

TOEFL Reading Practice Paper 11

Reading Practice Set 1

Directions: Read the passage. Give yourself 20 minutes to complete this practice set.

The Geologic History of the Mediterranean

Paragraph

1 In 1970 geologists Kenneth J. Hsu and William B. F. Ryan were collecting research data while aboard the oceanographic research vessel Glomar Challenger. An objective of this particular cruise was to investigate the floor of the Mediterranean and to resolve questions about its geologic history. One question was related to evidence that the invertebrate fauna (animals without spines) of the Mediterranean had changed abruptly about 6 million years ago. Most of the older organisms were nearly wiped out, although a few hardy species survived. A few managed to migrate into the Atlantic. Somewhat later, the migrants returned, bringing new species with them. Why did the near extinction and migrations occur?

2 Another task for the Glomar Challenger's scientists was to try to determine the origin of the dome-like masses buried deep beneath the Mediterranean seafloor. These structures had been detected years earlier by echo-sounding instruments, but they had never been penetrated in the course of drilling. Were they salt domes such as are common along the United States Gulf Coast, and if so, why should there have been so much solid crystalline salt beneath the floor of the Mediterranean?

3 With questions such as these clearly before them, the scientists aboard the Glomar Challenger proceeded to the Mediterranean to search for the answers. On August 23, 1970, they recovered a sample. The sample consisted of pebbles of hardened sediment that had once been soft, deep-sea mud, as well as granules of gypsum¹ and fragments of volcanic rock. **Not a single pebble was found that might have indicated that the pebbles came from the nearby continent.** In the days following, samples of solid gypsum were repeatedly brought on deck as drilling operations penetrated the seafloor. Furthermore, the gypsum was found to possess peculiarities of composition and structure that suggested it had formed on desert flats. Sediment above and below the gypsum layer contained tiny marine fossils, indicating open ocean conditions. As they drilled into the central and deepest part of the Mediterranean basin, the scientists took solid, shiny, crystalline salt from the core barrel. Interbedded with the salt were thin layers of what appeared to be windblown silt.

4 The time had come to formulate a hypothesis. The investigators theorized that about 20 million years ago, the Mediterranean was a broad seaway linked to the Atlantic by two narrow straits. Crustal movements closed the straits, and the landlocked Mediterranean began to evaporate. Increasing salinity caused by the evaporation resulted in the extermination of **scores** of invertebrate species. Only a few organisms especially tolerant of very salty conditions remained. As evaporation continued, the remaining brine (salt water) became so dense that the calcium sulfate of the hard layer was precipitated. In the central deeper part of the basin, the last of the brine evaporated to precipitate more soluble sodium chloride (salt). Later, under the weight of overlying sediments, this salt flowed plastically upward to form salt domes. Before this

happened, however, the Mediterranean was a vast desert 3,000 meters deep. Then, about 5.5 million years ago came the deluge. **As a result of crustal adjustments and faulting, the Strait of Gibraltar, where the Mediterranean now connects to the Atlantic, opened, and water cascaded spectacularly back into the Mediterranean.** Turbulent waters tore into the hardened salt flats, broke them up, and ground them into the pebbles observed in the first sample taken by the Challenger. As the basin was refilled, normal marine organisms returned. Soon layers of oceanic ooze began to accumulate above the old hard layer.

5 The salt and gypsum, the faunal changes, and the unusual gravel provided abundant evidence that the Mediterranean was once a desert

Directions: Answer the questions.

Q1. Which of the following is NOT mentioned in paragraph 1 as a change that occurred in the fauna of the Mediterranean?

- A Most invertebrate species disappeared during a wave of extinctions.
- B A few hardy species wiped out many of the Mediterranean's invertebrates.
- C Some invertebrates migrated to the Atlantic Ocean.
- D New species of fauna populated the Mediterranean when the old migrants returned.

Q2. What does the author imply by saying "Not a single pebble was found that might have **indicated that the pebbles came from the nearby continent**"?

- A The most obvious explanation for the origin of the pebbles was not supported by the evidence.
- B The geologists did not find as many pebbles as they expected.
- C The geologists were looking for a particular kind of pebble.
- D The different pebbles could not have come from only one source.

Q3. Select the TWO answer choices from paragraph 3 that identify materials discovered in the deepest part of the Mediterranean basin. To receive credit, you must select TWO answers.

- A Volcanic rock fragments
- B Thin silt layers
- C Soft, deep-sea mud
- D Crystalline salt

Q4. What is the main purpose of paragraph 3 ?

- A To describe the physical evidence collected by Hsu and Ryan
- B To explain why some of the questions posed earlier in the passage could not be answered by the findings of the Glomar Challenger
- C To evaluate techniques used by Hsu and Ryan to explore the seafloor
- D To describe the most difficult problems faced by the Glomar Challenger expedition

Q5. According to paragraph 4, which of the following was responsible for the evaporation of the Mediterranean's waters?

- A The movements of Earth's crust

- B The accumulation of sediment layers
- C Changes in the water level of the Atlantic Ocean
- D Changes in Earth's temperature

Q6. The word "scores" in the passage is closest in meaning to

- A members
- B large numbers
- C populations
- D different types

Q7. According to paragraph 4, what caused most invertebrate species in the Mediterranean to become extinct?

- A The evaporation of chemicals necessary for their survival
- B Crustal movements that connected the Mediterranean to the saltier Atlantic
- C The migration of new species through the narrow straits
- D Their inability to tolerate the increasing salt content of the Mediterranean

Q8. Which of the sentences below best expresses the essential information in the highlighted sentence in paragraph 4? Incorrect choices change the meaning in important ways or leave out essential information.

- A The Strait of Gibraltar reopened when the Mediterranean and the Atlantic became connected and the cascades of water from one sea to the other caused crustal adjustments and faulting.
- B The Mediterranean was dramatically refilled by water from the Atlantic when crustal adjustments and faulting opened the Strait of Gibraltar, the place where the two seas are joined.
- C The cascades of water from the Atlantic to the Mediterranean were not as spectacular as the crustal adjustments and faulting that occurred when the Strait of Gibraltar was connected to those seas.
- D As a result of crustal adjustments and faulting and the creation of the Strait of Gibraltar, the Atlantic and Mediterranean were connected and became a single sea with spectacular cascades of water between them.

Q9. In paragraph 2 of the passage, there is a missing sentence. The paragraph is repeated below and shows four letters (A, B, C, and D) that indicate where the following sentence could be added.

Thus, scientists had information about the shape of the domes but not about their chemical composition and origin. Where would the sentence best fit?

(A) Another task for the Glomar Challenger's scientists was to try to determine the origin of the domelike masses buried deep beneath the Mediterranean seafloor. (B) These structures had been detected years earlier by echo-sounding instruments, but they had never been penetrated in the course of drilling. (C) Were they salt domes such as are common along the United States Gulf Coast, and if so, why should there have been so much solid crystalline salt beneath the floor of the Mediterranean? (D)

- A Option A
- B Option B

- C Option C
- D Option D

Q10. 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.

Write your answer choices in the spaces where they belong. You can either write the letter of your answer choice or you can copy the sentence.

An expedition to the Mediterranean answered some long-standing questions about the ocean's history.
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Answer Choices

- A The Glomar Challenger expedition investigated changes in invertebrate fauna and some unusual geologic features.
- B Researchers collected fossils to determine which new species migrated from the Atlantic with older species.
- C Scientists aboard the Glomar Challenger were the first to discover the existence of dome-like masses underneath the seafloor.
- D Samples recovered from the expedition revealed important differences in chemical composition and fossil distribution among the sediment layers.
- E Evidence collected by the Glomar Challenger supports geologists' beliefs that the Mediterranean had evaporated and become a desert, before it refilled with water.
- F Mediterranean salt domes formed after crustal movements opened the straits between the Mediterranean and the Atlantic, and the Mediterranean refilled with water.

Reading Practice Set 2

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.

5 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

10 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.

15 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

20 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.

25 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

30 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.

35 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,

40 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

45 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

50 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 55 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.

Q11. The word “pose” on line 2 is closest in meaning to

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

Q12. 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

Q13. 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.

Q14. 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.

Q15. The word “excavating” on line 25 is closest in meaning to

- a. digging out

- b. extending
- c. destroying
- d. covering up

Q16. The word “consumed” on line 32 is closest in meaning to

- a. changed
- b. exposed
- c. destroyed
- d. covered

Q17. 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.

Q18. The phrase “tentatively identified” on line 36 is closest in meaning to

- a. identified after careful study
- b. identified without certainty
- c. occasionally identified
- d. easily identified

Q19. The word “perspective” on line 46 is closest in meaning to

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

Q20. 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.

Q21. 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.

Q22. 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

Q23. 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

Q24. An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE (3) 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.

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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

Reading Practice Set 3

Lascaux Cave Paintings

In Southwest France in the 1940s, playing children discovered Lascaux Grotto, a series of narrow cave chambers that contain huge prehistoric paintings of animals. Many of these beasts are as large as 16 feet (almost 5 meters). Some follow each other in solemn parades, but others swirl about, sideways and upside down. The animals are bulls, wild horses, reindeer, bison, and mammoths outlined with charcoal and painted mostly in reds, yellow, and browns. Scientific analysis reveals that the colors were derived from ocher and other iron oxides ground into a fine powder. Methods of applying color varied: some colors were brushed or smeared on rock surfaces and others were blown or sprayed. It is possible that tubes made from animal bones were used for spraying because hollow bones, some stained with pigment, have been found nearby.

➡ One of the most puzzling aspects of the paintings is their location. Other rock paintings—for example, those of Bushmen in South Africa—are either located near cave entrances or completely in the open. Cave paintings in France and Spain, however, are in recesses and caverns far removed from original cave entrances. This means that artists were forced to work in cramped spaces and without sources of natural light. It also implies that whoever made them did not want them to be easily found. Since cave dwellers normally lived close to entrances, there must have been some reason why so many generations of Lascaux cave dwellers hid their art.

Scholars offer three related but different opinions about the mysterious origin and significance of these paintings. One opinion is that the paintings were a record of seasonal migrations made by herds. Because some paintings were made directly over others, obliterating them, it is probable that a painting's value ended with the migration it pictured. Unfortunately, this explanation fails to explain the hidden locations, unless the migrations were celebrated with secret ceremonies.

➡ Another opinion is that the paintings were directly related to hunting and were an essential part of a special preparation ceremony. This opinion holds that the pictures and whatever ceremony they accompanied were an ancient method of psychologically motivating hunters. It is conceivable that before going hunting the hunters would draw or study pictures of animals and imagine a successful hunt. Considerable support exists for this opinion because several animals in the pictures are wounded by arrows and spears. This opinion also attempts to solve the overpainting by explaining that an animal's picture had no further use after the hunt.

➡ A third opinion takes psychological motivation much further into the realm of tribal ceremonies and mystery: the belief that certain animals assumed mythical significance as ancient ancestors or protectors of a given tribe or clan. Two types of images substantiate this theory: the strange, indecipherable geometric shapes that appear near some animals, and the few drawings of men. Wherever men appear they are crudely drawn and their bodies are elongated and rigid. Some men are in a prone position and some have bird or animal heads. Advocates for this opinion point to reports from people who have experienced a **trance state**, a highly suggestive state of low consciousness between waking and sleeping. Uniformly, these people experienced weightlessness and the sensation that their bodies were being stretched lengthwise. Advocates also point to people who believe that the forces of nature are inhabited by spirits, particularly shamans* who believe that an animal's spirit and energy is transferred to them while in a trance. One Lascaux narrative picture, which shows a man with a birdlike head and a wounded animal, would seem to lend credence to this third opinion, but there is still much that remains unexplained. For example, where is the proof that the man in the picture is a shaman? He could as easily be a hunter wearing a headmask. Many tribal hunters, including some Native Americans, camouflaged themselves by wearing animal heads and hides.

➡ Perhaps so much time has passed that there will never be satisfactory answers to the cave images, but their mystique only adds to their importance. Certainly a great art exists, and by its existence reveals that ancient human beings were not without intelligence, skill, and sensitivity.

***shamans**: holy people who act as healers and diviners

The word **others** in the passage refers to

- chambers
- paintings
- beasts
- parades

Q25.

The word **Methods** in the passage is closest in meaning to

- Ways
- Shades
- Stages
- Rules

Q26.

What are the bones found in the Lascaux caves believed to indicate?

- Wild animals sometimes lived in the cave chambers.
- Artists painted pictures on both walls and bones.
- Artists ground them into a fine powder to make paint.
- Artists developed special techniques for painting the walls.

Q27.

Why does the author mention Bushmen in South Africa in paragraph 2?

- To suggest that ancient artists from all over the world painted animals on rocks
- To contrast the location of their rock paintings to those found at Lascaux
- To support the claim that early artists worked in cramped spaces
- To give an example of other artists who painted in hidden locations

Q28.

Q29.

Paragraph 2 is marked with an arrow [→]

5. What can be inferred from paragraph 2 about cave painters in France and Spain?

- They also painted rocks outside caves.
- They did not live close to the cave entrances.
- They developed their own sources of light to use while painting.
- Their painting practices did not last for many years.

Q30.

Paragraph 2 is marked with an arrow [→]

6. Why does the author mention **secret ceremonies**?

- To present a common opinion held by many scholars
- To suggest a similarity between two opinions held by scholars
- To suggest a possible explanation for a weakness in an opinion expressed in the passage
- To give evidence that contradicts a major opinion expressed in the passage