

READING PASSAGE 1

You should spend about 20 minutes on Questions 1-13, which are based on Reading Passage 1 below.

The Vikings' Wayfaring Ways

Perhaps best known as fierce warriors, the Vikings were also the most far-ranging of peoples. In fact, the term *Viking*, in Old Norse, means "to go on an expedition." From the late 700s until the eleventh century, Viking explorers journeyed from their native Norway, Denmark, and Sweden to many distant lands. They traveled as far west as Newfoundland in present-day Canada, and as far east as Baghdad.

Those from Norway sailed west to the British Isles, and eventually across the Atlantic Ocean. During their first expedition, in 793, a force of Viking warriors sacked the famed abbey at Lindisfarne, on England's northeast coast. In the 800s, groups of raiders went on to occupy the Shetland Islands, north of the British Isles and west of Norway, and the Orkney Islands off northern Scotland.

By 870, the Vikings were settling Iceland. In 980, an Icelandic assembly found a man named Eric "the Red" Ericson guilty of murder and sent him into exile. Eric the Red responded by sailing to a large island to the west, which he called "Greenland." An Icelandic saga mentions that people would be attracted to go to Greenland if it had a favorable name. Around 998, Eric the Red's son, Leif "the Lucky" Ericson, and a small Viking fleet sailed west to North America. There they established the first European settlement in the New World, called "Vinland."

Vikings from Denmark, meanwhile, ravaged large swaths of England and France. In 866, a Viking "Great Army" landed in England, occupying much of the country's north and east. They forced the English king to acknowledge their control of much of England under the so-called Danelaw. To the west, they conquered coastal portions of Ireland, and in 841 founded Dublin, today a major Irish city, but originally a Viking fort. The Vikings remained a major power in Ireland until the early eleventh century.

To the south, the Vikings conquered France, moving swiftly up rivers in long boats, powered by oar and sail. From 845 to 886, they surged up the Seine to attack Paris three times. To stop the raids, French King Charles III the Simple in 911 offered the Viking chief Rollo territories in northwest France, called Normandy, after the Normans or "Northmen." There they set up a powerful kingdom and, in 1066, under William, Duke of Normandy, defeated King Harold at the battle of Hastings in England.

Farther south, in 844, the Vikings had raided Portugal and Spain, then largely controlled by Arab Moors. A fleet of 100 Viking ships seized Lisbon and boldly

sailed up the Guadalquivir River to occupy Seville. However, the Moors dealt them a rare defeat. The Moors catapulted flaming projectiles onto the Viking vessels, forcing a retreat.

Still other Vikings sailed much farther, to raid Morocco, then to the eastern Mediterranean and beyond. Many of these Vikings enlisted with the military forces of the Byzantine Empire, the Greek-speaking successors to the Roman Empire. Vikings made up the Byzantine Emperor's elite Varangian Guard. In 902, hundreds of Varangians served as marines during a Byzantine naval assault on the island of Crete. Varangians battled Arab forces in Syria in 955, and even fought in Jerusalem. So many men left Scandinavia for the Byzantine Empire that, to stem the outflow, Sweden passed a law denying inherited property to anyone serving under the Byzantines.

The Vikings of Sweden, meanwhile, were moving out of Scandinavia to the east and south. They journeyed through the Baltic Sea, then built inland trading posts in Germany and Poland. In time, they struck out across Central and Eastern Europe, down the Vistula River in Poland, and the Dnieper, Volga, and Don Rivers in Russia. Their vessel of choice was the "knar," a cargo ship with a deep draft and wide hull. Viking merchants on horseback penetrated far into the Asian heartland, trading with towns on the Caspian and Black seas.

The most significant settlements were in Russia and Ukraine. In 862, Vikings settled in the town of Novgorod, in northwestern Russia. It became the capital of a country called Rus, after the Finnish name for the Swedes. Rus came from the word *Rutosi*, meaning "rowers." Rus formed the foundation of Russia, as the Russian and Viking leaders of Rus intermarried, converted to Christianity, and steadily expanded their territory. And after lucrative trade relations were established with the Byzantines and with Muslim lands, the Rus moved their capital southward to Kiev, later the capital of Ukraine.

Another important Viking market town was Bulgar, on the Volga River. There, merchants peddled honey, wax, amber, and steel swords. The Viking's most common commodity may have been skins: they dealt in horse, beaver, rabbit, mink, ermine, and sable skins. They also traded hazelnuts, fish, cattle, and falcons. Another commodity was slaves, many of them Slavs from Eastern Europe. The merchants eagerly exchanged their goods for Arab silver coins. In Sweden, archeologists have excavated about 100,000 such coins, minted in such distant cities as Cairo and Tashkent.

Like their Danish and Norwegian relatives, the Swedish Vikings traveled to the most exotic realms. They took part in the Silk Road trade with India and China. Archeological evidence shows that Viking traders even traveled by camel caravan to Baghdad.

Given the wide-ranging travel of the Vikings, it is fitting the Anglo-Saxons gave them the nickname "Faergenga"—"Far Going."

Questions 1—5

Answer the questions below.

Choose **ONE NUMBER ONLY** from the text for each answer.

Write your answers on lines 1–5 on your answer sheet.

- 1 When did Viking warriors raid an abbey on the coast of England?
- 2 When was Eric the Red convicted of a crime?
- 3 When did Vikings establish a fort in Ireland?
- 4 When was a Viking chief granted lands by a king of France?
- 5 When did Viking warriors defeat an English king?

Questions 6-13

Complete the summary using the list of words, **A-O**, below. Write the correct letter, **A-O**, on lines 6–13 on your answer sheet.

The people known as Vikings were given this name because they were 6 _____. Groups of Vikings from Norway traveled west to Britain, Iceland, and beyond. They were the first Europeans who 7 _____ North America. Groups from Denmark 8 _____ large areas of England and France. Other groups of Vikings raided areas of Portugal and Spain. The people of Seville, Spain, drove the Vikings away by throwing 9 _____ at them. Large numbers of Vikings left Scandinavia for the Byzantine Empire, and many of these joined the Byzantine military. At one point, they took part in 10 _____ on the Greek island of Crete. Groups of Swedish Vikings crossed the Baltic Sea to explore the lands beyond. They traveled down Russian rivers, then journeyed deep into Asia by 11 _____. After settling in northwest Russia, they expanded their territories toward the south. Kiev, Ukraine, eventually became the Vikings' territorial 12 _____. The Vikings also had an important 13 _____ in the town of Bulgar on the Volga River.

- | | | | |
|------------------------|-----------------------|--------------------------|---------------------|
| A warriors | B an attack | C capital | D explorers |
| E trade with | F conquered | G burning objects | H settled in |
| 1 ship | J oars | K market | L a parade |
| M archeologists | N silver coins | O horse | |

READING PASSAGE 2

You should spend about 20 minutes on *Questions 14–26* which are based on *Reading Passage 2* below.

Dyslexia

Dyslexia, also referred to as “specific reading disability,” predominantly affects a person’s ability to read and write. Dyslexics have difficulty connecting visual symbols (i.e., letters) with their corresponding sounds. Many people who suffer from dyslexia also have trouble with enunciation, organization, and short-term memory. Dyslexia is the most common learning disability in children. It is not related to intellectual ability, vision, or access to education. Approximately 5-10 percent of school-age children in North America suffer from the condition, with each case varying in severity. Children are generally diagnosed with dyslexia during the elementary school years when they are learning how to read and spell.

Determining the definite cause of dyslexia is a difficult task since studies of the morphology of the brain are generally conducted in an autopsy. One hypothesis suggests that dyslexic children suffer from “strabismus,” the tendency of the eyes to focus on two different points. When reading, for example, one eye focuses on the beginning of the word and the other focuses on the end. This theory could explain why dyslexics have difficulty reading. Many dyslexic children read letters and words backwards, often mistaking a *b* for a *d* or reading *was* instead of *saw*. These reversals are normal for children under the age of six, but indicate a problem if they persist beyond the early elementary grades. Neurological research points to tiny flaws in the dyslexic brain called ectopias and microgyria. These flaws alter the structure of the cortex, the area of the brain that is responsible for connecting visual and audio processing. Genetic research, often in the form of twins studies, shows that dyslexia may be passed on in families.

Though most children are not diagnosed with dyslexia until they enter the school system, there are some early signs of the disability. Toddlers who talk much later than average, have difficulty learning new words, or do not understand the concept of rhyming may develop other dyslexic symptoms. As children begin school, teachers are trained to look for warning signs, such as an inability to recognize letters or spaces between words on a page or difficulty following instructions given with more than one command at a time. Properly screening children for dyslexia is important since other factors can limit reading abilities, including vision or hearing impairment, anxiety, or other neurological problems.

Dyslexia is a type of learning disorder that can often be compensated for with therapy and motivational techniques. Phonological training, which involves identifying and separating sound patterns, is the most common form of therapy used in the school system. Depending on the severity of the disorder, dyslexic children are pulled from regular classroom activities in order to work one-on-one with a language specialist. Studies have shown that activity in the right temporoparietal cortex tends to increase after sufficient phonological training. Improvements in visual focus can sometimes be achieved when students are given an eye patch to wear while they learn to read. Encouraging children to use many senses while reading also has proven benefits. Some teachers find that having students listen to a book on tape before reading the text can help with information processing as well.

Though it is properly classified as a learning disability, dyslexia is commonly mistaken for a behavioral disorder. Dyslexic children often exhibit behavior that seems abnormal but is caused by frustration at their own inability to perform at the same level as their peers. Some studies show that attention deficit disorder co-occurs with dyslexia in up to 50 percent of cases. In general, behavioral problems decline as dyslexic students are diagnosed and begin to receive treatment.

Other learning disabilities are neurologically linked to dyslexia, including dyscalculia, dysgraphia, and dyspraxia. People who suffer from dyscalculia can usually perform difficult mathematical tasks, but have trouble with formulas or basic addition and subtraction. Dysgraphia prevents people from writing in an organized manner. Dyspraxia impedes the performance of routine tasks that involve balance and fine motor skills.

The earlier children are diagnosed with dyslexia, the more likely they are to overcome their disabilities and progress to adult reading levels. Many studies show that children who are diagnosed after grade three have a much lower chance of eliminating the symptoms of dyslexia. Some dyslexics, especially those who are not diagnosed as children, naturally develop their own coping mechanisms such as an increased visual memory. In some instances, dyslexics develop keen spatial and visual abilities that prepare them for very specialized careers.

Questions 14–20

Do the following statements agree with the information in the reading passage? On lines 14–20 on your answer sheet write:

- YES** **if the statement agrees with the information**
NO **if the statement contradicts the information**
NOT GIVEN **if there is no information on this in the passage**

- 14** Dyslexia is a disorder related to intelligence.
15 Dyslexia is usually diagnosed during a child's first years of school.
16 People with dyslexia often read in reverse.
17 There is a tendency for dyslexia between twins.
18 Scientists are looking for a drug treatment for dyslexia.
19 Dyslexia in children is often accompanied by behavioral problems.
20 People with dysgraphia have difficulty with math.

Questions 21–23

Which of the following are signs of dyslexia mentioned in the passage? Choose THREE answers from the list below and write the correct letters, A–F, on lines 21–23 on your answer sheet.

- A** learning to talk at a later than normal age
B trouble with new vocabulary
C leaving big spaces between words
D problems following directions
E difficulty turning the pages of a book
F inability to give commands

Which of the following are treatments for dyslexia mentioned in the passage? Choose THREE answers from the list below and write the correct letter, A–F, on lines 24–26 on your answer sheet.

- A** using special computers
B learning to identify sounds
C wearing eyeglasses
D attending a special school
E covering one eye while reading
F listening to tapes

You should spend about 20 minutes on **Questions 27-40** which are based on Reading Passage 3 below.

Catastrophe Theory

A

In the late eighteenth and early nineteenth centuries, the popular theory among Earth scientists was that a number of major catastrophes had taken place over a relatively short period of time to give Earth its shape. French geologist Baron Georges Cuvier introduced this idea, which was later coined the “catastrophe theory.” Proponents of the catastrophe theory used fossilized creatures and the faunal changes in rock strata to support their beliefs that major events such as volcanoes had occurred on a worldwide scale. The catastrophe theory was used to support the notion that Earth’s history was not a relatively long one.

B

In response to the catastrophe theory, a handful of Earth scientists searched for explanations that would provide a better scientific basis for Earth’s geology. James Hutton, the father of geology, is best known for his gradualist theory, a paradigm that became known as “uniformitarianism.” Hutton published *Theory of the Earth* in 1795, after which many other geologists including Charles Lyell, adopted the idea that small changes on Earth occurred over a large expanse of time. Uniformitarians rejected the idea that cataclysmic events could shape the Earth so quickly, and instead proposed the theory that the key to the present is the past. The term *deep time* was used to describe the span in which gradual geological processes occurred, especially the formation of sedimentary rock. Charles Darwin later based his work on the idea, by developing his theory of evolution.

C

The majority of paleontologists² and geologists adopted the gradualist theory of Earth’s history for more than 100 years. In 1980, a discovery in Italy gave scientists a reason to reconsider the discarded theories of catastrophism. Geologist Walter Alvarez discovered a clay layer in the K-T boundary that intrigued him. The K-T boundary refers to the layer of Earth between the Cretaceous and Tertiary periods. The geologist with the help of his father Luis Alvarez, a prominent physicist, analyzed the clay for heavy metals. After careful examination, the clay was found to contain high levels of iridium. Samples taken from the K-T boundary in other parts of the world were examined, with the same findings.

D

The Alvarez group wrote a historic paper that applied the catastrophe theory to their discovery. According to their hypothesis, the iridium in the K-T boundary was caused by an asteroid or a comet that hit Earth near the end of the Cretaceous period, over 65 million years ago. They also proposed that the impact would have raised enough dust to block the sun and cool Earth, which in turn would have prevented photosynthesis. This chain reaction would have led to the extinction of plants and animals. The main reason that the Alvarez theory took hold so quickly in both the world of science and the public realm, was that it could account for the extinction of the dinosaurs at the end of the Cretaceous period. The acceptance of this theory was widespread, even before the discovery in 1990 of a 180-kilometer¹ crater in Mexico's Yucatan Peninsula, a potential piece of evidence of the asteroid impact.

E

Events that have occurred on Earth in the last 100 years or more have proved to geologists that not all processes are gradual. Major rivers have flooded areas in a matter of days, and volcanoes have erupted, causing mass devastation. The eruption of Mount St. Helens was proof of how a catastrophe could easily change the Earth's landscape. Modern research on fossils even supports the theory of a marine catastrophe, not unlike the legends and stories among many peoples of great floods. Some scientists believe that animal remains found within the layers of sedimentary rock may have been casualties of such a flood. Sedimentary rock is made up of layers such as sandstone and limestone and is created by water movement. In addition, some scientists propose that the glacial ice sheet that once spread out across North America melted catastrophically rather than having a slow glacial retreat. Deep erosion up to 100 meters wide was discovered along the bottom of some of the Great Lakes. Within the gullies, layers of periodic sediment point to catastrophic melting.

F

Though there is little debate that catastrophic events caused the mass extinction of several of Earth's species, namely the dinosaurs, geologists still question whether asteroids, volcanoes, or other natural disasters were the cause. The idea that the moon was formed as a result of catastrophic events is a related field of study and one that has been debated for decades.

Questions 27-32

Complete the notes using the list of words, A–K, below.

Write the correct letter, A–K, on lines 27–32 on your answer sheet.

Catastrophe Theory

First introduced by 27 _____

Proposes that major 28 _____ have given Earth its shape.

Supports the idea that the Earth has a 29 _____ history.

Gradualist Theory

First introduced by 30 _____

Proposes that many 31 _____ changes in the shape of the

Earth happened over a 32 _____ period of time.

- A short
- B small
- C Charles Darwin
- D long
- E definite
- F disasters
- G James Hutton
- H mysterious
- I Walter Alvarez
- J evolution
- K Georges Cuvier

Questions 33-39

The passage has six paragraphs, A-F. Which paragraph mentions the following information?

Write the correct letter, A–F, on lines 33–39 on your answer sheet. You may use any paragraph more than once.

- 33 proof that not all changes on Earth have occurred gradually
- 34 a theory explaining the presence of iridium beneath Earth's surface
- 35 publication of a book about the gradualist theory
- 36 discovery of a large crater that could have been caused by an asteroid
- 37 evidence of the occurrence of a large flood in Earth's past
- 38 recurrence of interest in the catastrophe theory
- 39 ideas about how quickly ice age glaciers disappeared

Question 40

Choose the correct letter, A–C, and write it on line 40 on your answer sheet.

- 40 Most scientists now agree that
- A the gradualist theory is correct.
 - B catastrophic events occur regularly on the moon.
 - C a major catastrophe caused the dinosaurs to disappear.