permission to answer her question since he was the first to respond.

ANSWERS

Part I

1. (C) 2. (C) 3. (A) 4. (B) 5. (A)
6. (A) 7. (A) 8. [2], [3] 9. (D) 10. (A) 11. (C)
12. (B) 13. (B) 14. (C) 15. (A) 16. (B) 17. (C)

Part II

18. (B) 19. (A) 20. (B) 21. (C) 22. (A)
23. (D) 24. (D) 25. (B) 26. (A) 27. (C) 28. (A)
29. (B) 30. (A) 31. (D) 32. Order: [2], [1], [4], [3]
33. (D) 34. (A)

Part III

35. (D) 36. (B) 37. (B) 38. (A) 39. (D)
40. (B) 41. (A) 42. (D) 43. (D) 44. (B) 45. (C)
46. (C) 47. (A) 48. [1], [3] 49. (B) 50. (B)
51. Cause: [2], [4] Effect: [1], [3]

PART I

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CONVERSATION

05-03

Listen to part of a conversation between a student and a professor.

M Professor: Good afternoon, Jodie. I got your email about wanting to have a meeting with me today. What can I do for you?

W Student: Well, sir, if it's all right with you, I would like to go over the paper that you gave back to me in class yesterday.

M: Sure. Pardon me, Jodie, but I can't remember your paper exactly. I wish that I could, but there are just too many students in that class for me to recall individual papers. You didn't happen to bring it with you, did you?

W: Actually, sir, I've got it right here. Would you like to see it?

M: Please. That would be a tremendous help.

W: Here you are . . .

M: Ah, yes . . . I remember this paper.

W: You do? Then would you mind telling me why exactly I got a C on it? I mean, uh, I put a lot of effort into writing that paper. ⁴I thought that I was going to

get an A- or a B+ at worst, but then you gave me this grade.

M: First of all, Jodie, I didn't give you a grade. You earned a grade. There is a distinction you know.

Also, it doesn't really matter how many hours you put into the writing of the paper. What matters is the final product. Honestly, I couldn't care less if you spent thirty minutes or thirty hours on it. I'm only interested in what was on the paper that you handed in.

W: But you didn't think that what I handed in was any good?

M: Not particularly. No. Sorry if that upsets you.

W: Well, uh, could you be more specific, please? I'd like to know what I'm doing wrong, and, um, you didn't leave too many comments on this paper.

M: Sure. I can go over this paper with you.

W: Thanks.

M: First of all . . . You didn't write an introduction. You started the paper by citing some statistics and then describing them. So, uh, I really had no idea what your paper was going to be about. You need to provide an introduction to let the reader know what the topic of your paper is and what you're going to argue in the paper.

W: Okay. What else?

M: Let's see . . . Ah, right. You got a lot of your facts wrong. Notice these passages that I have circled in red. Here's one . . . And here's another . . . These circled passages all contain factual mistakes. You really have to check your facts much better, Jodie.

W: Is there anything else?

M: You needed to provide a conclusion as well. The paper just, uh, it just suddenly ended. You need to explain what you have proved in your conclusion. That's crucial for any paper.

W: I see. Okay. Uh, thanks.

M: ⁵You know . . . I allow rewrites in my class. If you were to resubmit the paper, oh, three days from now, I would be glad to look it over again. Perhaps your grade will change.

W: Is that so? I had no idea. Thanks for the good news, sir. I'll be sure to fix my paper, so it will be much better by then.

EXPLANATIONS

- 1 **[Gist-Purpose Question]** At the beginning of the conversation, the student tells the professor, "Well, sir, if it's all right with you, I would like to go over the paper that you gave back to me in class yesterday."
- 2 **[Detail Question]** The student says she put a lot of effort into writing the paper, so she thinks that her grade should have been higher.
- 3 **[Understanding Attitude Question]** The student asks the professor if her paper was any good, and he responds by saying, "No."
- 4 **[Understanding Function Question]** The professor says, "I didn't give you a grade. You earned a grade." So he is criticizing the student's choice of words.
- 5 **[Making Inferences Question]** When the professor says, "Perhaps your grade will change," he is hinting that, if she does a rewrite of her paper, she might be able to get a better grade.

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LECTURE

05-04

Listen to part of a lecture in a marine biology class.

M Professor: As you can see, natural reefs are home to many forms of aquatic life. These reefs are frequently teeming with life since they contain plenty of food and offer places of sanctuary from the oceans' fiercest predators. Yet the number of natural reefs in the world is limited, and some are even being destroyed for reasons both natural and human. Because of that, people have begun building artificial reefs. These are structures that are placed in the ocean and which transform into reefs over time. There are hundreds along the east coast of the United States as well as the coast of the Gulf of Mexico. They serve a number of purposes.

First, the construction of artificial reefs provides places for old ships and other manmade structures to be disposed of. Many artificial reefs, you see, are comprised of ships, subway cars, oil rigs, and even structures called reef balls that are made specifically to be turned into artificial reefs. 11 Yes? You have something to add to the conversation?

W Student: Professor Rand, how can people do that? I mean, aren't they harming the environment by sinking those objects in the ocean?

M: You might think that, but the environmental damage that the ocean suffers is practically zero.

Let me tell you why . . . The building of artificial reefs is carefully controlled and monitored to ensure that the environment is protected. Take ships for example. Every ship that is designated to be turned into an artificial reef must be cleansed of all harmful elements first. The oil and other liquids in it are pumped out, all metals—except for the ship's hull and structure of course—are removed, and anything else that could possibly cause even the slightest amount of damage to the environment is removed prior to the ship being sunk. However, I admit there have been a few bad episodes concerning artificial reefs. Back in the 1970s in Florida, someone had the not-so-bright idea to use millions of old rubber tires to build an artificial reef. That wasn't a good idea at all. Coral and other marine life forms didn't grow on the tires, so few life forms were attracted. Later, the bundles of tires broke apart, so tires started washing up on Florida's beaches. That was something of a minor disaster.

Fortunately, we've learned what does and doesn't work well as material for artificial reefs. So you won't ever see a repeat of the tire incident again. Let me tell you about the various materials now. Ships' hulls are commonly used and for good reason. They can last underwater for decades before breaking apart. Subway cars and oil rigs can also last for years, and artificial reef balls work quite well, too. Oh, uh, I doubt that any of you have ever seen a reef ball, so let me describe what one looks like. A reef ball resembles a beehive. It's rounded, has numerous holes, and is made of concrete. Reef balls come in many sizes, but most are, oh, around two meters wide and high. When used to make an artificial reef, they're placed in clusters on the ocean floor. These reef balls and other structures provide strong anchoring points for coral and other life forms that attach themselves to things. When these creatures are attracted to a reef, they, in turn, cause many other animals, particularly fish, to move to the reef.

But I'm getting a bit ahead of myself. I need to backtrack now. First, a question: Why do life forms live around artificial reefs in the first place? We're not exactly sure, but what seems to happen is that the artificial reefs block the flow of ocean currents. When a current of water hits the reef, the water moves up and carries plankton and other tiny life forms with it. This creates an uplifting column of nutrient-rich water. This column thus attracts many fish. First, small ones such as sardines and minnows come. Gradually, larger fish, including tuna and some sharks, are attracted. After that come marine life forms that enjoy hiding in places. Some of these are groupers,

snappers, eels, and various shellfish such as crabs, shrimp, and lobsters. Then, over a period of many months and even years, coral and other life forms attach themselves to the artificial reefs. Soon, the reefs are encrusted with these life forms, and it becomes difficult to tell which parts of the reef belong to its original structure.

As I'm sure you can imagine, with all of this life surrounding artificial reefs, they make great diving spots for recreational divers. That's yet another advantage of artificial reefs. If you dive—or take up diving in the future—be sure to dive on an artificial reef. I've done that several times, and it's an impressive sight. Of course, you'll have to avoid the numerous sport fishermen who also visit the reefs. They typically find it much easier to catch fish around the reefs than anywhere else.

EXPLANATIONS

- 6 **[Gist-Content Question]** The professor focuses on how people create artificial reefs.
- 7 **[Understanding Attitude Question]** The professor admits that artificial reefs sometimes have problems, but he notes that they have many advantages, too.
- 8 **[Detail Question]** The professor says, "Ships' hulls are commonly used and for good reason. They can last underwater for decades before breaking apart. Subway cars and oil rigs can also last for years, and artificial reef balls work quite well, too."
- 9 **[Gist-Purpose Question]** The professor remarks, "Oh, uh, I doubt that any of you have ever seen a reef ball, so let me describe what one looks like. A reef ball resembles a beehive. It's rounded, has numerous holes, and is made of concrete."
- 10 **[Making Inferences Question]** The professor comments, "Then, over a period of many months and even years, coral and other life forms attach themselves to the artificial reefs. Soon, the reefs are encrusted with these life forms, and it becomes difficult to tell which parts of the reef belong to its original structure." So it can be inferred that it takes years before artificial reefs can become complete ecosystems.
- 11 **[Understanding Function Question]** When the professor responds to the student, he is letting her know that artificial reefs actually do not harm the environment. So he is telling her that her assumption is incorrect.

LECTURE

05-05

Listen to part of a lecture in a psychology class.

W1 Professor: I want everyone to think of some positive memories. You know, uh, something that happened in the past that made you happy . . . Okay. Now, think about something bad that happened to you, uh, a negative memory . . . Got one . . . ? Great. Raise your hand if you remembered more details from the positive memory . . . And raise your hand if you remembered more about the negative memory . . . Ah, just as I had expected, uh, the majority of you recall more details from your negative experiences. Okay, I've got one more question . . . How many of you can remember what you were doing last night at, say, seven thirty . . . ? Not so many, huh? Well, in all likelihood, nothing special happened at that time, so you can't remember what you were doing or what happened.

The point I'm trying to make is that emotion and memory are linked to one another. The two memories I asked you to think about—the positive and negative ones—took place when you were in heightened states of emotions. You were either very happy or sad. Perhaps you were even ecstatic or terrified at the time. More importantly, you have fairly clear memories of these events. But how about rather mundane everyday actions, like eating dinner, watching TV, or studying? There's no heightened emotion associated with any of those memories, so the details are a bit fuzzy. Even those of you who remembered what you were doing last night at seven thirty . . . I bet that if I ask you the same question next week, you will have completely forgotten what you were doing then. The reason for this is that the brain doesn't store neutral memories the same way in which it stores emotional ones.

One major difference between positive and negative memories concerns how people perceive them. Most people who have a positive emotional experience remember it in broad detail yet tend to forget certain minor aspects. Conversely, with negative memories, people often remember the minor details while forgetting some of the broader issues. There's a reason this happens. Some studies suggest that it's the result of the more powerful emotions that are associated with negative memories. Think about some of the basic negative emotions . . . Sadness, depression, shame, and embarrassment are four. You may recall a family member's funeral in detail since it

was a sad event in your life. And the time that you spilled a drink on your clothes right before you gave a class presentation might be a vivid memory since you were so embarrassed then. Even more powerful negative emotions, such as fear and terror, can enable a person to retain strong memories. If you've ever been in a car accident, a house fire, or a fistfight or have been robbed or perhaps chased by an angry dog, you have probably remembered the incident in great detail because of the heightened state of fear or terror that was involved.

There are some other factors besides emotion that are related to memory retention and retrieval. In general, women are better at retaining and retrieving memories than men. Some studies indicate that the reason for this is that women have more emotionally heightened states than men when emotional events occur. Therefore, they remember better and can also retrieve their memories more easily. Additionally, younger people tend to have less control over their emotions than older people, so they retain negative memories better than older people. Conversely, older people tend to remember more positive events than negative ones. Why that happens is unknown. Oh, and a person's mood is also related to memory retrieval. People remember positive memories more often when they're in good moods but recall negative memories when they're in bad moods.

W2 Student: Professor Bean, how does the brain store memories?

W1: Good question. Hmm . . . I wasn't going to cover that yet, but I guess I can do it now. You know, um, a great deal of research has been done on this subject. Much of it has been conducted in group studies where the subjects were connected to devices that did brain scans on them. The almost-universal conclusion experts have reached is that two parts of the brain control memories. They are the amygdala and the hippocampus. Both are small parts of the brain. When a person is in an emotion state, the body releases stress hormones. One hormone, called cortisol, interacts with the amygdala, which, in turn, acts on the hippocampus to help with memory retention. The term that psychologists use for this is memory consolidation. Sadly, these regions of the brain are the places that Alzheimer's disease usually damages, which may be why sufferers begin to lose their memories as the disease progresses.

Now, since you asked me that question, Erika, I need to show all of you a schematic of the brain. Take a look at the screen up here. I want to point out where

in the brain the different centers of memory retention are located. Look carefully, please, everyone.

EXPLANATIONS

- 12 [Understanding Organization Question]** The professor says, "The point I'm trying to make is that emotion and memory are linked to one another."
- 13 [Detail Question]** The professor tells the students, "But how about rather mundane everyday actions, like eating dinner, watching TV, or studying? There's no heightened emotion associated with any of those memories, so the details are a bit fuzzy. Even those of you who remembered what you were doing last night at seven thirty . . . I bet that if I ask you the same question next week, you will have completely forgotten what you were doing then. The reason for this is that the brain doesn't store neutral memories the same way in which it stores emotional ones."
- 14 [Connecting Content Question]** The professor claims, "If you've ever been in a car accident, a house fire, or a fistfight or have been robbed or perhaps chased by an angry dog, you have probably remembered the incident in great detail because of the heightened state of fear or terror that was involved."
- 15 [Detail Question]** The professor mentions, "Some studies indicate that the reason for this is that women have more emotionally heightened states than men when emotional events occur. Therefore, they remember better and can also retrieve their memories more easily."
- 16 [Gist-Purpose Question]** A student asks the professor how the brain controls memories. She says that she was not going to cover that yet but she will now because the student asked her about it.
- 17 [Making Inferences Question]** At the end of the lecture, the professor says, "Now, since you asked me that question, Erika, I need to show all of you a schematic of the brain. Take a look at the screen up here. I want to point out where in the brain the different centers of memory retention are located. Look carefully, please, everyone." So she will probably examine the human brain next.

CONVERSATION

05-07

Listen to part of a conversation between a student and a student employment office employee.

M Student: I'm sorry to bother you, but could you give me a little assistance, please?

W Student Employment Office Employee: I'll do my best. What do you need help with?

M: I'm looking for a job here on campus, but . . . uh, I don't know what I'm supposed to do.

W: Okay. Why don't I ask you a couple of questions, and that will help us find a good part-time job for you? How does that sound?

M: Awesome. What's your first question?

W: Are you a work-study student?

M: Yes, I am. That's part of my financial aid package. I think I got about four hundred dollars in work-study aid. Is that, um, good?

W: It definitely helps when you're looking for a job. Work-study students usually get priority over other students. You don't happen to be a freshman, do you?

M: Er . . . I'm a junior actually. This is the first semester I've qualified for financial aid. The, uh, the family business isn't doing so well, so tuition has become something of a, um, a burden for my parents. That's why I need a job. I don't want them to have to suffer more, so I'm trying to pay as much of my tuition as I can.

W: Good for you. It's nice to see such a positive attitude in a student.

M: Thanks . . . Um, other questions?

W: Right. Next is an easy one . . . Approximately how many hours a week are you interested in working?

M: I was thinking that ten to fifteen hours a week would be fine. I don't want to work every day though. Four days a week should suffice, and it's okay if I have to work on the weekend as well. I don't have much of a social life, so a Saturday or Sunday shift is all right with me.

W: Very good . . . And, finally, do you have any preferences for work? I mean, do you want to work indoors or outdoors? Do you want a desk job or a more active job?

M: ²¹ I haven't thought about it that much, but . . .

hmm . . . Winters are kind of cold here, so I think an outdoor job isn't for me. I'm more of a sedentary type of guy, so, um, if there are any office jobs available, I would love that.

W: Those are the most popular jobs we have, so they tend to get snapped up really quickly. But there are still a few available, so that's good for you. And, finally, are you skilled at using computers?

M: Computers? Yeah, sure. That happens to be my major. I'm a computer science major.

W: Oh, really? In that case, I've got the perfect job for you.

M: No kidding? What is it?

W: The computer lab is looking for people to run the lab. There are a bunch of shifts open. It's a pretty easy job. ²² You merely need to make sure that the computers are working. And you fix anything that breaks. That's it. Oh, and the job pays rather well. Interested?

M: You bet. What do I need to do to apply?

W: Let me write down the information on this card. You can take it over to the computer lab in Bronson Hall. Talk to Mr. Lee Travers. He's the manager there. Tell him that Stephanie—that's me—sent you. He'll give you a short interview, and, assuming you do well, you should be able to start working soon.

EXPLANATIONS

18 [Gist-Purpose Question] The student visits the office and states, "I'm looking for a job here on campus, but . . . uh, I don't know what I'm supposed to do."

19 [Detail Question] The student comments, "This is the first semester I've qualified for financial aid. The, uh, the family business isn't doing so well, so tuition has become something of a, um, a burden for my parents. That's why I need a job. I don't want them to have to suffer more, so I'm trying to pay as much of my tuition as I can."

20 [Making Inferences Question] The woman tells the student to go to the computer lab in Bronson Hall so that he can interview for a job there.

21 [Understanding Function Question] When the student says, "I'm more of a sedentary type of guy," he is implying that he does not often engage in physical activities.

22 [Understanding Attitude Question] When the

student says, "You bet," he is saying yes to the woman and admitting that he is interested in the job at the computer lab.

LECTURE

05-08

Listen to part of a lecture in a biology class.

M Professor: The Amazon River and the rainforest that surrounds most of it combine to create one the largest ecosystems in the world. In fact, it is the dominant geographical feature of the South American continent. The Amazon is the second longest river in the world as it's slightly shorter than the Nile River in Africa. The source of the Amazon lies in the Andes Mountains. As the river winds its way down the mountains and across the continent to the Atlantic Ocean, countless streams and rivers connect with it to form a literal maze of waterways through thousands of miles of rainforest. It's quite an impressive sight. Emily, you have something to add to the discussion?

W Student: Uh, you mentioned that the Nile is the longest river in the world, but I've heard that some experts believe the Amazon is actually longer. Who's correct?

M: Yes, it's true that some people argue that the Amazon is longer. It really depends upon where you consider the starting point of each river to be. That's what has caused this, er, controversy, I guess, over which river is longer. Ultimately, it doesn't really matter. I mean, they're both long. However, the Amazon is the indisputable king of rivers when it comes to the volume of water it moves and its drainage area. At its widest point during the flood season, the Amazon can be up to thirty miles wide in some places. It also has an outflow of as much as 300,000 cubic feet of water per second at its mouth. This fresh water flows far out into the Atlantic Ocean and reduces the salinity of the ocean to such an extent that the water several miles out in the Atlantic can be safely consumed by people.

Take a look at the map up here on the wall . . . The mouth of the Amazon is nearly 210 miles wide. Some people have theorized that it was once a bay in the Atlantic that filled with silt from the slow-flowing Amazon, which, as a result, formed the many islands and land formations that exist at the river's mouth. Incidentally, the reason why the Amazon flows so slowly is that, um, after it comes down from the Andes, the land it crosses all the way to the ocean is relatively flat. It drops only around 100 feet from the

middle of the rainforest to the river's mouth. Toward the mouth, however, the Amazon's banks get a little hilly, and, as you can see, they're very far apart. Take a look at this huge drainage area. It covers all this land here . . . In fact, it covers around forty percent of all South America. That's an extraordinary amount of territory, uh, wouldn't you say? The river, its tributaries, and its drainage basin cover much of the northern area of Brazil here . . . as well as other countries, including these parts of Peru, Bolivia, and southern Columbia here . . .

As for the Amazon Rainforest itself, well, it's easily the richest ecosystem in the world in terms of its diversity of animal and plant life. According to one estimate, approximately one third of all living organisms on Earth can be found in the Amazon Rainforest. Here is one number for you . . . There are more than two million species of insects in the Amazon Rainforest . . . And, of course, there are thousands of reptiles, birds, mammals, and fish. Among this cornucopia of life are anacondas, which are the largest snakes in the world, piranhas, which are fish known for the ferocity of their attacks, river dolphins, and even sharks. The bull shark has been spotted as far inland as, um, Peru in the Amazon and its tributaries. We'll cover some more Amazon animals a little later in today's class. All right?

In addition to all of the animals, there is also an abundance of plant life in the Amazon. The rainforest, with its great number of trees, acts as a filter for the carbon dioxide level of the entire planet. The enormous amount of plant life there helps remove poisonous carbon dioxide from the atmosphere while replacing it with the oxygen that living creatures need to breathe to survive. According to some estimates, between ten and twenty-five percent of the Earth's oxygen-carbon dioxide exchange takes place in the Amazon.

That's one of the reasons why the ongoing deforestation of parts of the Amazon Rainforest is of such concern. Losing the Amazon Rainforest could have a deleterious effect on the entire planet. Additionally, there are literally hundreds—perhaps even thousands—of species of trees and other plants that have yet to be discovered. Many of these plants could be of medicinal value to humans. And don't forget about the indigenous people who still live there. Some of them know absolutely nothing about modern society since they've lived their entire lives in the rainforest.

EXPLANATIONS

- 23 [Gist-Purpose Question] A student asks a question about which river—the Amazon or the Nile—is longer, so the professor talks about their lengths to answer her question.
- 24 [Detail Question] The professor tells the class, “However, the Amazon is the indisputable king of rivers when it comes to the volume of water it moves and its drainage area. At its widest point during the flood season, the Amazon can be up to thirty miles wide in some places. It also has an outflow of as much as 300,000 cubic feet of water per second at its mouth.”
- 25 [Understanding Function Question] While looking at the map, the professor states, “Take a look at this huge drainage area. It covers all this land here . . . In fact, it covers around forty percent of all South America. That’s an extraordinary amount of territory, uh, wouldn’t you say?”
- 26 [Gist-Content Question] While talking about the Amazon Rainforest, the professor mostly focuses on the diversity of life there.
- 27 [Connecting Content Question] The professor says, “The enormous amount of plant life there helps remove poisonous carbon dioxide from the atmosphere while replacing it with the oxygen that living creatures need to breathe to survive. According to some estimates, between ten and twenty-five percent of the Earth’s oxygen-carbon dioxide exchange takes place in the Amazon.” So if much of the Amazon Rainforest were cut down, the amount of carbon dioxide on the planet would probably increase.
- 28 [Making Inferences Question] The professor states, “Additionally, there are literally hundreds—perhaps even thousands—of species of trees and other plants that have yet to be discovered.” So the professor implies that humans still have much to learn about the Amazon Rainforest.

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LECTURE

05-09

Listen to part of a lecture in an anthropology class.

W Professor: It’s generally accepted that humans and other primates descended from a common ancestor. Of all primates, the ones that most closely physically resemble humans are apes. And by apes I mean the branch of primates that includes the gorilla, orangutan, chimpanzee, and gibbon. There are, by the way, two types of chimps—the common chimp

and the pygmy chimp—and two types of gibbons. They are, uh, the common gibbon and the siamang gibbon. When comparing humans with all of these apes, we are most closely related to the pygmy chimp and the gorilla. In fact, we’re only separated from these two apes by a few percentage points of DNA. Interestingly enough, it’s due to both the similarities in our DNA and our physical appearances that we know we shared a common ancestor many years ago. But the question is how long ago that happened. Hmm . . . Here are some clues to that mystery. Gorillas diverged from our common ancestor around ten million years ago, we diverged about seven million years ago, and pygmy chimps and common chimps diverged about three million years ago.

The reason we know these facts is through analysis of DNA. It turns out that the DNA of every species has a specific melting point. And if you mix the DNA of two different species, the melting point gets reduced to a level that’s below the melting point of the DNA of the individual species. Here’s something you need to remember: The melting point decreases by one degree Celsius for every one percent difference there is in the species’ DNA structures. For example, human DNA and gorilla DNA mixed together melt at a temperature 2.3 degrees lower than human DNA by itself. “This means that humans and gorillas differ only in 2.3 percent of our DNA. As you can see, we share 97.7 percent of our DNA with gorillas. Is everyone with me so far . . . ? All right. That’s good. A lot of classes have trouble understanding that point.” Let’s move on then.

Now, here’s something else that’s useful about the melting points of DNA. We can utilize it as a clock. However, we need to examine the fossil record of apes and monkeys in order to get solid support for this method. Sometime around thirty million years ago, the common ancestor of what would eventually become monkeys, apes, and humans lived. By studying the fossil record, we’ve learned roughly when monkeys and orangutans both diverged. For monkeys, it was around thirty million years ago. Monkeys, by the way, have a 7.3 percent difference in DNA with humans. Orangutans diverged around fifteen million years ago and have a 3.6 percent difference in DNA with humans. This suggests that, when there is a near doubling of the difference in DNA, there is also a near doubling of the difference in time from when each species diverged. Okay. I know this is complicated stuff, but I’ve got a handout to give you in a bit that has all of this information laid out nice and neatly. So please don’t get too stressed.

And don't worry about writing this information down. It's listed on the handout.

What this common ancestor actually was is something we don't know yet. However, it most certainly possessed traits that were both similar and different to those of modern-day humans. But keep this in mind . . . The species that diverged from the original ancestor had new species similarly diverge from them. Again, remember that monkeys first developed around thirty million years ago. During that period of time, several new species of monkeys have evolved as well. Here's another example. The gibbon diverged about twenty million years ago, and, later, around eight million years ago, it further subdivided into the common gibbon and simiang gibbon. Then, as I mentioned, the divergence of orangutans happened fifteen million years ago, gorillas ten million years ago, humans seven million years ago, and pygmy chimps and common chimps three million years ago.

So gorillas developed as a distinct species before humans while humans emerged prior to chimps. Gorillas, humans, and chimps all evolved within seven million years of one another. It should therefore be obvious that humans' closest relatives in the animal kingdom are gorillas and chimps. But these differences in our DNA are crucial. After all, thanks to our DNA, humans have created modern civilization while gorillas and chimps continue to live in the wild. We use complex tools, communicate in languages, and exclusively walk upright. Other primates don't.

Let me make a quick point about our common ancestor. Nobody knows exactly what it was. Several hominids, which are the ancestors of modern man, have been unearthed and added to the fossil record. Some—or one—of them may be the link between men, monkeys, and apes. But we don't know for sure. Perhaps later in the future someone will dig up a new species in Africa that will let us know who or what our common ancestor was. But, until that happens, what we're doing is mostly guesswork.

EXPLANATIONS

- 29 [Gist-Content Question] The professor's lecture is mostly about the DNA of various primates and how similar it is to one another.
- 30 [Detail Question] The professor says, "And if you mix the DNA of two different species, the melting point gets reduced to a level that's below the melting point of the DNA of the individual species."

31 [Understanding Function Question] The professor tells the students, "And don't worry about writing this information down. It's listed on the handout." So the students do not need to take any notes on that material.

32 [Connecting Content Question] The professor states, "Then, as I mentioned, the divergence of orangutans happened fifteen million years ago, gorillas ten million years ago, humans seven million years ago, and pygmy chimps and common chimps three million years ago."

33 [Making Inferences Question] The professor mentions, "Perhaps later in the future someone will dig up a new species in Africa that will let us know who or what our common ancestor was." So the professor implies that humans had their origin somewhere in Africa.

34 [Understanding Attitude Question] When the professor asks, "Is everyone with me so far?" she is acknowledging that the material she is discussing is difficult, so she is checking to make sure that the students understand it.

PART III

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CONVERSATION

05-11

Listen to part of a conversation between a student and a professor.

M Professor: Ah, Martha, I am so sorry to have kept you waiting. I know that we had an appointment for two o'clock, but the faculty meeting went a little bit too long. You have no idea how much some of those professors love to talk. Anyway, have you been waiting here long?

W Student: Just a few minutes, sir. It's all right. I did some reading while I was waiting outside your office.

M: Good, good. Well, please come in and have a seat. Let me take off my jacket . . . All right. Now, what do we need to chat about today?

W: My schedule for next semester, sir. I've been working on it, but I am simply stuck on a couple of classes. Would you mind helping me decide which classes to take?

M: Not at all. As your advisor, that's part of what I'm supposed to do.

W: Great. Now, I've decided to register for the following three classes . . . I'm going to take Art History 104. It's an introductory class in modern

art. ³⁹ I'm also going to take Mathematics 102. It's just an algebra class. I want to get my first math requirement out of the way, so I'm going to enroll in that class. And the third class is Italian 101.

M: Italian?

W: I've always wanted to learn it, and, uh, since I'm majoring in Art History, it seems like it would be a good language to know. After all, a lot of great art was produced by Italians, so . . .

M: Good point. That's logical. Okay. These three classes look like they're pretty good. What are the other two that you are trying to make up your mind on?

W: Okay. I'd really like to take a class in the History Department. I'm trying to choose between one on modern America and one on medieval Europe. Which do you think that I should select?

M: Why are you taking history? Because you want to major in it, uh, or simply because you're interested in it?

W: Both actually. I might do a double major, so it seems to me that I should take at least one history class before my freshman year is over.

M: That's a prudent decision. In that case, which are you more interested in?

W: The medieval history class. Definitely.

M: Then go with that one. I know the professor who is going to teach it, and she's excellent. You'll enjoy her class a lot. Now, what about the second class?

W: I'm thinking about taking either an introductory chemistry class or a philosophy class. The philosophy class looks fun, but, uh, if I take the chemistry class, I can get rid of a science requirement.

M: You are aware that most chemistry classes have labs, aren't you? Those aren't easy, especially for students in the liberal arts.

W: Ah, I checked on that. The class I'm thinking of registering for . . . It's called Chemistry 110 . . . Uh, it doesn't have a lab.

M: Really? In that case, why don't you take it and polish off a science requirement? That way, you'll have time in later semesters to take more electives.

W: That sounds like a good plan. Thank you so much for your help, sir.

EXPLANATIONS

35 [Gist-Content Question] When the professor asks the student what she wants to talk about, she says, "My schedule for next semester, sir. I've been working on it, but I am simply stuck on a couple of classes. Would you mind helping me decide which classes to take?"

36 [Detail Question] The student mentions, "I've always wanted to learn it, and, uh, since I'm majoring in Art History, it seems like it would be a good language to know."

37 [Making Inferences Question] Since the student is asking the professor about which classes she should take, it is clear that she values the professor's opinion.

38 [Understanding Attitude Question] The professor warns the student, "You are aware that most chemistry classes have labs, aren't you? Those aren't easy, especially for students in the liberal arts."

39 [Understanding Function Question] When the student says that she wants to get her "first math requirement out of the way," she implies that she has to take more than one class in order to graduate.

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LECTURE

05-12

Listen to part of a lecture in a physics class.

M Professor: It's time to turn our attention to radiation. To begin, what is it . . . ? Simply put, radiation is a form of energy that exists all around us. There are two main types of radiation: ionizing and non-ionizing radiation.

Ionizing radiation derives its name from the fact that it can ionize an atom. When an atom is ionized, it has a positive electric charge. This happens when an electron in an atom receives enough energy to enable it to escape from its bond. The resulting loss of that electron leaves the atom with a positive charge. As you ought to remember from basic chemistry, a neutral atom has an equal number of negatively charged electrons and positively charged protons. But take away an electron, and you have a, uh, greater number of protons, which gives the atom its positive charge. That's what happens with ionizing radiation. There are several types of ionizing radiation, including alpha particles, beta particles, neutrons, neutrinos, muons, gamma rays, and X-rays. ⁴⁵ Each has different

characteristics and can potentially harm life forms in various ways. There's a table on the class website that highlights the differences between these particles. I strongly suggest that you check it out as your final exam grade may depend on it. Got it ...?

The second type is non-ionizing radiation. What's this? Well, it consists mostly of things that have longer wavelengths on the electromagnetic spectrum. As we learned early in the semester, the electromagnetic spectrum consists of waves of energy. The parts with longer wavelengths, including visible light and radio waves, are mostly harmless. As wavelengths decrease in length, uh, starting with ultraviolet waves and microwaves, the danger to living organisms increases. Finally, at the end of the spectrum are X-rays and gamma rays, which have very short wavelengths. They pose significant danger to living organisms.

Um, it's obvious that various types of radiation are all around us. But what are their sources . . . ? There are both natural and manmade sources of radiation. There's one type that's around us at all times but, um, in low doses. We call it background radiation. Interestingly, much of it comes from space. This is cosmic radiation. It has its origins in the sun and other stars. Other sources of radiation are soil, rocks, and even vegetation and water. Their radiation often comes from elements such as uranium which are decaying and therefore emitting radiation. The level of this radiation varies from place to place and depends on the amount of decaying elements like uranium that are in an area. Finally, in our bodies, there are very low levels of radiation from, um, potassium, carbon, and lead isotopes. Those are the primary natural sources of radiation.

And how about manmade sources of radiation . . . ? Let me see . . . The cigarettes that some people smoke contain radiation. So does electronic equipment such as TVs and smoke detectors. You can receive a dose of radiation when you get X-rayed at the hospital. It's not a dangerous dose, but, if you work as an X-ray technician, you need to take safety measures to prevent yourself from being overexposed to radiation. Nuclear power plants are one obvious source of radiation if there's a reactor leak. And there's also radiation that's, um, given off by radio towers, microwave transmitters, and any kind of communication device that uses waves on the electromagnetic spectrum. As you can see, we're surrounded by radiation.

W Student: Aren't all of these types of radiation dangerous?

M: Honestly, yes, but only if a person receives a significant dose. And, as you should be able to guess by now, the amount needed to harm someone varies depending on the type of radiation they're exposed to. Alpha particles are the most dangerous, so a small dose of them can be quite harmful. In contrast, X-rays are much less dangerous so therefore require a larger dose. Finally, radio waves, which have fairly long wavelengths, pose little danger at all. Hmm . . . Why don't I be a little more specific? X-rays . . . If you were X-rayed 1,000 times in a single year, you'd run the risk of getting a dangerous dose of radiation. That's a lot of X-rays you know. How many have you had in your entire life? Not many, I'd wager.

We measure exposure to radiation in units called rads. That's spelled R-A-D-S. It's an acronym for radioactively absorbed dose. The more rads a person gets, the greater the danger the person is in. Another, um, smaller, unit of measurement is the gray. One rad equals 100 grays.

The biggest effect radiation has on living organisms is that it causes cell damage, which can lead to the onset of cancer. In extreme cases of short-term high exposure, such as the atomic bomb blasts at Hiroshima and Nagasaki, Japan, and the nuclear power plant accident at Chernobyl, which was in the Soviet Union at that time, people can die within days or weeks of exposure. But individuals exposed to long-term low doses may not get cancer for decades. And many suffer no harm at all.

EXPLANATIONS

- 40 **[Gist-Content Question]** The professor mostly talks about the origins of radiation and the various types of it.
- 41 **[Making Inference Question]** The professor notes, "As wavelengths decrease in length, uh, starting with ultraviolet waves and microwaves, the danger to living organisms increases. Finally, at the end of the spectrum are X-rays and gamma rays, which have very short wavelengths. They pose significant danger to living organisms." Since X-rays and gamma rays "pose significant danger to living organisms" and they are at the end of the spectrum, then ultraviolet waves and microwaves must be less dangerous than them.
- 42 **[Connecting Content Question]** The professor states, "Their radiation often comes from elements

such as uranium which are decaying and therefore emitting radiation." Since uranium emits radiation, it must be a radioactive element.

43 [Understanding Organization Question]

Throughout the lecture, the professor asks several questions. However, the professor, not the students, answers his own questions.

44 [Detail Question] The professor says, "We measure exposure to radiation in units called rads."

45 [Understanding Function Question] When the professor remarks, "I strongly suggest that you check it out as your final exam grade may depend on it," he is hinting that the students will be tested on the material on the class website. His tone of voice is important. He is giving the students a clue about how important the material is.

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LECTURE

05-13

Listen to part of a lecture in a history class.

M Professor: Today, the Netherlands is a small, yet wealthy, nation. This has been true for the majority of its history dating back to the seventeenth century. This was when the Dutch Golden Age, as historians refer to it, took place. During that period, the Dutch people were global leaders in trade, science, and the arts. There were several reasons the Dutch managed to experience such success. Among them were a highly skilled labor force, an abundant supply of cheap energy, and good internal communication and transportation systems of roads and canals. The Dutch further possessed a large fleet, had skilled naval commanders, and were beginning to establish an overseas colonial empire. These factors all combined to create an enormous amount of wealth, which then supported the advancement of the sciences and arts there.

Be aware that when I talk about the Netherlands in the past, I'm referring to the land covered by the modern-day countries Belgium and the Netherlands. They were once a single political entity. That nation comprised seventeen provinces. During the sixteenth century, there were two important events in Dutch history. The first happened when the Spanish, under King Charles the Fifth, managed to gain control of the land. The second was that the Protestant Reformation took place and was successful in converting the majority of the people in the seven northernmost provinces. Catholic Spain, under Charles's son Phillip the Second, tried to restore the Catholic religion in

those provinces by resorting to force. Those seven Protestant provinces rebelled and came together to form the United Provinces.

The ten southern provinces remained Catholic. So, in 1568, a war began. The war lasted for eighty years. Yes, eighty. Sure, a lot of the fighting was off and on, but it was still a long war. During the war, the ten southern provinces remained possessions of Spain. But many people in them converted to Protestantism and departed for the northern provinces. These individuals were often highly skilled craftsmen, sailors, soldiers, and merchants. Many would contribute to the eventual success of the Dutch in winning their independence from Spain by 1648. Despite being long, the war united the Dutch people and marked the beginning of their golden age.

As I stated, one reason the Dutch enjoyed such prosperity during the seventeenth century was their power sources. In the pre-Industrial Revolution era, power came from humans, animals, and a few natural sources, namely wind and falling water. The Dutch obtained much of their energy from wind power. They used windmills to give them enough energy to pump out seawater to reclaim land. Uh, remember that a large percentage of the Netherlands lies below sea level. Areas once submerged by the North Sea became dry land thanks to the remarkable Dutch system of pumps and levees that removed the water and kept it from returning. These windmills also powered the machinery in mills for grinding grain as well as sawmills.

The Dutch additionally used the relatively small size of their country and their high population density to their advantage. Since their country was so small, they were able to develop efficient road and canal systems. These enabled people to move and items to be transported both easily and quickly.

Since the Dutch were master sailors and had a large commercial fleet, their ships carried Dutch exports to many parts of Europe. The ships further returned laden with imports that the Dutch required. These included raw materials such as wool for their weaving industry and timber, pitch, and rope for their shipbuilding industry.

Abroad, Dutch explorers—thanks in part to their strong navy—established colonies in North America, Africa, India, Japan, and, uh, Indonesia. Amsterdam and the other great ports of the Netherlands became trading hubs in Europe, and many people in these cities became fabulously wealthy. In 1602, the Dutch

founded the world's first large shareholding corporation, the Dutch East India Company. They also established the world's first stock market in Amsterdam. The Dutch East India Company would remain the world's largest trading company for almost two centuries. The amount of wealth that corporation created was, well, uh, it was phenomenal.

This wealth also helped contribute to various Dutch scientific and artistic achievements. For instance, it was three Dutchmen who invented the world's first telescope. Other Dutchmen contributed to advances in the fields of optics, mathematics, physics, and biology. Great artists such as Rembrandt and Vermeer established themselves as world-class painters.

W Student: It sounds like a great period of time. So why didn't it last?

M: In some ways, the Dutch were victims of their own success. Being rich and powerful brought them into the great power games of Europe. Spain caused them constant problems. So did France, which was right next to the Netherlands. At that time, France was the most powerful country in Europe, and its leaders dreamed of expanding their territory. This included taking over the Netherlands. The English also came into conflict with the Dutch at times. England and France actually fought three wars with one another in the seventeenth century.

water and kept it from returning.”

50 [Understanding Attitude Question] The professor states, “Abroad, Dutch explorers—thanks in part to their strong navy—established colonies in North America, Africa, India, Japan, and, uh, Indonesia. Amsterdam and the other great ports of the Netherlands became trading hubs in Europe, and many people in these cities became fabulously wealthy. In 1602, the Dutch founded the world's first large shareholding corporation, the Dutch East India Company. They also established the world's first stock market in Amsterdam. The Dutch East India Company would remain the world's largest trading company for almost two centuries. The amount of wealth that corporation created was, well, uh, it was phenomenal.” He is recognizing the important of trade in the Netherlands in talking about the company.

51 [Connecting Content Question] According to the lecture, one cause of the Dutch Golden Age was that the Netherlands gained its independence from Spain. Another was that Dutch ships transported goods to many ports in Europe. As for the effects, the Dutch spent a lot of money on the arts, and England and the Netherlands fought three wars in the 1600s.

EXPLANATIONS

46 [Gist-Content Question] The professor mostly talks about the Dutch Golden Age of the 1600s.

47 [Making Inferences Question] The professor notes, “Be aware that when I talk about the Netherlands in the past, I’m referring to the land covered by the modern-day countries Belgium and the Netherlands. They were once a single political entity.” So the Netherlands in the past was larger than it is today.

48 [Detail Question] During the sixteenth century, the professor notes, “The Spanish, under King Charles the Fifth, managed to gain control of the land. The second was that the Protestant Reformation took place and was successful in converting the majority of the people in the seven northernmost provinces.”

49 [Understanding Attitude Question] The professor declares, “Areas once submerged by the North Sea became dry land thanks to the remarkable Dutch system of pumps and levees that removed the

ANSWERS

Part I

1. (D) 2. (1, 4) 3. (D) 4. (B) 5. (A)
 6. (C) 7. (D) 8. (A) 9. Fact: (1, 3, 4) Not a Fact: (2)
 10. (B) 11. (D)
 12. (C) 13. (B) 14. (D) 15. (C) 16. (C) 17. (B)

Part II

18. (B) 19. (A) 20. (C) 21. (A) 22. (C)
 23. (A) 24. (C) 25. (B) 26. Ptolemy: (1, 4) Nicolas
 Copernicus: (2, 3) 27. (B) 28. (D)
 29. (A) 30. (B) 31. (C) 32. (A) 33. (D) 34. (A)

PART I

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CONVERSATION

06-03

Listen to part of a conversation between a student and a financial aid office employee.

M Financial Aid Office Employee: Greetings. You wouldn't happen to be Susan Sanders, would you?

W Student: Um, no. Sorry. My name is Emily Jenkins. I have an appointment at three twenty.

M: Ah, I see. Well, it's already three fifteen, and Susan's appointment was for three o'clock. It doesn't look like she's going to be showing up today, so why don't we get started with our meeting a little early?

W: That works for me.

M: Okay . . . So what brings you to the financial aid office today?

W: Next semester's tuition. It's increasing by something like ten percent, and that's too much for my parents and me to handle.

M: I see. Do you receive any financial aid right now?

W: Yes, I do.

M: Could you be a little more specific?

W: Ah, yes. Sure. I receive a grant from the school for five thousand dollars. I also have two separate loans that total . . . um, I believe that it's thirty-five hundred dollars. As for the rest of my tuition and room and board, my parents and I pay several thousand dollars each.

M: Okay . . . I've got your information up here on my

computer now. You've been getting financial aid ever since you started here, right?

W: That is correct. Without the extra help, I would have to transfer to a school that's a lot cheaper than this one. Either that or I would have to drop out and get a job I guess.

M: Let's hope that doesn't happen.

W: If the school can see fit to increase my financial aid by, uh, around a thousand dollars or so, I will definitely be able to remain here. Do you believe that is possible?

M: How are your grades?

W: I received a 3.92 GPA last semester. I had four A's and one A-. It was my best semester yet. I made the Dean's List for the fourth semester in a row, and I should be able to graduate with honors since my GPA is high enough.

M: Outstanding. What, may I ask, is your GPA right now?

W: It's . . . 3.51. I'm hoping to get it up to 3.6 before I finish. I'm not sure if that's going to be possible, but I'm going to try my hardest.

M: All right . . . Since your grades are pretty high, it looks like you might qualify for a special scholarship.

W: A special scholarship?

M: Yes. You see, a lot of people—usually alumni—endow scholarships here. They're typically worth, oh, several hundred dollars a year. Some might be worth a thousand or more. You can't apply for them individually. But the school looks over deserving—and needy—students each semester and hands them out. I'm going to recommend you for a couple of different scholarships. They're academic in nature but are only awarded to students who need the aid.

W: Wow. That's awesome. Do I have to do anything?

M: Just coming here was good enough. That started the process. Now, I'm not promising anything. Please understand that. There's even a chance that you won't get any kind of award. But I'd have to say that the odds are better than average that you'll receive a scholarship for at least a few hundred dollars. You'll be notified if you get anything by the end of next week.

W: That sounds great. Thank you so much for your time.

EXPLANATIONS

- 1 **[Gist-Purpose Question]** The student indicates that she needs some more financial aid to continue attending the school.
- 2 **[Detail Question]** The student states, "I receive a grant from the school for five thousand dollars. I also have two separate loans that total . . . um, I believe that it's thirty-five hundred dollars. As for the rest of my tuition and room and board, my parents and I pay several thousand dollars each."
- 3 **[Understanding Attitude Question]** When the student talks about her grades, her tone of voice is very important. She has a high GPA, so she sounds proud while talking about it.
- 4 **[Understanding Function Question]** The man tells the student about the special scholarships to let her know that they are a possible way that she can get some more financial aid in the coming semester.
- 5 **[Making Inferences Question]** The man says, "But I'd have to say that the odds are better than average that you'll receive a scholarship for at least a few hundred dollars." So it can be inferred that the student will most likely be able to attend school the next semester since she will probably get some financial aid.

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LECTURE

06-04

Listen to part of a lecture in an economics class.

M Professor: Let's turn our attention to the commodities market, which is also known as the futures market. I'm sure you've all heard those terms before, right? But do you know what happens on the commodities market . . . ? Hmm . . . Perhaps not. Okay, let me tell you. When you trade on the futures, uh, commodities market, you're not really buying or selling anything. What you're doing is speculating on the direction that the price of a certain commodity is going to take in the future. So if you think that the price is going to increase, then you make a purchase. Naturally, if you feel that the price will drop, then you sell. In that regard, the commodities market is like the stock market. But one key aspect of the commodities market is that while every trade has a buyer and seller, neither party actually has to own the commodities they are dealing with.

I know that sounds a little strange. I was confused the first time I ever heard that. However, if you'll be patient, I think I can explain this to you in a way that should make sense. To do that, I need to go back to the past and give you a quick history lesson on the origins of the commodities market. In the 1840s, Chicago, Illinois, had become a thriving commercial center in the United States. With its railroad lines, which connected the Midwest and parts of the West with the East Coast, it was a vital transportation hub. Midwestern farmers frequently grew wheat as a major cash crop back then. After they harvested their wheat, they went to Chicago to find dealers to buy it. The dealers then used Chicago's railroad lines to ship the wheat all over the country. Sounds easy, right?

But one problem the farmers encountered was that when they went to Chicago hoping to make quick sales, the dealers had the upper hand. You see, Chicago had few storage facilities in which the wheat could be kept. There was also no established procedure for handling the farmers and their wheat when they wanted to sell it. Finally, the farmers mostly wanted to sell their wheat and get back to their farms, where there was always work to do. These factors all left the farmers at the mercy of the dealers, who could merely hold out until the farmers settled for the lower prices they were being offered.

Then, in 1848, a central place opened where farmers and dealers could meet and where dealers could immediately accept the delivery of wheat in return for cash. From this modest beginning was born the futures contract where, uh, farmers and dealers—acting as sellers and buyers—could commit to future exchanges of wheat and other grains in return for money. This pleased everyone since the farmers knew upfront how much they'd be getting for their crops while the dealers knew what their buying costs would be as well.

This type of transaction quickly became common. When written down in contractual form, futures contracts were even accepted as collateral for bank loans. Soon, these contracts began changing hands before their due dates. For instance, one farmer might decide that he didn't want to sell his crop, so he'd find another farmer to take over his delivery obligation. The same went for dealers. They too bought and sold contracts they'd made with other farmers. Eventually, this gave birth to speculators. These are people who don't intend to buy or sell commodities but merely make contractual transactions out of the desire to buy low and to sell high.

Just a minute ago, I brought up the stock market and noted a similarity between it and the commodities market. However, there's one critical way in which the two are different: Products bought and sold on the commodities market have finite lives. Once the wheat, corn, or other commodities are brought to the market, the contracts for them are over. So, um, speculators closely scrutinize the near future as they try to earn quick profits. There's not much long-term thinking that goes on in the commodities market as, uh, as opposed to the stock market.

Because of the nature of the commodities market, a few important things occurred. First, the commodities being sold were standardized. That way, there was no confusion about what the buyers and sellers were trading. Next, all of the perishable commodities being traded had to have adequate shelf lives since the sales of the items were being put off into the future. Finally, the commodities' prices weren't fixed. They were allowed to fluctuate enough so that uncertainty was created. This gave people the opportunity either to gain or lose on every transaction. And that, I think, is one of the allures of the commodities market. There's potential to reap enormous profits, but, at the same time, people run the risk of losing fortunes. Sharp daily price movements are common and have a tremendous effect on investors in commodities.

EXPLANATIONS

- 6 **[Gist-Content Question]** The professor explains how the commodities market operates during his lecture.
- 7 **[Understanding Organization Question]** The professor talks about Chicago to explain why it was there that the commodities market was founded.
- 8 **[Detail Question]** The professor states, "Eventually, this gave birth to speculators. These are people who don't intend to buy or sell commodities but merely make contractual transactions out of the desire to buy low and to sell high."
- 9 **[Detail Question]** According to the lecture, the first commodities market was founded in Chicago. Also, the goal of its founding was to make buying and selling easier. Finally, all of the commodities sold are standardized. However, it is not true that more items are traded on the commodities market than on the stock market.
- 10 **[Connecting Content Question]** The professor tells the class, "When you trade on the futures, uh,

commodities market, you're not really buying or selling anything. What you're doing is speculating on the direction that the price of a certain commodity is going to take in the future. So if you think that the price is going to increase, then you make a purchase. Naturally, if you feel that the price will drop, then you sell. In that regard, the commodities market is like the stock market."

- 11 **[Understanding Attitude Question]** The professor notes, "This gave people the opportunity either to gain or lose on every transaction. And that, I think, is one of the allures of the commodities market. There's potential to reap enormous profits, but, at the same time, people run the risk of losing fortunes."

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LECTURE

06-05

Listen to part of a lecture in a literature class.

W Professor: One of the staples of science fiction works is time travel. You know, uh, the ability to move either forward or backward in time. According to Albert Einstein, time travel isn't possible because it would require a person to move faster than the speed of light. Since Einstein believed it was impossible for anything to exceed the speed of light, he declared that time travel was impossible. However, Einstein also believed that time was relative. In his view, depending upon how fast a person was moving, time could either speed up or slow down. For instance, as a person's speed approached that of light, time for that person would slow down. Thus, uh, as a single day elapsed for that person, several days might pass for people moving at regular speeds.

17 While I suppose that could be regarded as a form of time travel, Einstein still felt that it was impossible for a person to move forward or backward in time by using a, uh, time machine or similar sort of contraption. Most science fiction authors, meanwhile, don't find themselves constrained by the laws of physics like Einstein was. In fact, in many science fiction stories, time travel is an important plot device. Today, I'd like to mention a couple of these stories in brief and describe the methods the people in them used to travel in time.

Most authors that write about time travel use one of two primary methods. The first is having some sort of machine that enables a person to travel in time. The second involves, hmm . . . I guess you could say natural means. In other words, there's no machinery involved.

Let me describe a couple of stories that involve machinery first . . . Um, one of the first—and arguably the most famous—works involving time travel was H.G. Wells' masterpiece *The Time Machine*. Most of you, I imagine, are familiar with the story. If not, you will be soon since we're going to read it next week and then discuss it in detail. I think you'll enjoy the book. It's one of my personal favorites. Anyway, without spoiling the story, the main character, known only as the Time Traveler, creates a time machine that's basically a chair. The Time Traveler sits in the chair, which creates a time bubble that takes him forward into the future. During the story, the Time Traveler uses his time machine to travel millions of years into the future and then back to his regular time.

Another well-known story that uses time travel is *The Door into Summer*, which was written by a true master of science fiction, Robert Heinlein. The main character gets put into suspended animation and is then awakened many years in the future without having aged. Then, while he's in the future, the main character learns about a scientist who has invented a time machine that can send people or objects either into the past or the present. The main character uses the time machine to go back into the past and to make sure that his future life turns out well.

The Time Machine and *The Door into Summer* are typical of science fiction stories that use machinery to let characters travel in time. The author may describe some aspects of the machine, yet the technical details are kept to a minimum. But the machine itself is usually a crucial part of the story.

In other science fiction stories, time travel happens through different means. Are any of you familiar with Mark Twain's novel *A Connecticut Yankee in King Arthur's Court* . . . ? Hmm . . . Only a few of you. Well, I guess that book isn't taught in schools too much anymore. So, in Twain's story, the main character, named Hank Morgan, goes back in time after he gets hit on the head. That's it. Twain didn't really concern himself with the actual process of time travel. And that's what's important about stories that rely on the, uh, natural means of time travel. The authors don't really care that much about how it happens. It just does.

There's also another more modern story . . . It's the book *Replay* by Ken Grimwood.

M Student: Oh, I love that book. I've read it three or four times.

W: Ah, I'm glad to see we have at least one fan of

Replay. Um, for those of you that haven't read it, let me fill you in. The main character in the novel dies of a heart attack only to wake up many years in the past. He goes through life again, has another heart attack at the exact same time as the previous one, and then wakes up again in the past but, uh, at a different time than before. The character keeps replaying his life—hence the book's title—as he dies, wakes up, and lives a new life. If you're not familiar with it, I recommend that you check it out.

EXPLANATIONS

- 12 **[Gist-Content Question]** The professor's lecture focuses on some works of literature that have stories involving time travel.
- 13 **[Detail Question]** The professor says, "Anyway, without spoiling the story, the main character, known only as the Time Traveler, creates a time machine that's basically a chair. The Time Traveler sits in the chair, which creates a time bubble that takes him forward into the future."
- 14 **[Gist-Purpose Question]** About *A Connecticut Yankee in King Arthur's Court*, the professor states, "Twain didn't really concern himself with the actual process of time travel. And that's what's important about stories that rely on the, uh, natural means of time travel." So the time travel in this book does not rely on machinery to happen.
- 15 **[Understanding Attitude Question]** About *Replay*, the student exclaims, "Oh, I love that book. I've read it three or four times."
- 16 **[Understanding Organization Question]** The professor gives several examples of different ways that people time travel in works of literature.
- 17 **[Understanding Function Question]** The professor makes this comment to add some humor to her lecture.

PART II

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CONVERSATION

05-07

Listen to part of a conversation between a student and a professor.

M1 Professor: Jim, you are just the person I was looking for. Please come in here for a second. I would like to have a word with you.

M2 Student: Oh, hi, Professor Samson. Sure. I've got

a bit of time to talk to you. I don't have class for another half an hour. What do you need?

M1: Are you still looking for some part-time work?

M2: Huh? How did you know about that?

M1: Ah, I had lunch with Professor Douglas this afternoon, and he told me that you were trying to find some part-time work somewhere on campus. I hope that you don't mind us talking about you like that.

M2: Not at all. I'm actually kind of flattered that I was the topic of discussion amongst a couple of professors. That's pretty cool now that I think of it.

M1: Well, what's even cooler, I think, is the opportunity that I have for you. You know I run the chemistry laboratory on the fourth floor, right?

M2: Yes, I think I heard that from someone. I've never been in that lab before, but I've been by it a few times. That's the lab for freshmen and sophomores, isn't it?

M1: That's correct. And even though you haven't been in it, at least you know where it is. Anyway, one of my lab assistants had to drop out of school last week. He had some personal issues that . . . Well, it's not important why he left school. The point is that he's gone, and I'm looking for a new person to help out in the lab.

M2: All right. What exactly would you need for me to do?

M1: The vast majority of it is pretty mundane stuff. You would mostly need to keep the lab clean and make sure that we have enough supplies—chemicals and all that.

M2: I see. Would I get a chance to lead any of the labs that the students take?

M1: Well . . . Not this semester. No. Sorry. I know that you're definitely qualified to do it, but those positions are completely filled. It wouldn't be fair for me to bump anyone in favor of you.

M2: Yes, I can see your point. That's fine.

M1: But . . .

M2: But what?

M1: You would get a chance to be a part of those labs while they are being taught. So you would be able to observe how the other lab assistants teach and interact with the students. That would get you a lot of hands-on experience I think, and then you'll be in a good position to get your own lab class next

semester. That is, uh, if you're interested in the job.

M2: I'm definitely interested. You can count me in.

M1: Great. I was hoping you'd say that. In that case, let me know the hours when you are available to work in the lab. I've got enough funding to let you work twenty hours a week if you are interested in working that much.

M2: Twenty hours a week? Excellent. That's precisely the number of hours that I was hoping for.

M1: It looks like it was a good thing that Professor Douglas and I had lunch together today, doesn't it?

EXPLANATIONS

18 [Gist-Content Question] The professor has a job that he wants the student to do, so that is what they mostly talk about.

19 [Making Inferences Question] The professor says, "Ah, I had lunch with Professor Douglas this afternoon, and he told me that you were trying to find some part-time work somewhere on campus. I hope that you don't mind us talking about you like that." Since the student's desire for a job is a personal matter, it can be inferred that Professor Douglas speaks with the student about his personal matters.

20 [Making Inferences Question] The professor declares, "Anyway, one of my lab assistants had to drop out of school last week. He had some personal issues that . . . Well, it's not important why he left school. The point is that he's gone, and I'm looking for a new person to help out in the lab."

21 [Understanding Function Question] The professor states, "You would mostly need to keep the lab clean and make sure that we have enough supplies—chemicals and all that." He is explaining the duties to let the student know what kind of work needs to be done in the laboratory.

22 [Making Inferences Question] The student comments positively about the job. He also responds that he wants to work twenty hours a week, which is how many hours the professor says that he can work. So the student will probably accept the professor's offer.

LECTURE

06-08

Listen to part of a lecture in a history of science class.

M Professor: Throughout history, several individuals have proposed various models of the universe. During this time, there have been many theories on Earth's place in the universe. However, for much of history, there were two main ones: The first stated that Earth was the center of the universe. This was the most commonly accepted model of the universe up until around, um, around the sixteenth century or so. That's when Nicolas Copernicus proposed his new model of the universe, one in which the Earth, like the other planets, revolved around the sun.

²⁸ I'd like to begin by describing what's known as the geocentric theory of the universe. Geo is the Greek word for Earth, so you should be able to guess that "geocentric" refers to the notion that the Earth is the center of the universe. People began proposing the geocentric theory back in ancient times, including Greece and Rome. One of the most famous proposals was that of Ptolemy, a Greek who lived in Egypt from the years 90 to 168 A.D. At that time, Egypt was a part of the Roman Empire, so Ptolemy was a Roman citizen. Like many educated men in ancient times, Ptolemy had been schooled in a wide range of subjects, one of, uh, of which was astronomy. His famous work, the *Almagest*, covered what Ptolemy knew—or believed he knew I should say—about the universe.

The *Almagest* contained thirteen sections that covered various aspects of the movements of the sun, moon, planets, and stars. Bear in mind that during Ptolemy's time, the only known planets were Jupiter, Saturn, Mars, Venus, and Mercury. Well, the *Almagest* contained a veritable wealth of information, but a great deal of that information was, um, to put it delicately, was incorrect. First, Ptolemy believed that Earth was at the center of the cosmos. Second, he had everything else in the universe revolving around Earth. Third, in his universe, Earth was stationary and didn't move at all. Fourth, the universe was spherical in shape. Fifth, the moon, sun, planets, and stars all moved in separate spheres around Earth. Of these spheres, the moon's sphere was the closest to Earth. It was followed by Mercury, Venus, the sun, Jupiter, Saturn, and the stars in that order. With slight variations, Ptolemy's model of the universe became the accepted view for nearly 1,500 years.

W Student: Why did it last for so long when it was obviously wrong?

M: Well . . . it may be obvious to me and you today, but it wasn't apparent in the past. Remember that knowledge spread and advanced slowly in those days. Books were copied by hand, which took a long time, so they were quite rare. Ptolemy's *Almagest* was actually one of the few books to be copied quite often, so the knowledge in it spread to numerous lands. The Arabs accepted his work as the truth as did people in many other places. During the Middle Ages in Europe, Ptolemy's views became accepted as well.

However, as time passed and people started learning more about science, some individuals began to question Ptolemy and the validity of his model of the universe. They realized that Ptolemy's theories didn't explain many of the motions of the heavenly bodies in a logical manner. Of course, we now know the reason was that, in Ptolemy's model, Earth didn't move, yet it does in actuality. But nobody in the past was aware of that. They only knew that something wasn't right with Ptolemy's universe.

Still, it wasn't until 1543, when Nicolas Copernicus published his work on heavenly bodies, that someone proposed a strong competing model of the universe. Copernicus believed in a heliocentric, or sun-centered, universe. The book Copernicus wrote was called *On the Revolutions of Heavenly Spheres*. In it, Copernicus argued that the sun, not Earth, was the center of the universe. Copernicus's universe contained eight spheres—one for the stars, one for the sun, and one for each of the six known planets. The moon lacked its own sphere as it orbited the Earth, not the sun. Copernicus believed the sun didn't move and that the planets and stars all moved in perfect circles around the sun.

Take a look up here at the screen. You can see Ptolemy's and Copernicus's universes here . . . Note that they have some similarities . . . Both have one stationary object at the center. Both believe the orbits are perfect circles rather than the elliptical paths we know the planets actually make. And both rely on complex theories and formulas to account for inconsistencies in the movements of the heavenly objects.

Copernicus's book was widely read, and his theory became well known in scientific circles. While it was resisted by some, including the Church, many scientists, including Galileo Galilei, made their own contributions to the heliocentric model of the universe. Thanks to telescopes, which were first used to explore the night sky by Galileo, scientists began

proving that certain aspects of Ptolemy's universe were wrong while parts of Copernicus's universe were right. Now, before we stop for a break, let's move on to the contributions that Galileo made.

EXPLANATIONS

- 23 [Gist-Content Question] The professor describes two different ancient models of the universe in his lecture.
- 24 [Understanding Organization Question] The professor says, "The *Almagest* contained thirteen sections that covered various aspects of the movements of the sun, moon, planets, and stars." Then, he describes the information in the *Almagest*.
- 25 [Detail Question] The professor responds, "Well . . . it may be obvious to me and you today, but it wasn't apparent in the past. Remember that knowledge spread and advanced slowly in those days," when a student asks him a question.
- 26 [Connecting Content Question] According to the lecture, Ptolemy's model of the universe claimed that Earth did not move. Also, the moon was in the closest sphere to Earth in his model. As for Nicolas Copernicus, he had a heliocentric, or sun-centered, universe. He described his universe in the book *On the Revolutions of Heavenly Spheres*.
- 27 [Making Inferences Question] The professor says, "Now, before we stop for a break, let's move on to the contributions that Galileo made."
- 28 [Understanding Function Question] The professor talks about the origins of the word "geocentric" to explain from where it was derived.

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LECTURE

06-09

Listen to part of a lecture in a microbiology class.

M Professor: In our last few minutes, let me discuss one more thing before we call it a day. I'd like to examine that role that biofilm plays in various environments. And by biofilm, er, I'm not talking about a movie biography of a famous person. If you want to study that, Professor Ford's cinema class is right down the hall. ³³The biofilm we're studying is a thin sheet of biological matter which clings to the surface of something that can be either natural or manmade. Biofilm can be found in virtually any natural environment, but it requires moisture, uh, like water, to survive. As for manmade environments,

biofilm has been observed on pipes, shower walls, glass windows, and the bottoms of ships, to name just a few places.

Biofilm is formed of biological matter. It's mostly bacteria although other microorganisms, including fungi and algae, may be present at times. These microorganisms initially attach themselves to surfaces at random. They can cling to these surfaces due to something known as a van der Waal's force. As the microorganisms remain attached to the surface, they begin to change. They develop their own ways of clinging to the surface of the structure. Soon, they attract other microorganisms, and, over time, a layer builds up. The biofilm constantly adds new layers. All of these are very thin and are practically invisible to the naked eye.

While the layers are increasing in number, they excrete a substance called EPS. That stands for extracellular polymeric substance. The EPS connects the individual microorganisms to one another and allows them to sort of, uh, communicate with each other. Not by talking of course. But they communicate biologically. For instance, the upper layers of the biofilm assume a greater importance than the other layers as they assume protective duties. They maintain something of a defensive shield until a new layer builds up. Then, that new layer takes over the defensive role.

It should come as no surprise to you that most biofilm is harmful and can be blamed for many of the infections that people get as well as the spread of various illnesses. Because of the protective upper level of the biofilm, the microorganisms beneath that top layer can survive even the toughest antibacterial lotions and disinfectants that people apply to try to kill them. In fact, some studies suggest that after, um, over time, some biofilm develops a resistance to antibacterial cleaning products. As a result, in some cases, biofilm actually clings to supposedly sterile medical equipment, restaurant tables, household pipes, and other places of importance. ³⁴This can result in a person being infected by biofilm even in places such as hospital operating rooms.

W Student: Are you trying to say that biofilm is everywhere? Even in the cleanest homes and hospitals?

M: No, not at all. I had no intention of implying that. I am, however, saying that biofilm is present in some of those places. But biofilm is most assuredly not found on every surface. And please also note

that not all biofilm is fatal . . . or even dangerous for that matter. For example, um, take dental plaque. It's classified as a biofilm. Yet, if it were fatal, I don't think that any of us would be alive, would we? And remember that the human body has numerous ways to protect itself against infections.

All right. So we've established that biofilm isn't always deadly. However, its effects are costly. Every year, billions of dollars worldwide are lost due to biofilm. Here are a few ways that happens . . . Biofilm can grow on plants, so it causes diseases that can wipe out entire fields of crops. It can cause damage to pipes and other kinds of equipment. It causes the equipment to corrode, so pipes may burst for instance. Biofilm can also form on the bottoms of ships. When that happens, the biofilm attracts other organisms such as barnacles. As barnacles begin to accumulate on a ship's hull, the speed of the ship can be reduced significantly. This causes the ship to burn more fuel, which is an extra expense for the owner. Because of biofilm, ships need to be put in dry dock at times so that their bottoms can be scrubbed clean of these organisms. Oh, and biofilm can also reduce the structural integrity of a ship's hull, which thereby reduces the ship's lifetime.

Interestingly, not all biofilm is bad. Some can actually be useful. At sewage treatment plants, for example, biofilm is purposely grown on filters through which raw sewage passes. The biofilm extracts the organic material from the sewage, which helps to, uh, to break it down. Likewise, some biofilm is used to clean up oil spills in the ocean. The bacteria in some biofilm can degrade the hydrocarbon molecules in oil, thereby removing it from the water. As you would expect, scientists are working hard to come up with other ways to utilize biofilm.

EXPLANATIONS

- 29 [Making Inferences Question] At the beginning of the lecture, the professor tells the class, "In our last few minutes, let me discuss one more thing before we call it a day." So he implies that the class is going to end soon.
- 30 [Detail Question] The professor remarks, "While the layers are increasing in number, they excrete a substance called EPS. That stands for extracellular polymeric substance. The EPS connects the individual microorganisms to one another and allows them to sort of, uh, communicate with each other."

- 31 [Connecting Content Question] The professor notes, "In fact, some studies suggest that after, um, over time, some biofilm develops a resistance to antibacterial cleaning products. As a result, in some cases, biofilm actually clings to supposedly sterile medical equipment, restaurant tables, household pipes, and other places of importance." So it is likely that if the same disinfectant is applied to biofilm for a long period of time, the biofilm will become resistant to it.
- 32 [Detail Question] The professor informs the class, "Likewise, some biofilm is used to clean up oil spills in the ocean. The bacteria in some biofilm can degrade the hydrocarbon molecules in oil, thereby removing it from the water."
- 33 [Understanding Attitude Question] When the professor says, "to name just a few places," he means that he has not told the students everywhere where biofilm may exist.
- 34 [Understanding Function Question] When the professor says, "I had no intention of implying that," he is trying to reduce the student's level of concern since she sounds very worried.

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