TOEFL iBT® Practice Test 2

READING

This section measures your ability to understand academic passages in English. You will have **54 minutes** to read and answer questions about **3 passages**. A clock at the top of the screen will display the starting time as **00 : 54 : 00** and show you how much time is remaining.

Most questions are worth 1 point, but the last question for each passage is worth more than 1 point. The directions for the last question indicate how many points you may receive.

Some passages in the computer-based test include a word or phrase that is underlined in blue. When you click on the word or phrase underlined in blue, you will see a verbal or visual definition of the word or term. In this book, those definitions are provided as endnotes below the reading passage.

Within this section, you can move to the next question by clicking on **Next**. You can skip questions and go back to them later as long as there is time remaining. If you want to return to previous questions, click on **Back**. You can click on **Review** at any time and the review screen will show you which questions you have answered and which you have not answered. From this review screen, you may go directly to any question you have already seen in the Reading section.

During this practice test, you may click the **Pause** icon at any time. This will stop the test until you decide to continue. You may continue the test in a few minutes or at any time during the period that your test is activated.

You will now begin the Reading section. Again, in an actual test you will have **54 minutes** to read the 3 passages and answer the questions. NOTE: In an actual test, some test takers might receive 4 passages; those test takers will have 72 minutes (1 hour and 12 minutes) to answer the questions.

Turn the page to begin the Reading section.

FEEDING HABITS OF EAST AFRICAN HERBIVORES

Buffalo, zebras, wildebeests, topi, and Thomson's gazelles live in huge groups that together make up some 90 percent of the total weight of mammals living on the Serengeti Plain of East Africa. They are all herbivores (plant-eating animals), and they all appear to be living on the same diet of grasses, herbs, and small bushes. This appearance, however, is illusory. When biologist Richard Bell and his colleagues analyzed the stomach contents of four of the five species (they did not study buffalo), they found that each species was living on a different part of the vegetation. The different vegetational parts differ in their food qualities: lower down, there are succulent, nutritious leaves; higher up are the harder stems. There are also sparsely distributed, highly nutritious fruits, and Bell found that only the Thomson's gazelles eat much of these. The other three species differ in the proportion of lower leaves and higher stems that they eat: zebras eat the most stem matter, wildebeests eat the most leaves, and topi are intermediate.

How are we to understand their different feeding preferences? The answer lies in two associated differences among the species, in their digestive systems and body sizes. According to their digestive systems, these herbivores can be divided into two categories: the nonruminants (such as the zebra, which has a digestive system like a horse) and the ruminants (such as the wildebeest, topi, and gazelle, which are like the cow). Nonruminants cannot extract much energy from the hard parts of a plant; however, this is more than made up for by the fast speed at which food passes through their guts. Thus, when there is only a short supply of poor-quality food, the wildebeest, topi, and gazelle enjoy an advantage. They are ruminants and have a special structure (the rumen) in their stomachs, which contains microorganisms that can break down the hard parts of plants. Food passes only slowly through the ruminant's gut because ruminating—digesting the hard parts—takes time. The ruminant continually regurgitates food from its stomach back to its mouth to chew it up further (that is what a cow is doing when "chewing cud"). Only when it has been chewed up and digested almost to a liquid can the food pass through the rumen and on through the gut. Larger particles cannot pass through until they have been chewed down to size. Therefore, when food is in short supply, a ruminant can last longer than a nonruminant because it can derive more energy out of the same food. The difference can partially explain the eating habits of the Serengeti herbivores. The zebra chooses areas where there is more low-quality food. It migrates first to unexploited areas and chomps the abundant low-quality stems before moving on. It is a fast-in/fast-out feeder, relying on a high output of incompletely digested food. By the time the wildebeests (and other ruminants) arrive, the grazing and trampling of the zebras will have worn the vegetation down. As the ruminants then set to work, they eat down to the lower, leafier parts of the vegetation. All of this fits in with the differences in stomach contents with which we began.

The other part of the explanation is body size. Larger animals require more food than smaller animals, but smaller animals have a higher metabolic rate. Smaller animals can therefore live where there is less food, provided that such food is of high energy content. That is why the smallest of the herbivores, Thomson's gazelle, lives on fruit that is very nutritious but too thin on the ground to support a larger animal. By contrast, the large zebra lives on the masses of low-quality stem material.

The differences in feeding preferences lead, in turn, to differences in migratory habits. The wildebeests follow, in their migration, the pattern of local rainfall. The other species do likewise. But when a new area is fueled by rain, the mammals

migrate toward it in a set order to exploit it. The larger, less fastidious feeders, the zebras, move in first; the choosier, smaller wildebeests come later; and the smallest species of all, Thomson's gazelle, arrives last. The later species all depend on the preparations of the earlier one, for the actions of the zebra alter the vegetation to suit the stomachs of the wildebeest, topi, and gazelle.

Directions: Now answer the questions.

PARAGRAPH 1

Buffalo, zebras, wildebeests, topi, and Thomson's gazelles live in huge groups that together make up some 90 percent of the total weight of mammals living on the Serengeti Plain of East Africa. They are all herbivores (plant-eating animals), and they all appear to be living on the same diet of grasses, herbs, and small bushes. This appearance, however, is illusory. When biologist Richard Bell and his colleagues analyzed the stomach contents of four of the five species (they did not study buffalo), they found that each species was living on a different part of the vegetation. The different vegetational parts differ in their food qualities: lower down, there are succulent, nutritious leaves; higher up are the harder stems. There are also sparsely distributed, highly nutritious fruits, and Bell found that only the Thomson's gazelles eat much of these. The other three species differ in the proportion of lower leaves and higher stems that they eat: zebras eat the most stem matter, wildebeests eat the most leaves, and topi are intermediate.

1. The word "illusory" in the passage is closest in meaning to

   Ⓐ definite
   Ⓑ illuminating
   Ⓒ misleading
   Ⓓ exceptional

2. Which of the following questions about Richard Bell's research is NOT answered in paragraph 1?

   Ⓐ Which of the herbivores studied is the only one to eat much fruit?
   Ⓑ Which part of the plants do wildebeests prefer to eat?
   Ⓒ Where did the study of herbivores' eating habits take place?
   Ⓓ Why were buffalo excluded from the research study?

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PARAGRAPH 2

How are we to understand their different feeding preferences? The answer lies in two associated differences among the species, in their digestive systems and body sizes. According to their digestive systems, these herbivores can be divided into two categories: the nonruminants (such as the zebra, which has a digestive system like a horse) and the ruminants (such as the wildebeest, topi, and gazelle, which are like the cow). Nonruminants cannot extract much energy from the hard parts of a plant; however, this is more than made up for by the fast speed at which food passes through their guts. Thus, when there is only a short supply of poor-quality food, the wildebeest, topi, and gazelle enjoy an advantage. They are ruminants and have a special structure (the rumen) in their stomachs, which contains microorganisms that can break down the hard parts of plants. Food passes only slowly through the ruminant's gut because ruminating—digesting the hard parts—takes time. The ruminant continually regurgitates food from its stomach back to its mouth to chew it up further (that is what a cow is doing when "chewing cud"). Only when it has been chewed up and digested almost to a liquid can the food pass through the rumen and on through the gut. Larger particles cannot pass through until they have been chewed down to size. Therefore, when food is in short supply, a ruminant can last longer than a non-ruminant because it can derive more energy out of the same food. The difference can partially explain the eating habits of the Serengeti herbivores. The zebra chooses areas where there is more low-quality food. It migrates first to unexploited areas and chomps the abundant low-quality stems before moving on. It is a fast-in/fast-out feeder, relying on a high output of incompletely digested food. By the time the wildebeests (and other ruminants) arrive, the grazing and trampling of the zebras will have worn the vegetation down. As the ruminants then set to work, they eat down to the lower, leafier parts of the vegetation. All of this fits in with the differences in stomach contents with which we began.

3. The word "associated" in the passage is closest in meaning to

   (A) obvious
   (B) significant
   (C) expected
   (D) connected

4. The author mentions the cow and the horse in paragraph 2 in order to

   (A) distinguish the functioning of their digestive systems from those of East African mammals
   (B) emphasize that their relatively large body size leads them to have feeding practices similar to those of East African mammals
   (C) illustrate differences between ruminants and nonruminants through the use of animals likely to be familiar to most readers
   (D) emphasize similarities between the diets of cows and horses and the diets of East African mammals

5. Paragraph 2 suggests that which of the following is one of the most important factors in determining differences in feeding preferences of East African herbivores?

   Ⓐ The availability of certain foods
   Ⓑ The differences in stomach structure
   Ⓒ The physical nature of vegetation in the environment
   Ⓓ The ability to migrate when food supplies are low

6. According to paragraph 2, all of the following are true of East African gazelles EXCEPT:

   Ⓐ They digest their food very quickly.
   Ⓑ Microorganisms help them digest their food.
   Ⓒ They are unable to digest large food particles unless these are chewed down considerably.
   Ⓓ They survive well even if food supplies are not abundant.

PARAGRAPH 3

The other part of the explanation is body size. Larger animals require more food than smaller animals, but smaller animals have a higher metabolic rate. Smaller animals can therefore live where there is less food, provided that such food is of high energy content. That is why the smallest of the herbivores, Thomson's gazelle, lives on fruit that is very nutritious but too thin on the ground to support a larger animal. By contrast, the large zebra lives on the masses of low-quality stem material.

7. The phrase "provided that" in the passage is closest in meaning to

   Ⓐ as long as
   Ⓑ unless
   Ⓒ as if
   Ⓓ even though

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PARAGRAPH 4

The differences in feeding preferences lead, in turn, to differences in migratory habits. The wildebeests follow, in their migration, the pattern of local rainfall. The other species do likewise. But when a new area is fueled by rain, the mammals migrate toward it in a set order to exploit it. The larger, less fastidious feeders, the zebras, move in first; the choosier, smaller wildebeests come later; and the smallest species of all, Thomson's gazelle, arrives last. The later species all depend on the preparations of the earlier one, for the actions of the zebra alter the vegetation to suit the stomachs of the wildebeest, topi, and gazelle.

8. According to the passage, which of the following is true of wildebeests?

Ⓐ They eat more stem matter than zebras do.
Ⓑ They are able to digest large food particles if the food is of a high quality.
Ⓒ They tend to choose feeding areas in which the vegetation has been worn down.
Ⓓ They are likely to choose low-quality food to eat in periods when the quantity of rainfall is low.

PARAGRAPH 4

The differences in feeding preferences lead, in turn, to differences in migratory habits. **(A)** The wildebeests follow, in their migration, the pattern of local rainfall. **(B)** The other species do likewise. **(C)** But when a new area is fueled by rain, the mammals migrate toward it in a set order to exploit it. **(D)** The larger, less fastidious feeders, the zebras, move in first; the choosier, smaller wildebeests come later; and the smallest species of all, Thomson's gazelle, arrives last. The later species all depend on the preparations of the earlier one, for the actions of the zebra alter the vegetation to suit the stomachs of the wildebeest, topi, and gazelle.

9. **Directions:** Look at the part of the passage that is displayed above. The letters **(A)**, **(B)**, **(C)**, and **(D)** indicate where the following sentence could be added.

The sequence in which they migrate correlates with their body size.

Where would the sentence best fit?

Ⓐ Choice A
Ⓑ Choice B
Ⓒ Choice C
Ⓓ Choice D

10. **Directions**: 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**.

    East African herbivores, though they all live in the same environment, have a range of feeding preferences.

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Answer Choices

A The survival of East African mammals depends more than anything else on the quantity of highly nutritious fruits that they are able to find.
B An herbivore's size and metabolic rate affect the kinds of food and the quantities of food it needs to eat.
C Zebras and wildebeests rarely compete for the same food resources in the same locations.
D The different digestive systems of herbivores explain their feeding preferences.
E Migratory habits are influenced by feeding preferences.
F Patterns in the migratory habits of East African herbivores are hard to establish.

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LOIE FULLER

The United States dancer Loie Fuller (1862–1928) found theatrical dance in the late nineteenth century artistically unfulfilling. She considered herself an artist rather than a mere entertainer, and she, in turn, attracted the notice of other artists.

Fuller devised a type of dance that focused on the shifting play of lights and colors on the voluminous skirts or draperies she wore, which she kept in constant motion principally through movements of her arms, sometimes extended with wands concealed under her costumes. She rejected the technical virtuosity of movement in ballet, the most prestigious form of theatrical dance at that time, perhaps because her formal dance training was minimal. Although her early theatrical career had included stints as an actress, she was not primarily interested in storytelling or expressing emotions through dance; the drama of her dancing emanated from her visual effects.

Although she discovered and introduced her art in the United States, she achieved her greatest glory in Paris, where she was engaged by the Folies Bergère in 1892 and soon became "La Loie," the darling of Parisian audiences. Many of her dances represented elements or natural objects—Fire, the Lily, the Butterfly, and so on—and thus accorded well with the fashionable Art Nouveau style, which emphasized nature imagery and fluid, sinuous lines. Her dancing also attracted the attention of French poets and painters of the period, for it appealed to their liking for mystery, their belief in art for art's sake, a nineteenth-century idea that art is valuable in itself rather than because it may have some moral or educational benefit, and their efforts to synthesize form and content.

Fuller had scientific leanings and constantly experimented with electrical lighting (which was then in its infancy), colored gels, slide projections, and other aspects of stage technology. She invented and patented special arrangements of mirrors and concocted chemical dyes for her draperies. Her interest in color and light paralleled the research of several artists of the period, notably the painter Seurat, famed for his Pointillist technique of creating a sense of shapes and light on canvas by applying extremely small dots of color rather than by painting lines. One of Fuller's major inventions was underlighting, in which she stood on a pane of frosted glass illuminated from underneath. This was particularly effective in her *Fire Dance* (1895), performed to the music of Richard Wagner's "Ride of the Valkyries." The dance caught the eye of artist Henri de Toulouse-Lautrec, who depicted it in a lithograph.

As her technological expertise grew more sophisticated, so did the other aspects of her dances. Although she gave little thought to music in her earliest dances, she later used scores by Gluck, Beethoven, Schubert, Chopin, and Wagner, eventually graduating to Stravinsky, Fauré, Debussy, and Mussorgsky, composers who were then considered progressive. She began to address more ambitious themes in her dances such as *The Sea,* in which her dancers invisibly agitated a huge expanse of silk, played upon by colored lights. Always open to scientific and technological innovations, she befriended the scientists Marie and Pierre Curie upon their discovery of radium and created a *Radium Dance,* which simulated the phosphorescence of that element. She both appeared in films—then in an early stage of development—and made them herself; the hero of her fairy-tale film *Le Lys de la Vie* (1919) was played by René Clair, later a leading French film director.

At the Paris Exposition in 1900, she had her own theater, where, in addition to her own dances, she presented pantomimes by the Japanese actress Sada Yocco. She assembled an all-female company at this time and established a school around 1908, but neither survived her. Although she is remembered today chiefly for her innovations in stage lighting, her activities also touched Isadora Duncan and Ruth St. Denis, two other United States dancers who were experimenting with new types of dance. She sponsored Duncan's first appearance in Europe. Her theater at the Paris Exposition was visited by St. Denis, who found new ideas about stagecraft in Fuller's work and fresh sources for her art in Sada Yocco's plays. In 1924 St. Denis paid tribute to Fuller with the duet *Valse à la Loie*.

Directions: Now answer the questions.

PARAGRAPH 1

The United States dancer Loie Fuller (1862–1928) found theatrical dance in the late nineteenth century artistically unfulfilling. She considered herself an artist rather than a mere entertainer, and she, in turn, attracted the notice of other artists.

1. What can be inferred from paragraph 1 about theatrical dance in the late nineteenth century?

   Ⓐ It influenced many artists outside of the field of dance.
   Ⓑ It was very similar to theatrical dance of the early nineteenth century.
   Ⓒ It was more a form of entertainment than a form of serious art.
   Ⓓ It was a relatively new art form in the United States.

PARAGRAPH 2

Fuller devised a type of dance that focused on the shifting play of lights and colors on the voluminous skirts or draperies she wore, which she kept in constant motion principally through movements of her arms, sometimes extended with wands concealed under her costumes. She rejected the technical virtuosity of movement in ballet, the most prestigious form of theatrical dance at that time, perhaps because her formal dance training was minimal. Although her early theatrical career had included stints as an actress, she was not primarily interested in storytelling or expressing emotions through dance; the drama of her dancing emanated from her visual effects.

2. According to paragraph 2, all of the following are characteristic of Fuller's type of dance EXCEPT

   Ⓐ experimentation using color
   Ⓑ large and full costumes
   Ⓒ continuous movement of her costumes
   Ⓓ technical virtuosity of movement

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3. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? Incorrect choices change the meaning in important ways or leave out essential information.

   Ⓐ Fuller was more interested in dance's visual impact than in its narrative or emotional possibilities.
   Ⓑ Fuller used visual effects to dramatize the stories and emotions expressed in her work.
   Ⓒ Fuller believed that the drama of her dancing sprang from her emotional style of storytelling.
   Ⓓ Fuller's focus on the visual effects of dance resulted from her early theatrical training as an actress.

PARAGRAPH 3

Although she discovered and introduced her art in the United States, she achieved her greatest glory in Paris, where she was engaged by the Folies Bergère in 1892 and soon became "La Loie," the darling of Parisian audiences. Many of her dances represented elements or natural objects—Fire, the Lily, the Butterfly, and so on—and thus accorded well with the fashionable Art Nouveau style, which emphasized nature imagery and fluid, sinuous lines. Her dancing also attracted the attention of French poets and painters of the period, for it appealed to their liking for mystery, their belief in art for art's sake, a nineteenth-century idea that art is valuable in itself rather than because it may have some moral or educational benefit, and their efforts to synthesize form and content.

4. The word "synthesize" in the passage is closest in meaning to

   Ⓐ improve
   Ⓑ define
   Ⓒ simplify
   Ⓓ integrate

5. According to paragraph 3, why was Fuller's work well received in Paris?

   Ⓐ Parisian audiences were particularly interested in artists and artistic movements from the United States.
   Ⓑ Influential poets tried to interest dancers in Fuller's work when she arrived in Paris.
   Ⓒ Fuller's work at this time borrowed directly from French artists working in other media.
   Ⓓ Fuller's dances were in harmony with the artistic values already present in Paris.

PARAGRAPH 4

Fuller had scientific leanings and constantly experimented with electrical lighting (which was then in its infancy), colored gels, slide projections, and other aspects of stage technology. She invented and patented special arrangements of mirrors and concocted chemical dyes for her draperies. Her interest in color and light paralleled the research of several artists of the period, notably the painter Seurat, famed for his Pointillist technique of creating a sense of shapes and light on canvas by applying extremely small dots of color rather than by painting lines. One of Fuller's major inventions was underlighting, in which she stood on a pane of frosted glass illuminated from underneath. This was particularly effective in her *Fire Dance* (1895), performed to the music of Richard Wagner's "Ride of the Valkyries." The dance caught the eye of artist Henri de Toulouse-Lautrec, who depicted it in a lithograph.

6. According to paragraph 4, Fuller's *Fire Dance* was notable in part for its

   (A) use of colored gels to illuminate glass
   (B) use of dyes and paints to create an image of fire
   (C) technique of lighting the dancer from beneath
   (D) draperies with small dots resembling the Pointillist technique of Seurat

PARAGRAPH 5

As her technological expertise grew more sophisticated, so did the other aspects of her dances. Although she gave little thought to music in her earliest dances, she later used scores by Gluck, Beethoven, Schubert, Chopin, and Wagner, eventually graduating to Stravinsky, Fauré, Debussy, and Mussorgsky, composers who were then considered progressive. She began to address more ambitious themes in her dances such as *The Sea,* in which her dancers invisibly agitated a huge expanse of silk, played upon by colored lights. Always open to scientific and technological innovations, she befriended the scientists Marie and Pierre Curie upon their discovery of radium and created a *Radium Dance,* which simulated the phosphorescence of that element. She both appeared in films—then in an early stage of development—and made them herself; the hero of her fairy-tale film *Le Lys de la Vie* (1919) was played by René Clair, later a leading French film director.

7. Why does the author mention Fuller's "*The Sea*"?

   (A) To point out a dance of Fuller's in which music did not play an important role
   (B) To explain why Fuller sometimes used music by progressive composers
   (C) To illustrate a particular way in which Fuller developed as an artist
   (D) To illustrate how Fuller's interest in science was reflected in her work

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PARAGRAPH 6

At the Paris Exposition in 1900, she had her own theater, where, in addition to her own dances, she presented pantomimes by the Japanese actress Sada Yocco. She assembled an all-female company at this time and established a school around 1908, but neither survived her. Although she is remembered today chiefly for her innovations in stage lighting, her activities also touched Isadora Duncan and Ruth St. Denis, two other United States dancers who were experimenting with new types of dance. She sponsored Duncan's first appearance in Europe. Her theater at the Paris Exposition was visited by St. Denis, who found new ideas about stagecraft in Fuller's work and fresh sources for her art in Sada Yocco's plays. In 1924 St. Denis paid tribute to Fuller with the duet *Valse à la Loie*.

8. According to paragraph 6, what was true of Fuller's theater at the Paris Exposition?

Ⓐ It presented some works that were not by Fuller.
Ⓑ It featured performances by prominent male as well as female dancers.
Ⓒ It became a famous school that is still named in honor of Fuller.
Ⓓ It continued to operate as a theater after Fuller died.

PARAGRAPH 5

As her technological expertise grew more sophisticated, so did the other aspects of her dances. **(A)** Although she gave little thought to music in her earliest dances, she later used scores by Gluck, Beethoven, Schubert, Chopin, and Wagner, eventually graduating to Stravinsky, Fauré, Debussy, and Mussorgsky, composers who were then considered progressive. **(B)** She began to address more ambitious themes in her dances such as *The Sea,* in which her dancers invisibly agitated a huge expanse of silk, played upon by colored lights. **(C)** Always open to scientific and technological innovations, she befriended the scientists Marie and Pierre Curie upon their discovery of radium and created a *Radium Dance,* which simulated the phosphorescence of that element. **(D)** She both appeared in films—then in an early stage of development—and made them herself; the hero of her fairy-tale film *Le Lys de la Vie* (1919) was played by René Clair, later a leading French film director.

9. **Directions:** Look at the part of the passage that is displayed above. The letters **(A)**, **(B)**, **(C)**, and **(D)** indicate where the following sentence could be added.

For all her originality in dance, her interests expanded beyond it into newly emerging artistic media.

Where would the sentence best fit?

Ⓐ Choice A
Ⓑ Choice B
Ⓒ Choice C
Ⓓ Choice D

10. **Directions:** 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.**

    Loie Fuller was an important and innovative dancer.

    -
    -
    -

Answer Choices

A Fuller believed that audiences in the late nineteenth century had lost interest in most theatrical dance.
B Fuller transformed dance in part by creating dance interpretations of works by poets and painters.
C Fuller's work influenced a number of other dancers who were interested in experimental dance.
D Fuller introduced many technical innovations to the staging of theatrical dance.
E Fuller continued to develop throughout her career, creating more complex works and exploring new artistic media.
F By the 1920s, Fuller's theater at the Paris Exposition had become the world center for innovative dance.

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GREEN ICEBERGS

Icebergs are massive blocks of ice, irregular in shape; they float with only about 12 percent of their mass above the sea surface. They are formed by glaciers—large rivers of ice that begin inland in the snows of Greenland, Antarctica, and Alaska—and move slowly toward the sea. The forward movement, the melting at the base of the glacier where it meets the ocean, and waves and tidal action cause blocks of ice to break off and float out to sea.

Icebergs are ordinarily blue to white, although they sometimes appear dark or opaque because they carry gravel and bits of rock. They may change color with changing light conditions and cloud cover, glowing pink or gold in the morning or evening light, but this color change is generally related to the low angle of the Sun above the horizon. However, travelers to Antarctica have repeatedly reported seeing green icebergs in the Weddell Sea and, more commonly, close to the Amery Ice Shelf in East Antarctica.

One explanation for green icebergs attributes their color to an optical illusion when blue ice is illuminated by a near-horizon red Sun, but green icebergs stand out among white and blue icebergs under a great variety of light conditions. Another suggestion is that the color might be related to ice with high levels of metallic compounds, including copper and iron. Recent expeditions have taken ice samples from green icebergs and ice cores—vertical, cylindrical ice samples reaching down to great depths—from the glacial ice shelves along the Antarctic continent. Analyses of these cores and samples provide a different solution to the problem.

The ice shelf cores, with a total length of 215 meters (705 feet), were long enough to penetrate through glacial ice—which is formed from the compaction of snow and contains air bubbles—and to continue into the clear, bubble-free ice formed from seawater that freezes onto the bottom of the glacial ice. The properties of this clear sea ice were very similar to the ice from the green iceberg. The scientists concluded that green icebergs form when a two-layer block of shelf ice breaks away and capsizes (turns upside down), exposing the bubble-free shelf ice that was formed from seawater.

A green iceberg that stranded just west of the Amery Ice Shelf showed two distinct layers: bubbly blue-white ice and bubble-free green ice separated by a one-meter-long ice layer containing sediments. The green ice portion was textured by seawater erosion. Where cracks were present, the color was light green because of light scattering; where no cracks were present, the color was dark green. No air bubbles were present in the green ice, suggesting that the ice was not formed from the compression of snow but instead from the freezing of seawater. Large concentrations of single-celled organisms with green pigments (coloring substances) occur along the edges of the ice shelves in this region, and the seawater is rich in their decomposing organic material. The green iceberg did not contain large amounts of particles from these organisms, but the ice had accumulated dissolved organic matter from the seawater. It appears that unlike salt, dissolved organic substances are not excluded from the ice in the freezing process. Analysis shows that the dissolved organic material absorbs enough blue wavelengths from solar light to make the ice appear green.

Chemical evidence shows that platelets (minute flat portions) of ice form in the water and then accrete and stick to the bottom of the ice shelf to form a slush (partially melted snow). The slush is compacted by an unknown mechanism, and solid, bubble-free ice is

formed from water high in soluble organic substances. When an iceberg separates from the ice shelf and capsizes, the green ice is exposed.

The Amery Ice Shelf appears to be uniquely suited to the production of green icebergs. Once detached from the ice shelf, these bergs drift in the currents and wind systems surrounding Antarctica and can be found scattered among Antarctica's less colorful icebergs.

Directions: Now answer the questions.

PARAGRAPH 1

Icebergs are massive blocks of ice, irregular in shape; they float with only about 12 percent of their mass above the sea surface. They are formed by glaciers—large rivers of ice that begin inland in the snows of Greenland, Antarctica, and Alaska—and move slowly toward the sea. The forward movement, the melting at the base of the glacier where it meets the ocean, and waves and tidal action cause blocks of ice to break off and float out to sea.

1. According to paragraph 1, all of the following are true of icebergs EXCEPT:

   (A) They do not have a regular shape.
   (B) They are formed where glaciers meet the ocean.
   (C) Most of their mass is above the sea surface.
   (D) Waves and tides cause them to break off glaciers.

PARAGRAPH 2

Icebergs are ordinarily blue to white, although they sometimes appear dark or opaque because they carry gravel and bits of rock. They may change color with changing light conditions and cloud cover, glowing pink or gold in the morning or evening light, but this color change is generally related to the low angle of the Sun above the horizon. However, travelers to Antarctica have repeatedly reported seeing green icebergs in the Weddell Sea and, more commonly, close to the Amery Ice Shelf in East Antarctica.

2. According to paragraph 2, what causes icebergs to sometimes appear dark or opaque?

   (A) A heavy cloud cover
   (B) The presence of gravel or bits of rock
   (C) The low angle of the Sun above the horizon
   (D) The presence of large cracks in their surface

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PARAGRAPH 4

The ice shelf cores, with a total length of 215 meters (705 feet), were long enough to penetrate through glacial ice—which is formed from the compaction of snow and contains air bubbles—and to continue into the clear, bubble-free ice formed from seawater that freezes onto the bottom of the glacial ice. The properties of this clear sea ice were very similar to the ice from the green iceberg. The scientists concluded that green icebergs form when a two-layer block of shelf ice breaks away and capsizes (turns upside down), exposing the bubble-free shelf ice that was formed from seawater.

3. The word "penetrate" in the passage is closest in meaning to

   (A) collect
   (B) pierce
   (C) melt
   (D) endure

4. According to paragraph 4, how is glacial ice formed?

   (A) By the compaction of snow
   (B) By the freezing of seawater on the bottom of ice shelves
   (C) By breaking away from the ice shelf
   (D) By the capsizing of a two-layer block of shelf ice

5. According to paragraph 4, ice shelf cores helped scientists explain the formation of green icebergs by showing that

   (A) the ice at the bottom of green icebergs is bubble-free ice formed from frozen seawater
   (B) bubble-free ice is found at the top of the ice shelf
   (C) glacial ice is lighter and floats better than sea ice
   (D) the clear sea ice at the bottom of the ice shelf is similar to ice from a green iceberg

PARAGRAPH 5

A green iceberg that stranded just west of the Amery Ice Shelf showed two distinct layers: bubbly blue-white ice and bubble-free green ice separated by a one-meter-long ice layer containing sediments. The green ice portion was textured by seawater erosion. Where cracks were present, the color was light green because of light scattering; where no cracks were present, the color was dark green. No air bubbles were present in the green ice, suggesting that the ice was not formed from the compression of snow but instead from the freezing of seawater. Large concentrations of single-celled organisms with green pigments (coloring substances) occur along the edges of the ice shelves in this region, and the seawater is rich in their decomposing organic material. The green iceberg did not contain large amounts of particles from these organisms, but the ice had accumulated dissolved organic matter from the seawater. It appears that unlike salt, dissolved organic substances are not excluded from the ice in the freezing process. Analysis shows that the dissolved organic material absorbs enough blue wavelengths from solar light to make the ice appear green.

6. Why does the author mention that "The green ice portion was textured by seawater erosion"?

   (A) To explain why cracks in the iceberg appeared light green instead of dark green
   (B) To suggest that green ice is more easily eroded by seawater than white ice is
   (C) To support the idea that the green ice had been the bottom layer before capsizing
   (D) To explain how the air bubbles had been removed from the green ice

7. The word "excluded" in the passage is closest in meaning to

   (A) kept out
   (B) compressed
   (C) damaged
   (D) gathered together

PARAGRAPH 6

Chemical evidence shows that platelets (minute flat portions) of ice form in the water and then accrete and stick to the bottom of the ice shelf to form a slush (partially melted snow). The slush is compacted by an unknown mechanism, and solid, bubble-free ice is formed from water high in soluble organic substances. When an iceberg separates from the ice shelf and capsizes, the green ice is exposed.

8. The passage supports which of the following statements about the Amery Ice Shelf?

   (A) The Amery Ice Shelf produces only green icebergs.
   (B) The Amery Ice Shelf produces green icebergs because its ice contains high levels of metallic compounds such as copper and iron.
   (C) The Amery Ice Shelf produces green icebergs because the seawater is rich in a particular kind of soluble organic material.
   (D) No green icebergs are found far from the Amery Ice Shelf.

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PARAGRAPHS 2 AND 3

Icebergs are ordinarily blue to white, although they sometimes appear dark or opaque because they carry gravel and bits of rock. They may change color with changing light conditions and cloud cover, glowing pink or gold in the morning or evening light, but this color change is generally related to the low angle of the Sun above the horizon. **(A)** However, travelers to Antarctica have repeatedly reported seeing green icebergs in the Weddell Sea and, more commonly, close to the Amery Ice Shelf in East Antarctica.

(B) One explanation for green icebergs attributes their color to an optical illusion when blue ice is illuminated by a near-horizon red Sun, but green icebergs stand out among white and blue icebergs under a great variety of light conditions. **(C)** Another suggestion is that the color might be related to ice with high levels of metallic compounds, including copper and iron. **(D)** Recent expeditions have taken ice samples from green icebergs and ice cores—vertical, cylindrical ice samples reaching down to great depths—from the glacial ice shelves along the Antarctic continent. Analyses of these cores and samples provide a different solution to the problem.

9. **Directions:** Look at the part of the passage that is displayed above. The letters **(A)**, **(B)**, **(C)**, and **(D)** indicate where the following sentence could be added.

   Scientists have differed as to whether icebergs appear green as a result of light conditions or because of something in the ice itself.

   Where would the sentence best fit?

   Ⓐ Choice A
   Ⓑ Choice B
   Ⓒ Choice C
   Ⓓ Choice D

10. **Directions:** 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.**

Several suggestions, ranging from light conditions to the presence of metallic compounds, have been offered to explain why some icebergs appear green.

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Answer Choices

A Ice cores were used to determine that green icebergs were formed from the compaction of metallic compounds, including copper and iron.
B All ice shelves can produce green icebergs, but the Amery Ice Shelf is especially well suited to do so.
C Green icebergs form when a two-layer block of ice breaks away from a glacier and capsizes, exposing the bottom sea ice to view.
D Ice cores and samples revealed that both ice shelves and green icebergs contain a layer of bubbly glacial ice and a layer of bubble-free sea ice.
E Green icebergs are white until they come into contact with seawater containing platelets and soluble organic green pigments.
F In a green iceberg, the sea ice contains large concentrations of organic matter from the seawater.

STOP. This is the end of the Reading section of *TOEFL iBT*® Practice Test 2.

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