Meteorite Impact and Dinosaur Extinction

There is increasing evidence that the impacts of meteorites have had important effects on Earth, particularly in the field of biological evolution. Such impacts continue to pose a natural hazard to life on Earth. Twice in the twentieth century, large meteorite objects are known to have collided with Earth.

If an impact is large enough, it can disturb the environment of the entire Earth and cause an ecological catastrophe. The best-documented such impact took place 65 million years ago at the end of the Cretaceous period of geological history. This break in Earth’s history is marked
by a mass extinction, when as many as half
the species on the planet became extinct. 
While there are a dozen or more mass
extinctions in the geological record, the 
Cretaceous mass extinction has always
intrigued paleontologists because it marks the 
end of the age of the dinosaurs. For tens of
millions of years, those great creatures had
flourished. Then, suddenly, they disappeared.

The body that impacted Earth at the end of the
Cretaceous period was a meteorite with a mass
of more than a trillion tons and a diameter of
at least 10 kilometers. Scientists first identified
this impact in 1980 from the worldwide layer of
sediment deposited from the dust cloud that
enveloped the planet after the impact. This
sediment layer is enriched in the rare metal
iridium and other elements that are relatively
abundant in a meteorite but very rare in the
crust of Earth. Even diluted by the terrestrial
material excavated from the crater, this
component of meteorites is easily identified. By
1990 geologists had located the impact site
itself in the Yucatán region of Mexico. The
crater, now deeply buried in sediment, was
originally about 200 kilometers in diameter.
This impact released an enormous amount of energy, excavating a crater about twice as large as the lunar crater Tycho. The explosion lifted about 100 trillion tons of dust into the atmosphere, as can be determined by measuring the thickness of the sediment layer formed when this dust settled to the surface. Such a quantity of material would have blocked the sunlight completely from reaching the surface, plunging Earth into a period of cold and darkness that lasted at least several months. The explosion is also calculated to have produced vast quantities of nitric acid and melted rock that sprayed out over much of Earth, starting widespread fires that must have consumed most terrestrial forests and grassland. Presumably, those environmental disasters could have been responsible for the mass extinction, including the death of the dinosaurs.

Several other mass extinctions in the geological record have been tentatively identified with large impacts, but none is so dramatic as the Cretaceous event. But even without such specific documentation, it is clear that impacts of this size do occur and that their results can be catastrophic. What is a catastrophe for one group of living things,
however, may create opportunities for another group. Following each mass extinction, there is a sudden evolutionary burst as new species develop to fill the ecological niches opened by the event.

Impacts by meteorites represent one mechanism that could cause global catastrophes and seriously influence the evolution of life all over the planet. According to some estimates, the majority of all extinctions of species may be due to such impacts. Such a perspective fundamentally changes our view of biological evolution. The standard criterion for the survival of a species is its success in competing with other species and adapting to slowly changing environments. Yet an equally important criterion is the ability of a species to survive random global ecological catastrophes due to impacts.

Earth is a target in a cosmic shooting gallery, subject to random violent events that were unsuspected a few decades ago. In 1991 the United States Congress asked NASA to investigate the hazard posed today by large impacts on Earth. The group conducting the study concluded from a detailed analysis that impacts from meteorites can indeed be
hazardous. Although there is always some risk that a large impact could occur, careful study shows that this risk is quite small.

1. The word “pose” on line 4 is closest in meaning to

   a. claim
   
   b. model
   
   c. assume
   
   d. present

2. In paragraph 2, why does the author include the information that dinosaurs had flourished for tens of millions of years and then suddenly disappeared?

   a. To support the claim that the mass extinction at the end of the Cretaceous is the best-documented of the dozen or so mass extinctions in the geological record
b. To explain why as many as half of the species on Earth at the time are believed to have become extinct at the end of the Cretaceous

c. To explain why paleontologists have always been intrigued by the mass extinction at the end of the Cretaceous

d. To provide evidence that an impact can be large enough to disturb the environment of the entire planet and cause an ecological disaster

3. Which of the following can be inferred from paragraph 3 about the location of the meteorite impact in Mexico?

a. The location of the impact site in Mexico was kept secret by geologists from 1980 to 1990.

b. It was a well-known fact that the impact had occurred in the Yucatán region.
c. Geologists knew that there had been an impact before they knew where it had occurred.

d. The Yucatán region was chosen by geologists as the most probable impact site because of its climate.

4. According to paragraph 3, how did scientists determine that a large meteorite had impacted Earth?

   a. They discovered a large crater in the Yucatán region of Mexico.
   
   b. They found a unique layer of sediment worldwide.
   
   c. They were alerted by archaeologists who had been excavating in the Yucatán region.
   
   d. They located a meteorite with a mass of over a trillion tons.
5. The word “excavating” on line 44 is closest in meaning to

   a. digging out
   b. extending
   c. destroying
   d. covering up

6. The word “consumed” on line 58 is closest in meaning to

   a. changed
   b. exposed
   c. destroyed
   d. covered
7. According to paragraph 4, all of the following statements are true of the impact at the end of the Cretaceous period EXCEPT:

a. A large amount of dust blocked sunlight from Earth.

b. Earth became cold and dark for several months.

c. New elements were formed in Earth’s crust.

d. Large quantities of nitric acid were produced.

8. The phrase “tentatively identified” on lines 65-66 is closest in meaning to

a. identified after careful study

b. identified without certainty

c. occasionally identified

d. easily identified
9. The word “perspective” on line 84 is closest in meaning to

a. sense of values
b. point of view
c. calculation
d. complication

10. Paragraph 6 supports which of the following statements about the factors that are essential for the survival of a species?

a. The most important factor for the survival of a species is its ability to compete and adapt to gradual changes in its environment.

b. The ability of a species to compete and adapt to a gradually changing environment is not the only ability that is essential for survival.
c. Since most extinctions of species are due to major meteorite impacts, the ability to survive such impacts is the most important factor for the survival of a species.

d. The factors that are most important for the survival of a species vary significantly from one species to another.

11. Which of the sentences below best expresses the essential information in the following sentence?

**Earth is a target in a cosmic shooting gallery, subject to random violent events that were unsuspected a few decades ago.**

Incorrect choices change the meaning in important ways or leave out essential information.

a. Until recently, nobody realized that Earth is exposed to unpredictable violent impacts from space.
b. In the last few decades, the risk of a random violent impact from space has increased.

c. Since most violent events on Earth occur randomly, nobody can predict when or where they will happen.

d. A few decades ago, Earth became the target of random violent events originating in outer space.

12. According to the passage, who conducted investigations about the current dangers posed by large meteorite impacts on Earth?

a. Paleontologists
b. Geologists
c. The United States Congress
d. NASA
13. Look at the four letters (A, B, C, and D) that indicate where the following sentence could be added to the passage in paragraph 6.

**This is the criterion emphasized by Darwin’s theory of evolution by natural selection.**

Where would the sentence best fit?

Impacts by meteorites represent one mechanism that could cause global catastrophes and seriously influence the evolution of life all over the planet. (A) According to some estimates, the majority of all extinctions of species may be due to such impacts. (B) Such a perspective fundamentally changes our view of biological evolution. (C) The standard criterion for the survival of a species is its success in competing with other species and adapting to slowly changing environments. (D) Yet an equally important criterion is the ability of a species to survive random global ecological catastrophes due to impacts.
Choose the place where the sentence fits best.

a. Option A

b. Option B

c. Option C

d. Option D

14. An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. **This question is worth 2 points.**

Write your answer choices in the spaces where they belong. You can write in the number of the answer choice or the whole sentence.
Scientists have linked the mass extinction at the end of the Cretaceous with a meteorite impact on Earth.

Answer choices

(1) Scientists had believed for centuries that meteorite activity influenced evolution on Earth.

(2) The site of the large meteorite impact at the end of the Cretaceous period was identified in 1990.
(3) There have also been large meteorite impacts on the surface of the Moon, leaving craters like Tycho.

(4) An iridium-enriched sediment layer and a large impact crater in the Yucatán provide evidence that a large meteorite struck Earth about 65 million years ago.

(5) Large meteorite impacts, such as one at the end of the Cretaceous period, can seriously affect climate, ecological niches, plants, and animals.

(6) Meteorite impacts can be advantageous for some species, which thrive, and disastrous for other species, which become extinct.
Key to Reading Section:

1. d
2. c
3. c
4. b
5. a
6. c
7. c
8. b
9. b
10. b
11. a
12. d
13. d
14. 4,5,6
Directions: The Listening section measures your ability to understand conversations and lectures in English. In this sample, you will read one conversation and one lecture and answer questions after each conversation or lecture. 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. Most questions are worth one point. If a question is worth more than one point, it will have special directions that indicate how many points you can receive.

• In an actual test, you will be able to take notes while you listen and use your notes to help you answer the questions. Your notes will not be scored.

CONVERSATION TRANSCRIPT

(Narrator) Listen to a conversation between a student and her basketball coach and then answer the questions.
(Male coach) Hi, Elizabeth.

(Female student) Hey, Coach. I just thought I’d stop by to see what I missed while I was gone.

(Male coach) Well, we’ve been working real hard on our plan for the next game . . . I’ve asked Susan to go over it with you before practice this afternoon, so you’ll know what we’re doing.

(Female student) Okay.

(Male coach) By the way, how did your brother’s wedding go?

(Female student) Oh, it was beautiful. And the whole family was there. I saw aunts and uncles and cousins I hadn’t seen in years.

(Male coach) So it was worth the trip.

(Female student) Oh definitely. I’m sorry I had to miss practice, though. I feel bad about that.

(Male coach) Family’s very important.
(Female student) Yep. Okay, I guess I’ll see you this afternoon at practice, then.

(Male coach) Just a minute. There are a couple of other things I need to tell you.

(Female student) Oh, okay.

(Male coach) Uh . . . First, everybody’s getting a new team jacket.

(Female student) Wow. How did that happen?

(Male coach) A woman who played here about 20, 25 years ago came through town a few weeks ago and saw a game, and said she wanted to do something for the team, so . . .

(Female student) So she’s buying us new jackets?

(Male coach) Yep.

(Female student) Wow, that’s really nice of her.

(Male coach) Yes, it is. It’s great that former players still care so much about our school and
our basketball program . . . Anyway you need to fill out an order form. I’ll give it to you now, and you can bring it back this afternoon. I’ve got the forms from the other players, so as soon as I get yours we can order. Maybe we’ll have the jackets by the next game.

(Female student) OK.

(Male coach) Great. And the next thing is, you know Mary’s transferring to another college next week, so we’ll need someone to take over her role as captain for the second half of the season. And the other players unanimously picked you to take over as captain when Mary leaves.

(Female student) Wow. I saw everybody this morning, and nobody said a word.

(Male coach) They wanted me to tell you. So, do you accept?

(Female student) Of course! But Susan’s a much better player than I am. I’m really surprised they didn’t pick her.

(Male coach) They think you’re the right one. You’ll have to ask them their thoughts.
(Female student) Okay . . . I guess one of the first things I’ll have to do as captain is make sure we get a thank-you card out to the lady who’s buying us the jackets.

(Male coach) Good idea. I have her address here somewhere.

(Female student) And I’ll make sure the whole team signs it.

(Male coach) Good. That’s all the news there is. I think that’s it for now. Oh, let me get you that order form.

1. What are the speakers mainly discussing?
   a. How the woman should prepare for the next game
   b. The woman’s responsibilities as team captain
   c. Things that happened while the woman was away
   d. The style of the new team uniforms
2. Who is buying new jackets for the team?
   a. The coach
   b. The captain of the team
   c. A former player
   d. A group of basketball fans

3. There are two answers for the next question. Mark two answers.

   Why is the woman surprised to learn that she has been chosen as the new team captain?
   a. She is not the best player on the team.
   b. Her teammates did not tell her about the decision.
   c. She does not have many friends on the team.
   d. She has missed a lot of practices.
4. Read part of the conversation again. Then answer the question.

(Female student) I’m sorry I had to miss practice, though. I feel bad about that.

(Male coach) Family’s very important.

What does the man mean when he says: “Family’s very important.”

a. He hopes the woman’s family is doing well.

b. He would like to meet the woman’s family.

c. The woman should spend more time with her family.

d. The woman had a good reason for missing practice.
5. Why does the coach say: “Good. That’s all the news there is. I think that’s it for now.”

a. He wants to know if the woman understood his point.

b. He wants the woman to act immediately.

c. He is preparing to change the topic.

d. He is ready to end the conversation.
(Narrator) Listen to part of a lecture in a literature class.

(Male professor) Today I’d like to introduce you to a novel that some critics consider the finest detective novel ever written. It was also the first. We’re talking about *The Moonstone* by Wilkie Collins. Now, there are other detective stories that preceded *The Moonstone* historically—Um, notably the work of Poe . . . Edgar Allen Poe’s stories, such as “The Murders in the Rue Morgue” and . . . “The Purloined Letter.” Now these were short stories that featured a detective . . . uh, probably the first to do that. But *The Moonstone*, which follows them by about twenty years—it was published in 1868—this is the first full-length detective novel ever written.

Now, in *The Moonstone*—if you read it as . . . uh, come to it as a contemporary reader—what’s interesting is that most of the features you find in almost any detective novel are in fact already present. Uh, its hard at this juncture to read this novel and realize that no one had ever done that before, because it all seems so strikingly familiar. It’s, it’s really a
wonderful novel and I recommend it, even just as a fun book to read, if you’ve never read it. Um, so in *The Moonstone*, as I said, Collins did much to establish the conventions of the detective genre. I’m not gonna go into the plot at length, but, you know, the basic set-up is . . . there’s this diamond of great . . . of great value, a country house, the diamond mysteriously disappears in the middle of the night, uh, the local police are brought in, in an attempt to solve the crime, and they mess it up completely, and then the true hero of the book arrives. That’s Sergeant Cuff.

Now, Cuff, this extraordinarily important character . . . well, let me try to give you a sense of who Sergeant Cuff is, by first describing the regular police. And this is the dynamic that you’re going to see throughout the history of the detective novel, where you have the regular cops—who are well-meaning, but officious and bumblingly inept—and they are countered by a figure who’s eccentric, analytical, brilliant, and . . . and able to solve the crime. So, first the regular police get called in to solve the mystery—Um, in this case, detective, uh, Superintendent Seegrave. When Superintendent Seegrave comes in, he orders his minions around, they bumble, and they
actually make a mess of the investigation, which you’ll see repeated—um, you’ll see this pattern repeated, particularly in the Sherlock Holmes stories of a few years later where, uh, Inspector Lestrade, this well-meaning idiot, is always countered, uh, by Sherlock Holmes, who’s a genius.

So, now Cuff arrives. Cuff is the man who’s coming to solve the mystery, and again he has a lot of the characteristics that future detectives throughout the history of this genre will have. He’s eccentric. He has a hobby that he’s obsessive about—in this . . . in his case, it’s the love of roses. He’s a fanatic about the breeding of roses; and here think of Nero Wolfe and his orchids, Sherlock Holmes and his violin, a lot of those later classic detective heroes have this kind of outside interest that they . . . they go to as a kind of antidote to the evil and misery they encounter in their daily lives. At one point, Cuff says he likes his roses because they offer solace, uh, an escape, from the world of crime he typically operates in.

Now, these detective heroes . . . they have this characteristic of being smart, incredibly smart, but of not appearing to be smart. And most importantly, from a kind of existential point of
view, these detectives see things that other people do not see. And that’s why the detective is such an important figure, I think, in our modern imagination. In the case of The Moonstone—I don’t want to say too much here and spoil it for you—but the clue that’s key to... the solving of the crime is a smeared bit of paint in a doorway. Of course, the regular police have missed this paint smear or made some sort of unwarranted assumption about it. Cuff sees this smear of paint—this paint, the place where the paint is smeared—and realizes that from this one smear of paint you can actually deduce the whole situation... the whole world. And that’s what the hero in a detective novel like this... brings to it that the other characters don’t—it’s this ability to, uh, see meaning where others see no meaning and to bring order... to where it seems there is no order.
6. What is the lecture mainly about?

   a. A comparison of two types of detective novels
   b. Ways in which detective novels have changed over time
   c. *The Moonstone* as a model for later detective novels
   d. Flaws that can be found in the plot of *The Moonstone*

7. In what way is *The Moonstone* different from earlier works featuring a detective?

   a. In its unusual ending
   b. In its unique characters
   c. In its focus on a serious crime
   d. In its greater length
8. According to the professor, what do roses in *The Moonstone* represent?

a. A key clue that leads to the solving of the mystery

b. A relief and comfort to the detective

c. Romance between the main characters

d. Brilliant ideas that occur to the detective

9. Why does the professor mention a smeared bit of paint in a doorway in *The Moonstone*?

a. To describe a mistake that Sergeant Cuff has made

b. To show how realistically the author describes the crime scene

c. To exemplify a pattern repeated in many other detective stories

d. To illustrate the superior techniques used by the police
10. What can be inferred about the professor when he says this: “Uh, it’s hard at this juncture to read this novel and realize that no one had ever done that before, because it all seems so strikingly familiar.”

a. He is impressed by the novel’s originality.

b. He is concerned that students may find the novel difficult to read.

c. He is bored by the novel’s descriptions of ordinary events.

d. He is eager to write a book about a less familiar subject.
11. What does the professor imply when he says this: “. . . well, let me try to give you a sense of who Sergeant Cuff is, by first describing the regular police.”

a. Sergeant Cuff is unlike other characters in The Moonstone.

b. The author’s description of Sergeant Cuff is very realistic.

c. Sergeant Cuff learned to solve crimes by observing the regular police.

d. Differences between Sergeant Cuff and Sherlock Holmes are hard to describe.
Key to Listening section:

1. c
2. c
3. a, b
4. d
5. d
6. c
7. d
8. b
9. c
10. a
11. a
Speaking Section

**Directions:** The Speaking section in the test measures your ability to speak about a variety of topics.

- In questions 1 and 2, in an actual test, your response will be scored on your ability to speak clearly and coherently about familiar topics.

- In questions 3 and 4, in an actual test, you will first read a short text and then listen to a talk on the same topic. You will have to combine appropriate information from the text and the talk to provide a complete answer. Your response will be scored on your ability to accurately convey information, and to speak clearly and coherently. In this sampler, you will **read** both the text and the talk.

- In questions 5 and 6, in an actual test, you will listen to part of a conversation or lecture. Then, you will be asked a question about what you have heard. Your response will be scored on your ability to accurately convey information, and to speak clearly and
coherently. In this sampler, you will read the conversation.

• In an actual test, you will be able to take notes while you read and while you listen to the conversations and talks. You may use your notes to help prepare your responses.

• Preparation and response times for an actual test are noted in this text. Candidates with disabilities may request time extensions.

• Sample candidate responses and score explanations can be found in the online version of the sampler. The scoring rubric used to score actual responses can be found on the TOEFL website’s “Download Library” page.

1. Talk about a pleasant and memorable event that happened while you were in school. Explain why this event brings back fond memories.

   **Preparation Time: 15 seconds**  
   **Response Time: 45 seconds**
2. Some people think it is more fun to spend time with friends in restaurants or cafés. Others think it is more fun to spend time with friends at home. Which do you think is better? Explain why.

Preparation Time: 15 seconds
Response Time: 45 seconds

3. Read the following text and the conversation that follows it. Then, answer the question.
The Northfield College Student Association recently decided to make a new purchase. Read the following announcement in the college newspaper about the decision. (Reading time in an actual test would be 45-50 seconds.)

**Good News for Movie Fans**

The Student Association has just purchased a new sound system for the Old Lincoln Hall auditorium, the place where movies on campus are currently shown. By installing the new sound system, the Student Association hopes to attract more students to the movies and increase ticket sales. Before making the purchase of the new equipment, the Student Association conducted a survey on campus to see what kind of entertainment students liked best. Going to the movies ranked number one. “Students at Northfield College love going to the movies” said the president of the Student Association, “so we decided to make what they already love even better. We’re confident that the investment into the sound system will translate into increased ticket sales.”
(Male student) I really think the Student Association made a bad decision.

(Female student) Really? Why? Don’t you like going to the movies?

(Male student) Sure I do. But this new purchase is just a waste of money.

(Female student) What do you mean? It’s supposed to sound really good.

(Male student) Yeah, well, I’m sure it does, but, in Old Lincoln Hall? I mean that building must be 200 years old! It used to be the college gym! The acoustics are terrible.

(Female student) So you’re saying there’ll be no improvement?

(Male student) That’s right. And also, I seriously doubt that going to the movies is the number one social activity for most students.

(Female student) Yeah, but that’s what students said.

(Male student) Well, of course that’s what they said. What else is there to do on campus?
(Female student) What do you mean?

(Male student) I mean, there isn’t much to do on campus besides go to the movies. If there were other forms of, uh recreation, or other social activities, you know, I don’t think most students would have said that going to the movies was their first choice.

Question: The man expresses his opinion of the Student Association’s recent purchase. State his opinion and explain the reasons he gives for holding that opinion.

Preparation Time: 30 seconds
Response Time: 60 seconds

4. Read a passage from a psychology textbook and the lecture that follows it. Then answer the question. (Reading time in an actual test would be 45-50 seconds.)
Flow

In psychology, the feeling of complete and energized focus in an activity is called flow. People who enter a state of flow lose their sense of time and have a feeling of great satisfaction. They become completely involved in an activity for its own sake rather than for what may result from the activity, such as money or prestige. Contrary to expectation, flow usually happens not during relaxing moments of leisure and entertainment, but when we are actively involved in a difficult enterprise, in a task that stretches our mental or physical abilities.

(Male professor) I think this will help you get a picture of what your textbook is describing. I had a friend who taught in the physics department, Professor Jones, he retired last year. . . . Anyway, I remember . . . this was a few years ago . . . I remember passing by a classroom early one morning just as he was leaving, and he looked terrible: his clothes were all rumpled, and he looked like he hadn’t slept all night. And I asked if he was OK. I was surprised when he said that he never felt better, that he was totally happy. He had spent

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the entire night in the classroom working on a mathematics puzzle. He didn’t stop to eat dinner; he didn’t stop to sleep . . . or even rest. He was that involved in solving the puzzle. And it didn’t even have anything to do with his teaching or research; he had just come across this puzzle accidentally, I think in a mathematics journal, and it just really interested him, so he worked furiously all night and covered the blackboards in the classroom with equations and numbers and never realized that time was passing by.

**Question:** Explain *flow* and how the example used by the professor illustrates the concept.

**Preparation Time: 30 seconds**
**Response Time: 60 seconds**

5. Read the following conversation between two students and then answer the question.

(Female student) How’s the calculus class going? You’re doing better?

(Male student) Not really. I just can’t get the hang of it. There’re so many functions and
formulas to memorize, you know? And the final . . . It’s only a few weeks away. I’m really worried about doing well.

(Female student) Oh . . . You know, you should go to the tutoring program and ask for help.

(Male student) You mean, in the mathematics building?

(Female student) Ya. Get a tutor there. Most tutors are doctoral students in the math program. They know what they’re talking about, and for the final test, you know, they’d tell you what to study, how to prepare, all of that.

(Male student) I know about that program . . . but doesn’t it cost money?

(Female student) Of course. You have to register and pay by the hour . . . But they’ve got all the answers.

(Male student) Hmm . . .
(Female student) Another option, I guess, is to form a study group with other students. That won’t cost you any money.

(Male student) That’s a thought . . . although once I was in a study group, and it was a big waste of time. We usually ended up talking about other stuff like what we did over the weekend.

(Female student) But that was for a different class, right? I’ve actually had some pretty good experiences with study groups. Usually students in the same class have different strengths and weaknesses with the material . . . if they’re serious about studying, they can really help each other out. Think about it.

Question: Briefly summarize the problem the speakers are discussing. Then state which solution you would recommend. Explain the reasons for your recommendation.

Preparation Time: 20 seconds
Response Time: 60 seconds
6. Read part of a lecture in a biology course and then answer the question.

(Female professor) Human beings aren’t the only animals that use tools. It’s generally recognized that other animals use tools as well . . . use them naturally, in the wild, without any human instruction. But when can we say that an object is a tool? Well, it depends on your definition of a tool. And in fact, there are two competing definitions—a narrow definition and a broad one. The narrow definition says that a tool is an object that’s used to perform a specific task . . . but not just any object. To be a tool, according to the narrow definition, the object’s gotta be purposefully changed or shaped by the animal, or human, so that it can be used that way. It’s an object that’s made. Wild chimpanzees use sticks to dig insects out of their nests . . . but most sticks lying around won’t do the job . . . they might be too thick, for example. So the sticks have to be sharpened so they’ll fit into the hole in an ant hill or the insect nest. The chimp pulls off the leaves and chews the stick and trims it down that way until it’s the right size. The chimp doesn’t just find the stick . . . it . . . you could say it makes it in a way.
But the **broad** definition says an object doesn’t have to be modified to be considered a tool. The broad definition says a tool is **any** object that’s used to perform a specific task. For example, an elephant will sometimes use a stick to scratch its back . . . it just picks up a stick from the ground and scratches its back with it . . . It doesn’t modify the stick, it uses it just as it’s found. And it’s a tool, under the broad definition, but under the narrow definition it’s not because, well, the elephant doesn’t change it in any way.

**Question:** Using points and examples from the talk, describe the two different definitions of tools given by the professor.

**Preparation Time:** 20 seconds  
**Response Time:** 60 seconds
Writing Section

Directions: These sample tasks in the Writing section measure your ability to write in English in an academic environment. There will be 2 writing tasks.

• For the first task in this sampler, you will read a passage and part of a lecture about an academic topic. Then you will write a response to a question that asks you about the relationship between the lecture and the reading passage. Try to answer the question as completely as possible using information from the reading passage and the lecture. The question does not ask you to express your personal opinion. Your response will be judged on the quality of your writing and on how well your response presents the points in the lecture and their relationship to the reading passage.

• For the second task, you will demonstrate your ability to write an essay in response to a question that asks you to express and support your opinion about a topic or issue. Your essay will be scored on the quality of your writing. This includes the development
of your ideas, the organization of your essay, and the quality and accuracy of the language you use to express your ideas.

- At the end of the writing section, in this sampler you will find two sample essays for each question, the score they received, and an explanation of how they were scored.

- In an actual test, you will be able to take notes while you listen and use your notes to help you answer the questions.

1. Read the following passage and the lecture which follows. In an actual test, you will have 3 minutes to read the passage. Then, answer the question. In the test, you will have 20 minutes to plan and write your response. Typically, an effective response will be 150 to 225 words. Candidates with disabilities may request additional time to read the passage and write the response.
Critics say that current voting systems used in the United States are inefficient and often lead to the inaccurate counting of votes. Miscounts can be especially damaging if an election is closely contested. Those critics would like the traditional systems to be replaced with far more efficient and trustworthy computerized voting systems.

In traditional voting, one major source of inaccuracy is that people accidentally vote for the wrong candidate. Voters usually have to find the name of their candidate on a large sheet of paper containing many names—the ballot—and make a small mark next to that name. People with poor eyesight can easily mark the wrong name. The computerized voting machines have an easy-to-use touch-screen technology: to cast a vote, a voter needs only to touch the candidate’s name on the screen to record a vote for that candidate; voters can even have the computer magnify the name for easier viewing.

Another major problem with old voting systems is that they rely heavily on people to count the votes. Officials must often count up the votes one by one, going through every ballot and recording the vote. Since they have
to deal with thousands of ballots, it is almost inevitable that they will make mistakes. If an error is detected, a long and expensive recount has to take place. In contrast, computerized systems remove the possibility of human error, since all the vote counting is done quickly and automatically by the computers.

Finally some people say it is too risky to implement complicated voting technology nationwide. But without giving it a thought, governments and individuals alike trust other complex computer technology every day to be perfectly accurate in banking transactions as well as in the communication of highly sensitive information.

LECTURE TRANSCRIPT

(Narrator) Now listen to part of a lecture on the topic you just read about.

(Female professor) While traditional voting systems have some problems, it’s doubtful that computerized voting will make the situation any better. Computerized voting may seem easy for people who are used to computers. But what about people who aren’t? People who can’t afford computers, people who don’t use them on a regular basis—these people will
have trouble using computerized voting machines. These voters can easily cast the wrong vote or be discouraged from voting altogether because of fear of technology. Furthermore, it’s true that humans make mistakes when they count up ballots by hand. But are we sure that computers will do a better job? After all, computers are programmed by humans, so “human error” can show up in mistakes in their programs. And the errors caused by these defective programs may be far more serious. The worst a human official can do is miss a few ballots. But an error in a computer program can result in thousands of votes being miscounted or even permanently removed from the record. And in many voting systems, there is no physical record of the votes, so a computer recount in the case of a suspected error is impossible! As for our trust of computer technology for banking and communications, remember one thing: these systems are used daily and they are used heavily. They didn’t work flawlessly when they were first introduced. They had to be improved on and improved on until they got as reliable as they are today. But voting happens only once every two years nationally in the United States and not much more than twice a year in many local areas. This is hardly sufficient for
us to develop confidence that computerized voting can be fully trusted.

**Question:** Summarize the points made in the lecture, being sure to explain how they oppose specific points made in the reading passage.

2. Read the question below. In a real test, you will have 30 minutes to plan, write, and revise your essay. Candidates with disabilities may request a time extension. Typically, an effective response will contain a minimum of 300 words.

**Question:** Do you agree or disagree with the following statement?

*A teacher’s ability to relate well with students is more important than excellent knowledge of the subject being taught.*

Use specific reasons and examples to support your answer.
Sample responses

Below are candidates’ responses exemplifying scores of 5 and 4 for both Writing tasks. The scoring rubrics used to score actual responses can be found on the TOEFL website’s “Download Library” page.

QUESTION 1, RESPONSE A, SCORE OF 5

The lecture explained why the computerized voting system cannot replace the traditional voting system. There are the following three reasons.

First of all, not everyone can use computers correctly. Some people do not have access to computers, some people are not used to computers, and some people are even scared of this new technology. If the voters do not know how to use a computer, how do you expect them to finish the voting process through computers? This directly refutes the reading passage which states that computerized voting is easier by just touching the screen.
Secondly, computers may make mistakes as the people do. As computers are programmed by the human beings, thus errors are inevitable in the computer system. Problems caused by computer voting systems may be more serious than those caused by people. A larger number of votes might be miss counted or even removed from the system. Furthermore, it would take more energy to recount the votes. Again this contradicts what is stated in the reading which stated that only people will make mistakes in counting.

Thirdly, computerized voting system is not reliable because it has not reached a stable status. People trust computers to conduct banking transactions because the computerized banking system is being used daily and frequently and has been stable. However, the voting does not happen as often as banking thus the computerized voting system has not been proved to be totally reliable.

All in all, not everyone can use a computer properly, computer cause mistakes and computerized voting system is not reliable are the main reasons why computerized voting system can not replace the traditional voting system.
Score explanation

This response is well organized, selects the important information from all three points made in the lecture, and explains its relationship to the claims made in the reading passage about the advantages of computerized voting over traditional voting methods.

First, it counters the argument that computerized voting is more user-friendly and prevents distortion of the vote by saying that many voters find computers unfamiliar and some voters may end up not voting at all.

Second, it challenges the argument that computerized voting will result in fewer miscounts by pointing out that programming errors may result in large-scale miscounts and that some errors may result in the loss of voting records.

Third, it rejects the comparison of computerized voting with computerized banking by pointing out that the reliability of computerized banking (“reached a stable status”) has been achieved though frequent use, which does not apply to voting.

There are occasional minor language errors: for example, “people not used of computers”; “miss counted”; “computer cause mistakes”; and the poor syntax of the last
sentence ("All in all . . . "). Some spelling errors are obviously typos: "everyoen." The errors, however, are not at all frequent and do not result in unclear or inaccurate representation of the content.

The response meets all the criteria for the score of 5.
QUESTION 1, RESPONSE B, SCORE OF 4

The lecture disagreed with the article's opinions. It's not a better solution to use the computerized voting systems. Firstly, it might be hard for the voters who don't use the computer so often, or the users who is fear of the technology, even some of voters can not afford a computer. Touch screen may also be hard to use for people who is not familiar with computers. Secondly, computer is programmed by human beings, which means it can also have errors. Instead of human being's counting error, which only results one or two counting error in number, an error in the program code could cause tremendous error in number. In case of the computer crash or disaster, it may lost all the voting information. We can not even to make a re-count. Lastly, our daily banking or other highly sensitive information system, is actually improved as time goes by. They were also problematic at the beginning. As we use them so often, we have more chances to find problems, and furthermore, to fix and improve them. However, for the voting system, we only use them every 2 years nationally and some other rare events. We just don't use it often enough to find a bug or test it thoroughly.
Score explanation

The response selects most of the important information from the lecture and indicates that it challenges the main argument in the reading passage about the advantages of computerized voting systems ("it’s not a better solution").

First, the response explains that some people will not find computers to be user-friendly; however, it fails to relate this clearly to the point made in the passage that computerized voting will prevent distortion of the vote. That is clearly an omission, but it is minor.

Second, the response does a good job of pointing out how programming and errors can cause greater problems than miscounts cause in the traditional voting system.

Third, the response provides a nice explanation of how the frequent use of systems like the banking system has contributed to such systems’ reliability, and then it contrasts that with the computerized voting system.

There are more frequent language errors throughout the response—for example, “users who is fear”; “some of voters can not afford”; “people who is not familiar”; “it may lost”; and “can not even to make.” Expressions chosen by
the writer occasionally affect the clarity of the content that is being conveyed: “results one or two counting error in number . . . an error in the program code could cause tremendous error in number” and “use them every 2 years nationally and some other rare events.” However, it should be noted that in these cases, a reader can derive the intended meaning from the context.

Due to the more frequent language errors that on occasion result in minor lapses of clarity and due to minor content omission, especially in the coverage of the first lecture point, the response cannot earn the score of 5. At the same time, since the language errors are generally minor and mostly do not interfere with the clarity of the content and since most of the important information from the lecture is covered by the writer, the response deserves a higher score than 3. It meets the criteria for the score of 4.
I remember every teacher that has taught me since I was in Kindergarten. If a friend wants to know who our first grade teacher was in elementary school, all they have to do is ask me. The teachers all looked very kind and understanding in my eyes as a child. They had special relationships with nearly each and every one of the students and were very nice to everyone. That’s the reason I remember all of them.

A teacher’s primary goal is to teach students the best they can about the things that are in our textbooks and more important, how to show respect for one another. They teach us how to live a better life by getting along with everyone. In order to do that, the teachers themselves have to be able to relate well with students.

My parents are teachers too. One teaches Plant Biology and one teaches English, but that’s not the reason I’m calling them “teachers.” They are teachers because they teach me how to act in special situations and how to cooperate with others. I have a brother, and my parents use different approaches when teaching us. They might scold my brother for surfing the internet too long.
because he doesn’t have much self-control and they need to restrain him. He almost never studies on his own and is always either drawing, playing computer games, or reading. On the other hand, they never tell me off for using the computer too long. I do my own work when I want and need to because that brings me the best results and my parents understand that. They know that I need leisure time of my own and that I’ll only play until needed. My parents’ ability to relate well with my brother and I allows them to teach, not just the subject they teach but also their excellent knowledge on life.

Knowledge of the subject being taught is something taken for granted, but at the same time, secondary. One must go through and pass a series of courses and tests in order to become a teacher. Any teacher is able to have excellent knowledge of their subject but not all teachers can have the ability to relate well with students.

A teacher’s primary goal is to teach students the best they can about how to show respect for one another, so teachers use different approaches when teaching, and knowledge of the subject being taught is secondary. For these reasons, I claim with confidence that excellent knowledge of the
subject being taught is secondary to the teacher’s ability to relate well with their students.

Score explanation

This essay conveys the idea that as important as teaching knowledge is, it is as important if not more important for teachers to possess other qualities, all of which the writer classifies as necessary for being able to relate well with students. Those other qualities include having “special relationships” with students; the teaching of respect (in the first two paragraphs); and taking different approaches for different individuals. The writer develops the last idea primarily by using a clearly appropriate extended and complex example of the writer’s own parents, who are teachers but whose special qualities in raising the writer and the writer’s brother had to do more with taking varied approaches. The writer then goes on to convey that knowledge is a given—“something taken for granted”—because all teachers take course work and pass tests to gain their jobs but not all have the qualities the writer considers more important.
This response very effectively addresses the topic and the task. It is true that this response is different from most essays: the overall idea is stated explicitly but only at the end of the essay. However, because of very good language structure and good conceptual transitions between ideas, the reader is able to follow the writer’s development of ideas without becoming confused. The response is thus seen to be well organized. Errors in language are almost nonexistent here. This response meets all of the 5-level criteria from the Scoring Guide.
I disagree with the idea that the possessing the ability to relate well with student is more important than excellent knowledge of the subject being taught for a teacher. There are several reasons why I disagree with that idea.

First, teachers’ job is to educate their student with their knowledge. The ability to relate well with their student is something a counselor should possess, not a teacher. That’s why the board of education gives an award to a teacher with an excellent knowledge of the subject they teach. Teachers who can get along with their students but have no knowledge can be popular and be liked by his or her students, however I don’t consider a teacher with no knowledge a good teacher.

Second, Students go to schools because they want to learn knowledge from their teachers not to get along with their teachers. I knew a math teacher who was well known among other mathematics teachers. Some students always complained how he never entertains his students which made many of his students to fall asleep. Nevertheless, all of his classes were all full even before the semester began because many students who
were eager to learn already booked in. He won the Apples prize (it’s given to a noticed teacher annually) a couple of times and that enabled students to firmly believe in his way of teaching.

Thirdly, teachers are responsible for conceding their knowledge to their next generation. Teachers already had an experience of getting advantaged education from college. Teachers should not let that privilege become useless and workless. We all learn because we want to become the better person that this world needs. Students will also eventually grow up to be influencing other people and teachers should voluntarily be their students’ role models.

For conclusion, I think the most important quality a teacher must have is an excellent knowledge of the subject they teach, not an ability to relate well with their students.

Score explanation

This is a more traditional-looking essay that is organized with a point of view in the first paragraph stating the writer’s disagreement with the writing prompt, followed
by three pieces of supporting reasons and examples.

The second paragraph makes the point that counselors are the ones who are supposed to relate to students and that teachers with no knowledge are not worthwhile as teachers.

In the third paragraph the writer tries to describe the fact that knowledge is important by stating that students wanted to take courses from a teacher who was known to possess special knowledge even though they knew the teacher was not entertaining.

The fourth paragraph contains the very interesting idea that teachers have the obligation to pass on what they have had the privilege of learning, but this paragraph in particular has a few problems with somewhat unclear expression of concepts: (1) errors of word choice in the word “conceding” (not clear exactly what word is intended here) and in the term “‘advantaged’ education” (advanced education or advantages of education?) and (2) a problem with unclear connection of ideas (why is it said that “We all learn because we want to become the better person that this world needs?”).

Overall, this essay is well organized, but the slightly unclear connection of ideas and the language chosen, especially in the final
paragraph, prevent this response from rising above the 4 level.