TST PREP

100 Practice Questions for the TOEFL® Reading Section

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How to Use this Book

This book is a compilation of 50 short reading passages and 100 TOEFL reading questions. Most passages are between 80-200 words long and fall under one of the following topics: ***Astronomy, World History, American History, Anatomy and Physiology, Biology, Psychology, Sociology, Economics, Chemistry,*** and ***Physics.***

You will notice that under each passage is a Flesch-Kincaid grade level score. Flesch-Kincaid is a readability test that takes into account the number of words in a sentence and the number of syllables within the words to judge the level of difficulty for a given text. While these scores do have their shortcomings, in particular when taking into account the complexity of the vocabulary used, it still provides a good indication of the average text level.

Texts range between an 8th grade level, which implies an appropriate text for a 14-year-old American junior high school student, and a 14th grade level, which implies an appropriate text for a 20-year-old American college sophomore. There are plenty of lower level passages that are exceedingly difficult, so approach each text with the same level of focus.

The text is structured around nine question types (one question type, *Fill In A Table questions*, was omitted because they are exceedingly rare) :

- *Vocabulary questions (60 seconds each)*
- *Rhetorical Purpose questions (90-120 seconds each)*
- *Inference questions (90-120 seconds each)*
- *Sentence Simplification questions (90- 150 seconds each)*
- *Insert Text questions (90 - 120 seconds each)*
- *Factual Information questions (60 - 120 seconds)*
- *Negative Factual Information questions (90 - 120 seconds)*
- *Reference questions (60 seconds)*
- *Prose Summary questions (120 - 180 seconds)*

You will notice a time next to each question type. This is the average time you want to take to answer each question.

We encourage you to study with a timer so you can use this practice to improve your reading comprehension and speed.

Good luck and thanks for letting us help you on your TOEFL journey.

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100 Practice Questions for the TOEFL® Reading Section

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Practice for the TOEFL® Reading Section

Vocabulary Questions (1)

Human Anatomy

Human anatomy is the scientific study of the body's structures. Some of these structures are very small and can only be observed and analyzed with the assistance of a microscope. Other larger structures can readily be seen, manipulated, measured, and weighed. The word "anatomy" comes from a Greek root that means "to cut apart." Human anatomy was first studied by observing the exterior of the body and observing the wounds of soldiers and other injuries. Later, physicians were allowed to dissect bodies of the dead to augment their knowledge. When a body is dissected, its structures are cut apart in order to observe their physical attributes and their relationships to one another. Dissection is still used in medical schools, anatomy courses, and in pathology labs.

Flesch-Kincaid Grade Level: 8.5

Q. The word augment is closest in meaning to …

- **a.** Prove
- **b.** Increase
- **c.** Validate
- **d.** Spread

Types of Pressure

Pressure is a force exerted by a substance that is in contact with another substance. Atmospheric pressure is pressure exerted by the mixture of gases (primarily nitrogen and oxygen) in the Earth's atmosphere. Although you may not perceive it, atmospheric pressure is constantly pressing down on your body. This pressure keeps gases within your body, such as the gaseous nitrogen in body fluids, dissolved. If you were suddenly ejected from a spaceship above Earth's atmosphere, you would go from a situation of normal pressure to one of very low pressure. The pressure of the nitrogen gas in your blood would be much higher than the pressure of nitrogen in the space surrounding your body. As a result, the nitrogen gas in your blood would expand, forming bubbles that could block blood vessels and even cause cells to break apart.

Atmospheric pressure does more than just keep blood gases dissolved. Your ability to breathe—that is, to take in oxygen and release carbon dioxide—also depends upon a precise atmospheric pressure. Altitude sickness occurs in part because the atmosphere at high altitudes exerts less pressure, reducing the exchange of these gases, and causing shortness of breath, confusion, headache, lethargy, and nausea. Mountain climbers carry oxygen to reduce the effects of both low oxygen levels and low barometric pressure at higher altitudes.

Flesch-Kincaid Grade Level: 9.6

Q. The word perceive in paragraph 1 is closest in meaning to …

- **a.** Realize
- **b.** Believe
- **c.** Desire
- **d.** Portray

Tissue and Aging

According to poet Ralph Waldo Emerson, "The surest poison is time." In fact, biology confirms that many functions of the body decline with age. All the cells, tissues, and organs are affected by senescence (the process of deterioration) with noticeable variability between individuals owing to different genetic makeup and lifestyles. The outward signs of aging are easily recognizable. The skin and other tissues become thinner and drier, reducing their elasticity, contributing to wrinkles, and high blood pressure. Hair turns gray because follicles produce less melanin, the brown pigment of hair, and the iris of the eye. The face looks flabby because elastic and collagen fibers decrease in connective tissue and muscle tone is lost. Glasses and hearing aids may become parts of life as the senses slowly deteriorate, all due to reduced elasticity. Overall height decreases as the bones lose calcium and other minerals. With age, fluid decreases in the fibrous cartilage disks intercalated between the vertebrate in the spine. Joints lose cartilage and stiffen. Many tissues, including those in muscles, lose mass through a process called atrophy. Lumps and rigidity become more widespread. As a consequence, the passageways, blood vessels, and airways become more rigid. The brain and spinal cord lose mass. Nerves do not transmit impulses with the same speed and frequency as in the past. Some loss of thought clarity and memory can accompany aging. More severe problems are not necessarily associated with the aging process and may be symptoms of underlying illness. As exterior signs of aging increase, so do the interior signs, which are not as noticeable.

Flesch-Kincaid Grade Level: 9.4

Q. The word variability is closest in meaning to ...

a. Similarity
b. Indifference
c. Difference
d. Adaptability

Diseases

One of the most talked about diseases is skin cancer. Cancer is a broad term that describes diseases caused by abnormal cells in the body dividing uncontrollably. Most cancers are identified by the organ or tissue in which the cancer originates. One common form of cancer is skin cancer. The Skin Cancer Foundation reports that one in five Americans will experience some type of skin cancer in their lifetime. The degradation of the ozone layer in the atmosphere and the resulting increase in exposure to UV radiation has contributed to its rise. Overexposure to UV radiation damages DNA, which can lead to the formation of cancerous lesions. Although melanin offers some protection against DNA damage from the sun, often it is not enough. The fact that cancers can also occur in areas of the body that are normally not exposed to UV radiation suggests that there are additional factors that can lead to cancerous lesions.

Flesch-Kincaid Grade Level: 8.6

Q. The word degradation is closest in meaning to ...

- **a.** Deterioration
- **b.** Damage
- **c.** Construction
- **d.** Integration

Fixed and Wandering Stars

Ancient Babylonian, Assyrian, and Egyptian astronomers knew the approximate length of the year. The Egyptians of 3000 years ago, for example, adopted a calendar based on a 365-day year. They kept careful track of the rising time of the bright star Sirius in the predawn sky, which has a yearly cycle that corresponded with the flooding of the Nile River. The Chinese also had a working calendar; they determined the length of the year at about the same time as the Egyptians. The Chinese also recorded comets, bright meteors, and dark spots on the Sun. Later, Chinese astronomers kept careful records of "guest stars"—those that are normally too faint to see but suddenly flare up to become visible to the unaided eye for a few weeks or months. We still use some of these records in studying stars that exploded a long time ago.

The Mayan culture in Mexico and Central America developed a sophisticated calendar based on the planet Venus, and they made astronomical observations from sites dedicated to this purpose a thousand years ago. The Polynesians learned to navigate by the stars over hundreds of kilometers of open ocean—a skill that enabled them to colonize new islands far away from where they began.

In Britain, before the widespread use of writing, ancient people used stones to keep track of the motions of the Sun and Moon. We still find some of the great stone circles they built for this purpose, dating from as far back as 2800 BCE. The best known of these is Stonehenge.

Flesch-Kincaid Grade Level: 9.0

Q. The phrase corresponded with is closest in meaning to ...

- **a.** Dealt with
- **b.** Measured
- **c.** Accounted for
- **d.** Aligned with

Light as a Photon

The electromagnetic wave model of light (as formulated by Maxwell) was one of the great triumphs of nineteenth-century science. In 1887, when Heinrich Hertz actually made invisible electromagnetic waves (what today are called radio waves) on one side of a room and detected them on the other side, it ushered in a new era that led to the modern age of telecommunications. His experiment ultimately led to the technologies of television, cell phones, and today's wireless networks around the globe.

However, by the beginning of the twentieth century, more sophisticated experiments had revealed that light behaves in certain ways that cannot be explained by the wave model. Reluctantly, physicists had to accept that sometimes light behaves more like a "particle"—or at least a self-contained packet of energy—than a wave. We call such a packet of electromagnetic energy a photon.

The fact that light behaves like a wave in certain experiments and like a particle in others was a very surprising and unlikely idea. After all, our common sense says that waves and particles are opposite concepts. On one hand, a wave is a repeating disturbance that, by its very nature, is not in only one place, but spreads out. A particle, on the other hand, is something that can be in only one place at any given time. Strange as it sounds, though, countless experiments now confirm that electromagnetic radiation can sometimes behave like a wave and at other times like a particle.

Flesch-Kincaid Grade Level: 10.5

Q. The word sophisticated in paragraph 2 is closest in meaning to ...

- **a.** Refined
- **b.** Basic
- **c.** Intelligent
- **d.** Serious

Mass Extinction

The best-documented large impact took place 65 million years ago, at the end of what is now called the Cretaceous period of geological history. This time in the history of life on Earth was marked by a mass extinction, in which more than half of the species on our planet died out. There are a dozen or more mass extinctions in the geological record, but this particular event (nicknamed the "great dying") has always intrigued paleontologists because it marks the end of the dinosaur age. For tens of millions of years, these great creatures had flourished and dominated. Then, they suddenly disappeared, and thereafter mammals began the development and diversification that ultimately led to all of us.

The object that collided with Earth at the end of the Cretaceous period struck a shallow sea in what is now the Yucatán peninsula of Mexico. Its mass must have been more than a trillion tons, determined from a study of a worldwide layer of sediment deposited from the dust cloud that enveloped the planet after its impact. First identified in 1979, this sediment layer is rich in the rare metal iridium and other elements that are relatively abundant in asteroids and comets, but exceedingly rare in Earth's crust. Even though it was diluted by the material that the explosion excavated from the surface of Earth, this cosmic component can still be identified. In addition, this layer of sediment contains many minerals characteristic of the temperatures and pressures of a gigantic explosion.

Flesch-Kincaid Grade Level: 11.3

Q. The word intrigued is closest in meaning to ...

- **a.** Occupied
- **b.** Guided
- **c.** Confused
- **d.** Interested

Chemistry: The Central Science

Chemistry is sometimes referred to as "the central science" due to its interconnectedness with a vast array of other STEM disciplines (STEM stands for areas of study in the science, technology, engineering, and math fields). Chemistry and the language of chemists play vital roles in biology, medicine, materials science, forensics, environmental science, and many other fields.

The basic principles of physics are essential for understanding many aspects of chemistry, and there is extensive overlap between many subdisciplines within the two fields, such as chemical physics and nuclear chemistry. Mathematics, computer science, and information theory provide important tools that help us calculate, interpret, describe, and generally make sense of the chemical world. Biology and chemistry converge in biochemistry, which is crucial to understanding the many complex factors and processes that keep living organisms (such as us) alive. Chemical engineering, materials science, and nanotechnology combine chemical principles and empirical findings to produce useful substances, ranging from gasoline to fabrics to electronics. Agriculture, food science, veterinary science, and brewing and winemaking help provide sustenance in the form of food and drink to the world's population. Medicine, pharmacology, biotechnology, and botany identify and produce substances that help keep us healthy. Environmental science, geology, oceanography, and atmospheric science incorporate many chemical ideas to help us better understand and protect our physical world. Chemical ideas are used to help understand the universe in astronomy and cosmology.

Flesch-Kincaid Grade Level: 14.4

Q. The word interconnectedness is closest in meaning to …

- **a.** Association
- **b.** Interrogation
- **c.** Dependence
- **d.** Togetherness

The Periodic Table

As early chemists worked to purify ores and discovered more elements, they realized that various elements could be grouped together by their similar chemical behaviors. One such grouping includes lithium (Li), sodium (Na), and potassium (K): These elements all are shiny, conduct heat and electricity well, and have similar chemical properties. A second grouping includes calcium (Ca), strontium (Sr), and barium (Ba), which also are shiny, good conductors of heat and electricity, and have chemical properties in common. However, the specific properties of these two groupings are notably different from each other.

Dimitri Mendeleev in Russia (1869) and Lothar Meyer in Germany (1870) independently recognized that there was a periodic relationship among the properties of the elements known at that time. Both published tables with the elements arranged according to increasing atomic mass. But Mendeleev went one step further than Meyer: He used his table to predict the existence of elements that would have properties similar to aluminum and silicon but were yet unknown. The discoveries of gallium (1875) and germanium (1886) provided great support for Mendeleev's work. Although Mendeleev and Meyer had a long dispute over priority, Mendeleev's contributions to the development of the periodic table are now more widely recognized.

Flesch-Kincaid Grade Level: 12.6

Q. The word dispute is closest in meaning to ...

a. Conversation
b. Argument
c. Experiment
d. Disassociation

The Ideal Gas Law

During the seventeenth and especially eighteenth centuries, driven both by a desire to understand nature and a quest to make balloons in which they could fly, a number of scientists established the relationships between the macroscopic physical properties of gases, that is, pressure, volume, temperature, and amount of gas. Although their measurements were not precise by today's standards, they were able to determine the mathematical relationships between pairs of these variables (e.g., pressure and temperature, pressure, and volume) that hold for an ideal gas—a hypothetical construct that real gases approximate under certain conditions. Eventually, these individual laws were combined into a single equation—the ideal gas law—that relates gas quantities for gases and is quite accurate for low pressures and moderate temperatures.

Flesch-Kincaid Grade Level: 11.5

Q. The word precise is closest in meaning to ...

- **a.** Known
- **b.** Certain
- **c.** Accurate
- **d.** Proper

Measuring Blood Pressure

Blood pressure is measured using a device called a sphygmomanometer (Greek sphygmos = "pulse"). It consists of an inflatable cuff to restrict blood flow, a manometer to measure the pressure, and a method of determining when blood flow begins and when it becomes impeded. Since its invention in 1881, it has been an essential medical device. There are many types of sphygmomanometers: manual ones that require a stethoscope and are used by medical professionals; mercury ones, used when the most accuracy is required; less accurate mechanical ones; and digital ones that can be used with little training but that have limitations. When using a sphygmomanometer, the cuff is placed around the upper arm and inflated until blood flow is completely blocked, then slowly released. As the heart beats, blood forced through the arteries causes a rise in pressure. This rise in pressure at which blood flow begins is the systolic pressure—the peak pressure in the cardiac cycle. When the cuff's pressure equals the arterial systolic pressure, blood flows past the cuff, creating audible sounds that can be heard using a stethoscope. This is followed by a decrease in pressure as the heart's ventricles prepare for another beat. As cuff pressure continues to decrease, eventually sound is no longer heard; this is the diastolic pressure—the lowest pressure (resting phase) in the cardiac cycle.

Flesch-Kincaid Grade Level: 10.1

Q. The phrase consists of is closest in meaning to …

- **a.** Made up of
- **b.** Consistent with
- **c.** Blows up
- **d.** Found in

Forensic Psychology

Forensic psychology is a branch of psychology that deals with questions of psychology as they arise in the context of the justice system. For example, forensic psychologists (and forensic psychiatrists) will assess a person's competency to stand trial, assess the state of mind of a defendant, act as consultants on child custody cases, consult on sentencing and treatment recommendations, and advice on issues such as eyewitness testimony and children's testimony. In these capacities, they will typically act as expert witnesses, called by either side in a court case to provide their research- or experience-based opinions. As expert witnesses, forensic psychologists must have a good understanding of the law and provide information in the context of the legal system rather than just within the realm of psychology. Forensic psychologists are also used in the jury selection process and witness preparation. They may also be involved in providing psychological treatment within the criminal justice system. Criminal profilers are a relatively small proportion of psychologists that act as consultants to law enforcement.

Flesch-Kincaid Grade Level: 12.1

Q. The word capacities is closest in meaning to ...

a. Skills
b. Capabilities
c. Locations
d. Roles

SIDS

In sudden infant death syndrome (SIDS) an infant stops breathing during sleep and dies. Infants younger than 12 months appear to be at the highest risk for SIDS, and boys have a greater risk than girls. A number of risk factors have been associated with SIDS including premature birth, smoking within the home, and hyperthermia. There may also be differences in both brain structure and function in infants that die from SIDS.

The substantial amount of research on SIDS has led to a number of recommendations to parents to protect their children. For one, research suggests that infants should be placed on their backs when put down to sleep, and their cribs should not contain any items which pose suffocation threats, such as blankets, pillows, or padded crib bumpers (cushions that cover the bars of a crib). Infants should not have caps placed on their heads when put down to sleep in order to prevent overheating, and people in the child's household should abstain from smoking in the home. Recommendations like these have helped to decrease the number of infant deaths from SIDS in recent years.

Flesch-Kincaid Grade Level: 7.6

Q. The word substantial in the second paragraph is closest in meaning to ...

- **a.** Significant
- **b.** Fundamental
- **c.** Small
- **d.** Solid

Cognition and Latent Learning

Although strict behaviorists such as Skinner and Watson refused to believe that cognition (such as thoughts and expectations) plays a role in learning, another behaviorist, Edward C. Tolman, had a different opinion. Tolman's experiments with rats demonstrated that organisms can learn even if they do not receive immediate reinforcement. This finding was in conflict with the prevailing idea at the time that reinforcement must be immediate in order for learning to occur, thus suggesting a cognitive aspect to learning.

In the experiments, Tolman placed hungry rats in a maze with no reward for finding their way through it. He also studied a comparison group that was rewarded with food at the end of the maze. As the unreinforced rats explored the maze, they developed a cognitive map: a mental picture of the layout of the maze. After 10 sessions in the maze without reinforcement, food was placed in a goal box at the end of the maze. As soon as the rats became aware of the food, they were able to find their way through the maze quickly, just as quickly as the comparison group, which had been rewarded with food all along. This is known as latent learning: learning that occurs but is not observable in behavior until there is a reason to demonstrate it.

Flesch-Kincaid Grade Level: 8.9

Q. The word prevailing is closest in meaning to ...

- **a.** Important
- **b.** Predominant
- **c.** Only
- **d.** Previous

Components of Language

According to the drive theory of motivation, deviations from homeostasis create physiological needs. These needs result in psychological drive states that direct behavior to meet the need and, ultimately, bring the system back to homeostasis. For example, if it's been a while since you ate, your blood sugar levels will drop below normal. This low blood sugar will induce a physiological need and a corresponding drive state (i.e., hunger) that will direct you to seek out and consume food.

Eating will eliminate the hunger, and, ultimately, your blood sugar levels will return to normal. Interestingly, drive theory also emphasizes the role that habits play in the type of behavioral response in which we engage. A habit is a pattern of behavior in which we regularly engage. Once we have engaged in a behavior that successfully reduces a drive, we are more likely to engage in that behavior whenever faced with that drive in the future.

Flesch-Kincaid Grade Level: 8.1

Q. The word deviations is closest in meaning to ...

- **a.** Conformities
- **b.** Departures
- **c.** Gains
- **d.** Inclinations

Cultural Universals

Often, a comparison of one culture to another will reveal obvious differences. But all cultures also share common elements. Cultural universals are patterns or traits that are globally common to all societies. One example of a cultural universal is the family unit: every human society recognizes a family structure that regulates sexual reproduction and the care of children. Even so, how that family unit is defined and how it functions vary. In many Asian cultures, for example, family members from all generations commonly live together in one household. In these cultures, young adults will continue to live in the extended household family structure until they marry and join their spouse's household, or they may remain and raise their nuclear family within the extended family's homestead. In the United States, by contrast, individuals are expected to leave home and live independently for a period before forming a family unit consisting of parents and their offspring.

Flesch-Kincaid Grade Level: 11.2

Q. The word offspring is closest in meaning to ...

- **a.** Origins
- **b.** Ancestors
- **c.** Children
- **d.** Elders

The Process of Aging

As human beings grow older, they go through different phases or stages of life. It is helpful to understand aging in the context of these phases. A life course is the period from birth to death, including a sequence of predictable life events such as physical maturation. Each phase comes with different responsibilities and expectations, which of course vary by individual and culture. Children love to play and learn, looking forward to becoming preteens. As preteens begin to test their independence, they are eager to become teenagers. Teenagers anticipate the promises and challenges of adulthood. Adults become focused on creating families, building careers, and experiencing the world as an independent person. Finally, many adults look forward to old age as a wonderful time to enjoy life without as much pressure from work and family life. In old age, grandparenthood can provide many of the joys of parenthood without all the hard work that parenthood entails. And as work responsibilities abate, old age may be a time to explore hobbies and activities that there was no time for earlier in life. But for other people, old age is not a phase looked forward to. Some people fear old age and do anything to "avoid" it, seeking medical and cosmetic fixes for the natural effects of age. These differing views on the life course are the result of the cultural values and norms into which people are socialized.

Flesch-Kincaid Grade Level: 8.6

Q. The word sequence is closest in meaning to …

- **a.** Disorder
- **b.** Grouping
- **c.** Cluster
- **d.** Progression

Technological Globalization

Technological globalization is impacted in large part by technological diffusion, the spread of technology across borders. In the last two decades, there has been rapid improvement in the spread of technology to peripheral and semi-peripheral nations, and a 2008 World Bank report discusses both the benefits and ongoing challenges of this diffusion. In general, the report found that technological progress and economic growth rates were linked and that the rise in technological progress has helped improve the situations of many living in absolute poverty. The report recognizes that rural and low-tech products such as corn can benefit from new technological innovations, and that, conversely, technologies like mobile banking can aid those whose rural existence consists of low-tech market vending. In addition, technological advances in areas like mobile phones can lead to competition, lowered prices, and concurrent improvements in related areas such as mobile banking and information sharing.

Flesch-Kincaid Grade Level: 13.4

Q. The word innovations is closest in meaning to …

a. Creations
b. Improvements
c. Enhancements
d. Levels

Labeling Theory

Although all of us violate norms from time to time, few people would consider themselves deviant. Those who do, however, have often been labeled "deviant" by society and have gradually come to believe it themselves. Labeling theory examines the ascribing of a deviant behavior to another person by members of society. Thus, what is considered deviant is determined not so much by the behaviors themselves or the people who commit them, but by the reactions of others to these behaviors. As a result, what is considered deviant changes over time and can vary significantly across cultures.

Flesch-Kincaid Grade Level: 9.7

Q. The word violate is closest in meaning to ...

- **a.** Follow
- **b.** Admire
- **c.** Divide
- **d.** Disobey

Human Movement

Human movement includes not only actions at the joints of the body but also the motion of individual organs and even individual cells. As you read these words, red and white blood cells are moving throughout your body, muscle cells are contracting and relaxing to maintain your posture and to focus your vision, and glands are secreting chemicals to regulate body functions. Your body is coordinating the action of entire muscle groups to enable you to move air into and out of your lungs, to push blood throughout your body, and to propel the food you have eaten through your digestive tract. Consciously, of course, you contract your skeletal muscles to move the bones of your skeleton to get from one place to another and to carry out all of the activities of your daily life.

Flesch-Kincaid Grade Level: 9.8

Q. The word contracting is closest in meaning to …

- **a.** Loosening
- **b.** Strengthening
- **c.** Releasing
- **d.** Tightening

Vocabulary Questions
Answer Key

Human Anatomy - B

B is correct because "*increase*" is closest in meaning to "*augment*". From the context, you know that augment has some impact on knowledge. The following sentence states, "*When a body is dissected, its structures are cut apart in order to observe their physical attributes and their relationships to one another,*" which shows that they learned more about the body through dissection.

Types of Pressure - A

A is correct because realize is closest in meaning to perceive in this situation. This sentence begins with a contrasting clause, "*Although you may not perceive it...*" which implies that the following part of the sentence is different than this idea. "*...atmospheric pressure is constantly pressing down on your body*". Desire (**C**) and portray (**D**), do not make a lot of sense when discussing atmospheric pressure, which leaves just two options.

Tissues and Aging - C

C is correct because "*difference*" is closest in meaning to "*variability*" in this case. Although indifference looks similar to difference, the former means not to care about someone or something. It would be hard to guess the meaning from the context, but the sentence goes on to say "*...individuals owing to different genetic makeup and lifestyle*s". Since this is about differences, **B** seems like a good choice.

Diseases - A

A is correct because deterioration is closest in meaning to degradation as both refer to a process in which something gets progressively worse or less. From the prefix "*de-*" you can assume that this word implies something decreasing or negative, which allows you to eliminate choices **C** and **D**.

Fixed and Wandering Stars - D

D is correct because correspond with, in this situation, refers to two events that happen at the same time - they are aligned with each other. The two events that happened at the same time were "*the rising time of the bright star Sirius in the predawn sky…*" and "*…the flooding of the Nile River*".

Light as a Photon - A

A is correct because "*refined*" is closest in meaning to "*sophisticated*" in this situation. In this context, the beginning sentence of the second paragraph contrasts the information from the prior paragraph with words like "*however*" and "*more sophisticated*". Since the experiments in the previous paragraph took place in 1887, we can assume that they were fairly simple, so we can eliminate "*basic*" (**B**) and "*serious*" (**D**).

Mass Extinction - D

D is correct because "*interested*" is a synonym of "*intrigued*", which tends to indicate a stronger interest in something or someone. If you continue to read within and after this sentence, you will find that the mystery is interesting, "*…because it marks the end of the dinosaur age. For tens of millions of years these great creatures had flourished and dominated. Then, they suddenly disappeared…*". In this situation, it's easy to eliminate "*guided*" (**B**) and "*occupied*" (**A**).

Chemistry: The Central Science - A

A is correct because "*association*" is closest in meaning to "*interconnectedness*". If you break down this word into parts, "*inter-*" usually implies that something is "*in*" or "*between*". "*Connect*" is the base word that you are probably familiar with and the suffix "*-ness*" is a noun and implies that something is in a current state or condition. With all this information, you can easily eliminate "*interrogation*" (**B**) and "*dependence*" (**C**).

The Periodic Table - B

B is the correct answer because "*argument*" is closest in meaning to "*dispute*". In this context, the first part of the sentence is a contrasting clause, beginning with the word "*although*", emphasizes that there was some disagreement (argument), but the rest of the sentence concede that, "*…Mendeleev's contributions to the development of the periodic table are now more widely recognized.*". Therefore, it makes sense to infer that "*dispute*" is similar to "*argument*".

The Ideal Gas Law - C

C is correct because "*accurate*" is closest in meaning to "*precise*" in this situation. In the context and the choices given, it would be difficult to guess the meaning.

Measuring Blood Pressure - A

A is correct because the phrase made up of has the same meaning as the phrase consists of while the other three phrases are not related at all. The given vocabulary is a phrasal verb and the rest of the sentence goes on to explain the components of a "*sphygmomanometer*". Choice **A** is the only answer that can be used to describe something.

Forensic Psychology - D

D is correct because "*roles*" is closest in meaning to "*capacities*" in this situation. This is challenging, because "*capacity*" sometimes means "*capabilities*" (**B**) in other contexts, but not this one. It's easy to eliminate "*locations*" (**C**) since it doesn't fit in this situation at all.

SIDS - A

A is correct because "*significant*" refers to a large amount or volume in this case, as does "*substantial*". In this situation, the given vocabulary is connected to the phrase "*amount of research*", so it must somehow change "*amount*". We can eliminate "*fundamental*" (**B**) and "*solid*" (**D**) because they don't modify the word "*amount*". We can also eliminate "*small*" since if this topic is being discussed in detail, the research amount is probably not small.

Cognition and Latent Learning - B

B is correct because predominant is closest in meaning to prevailing. In this context, there aren't many contextual clues to help you eliminate and guess the answer.

Components of Language - B

B is correct because "*departures"* is another way of saying "*going/straying away from*", which is what "*deviation"* means. If you know that "*homeostasis*" means that your internal systems are stable and balanced, then you could guess that "*deviations*" or "*departures*" would "*...create physiological needs...*" as mentioned in the sentence.

Cultural Universals - C

C is correct because "*children*" is closest in meaning to "*offspring*" in this situation. In the sentence, just before the word, the sentence states, "*...before forming a family unit consisting of parents and...*", "*origins*" (**A**) and "*ancestors*" (**B**) will not help form a family unit.

The Process of Aging - D

D is correct because "*progression*" is closest in meaning to "*sequence*" while "*disorder*", "*grouping*", and "*cluster*" are antonyms.

Technological Globalization - A

A is correct because "*creations*" is closest in meaning to "*innovations*" in this situation; "*levels*" is not related, and "*improvements*" and "*enhancements*" are synonymous with each other but not "*innovations*". Also, in the context, this word is part of the phrase "*new technological innovations*", so it should be a noun that is connected with new technology, and "*creations*" are new.

Labeling Theory - D

D is correct because "*disobey*" is closest in meaning to "*violate*". This first clause is a contrasting clause, beginning with "*although*". which means that the second part of the sentence should contrast it. The sentence states, "*...few people would consider themselves deviant.*". From this information, you can infer that most people consider themselves good, so "*disobey*" (**C**) makes the most sense since it contrasts the idea of people being "*good*".

Human Movement - D

D is correct because contracting occurs when our muscles or something tightens. Options **A** and **C** are very similar and can, thus, be eliminated. In the context, this word is directly followed by "*...and relaxing...*", so "*contracting*" must somehow be complementary to relaxing. In this situation, "*tightening*" (**D**) fits best.

Practice for the TOEFL® Reading Section

Rhetorical Purpose Questions (1)

The Nature Of Astronomy

Astronomy is defined as the study of the objects that lie beyond our planet Earth and the processes by which these objects interact with one another. We will see, though, that it is much more. It is also humanity's attempt to organize what we learn into a clear history of the universe, from the instant of its birth in the Big Bang to the present moment.

In considering the history of the universe, we will see again and again that the cosmos evolves; it changes in profound ways over long periods of time. For example, the universe made the carbon, the calcium, and the oxygen necessary to construct something as interesting and complicated as you. Today, many billions of years later, the universe has evolved into a more hospitable place for life. Tracing the evolutionary processes that continue to shape the universe is one of the most important (and satisfying) parts of modern astronomy.

Flesch-Kincaid Grade Level: 9.6

Q. Why does the author say "For example, the universe made the carbon, the calcium, and the oxygen necessary to construct something as interesting and complicated as you"?

- **a.** To explain one way in which the universe has evolved significantly over great lengths of time
- **b.** To explain why the universe evolves so much over long periods of time
- **c.** To describe one topic of study in the field of astronomy
- **d.** To prove how quickly the universe evolves

Europa, a Moon with an Ocean

Europa and the inner two Galilean moons are not icy worlds like most of the moons of the outer planets. With densities and sizes similar to our Moon, they appear to be predominantly rocky objects.

The most probable cause is Jupiter itself, which was hot enough to radiate a great deal of infrared energy during the first few million years after its formation. This infrared radiation would have heated the disk of material near the planet that would eventually coalesce into the closer moons.

Thus, any ice near Jupiter was vaporized, leaving Europa with compositions similar to planets in the inner solar system.

Despite its mainly rocky composition, Europa has an ice-covered surface, as astronomers have long known from examining spectra of sunlight reflected from it. In this, it resembles Earth, which has a layer of water on its surface, but in Europa's case, the water is capped by a thick crust of ice. There are very few impact craters in this ice, indicating that the surface of Europa is in a continual state of geological self-renewal. Judging from crater counts, the surface must be no more than a few million years old, and perhaps substantially less. In terms of its ability to erase impact craters, Europa is more geologically active than Earth.

When we look at close-up photos of Europa, we see a strange, complicated surface. For the most part, the icy crust is extremely smooth, but it is crisscrossed with cracks and low ridges that often stretch for thousands of kilometers. Some of these long lines are single, but most are double or multiple, looking rather like the remnants of a colossal freeway system.

Flesch-Kincaid Grade Level: 9.6

Q. In paragraph 5, the author mentions "close-up photos of Europa" in order to

- **a.** Identify its location in the cosmos
- **b.** Explain why Europa is not an icy world like most of the moons of the outer planets
- **c.** Show proof that Europa is different from other planets
- **d.** Explain how astronomers know what Europa looks like

Types of Mixtures

A mixture is composed of two or more types of matter that can be present in varying amounts and can be separated by physical changes, such as evaporation (you will learn more about this later). A mixture with a composition that varies from point to point is called a heterogeneous mixture. Italian dressing is an example of a heterogeneous mixture. Its composition can vary because we can make it from varying amounts of oil, vinegar, and herbs. It is not the same from point to point throughout the mixture—one drop may be mostly vinegar, whereas a different drop may be mostly oil or herbs because the oil and vinegar separate and the herbs settle. Other examples of heterogeneous mixtures are chocolate chip cookies (we can see the separate bits of chocolate, nuts, and cookie dough) and granite (we can see the quartz, mica, feldspar, and more).

A homogeneous mixture also called a solution exhibits a uniform composition and appears visually the same throughout. An example of a solution is a sports drink, consisting of water, sugar, coloring, flavoring, and electrolytes mixed together uniformly. Each drop of a sports drink tastes the same because each drop contains the same amounts of water, sugar, and other components. Note that the composition of a sports drink can vary—it could be made with somewhat more or less sugar, flavoring, or other components, and still be a sports drink. Other examples of homogeneous mixtures include air, maple syrup, gasoline, and a solution of salt in water.

Flesch-Kincaid Grade Level: 11.3

Q. Why does the author say "Note that the composition of a sports drink can vary—it could be made with somewhat more or less sugar, flavoring, or other components, and still be a sports drink"?

a. To show that sports drinks can be both homogeneous and heterogeneous mixtures
b. To make it clear that sports drinks are still homogeneous solutions despite the various compositions
c. To introduce other examples of homogeneous mixtures
d. To describe one exception to the sports drink example

Atomic Theory through the Nineteenth Century

The earliest recorded discussion of the basic structure of matter comes from ancient Greek philosophers, the scientists of their day. In the fifth century BC, Leucippus and Democritus argued that all matter was composed of small, finite particles that they called atomos, a term derived from the Greek word for "indivisible." They thought of atoms as moving particles that differed in shape and size, and which could join together. Later, Aristotle and others came to the conclusion that matter consisted of various combinations of the four "elements"—fire, earth, air, and water—and could be infinitely divided. Interestingly, these philosophers thought about atoms and "elements" as philosophical concepts, but apparently never considered performing experiments to test their ideas.

The Aristotelian view of the composition of matter held sway for over two thousand years until English schoolteacher John Dalton helped to revolutionize chemistry with his hypothesis that the behavior of matter could be explained using an atomic theory.

Flesch-Kincaid Grade Level: 12.3

Q. In paragraph one, why does the author mention "the scientists of their day"?

- **a.** To explain why philosophers were theorizing about scientific topics
- **b.** To prove that philosophers and scientists are the same
- **c.** To explain that philosophers and scientists still study the same topics to this day
- **d.** To illustrate the importance of Greek philosophers

The Internal Compartments of the Human Body

A human body consists of trillions of cells organized in a way that maintains distinct internal compartments. These compartments keep body cells separated from external environmental threats and keep the cells moist and nourished. They also separate internal body fluids from the countless microorganisms that grow on body surfaces, including the lining of certain tracts, or passageways. The intestinal tract, for example, is home to even more bacteria cells than the total of all human cells in the body, yet these bacteria are outside the body and cannot be allowed to circulate freely inside the body. Cells, for example, have a cell membrane (also referred to as the plasma membrane) that keeps the intracellular environment—the fluids and organelles—separate from the extracellular environment. Blood vessels keep blood inside a closed circulatory system, and nerves and muscles are wrapped in connective tissue sheaths that separate them from surrounding structures. In the chest and abdomen, a variety of internal membranes keep major organs such as the lungs, heart, and kidneys separate from others.

Flesch-Kincaid Grade Level: 11.3

Q. Why does the author say "yet these bacteria are outside the body and cannot be allowed to circulate freely inside the body"?

a. To demonstrate that the body has bacteria inside and outside of the body
b. To explain why certain bacteria outside the body cannot be allowed to circulate freely inside the body
c. To illustrate one way in which compartments within the human body separate internal body fluids from bacteria on the surface of the body
d. To show the contrast between the internal and external compartments of the body

The Invention of the X-Ray

German physicist Wilhelm Röntgen (1845–1923) was experimenting with electrical current when he discovered that a mysterious and invisible "ray" would pass through his flesh but leave an outline of his bones on a screen coated with a metal compound. In 1895, Röntgen made the first durable record of the internal parts of a living human: an "X-ray" image (as it came to be called) of his wife's hand. Scientists around the world quickly began their own experiments with X-rays, and by 1900, X-rays were widely used to detect a variety of injuries and diseases. In 1901, Röntgen was awarded the first Nobel Prize for physics for his work in this field. The X-ray is a form of high energy electromagnetic radiation with a short wavelength capable of penetrating solids and ionizing gases. As they are used in medicine, X-rays are emitted from an X-ray machine and directed toward a specially treated metallic plate placed behind the patient's body. The beam of radiation results in the darkening of the X-ray plate. X-rays are slightly impeded by soft tissues, which show up as gray on the X-ray plate, whereas hard tissues, such as bone, largely block the rays, producing a light-toned "shadow." Thus, X-rays are best used to visualize hard body structures such as teeth and bones. Like many forms of high energy radiation, however, X-rays are capable of damaging cells and initiating changes that can lead to cancer. This danger of excessive exposure to X-rays was not fully appreciated for many years after their widespread use.

Flesch-Kincaid Grade Level: 8.9

Q. Why does the author say "mysterious and invisible ray"?

- **a.** To prove that German physicist Wilhelm Röntgen discovered the ray
- **b.** To show that the technology was not fully understood at the time of its discovery
- **c.** To show that physicists were already aware of this technology at the time
- **d.** To introduce a technology that remains a mystery today

The Process of Scientific Research

Scientific knowledge is advanced through a process known as the scientific method. Basically, ideas (in the form of theories and hypotheses) are tested against the real world (in the form of empirical observations), and those empirical observations lead to more ideas that are tested against the real world, and so on. In this sense, the scientific process is circular. The types of reasoning within the circle are called deductive and inductive. In deductive reasoning, ideas are tested against the empirical world; in inductive reasoning, empirical observations lead to new ideas. These processes are inseparable, like inhaling and exhaling, but different research approaches place different emphasis on the deductive and inductive aspects.

In the scientific context, deductive reasoning begins with a generalization—one hypothesis—that is then used to reach logical conclusions about the real world. If the hypothesis is correct, then the logical conclusions reached through deductive reasoning should also be correct. A deductive reasoning argument might go something like this: All living things require energy to survive (this would be your hypothesis). Ducks are living things. Therefore, ducks require energy to survive (logical conclusion). In this example, the hypothesis is correct; therefore, the conclusion is correct as well. Sometimes, however, an incorrect hypothesis may lead to a logical but incorrect conclusion. Consider this argument: all ducks are born with the ability to see. Quackers is a duck. Therefore, Quackers was born with the ability to see. Scientists use deductive reasoning to empirically test their hypotheses. Returning to the example of the ducks, researchers might design a study to test the hypothesis that if all living things require energy to survive, then ducks will be found to require energy to survive.

Flesch-Kincaid Grade Level: 10.7

Q. In paragraph one, what is the function of the phrase "like inhaling and exhaling"?

- **a.** To illustrate that the types of reasoning within the scientific process are dependent on one another
- **b.** To illustrate that one process within the scientific process is more important than the other
- **c.** To compare scientific knowledge to breathing
- **d.** To explain the differences between the types of reasoning within the scientific process

Adaptive Function of Sleep

Insomnia, a consistent difficulty in falling or staying asleep, is the most common of the sleep disorders. Individuals with insomnia often experience long delays between the times that they go to bed and actually fall asleep. In addition, these individuals may wake up several times during the night only to find that they have difficulty getting back to sleep. As mentioned earlier, one of the criteria for insomnia involves experiencing these symptoms for at least three nights a week for at least one month's time.

It is not uncommon for people suffering from insomnia to experience increased levels of anxiety about their inability to fall asleep. This becomes a self-perpetuating cycle because increased anxiety leads to increased arousal, and higher levels of arousal make the prospect of falling asleep even more unlikely. Chronic insomnia is almost always associated with feeling overtired and may be associated with symptoms of Depression.

There may be many factors that contribute to insomnia, including age, drug use, exercise, mental status, and bedtime routines. Not surprisingly, insomnia treatment may take one of several different approaches. People who suffer from insomnia might limit their use of stimulant drugs (such as caffeine) or increase their amount of physical exercise during the day. Some people might turn to over-the-counter (OTC) or prescribed sleep medications to help them sleep, but this should be done sparingly because many sleep medications result in dependence and alter the nature of the sleep cycle, and they can increase insomnia over time. Those who continue to have insomnia, particularly if it affects their quality of life, should seek professional treatment.

Flesch-Kincaid Grade Level: 12.1

Q. In paragraph three, the author mentions "Not surprisingly, insomnia treatment may take one of several different approaches" in order to …

a. Introduce the various treatment options for insomnia that exist based on the various causes
b. Show that it's not surprising that so many people suffer from insomnia
c. Introduce all the possible treatment options for every type of insomnia from which people suffer
d. Provide an example of one type of insomnia treatment

The Sapir-Whorf Hypothesis

The Sapir-Whorf hypothesis is based on the idea that people experience their world through their language, and that they, therefore, understand their world through the culture embedded in their language. The hypothesis, which has also been called linguistic relativity, states that language shapes thought. Studies have shown, for instance, that unless people have access to the word "ambivalent," they don't recognize an experience of uncertainty due to conflicting positive and negative feelings about one issue. Essentially, the hypothesis argues, if a person can't describe the experience, the person is not having the experience.

Flesch-Kincaid Grade Level: 9

Q. Why does the author say "the hypothesis argues"?

- **a.** To state their personal stance on the Sapir-Whorf Hypothesis
- **b.** To show that the hypothesis' argument is indeed correct
- **c.** To show that linguistic relativity is simply a hypothesis
- **d.** To show that scholars are in agreement about the hypothesis

Feudal Societies

The ninth century gave rise to feudal societies. These societies contained a strict hierarchical system of power based on land ownership and protection. The nobility, known as lords, placed vassals in charge of pieces of land. In return for the resources that the land provided, vassals promised to fight for their lords.

These individual pieces of land, known as fiefdoms, were cultivated by the lower class. In return for maintaining the land, peasants were guaranteed a place to live and protection from outside enemies. Power was handed down through family lines, with peasant families serving lords for generations and generations. Ultimately, the social and economic system of feudalism would fail, replaced by capitalism and the technological advances of the industrial era.

Flesch-Kincaid Grade Level: 8.7

Q. In paragraph two, why does the author say "Power was handed down through family lines"?

- **a.** To explain why and how peasants served their lords
- **b.** To explain how feudalism ultimately failed
- **c.** To describe what power the family lines possessed and how they used it
- **d.** To explain how the system worked and why peasants stayed poor for generations

Rhetorical Purpose Questions
Answer Key

The Nature of Astronomy - A

A is the correct answer because the specific example is directly preceded by a broad statement about how the "*universe changes in profound ways over long periods of time*". It does not explain why the universe changes over time (**B**), nor does it describe a field of study (**C**) or how the universe evolves quickly (**D**).

Europa, a Moon with an Ocean - D

D is correct because features of the surface of Europa are described immediately following this. Since the passage is about the surface and appearance of Europa, the author concludes the passage with a summary of the observations based on the photos mentioned. **C** is also incorrect because Europa is a moon, not a planet.

Types of Mixtures - B

B is the correct answer because the author is clarifying the previous statement, "*Each drop of a sports drink tastes the same because each drop contains the same amounts of water, sugar, and other components.*". The author includes this note to elaborate on why sports drinks are still homogeneous solutions - because they are mixed uniformly - even though the amounts of each ingredient may vary.

Atomic Theory in the Nineteenth Century - A

A is the correct answer because the topic is a scientific one - atomic theory - and philosophers don't typically, especially nowadays, discuss or deal with scientific theories or topics. Thus, the author was explaining that, although they are considered philosophers in our time, they were also scientists in their time.

The Internal Compartments of the Human Body - C

C is the correct answer. Option **A** is incorrect as it was mentioned previously in the passage. The statement does not explain why bacteria are not allowed to circulate inside the body (**B**). Finally, the statement does not show a contrast between types of compartments, so **D** is incorrect.

The Invention of the X-Ray - B

B is correct because the technology was not fully understood at the time, which is stated earlier in the passage. The science behind it was unknown and, thus, the author refers to it as "*mysterious*".

The Process of Scientific Research - A

A is correct because, just as inhaling and exhaling are both necessary, so are the types of reasoning within the scientific process as the author explains just prior to this sentence.

Adaptive Function of Sleep - A

A is correct because the sentence immediately preceding this one explains the various causes of insomnia. The author then goes on to explain different treatment options based on the different causes mentioned previously. **C** is not correct because the author does not mention all the possible treatment options. **D** is incorrect because a few different types of treatment are mentioned after the sentence.

The Sapir-Whorf Hypothesis - C

C is correct because the author uses this short phrase, "*the hypothesis argues*", to emphasize that this hypothesis - also called linguistic relativity - is just a claim, not necessarily proven or agreed upon.

Feudal - D

D is correct because it explains how the feudal system worked while the rest of the sentence, "*with peasant families serving lords for generations and generations*", explains that the peasant families remained peasants (poor) for generations because the power stayed within certain other family lines.

Practice for the TOEFL® Reading Section

Inference Questions (1)

The Terrestrial Planets

The terrestrial planets are quite different from the giants. In addition to being much smaller, they are composed primarily of rocks and metals. These, in turn, are made of elements that are less common in the universe as a whole. The most abundant rocks, called silicates, are made of silicon and oxygen, and the most common metal is iron. We can tell from their densities that Mercury has the greatest proportion of metals (which are denser) and the Moon has the lowest. Earth, Venus, and Mars all have roughly similar bulk compositions: about one third of their mass consists of iron-nickel or iron-sulfur combinations; two thirds is made of silicates. Because these planets are largely composed of oxygen compounds (such as the silicate minerals of their crusts), their chemistry is said to be oxidized.

When we look at the internal structure of each of the terrestrial planets, we find that the densest metals are in a central core, with the lighter silicates near the surface. If these planets were liquid, like the giant planets, we could understand this effect as the result of the sinking of heavier elements due to the pull of gravity. This leads us to conclude that, although the terrestrial planets are solid today, at one time they must have been hot enough to melt.

Differentiation is the process by which gravity helps separate a planet's interior into layers of different compositions and densities. The heavier metals sink to form a core, while the lightest minerals float to the surface to form a crust. Later, when the planet cools, this layered structure is preserved. In order for a rocky planet to differentiate, it must be heated to the melting point of rocks, which is typically more than 1,800 F.

Flesch-Kincaid Grade Level: 9

Q. Which of the following can be inferred about the past temperatures of terrestrial planets?

- **a.** At a point, their temperatures were at least 1,800 F or higher
- **b.** At a point, their temperatures were below 1,800 F
- **c.** Their temperatures currently range a great deal
- **d.** Their temperatures have remained the same throughout time

Plate Tectonics

Geology is the study of Earth's crust and the processes that have shaped its surface throughout history. Heat escaping from the interior provides energy for the formation of our planet's mountains, valleys, volcanoes, and even the continents and ocean basins themselves. But not until the middle of the twentieth century did geologists succeed in understanding just how these landforms are created.

Plate tectonics is a theory that explains how slow motions within the mantle of Earth move large segments of the crust, resulting in a gradual "drifting" of the continents as well as the formation of mountains and other large-scale geological features. Plate tectonics is a concept as basic to geology as evolution by natural selection is to biology or gravity is to understanding the orbits of planets. Looking at it from a different perspective, plate tectonics is a mechanism for Earth to transport heat efficiently from the interior, where it has accumulated, out to space. It is a cooling system for the planet. All planets develop a heat transfer process as they evolve; mechanisms may differ from that on Earth as a result of chemical makeup and other constraints.

Flesch-Kincaid Grade Level: 10.8

Q. What can be inferred from paragraph 2 about the state of the Earth without plate tectonics?

- **a.** The Earth would become very cold
- **b.** The Earth would explode
- **c.** The Earth would overheat and be inhabitable
- **d.** The Earth would remain the same size and not evolve

Calorimetry

One technique we can use to measure the amount of heat involved in a chemical or physical process is known as calorimetry. Calorimetry is used to measure amounts of heat transferred to or from a substance. To do so, the heat is exchanged with a calibrated object (calorimeter). The temperature change measured by the calorimeter is used to derive the amount of heat transferred by the process under study. The measurement of heat transfer using this approach requires the definition of a system (the substance or substances undergoing the chemical or physical change) and its surroundings (the other components of the measurement apparatus that serve to either provide heat to the system or absorb heat from the system). Knowledge of the heat capacity of the surroundings, and careful measurements of the masses of the system and surroundings and their temperatures before and after the process allows one to calculate the heat transferred.

A calorimeter is a device used to measure the amount of heat involved in a chemical or physical process. For example, when an exothermic reaction occurs in solution in a calorimeter, the heat produced by the reaction is absorbed by the solution, which increases its temperature. When an endothermic reaction occurs, the heat required is absorbed from the thermal energy of the solution, which decreases its temperature. The temperature change, along with the specific heat and mass of the solution, can then be used to calculate the amount of heat involved in either case.

Flesch-Kincaid Grade Level: 11.5

Q. Paragraph 1 suggests that calorimetry ...

a. Calorimetry measures the heat of all objects
b. It can only be used to measure the amount of heat in a chemical process
c. There is more than one way to measure the amount of heat in a chemical or physical process
d. The heat is exchanged with a calorimeter

Dorothy Hodgkin

Because the wavelengths of X-rays (10-10,000 picometers [pm]) are comparable to the size of atoms, X-rays can be used to determine the structure of molecules. When a beam of X-rays is passed through molecules packed together in a crystal, the X-rays collide with the electrons and scatter. Constructive and destructive interference of these scattered X-rays creates a specific diffraction pattern. Calculating backward from this pattern, the positions of each of the atoms in the molecule can be determined very precisely. One of the pioneers who helped create this technology was Dorothy Crowfoot Hodgkin.

She was born in Cairo, Egypt, in 1910, where her British parents were studying archeology. Even as a young girl, she was fascinated with minerals and crystals. When she was a student at Oxford University, she began researching how X-ray crystallography could be used to determine the structure of biomolecules. She invented new techniques that allowed her and her students to determine the structures of vitamin B12, penicillin, and many other important molecules. Diabetes, a disease that affects 382 million people worldwide, involves the hormone insulin. Hodgkin began studying the structure of insulin in 1934, but it required several decades of advances in the field before she finally reported the structure in 1969. Understanding the structure has led to a better understanding of the disease and treatment options.

Flesch-Kincaid Grade Level: 9.8

Q. What can be inferred about Dorothy Hodgkin and her discovery of this technology?

- **a.** She discovered it because her parents were archaeologists
- **b.** She created the treatment for diabetes based on her study of insulin
- **c.** It took her a decade to report on the structure of insulin
- **d.** She and her research are indirectly responsible for various forms of treatment for multiple diseases

Exercise and Bone Tissue

During long space missions, astronauts can lose approximately 1 to 2 percent of their bone mass per month. This loss of bone mass is thought to be caused by the lack of mechanical stress on astronauts' bones due to the low gravitational forces in space. Lack of mechanical stress causes bones to lose mineral salts and collagen fibers, and thus strength. Similarly, mechanical stress stimulates the deposition of mineral salts and collagen fibers. The internal and external structure of a bone will change as stress increases or decreases so that the bone is an ideal size and weight for the amount of activity it endures. That is why people who exercise regularly have thicker bones than people who are more sedentary. It is also why a broken bone in a cast atrophies while its contralateral mate maintains its concentration of mineral salts and collagen fibers. The bones undergo remodeling as a result of forces (or lack of forces) placed on them.

Flesch-Kincaid Grade Level: 8.4

Q. Which of the following can be inferred from this passage?

- **a.** Decreased physical activity results in thinner, weaker bones
- **b.** Astronauts are weaker than other people
- **c.** Mechanical stress weakens human bones
- **d.** Broken bones maintain their strength and mass

A Stroke

The common name for a disruption of blood supply to the brain is a stroke. It is caused by a blockage to an artery in the brain. The blockage is from some type of embolus: a blood clot, a fat embolus, or an air bubble. When the blood cannot travel through the artery, the surrounding tissue that is deprived starves and dies. Strokes will often result in the loss of very specific functions. A stroke in the lateral medulla, for example, can cause a loss in the ability to swallow. Sometimes, seemingly unrelated functions will be lost because they are dependent on structures in the same region. Along with the swallowing in the previous example, a stroke in that region could affect sensory functions from the face or extremities because important white matter pathways also pass through the lateral medulla. Loss of blood flow to specific regions of the cortex can lead to the loss of specific higher functions, from the ability to recognize faces to the ability to move a particular region of the body. Severe or limited memory loss can be the result of a temporal lobe stroke.

Flesch-Kincaid Grade Level: 8.2

Q. What can be inferred about strokes from this passage?

a. Strokes are caused by a surge of blood to one area
b. Strokes can only result in the loss of a single bodily function
c. The bodily functions affected are determined by where the stroke occurs
d. All strokes result in the same loss of functions

Hearing Loss

Deafness is the partial or complete inability to hear. Some people are born deaf, which is known as congenital deafness. Many others begin to suffer from conductive hearing loss because of age, genetic predisposition, or environmental effects, including exposure to extreme noise (noise-induced hearing loss), certain illnesses (such as measles or mumps), or damage due to toxins (such as those found in certain solvents and metals).

Given the mechanical nature by which the sound wave stimulus is transmitted from the eardrum through the ossicles to the oval window of the cochlea, some degree of hearing loss is inevitable. With conductive hearing loss, hearing problems are associated with a failure in the vibration of the eardrum and/or movement of the ossicles. These problems are often dealt with through devices like hearing aids that amplify incoming sound waves to make the vibration of the eardrum and movement of the ossicles more likely to occur.

When the hearing problem is associated with a failure to transmit neural signals from the cochlea to the brain, it is called sensorineural hearing loss. One disease that results in sensorineural hearing loss is Ménière's disease. Although not well understood, Ménière's disease results in a degeneration of inner ear structures that can lead to hearing loss, tinnitus (constant ringing or buzzing), vertigo (a sense of spinning), and an increase in pressure within the inner ear. This kind of loss cannot be treated with hearing aids, but some individuals might be candidates for a cochlear implant as a treatment option. Cochlear implants are electronic devices that consist of a microphone, a speech processor, and an electrode array. The device receives incoming sound information and directly stimulates the auditory nerve to transmit information to the brain.

Flesch-Kincaid Grade Level: 11.2

Q. What can be inferred about Ménière's disease from paragraph 3?

a. It is a disease that has not been studied extensively
b. It is a common disease that many people suffer from
c. There are no treatments available
d. Its only symptom is hearing loss

Long-Term Memory

Long-term memory (LTM) is the continuous storage of information. Unlike short-term memory, the storage capacity of LTM has no limits. It encompasses all the things you can remember that happened more than just a few minutes ago to all of the things that you can remember that happened days, weeks, and years ago. In keeping with the computer analogy, the information in your LTM would be like the information you have saved on the hard drive. It isn't there on your desktop (your short-term memory), but you can pull up this information when you want it, at least most of the time. Not all long-term memories are strong memories. Some memories can only be recalled through prompts. For example, you might easily recall a fact— "What is the capital of the United States?"—or a procedure—"How do you ride a bike?"—but you might struggle to recall the name of the restaurant you had dinner at when you were on vacation in France last summer. A prompt, such as that the restaurant was named after its owner, who spoke to you about your shared interest in soccer, may help you recall the name of the restaurant.

Long-term memory is divided into two types: explicit and implicit. Understanding the different types is important because a person's age or particular types of brain trauma or disorders can leave certain types of LTM intact while having disastrous consequences for other types. Explicit memories are those we consciously try to remember and recall. For example, if you are studying for your chemistry exam, the material you are learning will be part of your explicit memory. Implicit memories are memories that are not part of our consciousness. They are memories formed from behaviors. Implicit memory is also called non-declarative memory.

Flesch-Kincaid Grade Level: 8.1

Q. Which of the following can be inferred from paragraph 2 about explicit memories?

- **a.** They are easier to remember than implicit memories
- **b.** They are all eventually forgotten as we age or experience trauma
- **c.** They are formed subconsciously
- **d.** They are more often affected by age and brain trauma than implicit memories

Hunter-Gatherer

Hunter-gatherer societies demonstrate the strongest dependence on the environment of the various types of preindustrial societies. As the basic structure of human society until about 10,000–12,000 years ago, these groups were based around kinship or tribes. Hunter-gatherers relied on their surroundings for survival—they hunted wild animals and foraged for uncultivated plants for food. When resources became scarce, the group moved to a new area to find sustenance, meaning they were nomadic. These societies were common until several hundred years ago, but today only a few hundred remain in existence, such as indigenous Australian tribes sometimes referred to as "aborigines," or the Bambuti, a group of pygmy hunter-gatherers residing in the Democratic Republic of Congo. Hunter-gatherer groups are quickly disappearing as the world's population explodes.

Flesch-Kincaid Grade Level: 10.6

Q. What can be inferred about hunter-gatherers?

- **a.** Their lifestyle is not sustainable as the population grows
- **b.** There are no more of these societies in existence
- **c.** The number of them continues to remain the same
- **d.** They are more common today than several hundred years ago

Meritocracy

Meritocracy is another system of social stratification in which personal effort—or merit—determines social standing. High levels of effort will lead to a high social position and vice versa. The concept of meritocracy is an ideal—that is, a society has never existed where social rank was based purely on merit. Because of the complex structure of societies, processes like socialization, and the realities of economic systems, social standing is influenced by multiple factors, not merit alone. Inheritance and pressure to conform to norms, for instance, disrupt the notion of a pure meritocracy. Sociologists see aspects of meritocracies in modern societies when they study the role of academic performance and job performance, and the systems in place for evaluating and rewarding achievement in these areas.

Flesch-Kincaid Grade Level: 11.6

Q. This passage suggests that meritocracy is ...

- **a.** A very real possibility in the future
- **b.** Very unlikely to solely govern society due to complex structures
- **c.** Taking over modern societies as a system of social stratification
- **d.** Not solely based on merit but other factors as well

Inference Questions
Answer Key

The Terrestrial Planets - A

A is correct because paragraph 2 says that the planets "*must have been hot enough to melt*" while paragraph 3 states that the melting point is usually more than 1,800 F. This question is challenging since the information to find the correct answer is spread across two paragraphs.

Plate Tectonics - C

C is correct because paragraph 2 mentions that plate tectonics are a "*cooling system*" for Earth to release heat from its interior.

Calorimetry - C

C is correct because paragraph 1 begins with "*one technique we can use to measure the amount of heat*", and also says, "*using this approach*", both of which indicate that this method of measuring is not the only one. Even though the passage states "*the heat is exchanged with a calibrated object (calorimeter)*", **D** is still incorrect because this is an inference question, not a factual information question.

Dorothy Hodgkin - D

D is correct because Dorothy Hodgkin determined the structures of certain vitamins and medicines (penicillin) and other helpful substances (insulin) that allowed other scientists to better understand and utilize them in treating sufferers.

Exercise and Bone Tissue - A

A is correct because the passage states that more active people have thicker bones because mechanical stress deposits mineral salts and collagen fibers, which create more bone strength and density. Therefore, those who are less active have thinner, weaker bones.

A Stroke - C

C is correct because the passages explain how strokes in certain regions affect or cause a loss of certain functions. **B** is incorrect because the passage states that it will, "*result in the loss of very specific functions,*" and later states "*along with the swallowing in the previous example, a stroke in that region could affect…*" providing more than one bodily function that gets damaged.

Hearing Loss - A

A is correct because paragraph 3 states that the disease is not well understood, which suggests that it hasn't been studied well. **D** is incorrect because while the passage does state that it can lead to hearing loss, it never implies that this is the only symptom.

Long-Term Memory - D

D is correct because paragraph 2 explains the importance of knowing the two types of long-term memory because they are each affected differently by age and brain trauma. The last paragraph states that implicit memories are more naturally formed memories that require no conscious thought to remember, thus making them easier to recall regardless of age or trauma.

Hunter-Gatherer - A

A is correct because the end of the passage states that there are only a few hundred hunter-gatherer societies left in the world and that the remaining ones are "*disappearing as the world's population explodes*".

Meritocracy - B

B is correct because the passage states that this form of society is an idealistic one and that the complex nature of societies means that social standing is based on "*multiple factors, not merit alone*".

Practice for the TOEFL® Reading Section

Sentence Simplification Questions (1)

The Giant Impact Hypothesis

In an effort to resolve these apparent contradictions, scientists developed a fourth hypothesis for the origin of the Moon, one that involves a giant impact early in Earth's history. There is increasing evidence that large chunks of material—objects of essentially planetary mass—were orbiting in the inner solar system at the time that the terrestrial planets formed. The giant impact hypothesis envisions Earth being struck obliquely by an object approximately one-tenth Earth's mass—a "bullet" about the size of Mars. This is very nearly the largest impact Earth could experience without being Shattered.

Such an impact would disrupt much of Earth and eject a vast amount of material into space, releasing almost enough energy to break the planet apart. Computer simulations indicate that material totaling several percent of Earth's mass could be ejected in such an impact. Most of this material would be from the stony mantles of Earth and the impacting body, not from their metal cores. This ejected rock vapor then cooled and formed a ring of material orbiting Earth. It was this ring that ultimately condensed into the Moon.

While we do not have any current way of showing that the giant impact hypothesis is the correct model of the Moon's origin, it does offer potential solutions to most of the major problems raised by the chemistry of the Moon. First, since the Moon's raw material is derived from the mantles of Earth and the projectile, the absence of metals is easily understood. Second, most of the volatile elements would have been lost during the high- temperature phase following the impact, explaining the lack of these materials on the Moon. Yet, by making the Moon primarily of terrestrial mantle material, it is also possible to understand similarities such as identical abundances of various oxygen Isotopes.

Flesch-Kincaid Grade Level: 11.6

Q. Which of the following best expresses the essential information in the highlighted sentence in paragraph 1? Incorrect choices change the meaning in important ways or leave out essential information.

a. Objects of planetary mass usually orbit the inner solar system
b. More and more evidence exists that indicates that big objects orbited the inner solar system when the terrestrial planets were created
c. There is more evidence to suggest that the terrestrial planets were formed in the inner solar system
d. The terrestrial planets formed when they were orbiting the inner solar system

Surface Temperature on Venus

The largest volcanic mountains of Mars are found in the Tharsis area, although smaller volcanoes dot much of the surface. The most dramatic volcano on Mars is Olympus Mons (Mount Olympus), with a diameter larger than 500 kilometers and a summit that towers more than 20 kilometers above the surrounding plains—three times higher than the tallest mountain on Earth. The volume of this immense volcano is nearly 100 times greater than that of Mauna Loa in Hawaii. Placed on Earth's surface, Olympus would more than cover the entire state of Missouri.

Images taken from orbit allow scientists to search for impact craters on the slopes of these volcanoes in order to estimate their age. Many of the volcanoes show a fair number of such craters, suggesting that they ceased activity a billion years or more ago. However, Olympus Mons has very, very few impact craters. Its present surface cannot be more than about 100 million years old; it may even be much younger. Some of the fresh-looking lava flows might have been formed a hundred years ago, or a thousand, or a million, but geologically speaking, they are quite young. This leads geologists to the conclusion that Olympus Mons possibly remains intermittently active today—something future Mars land developers may want to keep in mind.

Flesch-Kincaid Grade Level: 9.2

Q. Which of the following best expresses the essential information in the highlighted sentence in paragraph 1? Incorrect choices change the meaning in important ways or leave out essential information.

a. The largest volcano on Mars is Olympus Mons
b. Mars' biggest volcano is three times the size of Earth's tallest mountain
c. Mount Olympus has a diameter of over 500 kilometers and a summit that is 20 kilometers above the plains around it
d. Olympus Mons stands 20 kilometers above the surrounding plains

Pioneer and Voyager

The first spacecraft to investigate the regions past Mars were the NASA Pioneers 10 and 11, launched in 1972 and 1973 as pathfinders to Jupiter. One of their main objectives was simply to determine whether a spacecraft could actually navigate through the belt of asteroids that lies beyond Mars without getting destroyed by collisions with asteroidal dust. Another objective was to measure the radiation hazards in the magnetosphere (or zone of magnetic influence) of Jupiter. Both spacecraft passed through the asteroid belt without incident, but the energetic particles in Jupiter's magnetic field nearly wiped out their electronics, providing information necessary for the safe design of subsequent missions.

Pioneer 10 flew past Jupiter in 1973, after which it sped outward toward the limits of the solar system. Pioneer 11 undertook a more ambitious program, using the gravity of Jupiter to aim for Saturn, which it reached in 1979. The twin Voyager spacecraft launched the next wave of outer planet exploration in 1977. Voyagers 1 and 2 each carried 11 scientific instruments, including cameras and spectrometers, as well as devices to measure the characteristics of planetary magnetospheres. Since they kept going outward after their planetary encounters, these are now the most distant spacecraft ever launched by humanity.

Voyager 1 reached Jupiter in 1979 and used a gravity assist from that planet to take it on to Saturn in 1980. Voyager 2 arrived at Jupiter four months later, but then followed a different path to visit all the outer planets, reaching Saturn in 1981, Uranus in 1986, and Neptune in 1989. This trajectory was made possible by the approximate alignment of the four giant planets on the same side of the Sun. About once every 175 years, these planets are in such a position, and it allows a single spacecraft to visit them all by using gravity-assisted flybys to adjust course for each subsequent encounter; such a maneuver has been nicknamed a "Grand Tour" by astronomers.

Flesch-Kincaid Grade Level: 11.9

Q. Which of the following best expresses the essential information in the highlighted sentence in paragraph 3? Incorrect choices change the meaning in important ways or leave out essential information.

a. All spacecrafts can make a maneuver every 175 years involving gravity-assisted flybys to adjust their course
b. The giant planets on the same side of the Sun align once every 175 years
c. Astronomers nicknamed this maneuver the "Grand Tour"
d. The "Grand Tour" is a maneuver that a spacecraft can make every 175 years to visit the four giants planets on the same side of the Sun

Energy Basics

Chemical changes and their accompanying changes in energy are important parts of our everyday world. The macronutrients in food (proteins, fats, and carbohydrates) undergo metabolic reactions that provide the energy to keep our bodies functioning. We burn a variety of fuels (gasoline, natural gas, coal) to produce energy for transportation, heating, and the generation of electricity. Industrial chemical reactions use enormous amounts of energy to produce raw materials (such as iron and aluminum). Energy is then used to manufacture those raw materials into useful products, such as cars, skyscrapers, and bridges.

Flesch-Kincaid Grade Level: 11.2

Q. Which of the following best expresses the essential information in the highlighted sentence in paragraph 1? Incorrect choices change the meaning in important ways or leave out essential information.

a. All energy is used for transportation, heating, and electricity
b. We burn energy to produce a variety of fuels
c. Humans burn various fuels to produce energy
d. Heating, transportation, and the generation of electricity all require various forms of fuel

Gas Pressure

The earth's atmosphere exerts a pressure, as does any other gas. Although we do not normally notice atmospheric pressure, we are sensitive to pressure changes—for example, when your ears "pop" during take-off and landing while flying, or when you dive underwater. Gas pressure is caused by the force exerted by gas molecules colliding with the surfaces of objects. Although the force of each collision is very small, any surface of appreciable area experiences a large number of collisions in a short time, which can result in high pressure. In fact, normal air pressure is strong enough to crush a metal container when not balanced by equal pressure from inside the container.

Atmospheric pressure is caused by the weight of the column of air molecules in the atmosphere above an object, such as the tanker car. At sea level, this pressure is roughly the same as that exerted by a full-grown African elephant standing on a doormat, or a typical bowling ball resting on your thumbnail. These may seem like huge amounts, and they are, but life on earth has evolved under such atmospheric pressure. If you actually perch a bowling ball on your thumbnail, the pressure experienced is twice the usual pressure, and the sensation is unpleasant.

Flesch-Kincaid Grade Level: 9.1

Q. Which of the following best expresses the essential information in the highlighted sentence in paragraph 1? Incorrect choices change the meaning in important ways or leave out essential information.

a. Humans don't notice atmospheric pressure often
b. Our ears usually "pop" when we dive underwater or during taking off or landing in a plane
c. Atmospheric pressure often changes around the earth
d. Humans are sensitive to changes in atmospheric pressure

Prosopagnosia

The failures of sensory perception can be unusual and debilitating. A particular sensory deficit that inhibits an important social function of humans is prosopagnosia or face blindness. The word comes from the Greek words prosopa, which means "faces," and agnosia, which means "not knowing." Some people may feel that they cannot recognize people easily by their faces. However, a person with prosopagnosia cannot recognize the most recognizable people in their respective cultures. They would not recognize the face of a celebrity, an important historical figure, or even a family member like their mother. They may not even recognize their own face.

Flesch-Kincaid Grade Level: 9.3

Q. Which of the following best expresses the essential information in the highlighted sentence in paragraph 1? Incorrect choices change the meaning in important ways or leave out essential information.

a. Prosopagnosia is when one cannot recognize familiar faces, which can hurt social interactions
b. This specific sensory deficiency affects important social structures
c. Prosopagnosia is also called face blindness
d. Humans can suffer from sensory deficits like face blindness

Metabolism and Body Weight

Our body weight is affected by a number of factors, including gene-environment interactions, and the number of calories we consume versus the number of calories we burn in daily activity. If our caloric intake exceeds our caloric use, our bodies store excess energy in the form of fat. If we consume fewer calories than we burn off, then stored fat will be converted to energy. Our energy expenditure is obviously affected by our levels of activity, but our body's metabolic rate also comes into play. A person's metabolic rate is the amount of energy that is expended in a given period of time, and there is tremendous individual variability in our metabolic rates. People with high rates of metabolism are able to burn off calories more easily than those with lower rates of Metabolism.

We all experience fluctuations in our weight from time to time, but generally, most people's weights fluctuate within a narrow margin, in the absence of extreme changes in diet and/or physical activity. This observation led some to propose a set-point theory of body weight regulation. The set-point theory asserts that each individual has an ideal body weight, or set-point, which is resistant to change. This set-point is genetically predetermined and efforts to move our weight significantly from the set-point are resisted by compensatory changes in energy intake and/or expenditure.

Some of the predictions generated from this particular theory have not received empirical support. For example, there are no changes in metabolic rate between individuals who had recently lost significant amounts of weight and a control group. In addition, the set-point theory fails to account for the influence of social and environmental factors in the regulation of body weight. Despite these limitations, set-point theory is still often used as a simple, intuitive explanation of how body weight is regulated.

Flesch-Kincaid Grade Level: 11.9

Q. Which of the following best expresses the essential information in the highlighted sentence in paragraph 2? Incorrect choices change the meaning in important ways or leave out essential information.

a. We can gain a little or a lot of weight based on our diet and exercise
b. It's normal to experience minor changes in weight without seriously altering one's diet or exercise
c. Our weight mostly fluctuates within a limited and consistent range
d. Humans generally experience extreme fluctuations in weight from time to time

Social Roles

One major social determinant of human behavior is our social roles. A social role is a pattern of behavior that is expected of a person in a given setting or group. Each one of us has several social roles. You may be, at the same time, a student, a parent, an aspiring teacher, a son or daughter, a spouse, and a lifeguard. How do these social roles influence your behavior? Social roles are defined by culturally shared knowledge. That is, nearly everyone in a given culture knows what behavior is expected of a person in a given role. For example, what is the social role for a student? If you look around a college classroom you will likely see students engaging in studious behavior, taking notes, listening to the professor, reading the textbook, and sitting quietly at their desks. Of course, you may see students deviating from the expected studious behavior such as texting on their phones or using Facebook on their laptops, but in all cases, the students that you observe are attending class—a part of the social role of students.

Social roles, and our related behavior, can vary across different settings. How do you behave when you are engaging in the role of son or daughter and attending a family function? Now imagine how you behave when you are engaged in the role of employee at your workplace. It is very likely that your behavior will be different. Perhaps you are more relaxed and outgoing with your family, making jokes and doing silly things. But at your workplace, you might speak more professionally, and although you may be friendly, you are also serious and focused on getting the work completed. These are examples of how our social roles influence and often dictate our behavior to the extent that identity and personality can vary with context (that is, in different social groups).

Flesch-Kincaid Grade Level: 8.9

Q. Which of the following best expresses the essential information in the highlighted sentence in paragraph 1? Incorrect choices change the meaning in important ways or leave out essential information.

a. Part of the social role of students is going to class
b. All students deviate from expected studious behavior to text and use Facebook
c. In most cases, students attend class because it's part of their social role
d. Students are expected to be studious but they sometimes deviate from this role

Cold War Terminology

Cold War terminology was developed during the Cold War era (1945–1980). Familiar and still used by many, it involves classifying countries into first world, second world, and third world nations based on respective economic development and standards of living. When this nomenclature was developed, capitalistic democracies such as the U.S. and Japan were considered part of the first world. The poorest, most undeveloped countries were referred to as the third world and included most of sub-Saharan Africa, Latin America, and Asia. The second world was the in-between category: nations not as limited in development as the third world, but not as well off as the first world, having moderate economies and standard of living, such as China or Cuba. Later, sociologist Manuel Castells added the term fourth world to refer to stigmatized minority groups that were denied a political voice all over the globe (indigenous minority populations, prisoners, and the homeless, for example).

Flesch-Kincaid Grade Level: 10.3

Q. Which of the following best expresses the essential information in the highlighted sentence in paragraph 1? Incorrect choices change the meaning in important ways or leave out essential information.

a. The second world category comes after first world
b. A second world nation is one with average economies and standards of living
c. Some nations are not as wealthy as the first world nations while others are better than the third world
d. Cuba has both lower economies and standards of living compared to China

Cultural Imperialism

A high level of appreciation for one's own culture can be healthy; a shared sense of community pride, for example, connects people in a society. But ethnocentrism can lead to disdain or dislike for other cultures, causing misunderstanding and conflict. People with the best intentions sometimes travel to a society to "help" its people, seeing them as uneducated or backward; essentially inferior. In reality, these travelers are guilty of cultural imperialism, the deliberate imposition of one's own cultural values on another culture. Europe's colonial expansion, begun in the 16th century, was often accompanied by a severe cultural imperialism. European colonizers often viewed the people in the lands they colonized as uncultured savages who were in need of European governance, dress, religion, and other cultural practices. A more modern example of cultural imperialism may include the work of international aid agencies who introduce agricultural methods and plant species from developed countries while overlooking indigenous varieties and agricultural approaches that are better suited to the particular region.

Flesch-Kincaid Grade Level: 14

Q. Which of the following best expresses the essential information in the highlighted sentence in paragraph 1? Incorrect choices change the meaning in important ways or leave out essential information.

a. Cultural imperialism is a modern example of how international aid agencies work in other countries
b. The work of international aid agencies ignores indigenous varieties and agricultural methods
c. All aid agencies are a modern example of cultural imperialism
d. An example of cultural imperialism is international aid organizations that ignore a nation's native species and agricultural methods

Sentence Simplification Questions

Answer Key

The Giant Impact Hypothesis - B

B is correct because the main point is that "*there is increasing evidence*" that proves that "*large chunks of material*" were in orbit "*at the time the terrestrial planets formed*".

Surface Temperature on Venus - A

A is correct because the other details just provided extra information about the main point.

Pioneer and Voyager - D

D is correct because the sentence does not say "*all spacecrafts*" (**A**), nor does it say that the planets "*align*" (**B**), and the main point of the sentence is not the nicknaming of the maneuver (**C**).

Energy Basics - C

C is correct because **B** is the opposite of what is stated, and **A** and **D** have additional modifiers that make them incorrect (in both cases "*all*").

Gas Pressure - D

D is correct. **C** is not directly stated, **B** is just a detail, and **A** is part of the clause that adds context to the main idea, but is just a detail.

Prosopagnosia - A

A is correct because it explains the main idea of using synonyms. Option **B** is not actually stated in the sentence. Option **C** is not the main point, and **D** is more of an inference.

Metabolism and Body Weight - B

B is correct because it restates the main idea with synonyms while option **A** is not the main point of the sentence. **C** is close, but the sentence never implies that the range is consistent. **D** is false information.

Social Roles - A

A is correct. **B** is incorrect because of the modifier "*all*". **C** is incorrect because it shows a cause and effect relationship between students going to school "*because of*" their social role, but their social role is not the reason why they attend school. **D** is incorrect because, while true, it's not the main idea of the sentence. This is a contrasting clause, while the most important point is that students attend class, which is a part of their social role.

Cold War Terminology - B

B is correct because, although obvious, option a is not directly stated in the sentence; option **C** has modifiers in the wrong place and is not the main point of the sentence, nor is option **D**.

Cultural Imperialism - D

D is correct because option **A** is the opposite of what is stated. In option **B**, the phrase "*the work of international agencies*" implies that it's their job to ignore indigenous farming methods. Option **C** contains the modifier "*all*", which changes the meaning of the main point in important ways.

Practice for the TOEFL® Reading Section

Insert Text Questions (1)

Chemistry: The Central Science

Chemistry is sometimes referred to as "the central science" due to its interconnectedness with a vast array of other STEM disciplines (STEM stands for areas of study in the science, technology, engineering, and math fields). Chemistry and the language of chemists play vital roles in biology, medicine, materials science, forensics, environmental science, and many other fields.

A The basic principles of physics are essential for understanding many aspects of chemistry, and there is extensive overlap between many subdisciplines within the two fields, such as chemical physics and nuclear chemistry. B Mathematics, computer science, and information theory provide important tools that help us calculate, interpret, describe, and generally make sense of the chemical world. C Biology and chemistry converge in biochemistry, which is crucial to understanding the many complex factors and processes that keep living organisms (such as us) alive. D Chemical engineering, materials science, and nanotechnology combine chemical principles and empirical findings to produce useful substances, ranging from gasoline to fabrics to electronics. Agriculture, food science, veterinary science, and brewing and winemaking help provide sustenance in the form of food and drink to the world's population. Medicine, pharmacology, biotechnology, and botany identify and produce substances that help keep us healthy. Environmental science, geology, oceanography, and atmospheric science incorporate many chemical ideas to help us better understand and protect our physical world. Chemistry's usefulness also extends outside of our own world to help us better understand the universe and the composition of space in disciplines like astronomy and cosmology.

Flesch-Kincaid Grade Level: 14.2

Q. In paragraph 2 there is a missing sentence. Look at the four squares [A, B, C, D] that indicate where the sentence could be added. Where would the sentence best fit?

Biochemistry is one of the five major branches of chemistry, which can be divided into many sub-branches.

Types of Mixtures

A mixture is composed of two or more types of matter that can be present in varying amounts and can be separated by physical changes, such as evaporation. A A mixture with a composition that varies from point to point is called a heterogeneous mixture. B Italian dressing is an example of a heterogeneous mixture. C Its composition can vary because we can make it from varying amounts of oil, vinegar, and herbs. D It is not the same from point to point throughout the mixture—one drop may be mostly vinegar, whereas a different drop may be mostly oil or herbs because the oil and vinegar separate and the herbs settle. Other examples of heterogeneous mixtures are chocolate chip cookies (we can see the separate bits of chocolate, nuts, and cookie dough) and granite (we can see the quartz, mica, and more).

A homogeneous mixture also called a solution exhibits a uniform composition, and appears visually the same throughout. An example of a solution is a sports drink, consisting of water, sugar, coloring, flavoring, and electrolytes mixed together uniformly. Each drop of a sports drink tastes the same because each drop contains the same amounts of water, sugar, and other components. Note that the composition of a sports drink can vary—it could be made with somewhat more or less sugar, flavoring, or other components, and still be a sports drink. Other examples of homogeneous mixtures include air, maple syrup, gasoline, and a solution of salt in water.

Flesch-Kincaid Grade Level: 10.8

Q. In paragraph 1 there is a missing sentence. Look at the four squares [A, B, C, D] that indicate where the sentence could be added. Where would the sentence best fit?

Though there are specific types of mixtures within them, the two principal categories of mixture are heterogeneous and homogeneous.

The Process of Scientific Research

Scientific knowledge is advanced through a process known as the scientific method. Basically, ideas (in the form of theories and hypotheses) are tested against the real world (in the form of empirical observations), and those empirical observations lead to more ideas that are tested against the real world, and so on. In this sense, the scientific process is circular. The types of reasoning within the circle are called deductive and inductive. In deductive reasoning, ideas are tested against the empirical world; in inductive reasoning, empirical observations lead to new ideas. These processes are inseparable, like inhaling and exhaling, but different research approaches place different emphasis on the deductive and inductive aspects.

In the scientific context, deductive reasoning begins with a generalization—one hypothesis—that is then used to reach logical conclusions about the real world. If the hypothesis is correct, then the logical conclusions reached through deductive reasoning should also be correct. A deductive reasoning argument might go something like this: All living things require energy to survive (this would be your hypothesis). Ducks are living things. Therefore, ducks require energy to survive (this would be your logical conclusion). In this example, the hypothesis is correct; therefore, the conclusion is correct as well. Sometimes, however, an incorrect hypothesis may lead to a logical but incorrect conclusion. Consider this argument: all ducks are born with the ability to see. Quackers is a duck. A Therefore, Quackers was born with the ability to see. B Scientists use deductive reasoning to empirically test their hypotheses. C Returning to the example of the ducks, researchers might design a study to test the hypothesis that if all living things require energy to survive, then ducks will be found to require energy to survive. D .

Flesch-Kincaid Grade Level: 10.7

Q. In paragraph 2 there is a missing sentence. Look at the four squares [A, B, C, D] that indicate where the sentence could be added. Where would the sentence best fit?

This means that they create studies that are designed specifically to analyze their observations or experiences in order to prove or disprove their hypotheses.

Cultural Universals

Often, a comparison of one culture to another will reveal obvious differences. Still, it's important to note that all cultures also share some common elements. Cultural universals are patterns or traits that are globally common to all societies. One example of a cultural universal is the family unit: every human society recognizes a family structure that regulates sexual reproduction and the care of children. Even so, how that family unit is defined and how it functions vary. A In many Asian cultures, for example, family members from all generations commonly live together in one household. B In these cultures, young adults will continue to live in the extended household family structure until they marry and join their spouse's household, or they may remain and raise their nuclear family within the extended family's homestead. C In the United States, by contrast, individuals are expected to leave home and live independently for a period before forming a family unit consisting of parents and their offspring. D .

Flesch-Kincaid Grade Level: 11.2

Q. In the paragraph there is a missing sentence. Look at the four squares [A, B, C, D] that indicate where the sentence could be added. Where would the sentence best fit?

In conclusion, commonalities, known as cultural universals, - like that of the family structure - between cultures can be noticed all over the world whether one compares continents or countries.

The Terrestrial Planets

A The terrestrial planets are quite different from the giants. In addition to being much smaller, they are composed primarily of rocks and metals. B These, in turn, are made of elements that are less common in the universe as a whole. C The most abundant rocks, called silicates, are made of silicon and oxygen, and the most common metal is iron. D We can tell from their densities that Mercury has the greatest proportion of metals (which are denser) and the Moon has the lowest. Earth, Venus, and Mars all have roughly similar bulk compositions: about one third of their mass consists of iron-nickel or iron-sulfur combinations; two thirds is made of silicates. Because these planets are largely composed of oxygen compounds (such as the silicate minerals of their crusts), their chemistry is said to be oxidized.

When we look at the internal structure of each of the terrestrial planets, we find that the densest metals are in a central core, with the lighter silicates near the surface. If these planets were liquid, like the giant planets, we could understand this effect as the result of the sinking of heavier elements due to the pull of gravity. This leads us to conclude that, although the terrestrial planets are solid today, at one time they must have been hot enough to melt.

Differentiation is the process by which gravity helps separate a planet's interior into layers of different compositions and densities. The heavier metals sink to form a core, while the lightest minerals float to the surface to form a crust. Later, when the planet cools, this layered structure is preserved. In order for a rocky planet to differentiate, it must be heated to the melting point of rocks, which is typically more than 1,800 F.

Flesch-Kincaid Grade Level: 9

Q. In paragraph 1 there is a missing sentence. Look at the four squares [A, B, C, D] that indicate where the sentence could be added. Where would the sentence best fit?

The terrestrial planets, as they are known, consist of the four innermost planets of our solar system - namely, Mercury, Venus, Earth, and Mars.

Metabolism and Body Weight

Our body weight is affected by a number of factors, including gene-environment interactions, and the number of calories we consume versus the number of calories we burn in daily activity. If our caloric intake exceeds our caloric use, our bodies store excess energy in the form of fat. If we consume fewer calories than we burn off, then stored fat will be converted to energy. A Our energy expenditure is obviously affected by our levels of activity, but our body's metabolic rate also comes into play. B A person's metabolic rate is the amount of energy that is expended in a given period of time, and there is tremendous individual variability in our metabolic rates. C People with high rates of metabolism are able to burn off calories more easily than those with lower rates of metabolism. D .

We all experience fluctuations in our weight from time to time, but generally, most people's weights fluctuate within a narrow margin, in the absence of extreme changes in diet and/or physical activity. This observation led some to propose a set-point theory of body weight regulation. The set-point theory asserts that each individual has an ideal body weight, or set-point, which is resistant to change. This set-point is genetically predetermined and efforts to move our weight significantly from the set-point are resisted by compensatory changes in energy intake and/or expenditure.

Some of the predictions generated from this particular theory have not received empirical support. For example, there are no changes in metabolic rate between individuals who had recently lost significant amounts of weight and a control group. In addition, the set-point theory fails to account for the influence of social and environmental factors in the regulation of body weight. Despite these limitations, set-point theory is still often used as a simple, intuitive explanation of how body weight is regulated.

Flesch-Kincaid Grade Level: 11.9

Q. In paragraph 1 there is a missing sentence. Look at the four squares [A, B, C, D] that indicate where the sentence could be added. Where would the sentence best fit?

This variability in metabolic rate is due to a variety of factors including age, gender, physical activity, hormone function, and muscle-to-fat ratio.

The Giant Impact Hypothesis

In an effort to resolve these apparent contradictions, scientists developed a fourth hypothesis for the origin of the Moon, one that involves a giant impact early in Earth's history. There is increasing evidence that large chunks of material—objects of essentially planetary mass—were orbiting in the inner solar system at the time that the terrestrial planets formed. The giant impact hypothesis envisions Earth being struck obliquely by an object approximately one-tenth Earth's mass—a "bullet" about the size of Mars. This is very nearly the largest impact Earth could experience without being shattered.

Such an impact would disrupt much of Earth and eject a vast amount of material into space, releasing almost enough energy to break the planet apart. Computer simulations indicate that material totaling several percent of Earth's mass could be ejected in such an impact. Most of this material would be from the stony mantles of Earth and the impacting body, not from their metal cores. This ejected rock vapor then cooled and formed a ring of material orbiting Earth. It was this ring that ultimately condensed into the Moon.

While we do not have any current way of showing that the giant impact hypothesis is the correct model of the Moon's origin, it does offer potential solutions to most of the major problems raised by the chemistry of the Moon. A First, since the Moon's raw material is derived from the mantles of Earth and the projectile, the absence of metals is easily understood. B Second, most of the volatile elements would have been lost during the high- temperature phase following the impact, explaining the lack of these materials on the Moon. C Yet, by making the Moon primarily of terrestrial mantle material, it is also possible to understand similarities such as identical abundances of various oxygen isotopes. D .

Flesch-Kincaid Grade Level: 11.6

Q. In paragraph 3 there is a missing sentence. Look at the four squares [A, B, C, D] that indicate where the sentence could be added. Where would the sentence best fit?

Therefore, it is for these satisfactory explanations that the giant impact hypothesis is the favored scientific theory of the formation of the Moon.

Surface Temperature on Venus

The largest volcanic mountains of Mars are found in the Tharsis area, although smaller volcanoes dot much of the surface. The most dramatic volcano on Mars is Olympus Mons (Mount Olympus), with a diameter larger than 500 kilometers and a summit that towers more than 20 kilometers above the surrounding plains—three times higher than the tallest mountain on Earth. The volume of this immense volcano is nearly 100 times greater than that of Mauna Loa in Hawaii. Placed on Earth's surface, Olympus would more than cover the entire state of Missouri.

A Images taken from orbit allow scientists to search for impact craters on the slopes of these volcanoes in order to estimate their age. B Many of the volcanoes show a fair number of such craters, suggesting that they ceased activity a billion years or more ago. C However, Olympus Mons has very, very few impact craters. D Its present surface cannot be more than about 100 million years old; it may even be much younger. Some of the fresh-looking lava flows might have been formed a hundred years ago, or a thousand, or a million, but geologically speaking, they are quite young. This leads geologists to the conclusion that Olympus Mons possibly remains intermittently active today—something future Mars land developers may want to keep in mind.

Flesch-Kincaid Grade Level: 8.8

Q. In paragraph 2 there is a missing sentence. Look at the four squares [A, B, C, D] that indicate where the sentence could be added. Where would the sentence best fit?

Generally, the more craters that appear on a surface, the older that surface is.

Long-Term Memory

A Long-term memory (LTM) is the continuous storage of information. B Unlike short-term memory, the storage capacity of LTM has no limits. C It encompasses all the things you can remember that happened more than just a few minutes ago to all of the things that you can remember that happened days, weeks, and years ago. D In keeping with the computer analogy, the information in your LTM would be like the information you have saved on the hard drive. It isn't there on your desktop (your short-term memory), but you can pull up this information when you want it, at least most of the time. Not all long-term memories are strong memories. Some memories can only be recalled through prompts. For example, you might easily recall a fact— "What is the capital of the United States?"—or a procedure—"How do you ride a bike?"—but you might struggle to recall the name of the restaurant you had dinner at when you were on vacation in France last summer. A prompt, such as that the restaurant was named after its owner, who spoke to you about your shared interest in soccer, may help you recall the name of the restaurant.

Long-term memory is divided into two types: explicit and implicit. Understanding the different types is important because a person's age or particular types of brain trauma or disorders can leave certain types of LTM intact while having disastrous consequences for other types. Explicit memories are those we consciously try to remember and recall. For example, if you are studying for your chemistry exam, the material you are learning will be part of your explicit memory.

Implicit memories are memories that are not part of our consciousness. They are memories formed from behaviors. Implicit memory is also called non-declarative memory.

Flesch-Kincaid Grade Level: 8.1

Q. In paragraph 1 there is a missing sentence. Look at the four squares [A, B, C, D] that indicate where the sentence could be added. Where would the sentence best fit?

It is defined in contrast to short-term memory.

Pioneer and Voyager

A The first spacecrafts to investigate the regions past Mars were the NASA Pioneers 10 and 11, launched in 1972 and 1973 as pathfinders to Jupiter. B One of their main objectives was simply to determine whether a spacecraft could actually navigate through the belt of asteroids that lies beyond Mars without getting destroyed by collisions with asteroidal dust. C Another objective was to measure the radiation hazards in the magnetosphere (or zone of magnetic influence) of Jupiter. Both spacecraft passed through the asteroid belt without incident, but the energetic particles in Jupiter's magnetic field nearly wiped out their electronics, providing information necessary for the safe design of subsequent missions. D.

Pioneer 10 flew past Jupiter in 1973, after which it sped outward toward the limits of the solar system. Pioneer 11 undertook a more ambitious program, using the gravity of Jupiter to aim for Saturn, which it reached in 1979. The twin Voyager spacecraft launched the next wave of outer planet exploration in 1977. Voyagers 1 and 2 each carried 11 scientific instruments, including cameras and spectrometers, as well as devices to measure the characteristics of planetary magnetospheres. Since they kept going outward after their planetary encounters, these are now the most distant spacecraft ever launched by humanity.

Voyager 1 reached Jupiter in 1979 and used a gravity assist from that planet to take it on to Saturn in 1980. Voyager 2 arrived at Jupiter four months later, but then followed a different path to visit all the outer planets, reaching Saturn in 1981, Uranus in 1986, and Neptune in 1989. This trajectory was made possible by the approximate alignment of the four giant planets on the same side of the Sun. About once every 175 years, these planets are in such a position, and it allows a single spacecraft to visit them all by using gravity-assisted flybys to adjust course for each subsequent encounter; such a maneuver has been nicknamed a "Grand Tour" by astronomers.

Flesch-Kincaid Grade Level: 11.9

Q. In paragraph 1 there is a missing sentence. Look at the four squares [A, B, C, D] that indicate where the sentence could be added. Where would the sentence best fit?

The former of these was the first spacecraft to make direct observations and take close-up pictures of Jupiter.

Insert Text Questions
Answer Key

Chemistry: The Central Science - D

D is correct. The sentence mentions "*biochemistry*" which is explained in the previous sentence, so it makes sense for the missing sentence to be placed here. Also, the missing sentence fits nicely in place **D** because it introduces the "*sub-branches*" of chemistry that the next sentence lists and explains. It does not fit in place **C** because the following sentence explains what biochemistry is and does not mention any sub-branches or subdisciplines. The sentence does not fit or flow in any other place in the paragraph.

Types of Mixtures - A

A is correct. The missing sentence provides more information about mixtures, which are introduced in the previous sentence. The missing sentence introduces "*the two principal categories of mixture*", the first of which is defined in the following sentence. Since the rest of the paragraph describes heterogeneous mixtures in more detail, there is no other logical or fitting place for this missing sentence.

The Process of Scientific Research - C

C is correct. The missing sentence starts with, "*This means that...*", which adds information to the previous sentence, and by looking at some of the keywords - "*scientists*", "*create*", "*studies*", and "*hypotheses*" - we can see that these match some of the keywords in the previous sentence that says, "*Scientists use deductive reasoning to empirically test their hypotheses*". The missing sentence mentions "*they*", which refers back to "*scientists*" in the previous sentence, and adds information to it while setting up the next sentence after it.

Cultural Universals - D

D is correct. From the first two words, "*In conclusion*", we can reasonably assume that the missing sentence belongs at the end - the conclusion - of the paragraph. It refers to the "*family structure*" which is explained previously throughout the paragraph, and it nicely sums up the main point of the paragraph, which seems to end abruptly without this sentence.

The Terrestrial Planets - A

A is correct because the sentence is very general and introduces the passage and the whole paragraph, which elaborates on and contrasts the missing sentence. It provides context about the "*terrestrial planets*" for the next sentence, which introduces the contrast that is made throughout the first paragraph. The phrase, "*as they are known*", suggests that this sentence comes first because it is introductory. The sentence does not fit elsewhere in the paragraph because it is introductory while the rest of the paragraph elaborates on the main topic and provides specific examples.

Metabolism and Body Weight - C

C is correct. The missing sentence fits in this place because it has a pronoun referent, "*This variability*", which refers back to "*individual variability in our metabolic rates*". It also explains more about the previous sentence, telling us why there is "*tremendous variability in our metabolic rates*". It might seem like a good fit at the end of the paragraph, but it does not flow as well here nor does it fit as well with the previous sentence.

The Giant Impact Hypothesis - D

D is correct. The transition word, "*Therefore*", signals to us that the sentence is a concluding statement, thus, we can reasonably place it at the end of the paragraph. While concluding words and phrases are sometimes used in other parts of a paragraph, the missing sentence is rather general and summarizes the entire paragraph, not just one point or detail. The pronoun referent "*these satisfactory explanations*" refers to the "*potential solutions*" that are discussed in the previous sentences. Therefore, it doesn't flow well or make sense in any other part of the paragraph.

Surface Temperature on Venus - B

B is correct. The sentence adds information - specifically, how impact craters can be used to determine a surface's age - to the previous sentence while also introducing the following sentence, in which an actual estimation of age based on these "*craters*" is given. **C** and **D** are not correct because the missing sentence does not flow in either of these places nor does it make sense because the surrounding sentences are more explanatory and specific whereas the missing sentence is broad and serves to introduce the examples provided in the following sentences.

Long-Term Memory - B

B is correct. It is correct because the missing sentence contains the pronoun referent "*It*" which refers back to "*long-term memory*", which is mentioned in the previous sentence. The sentence that comes after the missing sentence compares, or rather contrasts long-term and short-term memory. The missing sentence introduces or sets the context for the following sentence. It does not make sense at the beginning of the paragraph because the paragraph cannot start with "*It*".

Pioneer and Voyager - B

B is correct. The missing sentence refers to the Pioneer 10 in the former sentence, which mentions two spacecraft, using the pronoun referent "*The former of these*". In this paragraph, there are no other sentences that mention both spacecraft, therefore the missing sentence cannot be placed anywhere else because it would not make sense. The sentence that follows the missing sentence adds more information and even some contrast, in that it explains that one of the main goals of the mission was "*simply to determine whether a spacecraft could actually navigate through the belt of asteroids...*". It contrasts the fact that one of the spacecraft was able to actually take photos and directly observe Jupiter even though these were not the "*main objectives*".

Practice for the TOEFL® Reading Section

Factual Information Questions (1)

Human Anatomy

Human anatomy is the scientific study of the body's structures. Some of these structures are very small and can only be observed and analyzed with the assistance of a microscope. Other larger structures can readily be seen, manipulated, measured, and weighed. The word "anatomy" comes from a Greek root that means "to cut apart." Human anatomy was first studied by observing the exterior of the body and observing the wounds of soldiers and other injuries. Later, physicians were allowed to dissect bodies of the dead to augment their knowledge. When a body is dissected, its structures are cut apart in order to observe their physical attributes and their relationships to one another. Dissection is still used in medical schools, anatomy courses, and in pathology labs.

Flesch-Kincaid Grade Level: - 8.5

Q. Which of the following is true about human anatomy?

a. The word "anatomy" is derived from a French root that means "cut"
b. The observations of soldiers' wounds were originally used to study human anatomy
c. Human and animal bodies were dissected in labs to understand human anatomy
d. The smaller structures of the human body need to be observed with a telescope

The Nature Of Astronomy

Astronomy is defined as the study of the objects that lie beyond our planet Earth and the processes by which these objects interact with one another. We will see, though, that it is much more. It is also humanity's attempt to organize what we learn into a clear history of the universe, from the instant of its birth in the Big Bang to the present moment.

In considering the history of the universe, we will see again and again that the cosmos evolves; it changes in profound ways over long periods of time. For example, the universe made the carbon, the calcium, and the oxygen necessary to construct something as interesting and complicated as you. Today, many billions of years later, the universe has evolved into a more hospitable place for life. Tracing the evolutionary processes that continue to shape the universe is one of the most important (and satisfying) parts of modern astronomy.

Flesch-Kincaid Grade Level: 9.6

Q. According to paragraph 2, the following is one of the most significant areas of astronomy:

- **a.** The composition of the universe
- **b.** How something as complex and interesting as humans were developed
- **c.** Exploring the processes of evolution that still help shape the universe
- **d.** The study of objects made of carbon, calcium, and oxygen

Cold War Terminology

Cold War terminology was developed during the Cold War era (1945–1980). Familiar and still used by many, it involves classifying countries into first world, second world, and third world nations based on respective economic development and standards of living. When this nomenclature was developed, capitalistic democracies such as the U.S. and Japan were considered part of the first world. The poorest, most undeveloped countries were referred to as the third world and included most of sub- Saharan Africa, Latin America, and Asia. The second world was the in-between category: nations not as limited in development as the third world, but not as well off as the first world, having moderate economies and standard of living, such as China or Cuba. Later, sociologist Manuel Castells added the term fourth world to refer to stigmatized minority groups that were denied a political voice all over the globe (indigenous minority populations, prisoners, and the homeless, for example).

Flesch-Kincaid Grade Level: 11.6

Q. According to the paragraph, which of the following is true about the U.S. and Japan:

a. They categorized countries into the first, second, and third world
b. They were among the poorest and most undeveloped countries at the time
c. They were both part of the Cold War from 1945-1980
d. They were classified as first world nations at the time this categorization system was created

Tissue and Aging

According to poet Ralph Waldo Emerson, "The surest poison is time." In fact, biology confirms that many functions of the body decline with age. All the cells, tissues, and organs are affected by senescence (the process of deterioration) with noticeable variability between individuals owing to different genetic makeup and lifestyles. The outward signs of aging are easily recognizable. The skin and other tissues become thinner and drier, reducing their elasticity, contributing to wrinkles, and high blood pressure. Hair turns gray because follicles produce less melanin, the brown pigment of the hair, and the iris of the eye. The face looks flabby because elastic and collagen fibers decrease in connective tissue and muscle tone is lost. Glasses and hearing aids may become parts of life as the senses slowly deteriorate, all due to reduced elasticity. Overall height decreases as the bones lose calcium and other minerals. With age, fluid decreases in the fibrous cartilage disks intercalated between the vertebrae in the spine. Joints lose cartilage and stiffen. Many tissues, including those in muscles, lose mass through a process called atrophy. Lumps and rigidity become more widespread. As a consequence, the passageways, blood vessels, and airways become more rigid. The brain and spinal cord lose mass. Nerves do not transmit impulses with the same speed and frequency as in the past. Some loss of thought clarity and memory can accompany aging. More severe problems are not necessarily associated with the aging process and may be symptoms of underlying illness. As exterior signs of aging increase, so do the interior signs, which are not as noticeable.

Flesch-Kincaid Grade Level: 9.4

Q. What does the author say about wrinkles?

- **a.** Humans get wrinkles as they age and as blood pressure becomes higher
- **b.** They are caused by a decrease in elasticity of the skin and tissues
- **c.** They are a result of the production of less melanin
- **d.** They form through a process called atrophy

Atomic Theory through the Nineteenth Century

The earliest recorded discussion of the basic structure of matter comes from ancient Greek philosophers, the scientists of their day. In the fifth century BC, Leucippus and Democritus argued that all matter was composed of small, finite particles that they called atomos, a term derived from the Greek word for "indivisible." They thought of atoms as moving particles that differed in shape and size, and which could join together. Later, Aristotle and others came to the conclusion that matter consisted of various combinations of the four "elements"—fire, earth, air, and water—and could be infinitely divided. Interestingly, these philosophers thought about atoms and "elements" as philosophical concepts, but apparently never considered performing experiments to test their ideas.

The Aristotelian view of the composition of matter held sway for over two thousand years until English schoolteacher John Dalton helped to revolutionize chemistry with his hypothesis that the behavior of matter could be explained using an atomic theory.

Flesch-Kincaid Grade Level: 12.3

Q. According to paragraph 1, what did some Greek philosophers believe about matter?

- **a.** That it differed in size and shape
- **b.** That it was composed of infinite visible particles called atoms
- **c.** That it was composed of different combinations of the four elements
- **d.** That atomic theory could help them understand it

Fixed and Wandering Stars

Ancient Babylonian, Assyrian, and Egyptian astronomers knew the approximate length of the year. The Egyptians of 3000 years ago, for example, adopted a calendar based on a 365-day year. They kept careful track of the rising time of the bright star Sirius in the predawn sky, which has a yearly cycle that corresponded with the flooding of the Nile River. The Chinese also had a working calendar; they determined the length of the year at about the same time as the Egyptians. The Chinese also recorded comets, bright meteors, and dark spots on the Sun. Later, Chinese astronomers kept careful records of "guest stars"—those that are normally too faint to see but suddenly flare up to become visible to the unaided eye for a few weeks or months. We still use some of these records in studying stars that exploded a long time ago.

The Mayan culture in Mexico and Central America developed a sophisticated calendar based on the planet Venus, and they made astronomical observations from sites dedicated to this purpose a thousand years ago. The Polynesians learned to navigate by the stars over hundreds of kilometers of open ocean—a skill that enabled them to colonize new islands far away from where they began.

In Britain, before the widespread use of writing, ancient people used stones to keep track of the motions of the Sun and Moon. We still find some of the great stone circles they built for this purpose, dating from as far back as 2800 BCE. The best known of these is Stonehenge.

Flesch-Kincaid Grade Level: 9.5

Q. What does the author say about ancient calendars in paragraph 2?

a. They were created based on observing the stars and planets
b. They were the reason that colonization was made possible
c. The Mayans invented them all by observing the stars in the open ocean
d. They were developed in order to make astronomical observations

The Invention of the X-Ray

German physicist Wilhelm Röntgen (1845–1923) was experimenting with electrical current when he discovered that a mysterious and invisible "ray" would pass through his flesh but leave an outline of his bones on a screen coated with a metal compound. In 1895, Röntgen made the first durable record of the internal parts of a living human: an "X-ray" image (as it came to be called) of his wife's hand. Scientists around the world quickly began their own experiments with X-rays, and by 1900, X-rays were widely used to detect a variety of injuries and diseases. In 1901, Röntgen was awarded the first Nobel Prize for physics for his work in this field. The X-ray is a form of high energy electromagnetic radiation with a short wavelength capable of penetrating solids and ionizing gases. As they are used in medicine, X-rays are emitted from an X-ray machine and directed toward a specially treated metallic plate placed behind the patient's body. The beam of radiation results in the darkening of the X-ray plate. X-rays are slightly impeded by soft tissues, which show up as gray on the X-ray plate, whereas hard tissues, such as bone, largely block the rays, producing a light-toned "shadow." Thus, X-rays are best used to visualize hard body structures such as teeth and bones. Like many forms of high energy radiation, however, X-rays are capable of damaging cells and initiating changes that can lead to cancer. This danger of excessive exposure to X-rays was not fully appreciated for many years after their widespread use.

Flesch-Kincaid Grade Level: 8.9

Q. The paragraph states that x-rays

- **a.** Were invented by a female scientist in the 19th century
- **b.** Were commonly used in medicine to find diseases and injuries as early as the 1900s
- **c.** Are typically used for observing the exterior structures of the body
- **d.** Were only widely appreciated several years following their invention

Feudal Societies

The ninth century gave rise to feudal societies. These societies contained a strict hierarchical system of power based on land ownership and protection. The nobility, known as lords, placed vassals in charge of pieces of land. In return for the resources that the land provided, vassals promised to fight for their lords.

These individual pieces of land, known as fiefdoms, were cultivated by the lower class. In return for maintaining the land, peasants were guaranteed a place to live and protection from outside enemies. Power was handed down through family lines, with peasant families serving lords for generations and generations. Ultimately, the social and economic system of feudalism would fail, replaced by capitalism and the technological advances of the industrial era.

Flesch-Kincaid Grade Level: 8.7

Q. Which of the following best describes a feudal society?

- **a.** Peasant families governed large plots of land in return for resources
- **b.** A system in which people owned fiefdoms that were maintained for their resources
- **c.** A hierarchy in which peasants worked plots of land for the owners
- **d.** A lineage based economic and social system

Calorimetry

One technique we can use to measure the amount of heat involved in a chemical or physical process is known as calorimetry. Calorimetry is used to measure amounts of heat transferred to or from a substance. To do so, the heat is exchanged with a calibrated object (calorimeter). The temperature change measured by the calorimeter is used to derive the amount of heat transferred by the process under study. The measurement of heat transfer using this approach requires the definition of a system (the substance or substances undergoing the chemical or physical change) and its surroundings (the other components of the measurement apparatus that serve to either provide heat to the system or absorb heat from the system). Knowledge of the heat capacity of the surroundings, and careful measurements of the masses of the system and surroundings and their temperatures before and after the process allows one to calculate the heat transferred.

A calorimeter is a device used to measure the amount of heat involved in a chemical or physical process. For example, when an exothermic reaction occurs in solution in a calorimeter, the heat produced by the reaction is absorbed by the solution, which increases its temperature. When an endothermic reaction occurs, the heat required is absorbed from the thermal energy of the solution, which decreases its temperature. The temperature change, along with the specific heat and mass of the solution, can then be used to calculate the amount of heat involved in either case.

Flesch-Kincaid Grade Level: 11.5

Q. Calorimetry is best described as ...

- **a.** A way of measuring the transfer of heat between chemicals
- **b.** The measurement of heat in a system's surroundings
- **c.** The only way to measure heat transfer between objects
- **d.** A method of measuring how much heat occurs in either a physical or chemical process

Exercise and Bone Tissue

During long space missions, astronauts can lose approximately 1 to 2 percent of their bone mass per month. This loss of bone mass is thought to be caused by the lack of mechanical stress on astronauts' bones due to the low gravitational forces in space. Lack of mechanical stress causes bones to lose mineral salts and collagen fibers, and thus strength. Similarly, mechanical stress stimulates the deposition of mineral salts and collagen fibers. The internal and external structure of a bone will change as stress increases or decreases so that the bone is an ideal size and weight for the amount of activity it endures. That is why people who exercise regularly have thicker bones than people who are more sedentary. It is also why a broken bone in a cast atrophies while its contralateral mate maintains its concentration of mineral salts and collagen fibers. The bones undergo remodeling as a result of forces (or lack of forces) placed on them.

Flesch-Kincaid Grade Level: 8.4

Q. What does the author say about bones?

- **a.** They go through changes based on the amount of mechanical stress applied to them
- **b.** They lose 1-2 percent of their mass monthly
- **c.** They fluctuate in size and weight based on a human's body size
- **d.** They are thicker in people who are less physically active

Mass Extinction

The best-documented large impact took place 65 million years ago, at the end of what is now called the Cretaceous period of geological history. This time in the history of life on Earth was marked by a mass extinction, in which more than half of the species on our planet died out. There are a dozen or more mass extinctions in the geological record, but this particular event (nicknamed the "great dying") has always intrigued paleontologists because it marks the end of the dinosaur age. For tens of millions of years, these great creatures had flourished and dominated. Then, they suddenly disappeared, and thereafter mammals began the development and diversification that ultimately led to all of us.

The object that collided with Earth at the end of the Cretaceous period struck a shallow sea in what is now the Yucatán peninsula of Mexico. Its mass must have been more than a trillion tons, determined from a study of a worldwide layer of sediment deposited from the dust cloud that enveloped the planet after its impact. First identified in 1979, this sediment layer is rich in the rare metal iridium and other elements that are relatively abundant in asteroids and comets, but exceedingly rare in Earth's crust. Even though it was diluted by the material that the explosion excavated from the surface of Earth, this cosmic component can still be identified. In addition, this layer of sediment contains many minerals characteristic of the temperatures and pressures of a gigantic explosion.

Flesch-Kincaid Grade Level: 11.3

Q. According to paragraph 1, which of the following is true?

- **a.** There were just under 12 large-scale extinctions on Earth
- **b.** The largest impact occurred about 65 million years ago
- **c.** The geological record indicates that have been at least 12 mass extinctions
- **d.** At the beginning of the Cretaceous period, a huge impact occurred

Hearing Loss

Deafness is the partial or complete inability to hear. Some people are born deaf, which is known as congenital deafness. Many others begin to suffer from conductive hearing loss because of age, genetic predisposition, or environmental effects, including exposure to extreme noise (noise-induced hearing loss), certain illnesses (such as measles or mumps), or damage due to toxins (such as those found in certain solvents and metals).

Given the mechanical nature by which the sound wave stimulus is transmitted from the eardrum through the ossicles to the oval window of the cochlea, some degree of hearing loss is inevitable. With conductive hearing loss, hearing problems are associated with a failure in the vibration of the eardrum and/or movement of the ossicles. These problems are often dealt with through devices like hearing aids that amplify incoming sound waves to make vibration of the eardrum and movement of the ossicles more likely to occur.

When the hearing problem is associated with a failure to transmit neural signals from the cochlea to the brain, it is called sensorineural hearing loss. One disease that results in sensorineural hearing loss is Ménière's disease. Although not well understood, Ménière's disease results in a degeneration of inner ear structures that can lead to hearing loss, tinnitus (constant ringing or buzzing), vertigo (a sense of spinning), and an increase in pressure within the inner ear. This kind of loss cannot be treated with hearing aids, but some individuals might be candidates for a cochlear implant as a treatment option. Cochlear implants are electronic devices that consist of a microphone, a speech processor, and an electrode array. The device receives incoming sound information and directly stimulates the auditory nerve to transmit information to the brain.

Flesch-Kincaid Grade Level: 11.2

Q. Which of the following best describes conductive hearing loss?

- **a.** The total or partial loss of one's hearing
- **b.** A congenital condition that people are born with
- **c.** An inevitable loss of hearing due to the problems with the eardrum
- **d.** The increased movement of the ossicles to the cochlea

The Ideal Gas Law

During the seventeenth and especially eighteenth centuries, driven both by a desire to understand nature and a quest to make balloons in which they could fly, a number of scientists established the relationships between the macroscopic physical properties of gases, that is, pressure, volume, temperature, and amount of gas. Although their measurements were not precise by today's standards, they were able to determine the mathematical relationships between pairs of these variables (e.g., pressure and temperature, pressure, and volume) that hold for an ideal gas—a hypothetical construct that real gases approximate under certain conditions. Eventually, these individual laws were combined into a single equation—the ideal gas law—that relates gas quantities for gases and is quite accurate for low pressures and moderate temperatures.

Flesch-Kincaid Grade Level: 11.5

Q. According to the paragraph, what occurred between the 1600s and 1700s?

a. Scientists constructed a hypothesis about gas pressure, volume, and temperature
b. Scientists discovered connections between the visible physical features of gases
c. Precise measurements regarding the ideal gas were developed by a physicist
d. Imprecise standards about gases were determined by a small group of scientists

Forensic Psychology

Forensic psychology is a branch of psychology that deals with questions of psychology as they arise in the context of the justice system. For example, forensic psychologists (and forensic psychiatrists) will assess a person's competency to stand trial, assess the state of mind of a defendant, act as consultants on child custody cases, consult on sentencing and treatment recommendations, and advise on issues such as eyewitness testimony and children's testimony. In these capacities, they will typically act as expert witnesses, called by either side in a court case to provide their research- or experience-based opinions. As expert witnesses, forensic psychologists must have a good understanding of the law and provide information in the context of the legal system rather than just within the realm of psychology. Forensic psychologists are also used in the jury selection process and witness preparation. They may also be involved in providing psychological treatment within the criminal justice system. Criminal profilers are a relatively small proportion of psychologists that act as consultants to law enforcement.

Flesch-Kincaid Grade Level: 12.6

Q. Which of the following is true about the role of forensic psychologists according to the paragraph?

a. They provide consultations regarding cases of child custody
b. They are experts on law and the legal system
c. Most psychologists serve as criminal profilers helping the authorities
d. Their roles are various from consulting to advising to being expert witnesses

Cognition and Latent Learning

Although strict behaviorists such as Skinner and Watson refused to believe that cognition (such as thoughts and expectations) plays a role in learning, another behaviorist, Edward C. Tolman, had a different opinion. Tolman's experiments with rats demonstrated that organisms can learn even if they do not receive immediate reinforcement. This finding was in conflict with the prevailing idea at the time that reinforcement must be immediate in order for learning to occur, thus suggesting a cognitive aspect to learning.

In the experiments, Tolman placed hungry rats in a maze with no reward for finding their way through it. He also studied a comparison group that was rewarded with food at the end of the maze. As the unreinforced rats explored the maze, they developed a cognitive map: a mental picture of the layout of the maze. After 10 sessions in the maze without reinforcement, food was placed in a goal box at the end of the maze. As soon as the rats became aware of the food, they were able to find their way through the maze quickly, just as quickly as the comparison group, which had been rewarded with food all along. This is known as latent learning: learning that occurs but is not observable in behavior until there is a reason to demonstrate it.

Flesch-Kincaid Grade Level: 8.9

Q. According to paragraph 2, which of the following best describes latent learning?

- **a.** Learning that occurs through experimentation and hands-on activities
- **b.** The acquisition of knowledge at a faster rate due to positive reinforcement
- **c.** The demonstration of one's knowledge for no reason
- **d.** Learning that is only noticeable when there's a reason to show it

The Process of Aging

As human beings grow older, they go through different phases or stages of life. It is helpful to understand aging in the context of these phases. A life course is the period from birth to death, including a sequence of predictable life events such as physical maturation. Each phase comes with different responsibilities and expectations, which of course vary by individual and culture. Children love to play and learn, looking forward to becoming preteens. As preteens begin to test their independence, they are eager to become teenagers. Teenagers anticipate the promises and challenges of adulthood. Adults become focused on creating families, building careers, and experiencing the world as an independent person. Finally, many adults look forward to old age as a wonderful time to enjoy life without as much pressure from work and family life. In old age, grandparenthood can provide many of the joys of parenthood without all the hard work that parenthood entails. And as work responsibilities abate, old age may be a time to explore hobbies and activities that there was no time for earlier in life. But for other people, old age is not a phase looked forward to. Some people fear old age and do anything to "avoid" it, seeking medical and cosmetic fixes for the natural effects of age. These differing views on the life course are the result of the cultural values and norms into which people are socialized.

Flesch-Kincaid Grade Level: 8.6

Q. According to the passage, old age is a time for …

- **a.** Medical and cosmetic procedures to reverse or slow the effects of aging
- **b.** Seeking out different views about cultural values and social norms
- **c.** Finding new hobbies and trying new activities there wasn't time for previously
- **d.** Slowing down and taking care of grandchildren

Labeling Theory

Although all of us violate norms from time to time, few people would consider themselves deviant. Those who do, however, have often been labeled "deviant" by society and have gradually come to believe it themselves. Labeling theory examines the ascribing of a deviant behavior to another person by members of society. Thus, what is considered deviant is determined not so much by the behaviors themselves or the people who commit them, but by the reactions of others to these behaviors. As a result, what is considered deviant changes over time and can vary significantly across cultures.

Flesch-Kincaid Grade Level: 9.7

Q. According to the paragraph, which of the following best describes the labeling theory?

a. Individuals who are given the label "*deviant*"
b. The classification of a person based on society's reactions to their actions
c. Referring to people by a specific label determined by their own behavior
d. The categorization of behaviors that varies from culture to culture

Meritocracy

Meritocracy is another system of social stratification in which personal effort—or merit—determines social standing. High levels of effort will lead to a high social position and vice versa. The concept of meritocracy is an ideal—that is, a society has never existed where social rank was based purely on merit. Because of the complex structure of societies, processes like socialization, and the realities of economic systems, social standing is influenced by multiple factors, not merit alone. Inheritance and pressure to conform to norms, for instance, disrupt the notion of a pure meritocracy. Sociologists see aspects of meritocracies in modern societies when they study the role of academic performance and job performance, and the systems in place for evaluating and rewarding achievement in these areas.

Flesch-Kincaid Grade Level: 13.4

Q. Which of the following best explains meritocracy?

a. An economic system based on one's personal achievements
b. A very realistic social system that is based entirely on one's merits and accomplishments
c. A society in which complicated social structures are affected by multiple factors
d. An idealistic social ranking system in which a person's standing is based on their achievements

Gas Pressure

The earth's atmosphere exerts a pressure, as does any other gas. Although we do not normally notice atmospheric pressure, we are sensitive to pressure changes—for example, when your ears "pop" during take-off and landing while flying, or when you dive underwater. Gas pressure is caused by the force exerted by gas molecules colliding with the surfaces of objects. Although the force of each collision is very small, any surface of appreciable area experiences a large number of collisions in a short time, which can result in a high pressure. In fact, normal air pressure is strong enough to crush a metal container when not balanced by equal pressure from inside the container.

Atmospheric pressure is caused by the weight of the column of air molecules in the atmosphere above an object, such as the tanker car. At sea level, this pressure is roughly the same as that exerted by a full-grown African elephant standing on a doormat, or a typical bowling ball resting on your thumbnail. These may seem like huge amounts, and they are, but life on earth has evolved under such atmospheric pressure. If you actually perch a bowling ball on your thumbnail, the pressure experienced is twice the usual pressure, and the sensation is unpleasant.

Flesch-Kincaid Grade Level: 9.1

Q. Paragraph 2 states that ...

- **a.** Atmospheric pressure is caused by forces that are currently unknown
- **b.** The atmospheric pressure at sea level is comparable to a tanker car
- **c.** The pressure at sea level is the equivalent to that of an elephant on a doormat
- **d.** The evolution of life has occurred with a small amount of atmospheric pressure

Social Roles

One major social determinant of human behavior is our social roles. A social role is a pattern of behavior that is expected of a person in a given setting or group. Each one of us has several social roles. You may be, at the same time, a student, a parent, an aspiring teacher, a son or daughter, a spouse, and a lifeguard. How do these social roles influence your behavior? Social roles are defined by culturally shared knowledge. That is, nearly everyone in a given culture knows what behavior is expected of a person in a given role. For example, what is the social role for a student? If you look around a college classroom you will likely see students engaging in studious behavior, taking notes, listening to the professor, reading the textbook, and sitting quietly at their desks. Of course, you may see students deviating from the expected studious behavior such as texting on their phones or using Facebook on their laptops, but in all cases, the students that you observe are attending class—a part of the social role of students.

Social roles, and our related behavior, can vary across different settings. How do you behave when you are engaging in the role of son or daughter and attending a family function? Now imagine how you behave when you are engaged in the role of employee at your workplace. It is very likely that your behavior will be different. Perhaps you are more relaxed and outgoing with your family, making jokes and doing silly things. But at your workplace, you might speak more professionally, and although you may be friendly, you are also serious and focused on getting the work completed. These are examples of how our social roles influence and often dictate our behavior to the extent that identity and personality can vary with context (that is, in different social groups).

Flesch-Kincaid Grade Level: 8.9

Q. According to paragraph 2, which of the following is true of social roles?

a. They usually remain the same regardless of setting and environment
b. Humans take on different social roles based on their surroundings
c. Certain individuals change their behavior depending on their expectations
d. All people are more comfortable with their families but are always professional in the workplace

Factual Information Questions
Answer Key

Human Anatomy - B

B is correct because the other 3 options are all untrue - they each contain at least a word that changes its original meaning. The passage states "*Human anatomy was first studied by observing the exterior of the body and observing the wounds of soldiers...*". While the words "human anatomy" are mentioned a few times, the answer can be found by searching for other keywords like "*soldiers*"' and "*wounds*".

The Nature of Astronomy - C

C is correct because it uses synonyms as well as keywords that match passage text whereas options A and **D** are not mentioned as specific areas of astronomy. Lastly, option **B** is partially mentioned though it's not explicitly said to be an area of astronomy.

Cold War Terminology - D

D is correct because when we look for the keywords from the question in the passage, the sentence that contains the "*the U.S. and Japan*" explains how they were considered first world countries. Since they are not mentioned again, there is no need to look further.

Tissue and Aging - B

B is correct because the keyword in the question - "*wrinkles*" - is found in the passage in a sentence that explains what is summarized in option **B**. While half of option **A** is true, the second half is not - wrinkles are not caused by high blood pressure but rather both are caused by reduced elasticity. Options **C** and **D** are simply untrue.

Atomic Theory Through the Nineteenth Century - C

C is correct because if we look within the first couple sentences of the keywords in the question - "G*reek philosophers*" and "*matter*" - we can find exactly what they "*argued*" about matter. While the keywords from answer **A** - "*differed*", "*size*", and "*shape*" are in the next sentence, the subject is "*particles*", not matter. Option **B** uses the wrong modifier, "*infinite*" and "*visible*", and option **D** is a more modern hypothesis by schoolteacher John Dalton.

Fixed and Wandering Stars - A

A is correct because, in paragraph 2, the author talks about how the Mayan culture, an ancient group, developed calendars based on Venus - a planet - and "*astronomical observations from sites…a thousand years ago*". Thus, we can conclude it's ancient. Additionally, it says that the Polynesians, another ancient culture, used the stars to navigate. Some of the keywords from option **A** - "*based on*" and "*planet*" - are found within the same sentence in which the question keyword "*calendars*" is mentioned, thus there is no need to go beyond option **A**.

The Invention of the X-Ray - B

B is correct because we can immediately eliminate option **A** as it was a male scientist, not a female. A sentence with some of the keywords in option **B** - "*diseases*", "*injuries*", and "*1900s*" - is in the passage and is true. Like most answers, it is restated using synonyms. Options **C** and **D** contain modifiers that might signal to us that they are wrong as well as other words that greatly change the meaning of the passage.

Feudal Societies - C

C is correct because option **A** is incorrect - peasants did not govern the land while option **B** is vague and does not actually describe how the system worked. Keywords cannot be relied on to find the answer to this question. It also requires reading most of the passage, or at least all of the second paragraph. For, it explains that the lower class or "*peasants*" cultivated the land. While option **D** might seem right, it was not a "*lineage based system*" but rather a system based on land ownership.

Calorimetry - D

D is correct because if we look for the keyword "*calorimetry*" from the question and the keywords from option a, we can find that it does not state that it's the measure of heat between chemicals. Rather, it states that it's the measure of heat "*involved in a chemical or physical process*", which matches the keywords in option **D**. Option **C** is incorrect because it mentions heat transfer between "*objects*" but the passage says "*substances*".

Exercise and Bone Tissue - A

A is correct because the final sentence states that bones experience "*remodeling*" or "*changes*" based on the "*forces or lack of forces*" - which is also referred to as mechanical stress in the paragraph - put on them. For this question and answer, it is necessary to read most of the passage because the keyword "*bones*" from the question is mentioned several times throughout. Since the keywords in option a are spaced out throughout the paragraph also, it might be necessary to go on to options **B**, **C**, and **D** and eliminate incorrect choices first. Option **B** has some keywords that help us located the sentence quickly - "*1-2 percent*" and "*mass*" - but the answer does not match what is written in the paragraph. For, it says "*astronauts can lose 1-2 percent...per month,*" not that they do every month. Options **C** and **D** are untrue; the actual facts can be found by searching for the keywords "*size*", "*weight*" and "*thicker*".

Mass Extinction - C

C is correct because we can find the original sentence in the first paragraph by searching for the keywords - "*geological record*" and "*mass extinctions*". A dozen means 12, and the sentence states that "*a dozen or more*" which is equivalent to saying "*at least 12*". Option **A** is incorrect because it says "*less than 12*", and option **B** is wrong because it has an incorrect modifier making an absolute statement - "*the largest*" - when the passage actually uses the word "*large*".

Hearing Loss - C

C is correct because it best describes conductive hearing loss. The keywords from option **C** can be found in paragraph 2 - "*inevitable*", "*loss*", "*problems*", and "*eardrum*". The question asks about a specific term in the passage; it is mentioned in more than one paragraph so it is necessary to read at least the first two paragraphs. Option **A** is incorrect because it is describing deafness. Option **B** is referring to deafness, which some people can be born with, and option **D** partly describes how hearing aids work, which is not what the question is asking.

The Ideal Gas Law - B

B is correct because we find the keywords "*scientists*", "*physical*", "*gases*", and in this case, "*between*" in the first and same sentence in which the question keywords are mentioned. Note that the question uses the numerical form of the dates mentioned in the paragraph, *i.e.*, the 1600s and 1700s is the equivalent to the "*seventeenth and... eighteenth centuries*". Option **A** does match some of the keywords in the same sentence as the correct option, but it doesn't state that scientists constructed a hypothesis about gas, pressure, volume, and temperature. Options **C** and **D** are incorrect as they use additional or incorrect modifiers like "*precise*" and "*small*".

Forensic Psychology - D

D is correct because the first three options are incorrect. Option **A** is technically true, but it's not the only role that is mentioned in the passage. Option **B** is untrue and option c uses an incorrect modifier - "*most*". Option **D** mentions all the "*various roles*" they play, and though the words are in alternate forms, they are still present in the paragraph - "*consulting*", "*advising*", and "*expert witnesses*". **B** is incorrect because of the difference between the word "*expert*" and the phrase in the passage "*good understanding*".

Cognition & Latent Learning - D

D is correct because it is a reiteration of the final statement about latent learning; it uses synonyms but does include a couple of keywords - "*learning*" and "*reason*". Option **A** is not mentioned at all; the passage talks about experiments, not "*experimentation*" or "*hands on*" activities. Option **B** does not describe latent learning and option **C** contains variations of some of the words in the passage in relation to latent learning ("*demonstration*", "*reason*") but, overall, the sentence is actually the opposite of the correct answer.

The Process of Aging - C

C is correct because the keywords in the answer - "*hobbies*" and "*activities*" - are mentioned right after the keywords - "*old age*" and "*time for*". While option **A** summarizes part of the text in the passage, it is not preceded by all of the keywords in the question. Options **B** and **D** are wrong because the word order has been altered and they no longer match the original statements in the passage.

Labeling Theory - B

B is correct because "*classification*" is another word for "*labeling*", and we can find a keyword from the answer in the passage - "*reactions*". Some of the other keywords are mentioned throughout the paragraph, but option **B** summarizes the main concluding statement about the labeling theory. Option **A** is correct because it is only describing an example of the theory, not the entire theory itself. Option **C** is wrong because it contradicts the statement made in the passage saying the label is "*determined by their own behavior*", and option **D** is wrong because the theory is not a "*categorization of behaviors*".

Meritocracy - D

D is correct because we can find the original statement it's summarizing by looking after the keyword from the question, "*meritocracy*", and by finding the keywords, though some are in alternate forms, from the answer - "*idealistic*", "*social ranking*", and "*based on*". Option **A** is wrong because it is not an "*economic system*". Options **B** and **C** are wrong because b uses modifiers that are incorrect - "*very realistic*" - and **C** alters the word order of other statements, making it untrue.

Gas Pressure - C

C is correct because we can find a true statement in paragraph 2 that uses the keywords "*sea level*", "*elephant*", and "*doormat*". Option **A** is wrong because the forces are known; option **B** is wrong because it is mixing together two different statements; and **D** is wrong because it uses an incorrect modifier, "*small*" to change the meaning of the original statement.

Social Roles - B

B is correct because immediately following the keywords from the question, "*social roles*", we find some of the keywords from the answer - "*different*", "*social*", "*roles*", as well as synonyms used, to sum up, the sentence. Option **A** is incorrect because the very first statement in the paragraph is the opposite. Options **C** and **D** are wrong because **C** uses an incorrect modifier, "*certain*", that changes the meaning while **D** adds modifiers and makes an absolute claim that is not reflected in the passage.

Practice for the TOEFL® Reading Section

Negative Factual Information Questions (1)

Types of Pressure

Pressure is a force exerted by a substance that is in contact with another substance. Atmospheric pressure is pressure exerted by the mixture of gases (primarily nitrogen and oxygen) in the Earth's atmosphere. Although you may not perceive it, atmospheric pressure is constantly pressing down on your body. This pressure keeps gases within your body, such as the gaseous nitrogen in body fluids, dissolved. If you were suddenly ejected from a spaceship above Earth's atmosphere, you would go from a situation of normal pressure to one of very low pressure. The pressure of the nitrogen gas in your blood would be much higher than the pressure of nitrogen in the space surrounding your body. As a result, the nitrogen gas in your blood would expand, forming bubbles that could block blood vessels and even cause cells to break apart.

Atmospheric pressure does more than just keep blood gases dissolved. Your ability to breathe—that is, to take in oxygen and release carbon dioxide—also depends upon a precise atmospheric pressure. Altitude sickness occurs in part because the atmosphere at high altitudes exerts less pressure, reducing the exchange of these gases, and causing shortness of breath, confusion, headache, lethargy, and nausea. Mountain climbers carry oxygen to reduce the effects of both low oxygen levels and low barometric pressure at higher altitudes.

Flesch-Kincaid Grade Level: 9.6

Q. According to paragraph 2, which of the following is NOT true about atmospheric pressure?

a. It is responsible for more than the dissolution of blood gases
b. A very specific level of pressure is required for humans to breathe
c. The lower pressure at high altitudes is the sole cause of altitude sickness
d. Some of the symptoms of altitude sickness are confusion, nausea, and being short of breath

Europa, a Moon with an Ocean

Europa and the inner two Galilean moons are not icy worlds like most of the moons of the outer planets. With densities and sizes similar to our Moon, they appear to be predominantly rocky objects.

The most probable cause is Jupiter itself, which was hot enough to radiate a great deal of infrared energy during the first few million years after its formation. This infrared radiation would have heated the disk of material near the planet that would eventually coalesce into the closer moons.

Thus, any ice near Jupiter was vaporized, leaving Europa with compositions similar to planets in the inner solar system.

Despite its mainly rocky composition, Europa has an ice-covered surface, as astronomers have long known from examining spectra of sunlight reflected from it. In this, it resembles Earth, which has a layer of water on its surface, but in Europa's case, the water is capped by a thick crust of ice. There are very few impact craters in this ice, indicating that the surface of Europa is in a continual state of geological self-renewal. Judging from crater counts, the surface must be no more than a few million years old, and perhaps substantially less. In terms of its ability to erase impact craters, Europa is more geologically active than Earth.

When we look at close-up photos of Europa, we see a strange, complicated surface. For the most part, the icy crust is extremely smooth, but it is crisscrossed with cracks and low ridges that often stretch for thousands of kilometers. Some of these long lines are single, but most are double or multiple, looking rather like the remnants of a colossal freeway system.

Flesch-Kincaid Grade Level: 9.7

Q. All of the following are true of Europa except ...

- **a.** It's mostly composed of rock with an exterior of ice
- **b.** It looks similar to the planet Earth because both have water on the surface
- **c.** The few impact craters in the ice suggest that it's renewed itself geologically once
- **d.** The number of craters indicates that it has a maximum surface age of a few million years

Diseases

One of the most talked about diseases is skin cancer. Cancer is a broad term that describes diseases caused by abnormal cells in the body dividing uncontrollably. Most cancers are identified by the organ or tissue in which cancer originates. One common form of cancer is skin cancer. The Skin Cancer Foundation reports that one in five Americans will experience some type of skin cancer in their lifetime. The degradation of the ozone layer in the atmosphere and the resulting increase in exposure to UV radiation has contributed to its rise. Overexposure to UV radiation damages DNA, which can lead to the formation of cancerous lesions. Although melanin offers some protection against DNA damage from the sun, often it is not enough. The fact that cancers can also occur in areas of the body that are normally not exposed to UV radiation suggests that there are additional factors that can lead to cancerous lesions.

Flesch-Kincaid Grade Level: 8.6

Q. All of the following statements are true of cancer except ...

- **a.** The term "cancer" usually describes diseases that cause irregular cells to multiply uncontrollably
- **b.** The most common and fatal form of cancer is skin cancer
- **c.** Approximately 20% of Americans will experience a form of skin cancer
- **d.** Harm to our DNA can cause cancerous spots to form

Plate Tectonics

Geology is the study of Earth's crust and the processes that have shaped its surface throughout history. Heat escaping from the interior provides energy for the formation of our planet's mountains, valleys, volcanoes, and even the continents and ocean basins themselves. But not until the middle of the twentieth century did geologists succeed in understanding just how these landforms are created.

Plate tectonics is a theory that explains how slow motions within the mantle of Earth move large segments of the crust, resulting in a gradual "drifting" of the continents as well as the formation of mountains and other large-scale geological features. Plate tectonics is a concept as basic to geology as evolution by natural selection is to biology or gravity is to understanding the orbits of planets. Looking at it from a different perspective, plate tectonics is a mechanism for Earth to transport heat efficiently from the interior, where it has accumulated, out to space. It is a cooling system for the planet. All planets develop a heat transfer process as they evolve; mechanisms may differ from that on Earth as a result of chemical makeup and other constraints.

Flesch-Kincaid Grade Level: 10.8

Q. According to paragraph 2, which of the following statements about plate tectonics is NOT true?

- **a.** Plate tectonics is the proven way in which the Earth's mantle moves which results in the creation of mountains
- **b.** It is as fundamental to the study of geology as evolution is to biology
- **c.** It is a means by which the planet Earth moves heat into space from its core
- **d.** It is not how all planets transport heat

Prosopagnosia

The failures of sensory perception can be unusual and debilitating. A particular sensory deficit that inhibits an important social function of humans is prosopagnosia or face blindness. The word comes from the Greek words prosopa, which means "faces," and agnosia, which means "not knowing." Some people may feel that they cannot recognize people easily by their faces. However, a person with prosopagnosia cannot recognize the most recognizable people in their respective cultures. They would not recognize the face of a celebrity, an important historical figure, or even a family member like their mother. They may not even recognize their own face.

Flesch-Kincaid Grade Level: 9.3

Q. Which of the following is NOT true about prosopagnosia?

a. Another name for prosopagnosia is face blindness
b. The word is derived from two Greek words that were combined
c. People with this sensory deficit can't recognize celebrities or historical figures, but they normally recognize close family members
d. Some individuals suffering from face blindness might not be able to recognize themselves

Light as a Photon

The electromagnetic wave model of light (as formulated by Maxwell) was one of the great triumphs of nineteenth-century science. In 1887, when Heinrich Hertz actually made invisible electromagnetic waves (what today are called radio waves) on one side of a room and detected them on the other side, it ushered in a new era that led to the modern age of telecommunications. His experiment ultimately led to the technologies of television, cell phones, and today's wireless networks around the globe.

However, by the beginning of the twentieth century, more sophisticated experiments had revealed that light behaves in certain ways that cannot be explained by the wave model. Reluctantly, physicists had to accept that sometimes light behaves more like a "particle"—or at least a self-contained packet of energy—than a wave. We call such a packet of electromagnetic energy a photon.

The fact that light behaves like a wave in certain experiments and like a particle in others was a very surprising and unlikely idea. After all, our common sense says that waves and particles are opposite concepts. On one hand, a wave is a repeating disturbance that, by its very nature, is not in only one place, but spreads out. A particle, on the other hand, is something that can be in only one place at any given time. Strange as it sounds, though, countless experiments now confirm that electromagnetic radiation can sometimes behave like a wave and at other times like a particle.

Flesch-Kincaid Grade Level: 10.5

Q. According to paragraph 3, which of the following is NOT true?

a. Certain experiments have demonstrated that light can act both like a wave and a particle
b. It's logical that something can act as both a wave and particle because they are closely-related ideas
c. Particles are only capable of being in one place at a time
d. Electromagnetic radiation, as it has been shown in experiments, can act like a wave at times and like a particle at others

The Internal Compartments of the Human Body

A human body consists of trillions of cells organized in a way that maintains distinct internal compartments. These compartments keep body cells separated from external environmental threats and keep the cells moist and nourished. They also separate internal body fluids from the countless microorganisms that grow on body surfaces, including the lining of certain tracts, or passageways. The intestinal tract, for example, is home to even more bacteria cells than the total of all human cells in the body, yet these bacteria are outside the body and cannot be allowed to circulate freely inside the body. Cells, for example, have a cell membrane (also referred to as the plasma membrane) that keeps the intracellular environment—the fluids and organelles—separate from the extracellular environment. Blood vessels keep blood inside a closed circulatory system, and nerves and muscles are wrapped in connective tissue sheaths that separate them from surrounding structures. In the chest and abdomen, a variety of internal membranes keep major organs such as the lungs, heart, and kidneys separate from others.

Flesch-Kincaid Grade Level: 11.3

Q. Which of the following is NOT true about the internal compartments of the body?

- **a.** They are kept separate because of the way that the trillions of cells within the human body are organized
- **b.** These compartments not only nourish cells but they keep microorganisms on the exterior away from our bodily fluids
- **c.** They do allow certain bacteria cells to enter and circulate the body as needed
- **d.** The membrane on cells and blood vessels that keep blood in a closed system contribute to keeping these compartments distinct

Dorothy Hodgkin

Because the wavelengths of X-rays (10-10,000 picometers [pm]) are comparable to the size of atoms, X-rays can be used to determine the structure of molecules. When a beam of X-rays is passed through molecules packed together in a crystal, the X-rays collide with the electrons and scatter. Constructive and destructive interference of these scattered X-rays creates a specific diffraction pattern. Calculating backward from this pattern, the positions of each of the atoms in the molecule can be determined very precisely. One of the pioneers who helped create this technology was Dorothy Crowfoot Hodgkin.

She was born in Cairo, Egypt, in 1910, where her British parents were studying archeology. Even as a young girl, she was fascinated with minerals and crystals. When she was a student at Oxford University, she began researching how X-ray crystallography could be used to determine the structure of biomolecules. She invented new techniques that allowed her and her students to determine the structures of vitamin B12, penicillin, and many other important molecules. Diabetes, a disease that affects 382 million people worldwide, involves the hormone insulin. Hodgkin began studying the structure of insulin in 1934, but it required several decades of advances in the field before she finally reported the structure in 1969. Understanding the structure has led to a better understanding of the disease and treatment options.

Flesch-Kincaid Grade Level:v 9.8

Q. According to paragraph 1, all of the following are true except ...

- **a.** X-ray wavelengths are similar in size to particles and are, thus, how scientists figure out the structure of molecules
- **b.** The result of the collision of x-rays and electrons is a diffraction pattern
- **c.** The pattern that results from the colliding of electrons and x-rays allows for the position of each atom to be accurately determined
- **d.** Dorothy Hodgkin is considered a pioneer of this technology

Adaptive Function of Sleep

Insomnia, a consistent difficulty in falling or staying asleep, is the most common of the sleep disorders. Individuals with insomnia often experience long delays between the times that they go to bed and actually fall asleep. In addition, these individuals may wake up several times during the night only to find that they have difficulty getting back to sleep. As mentioned earlier, one of the criteria for insomnia involves experiencing these symptoms for at least three nights a week for at least one month's time.

It is not uncommon for people suffering from insomnia to experience increased levels of anxiety about their inability to fall asleep. This becomes a self-perpetuating cycle because increased anxiety leads to increased arousal, and higher levels of arousal make the prospect of falling asleep even more unlikely. Chronic insomnia is almost always associated with feeling overtired and may be associated with symptoms of Depression.

There may be many factors that contribute to insomnia, including age, drug use, exercise, mental status, and bedtime routines. Not surprisingly, insomnia treatment may take one of several different approaches. People who suffer from insomnia might limit their use of stimulant drugs (such as caffeine) or increase their amount of physical exercise during the day. Some people might turn to over-the-counter (OTC) or prescribed sleep medications to help them sleep, but this should be done sparingly because many sleep medications result in dependence and alter the nature of the sleep cycle, and they can increase insomnia over time. Those who continue to have insomnia, particularly if it affects their quality of life, should seek professional treatment.

Flesch-Kincaid Grade Level: 12.1

Q. According to paragraph 1, which of the following is NOT true?

a. The most prevalent sleep disorder is having trouble staying or getting to sleep, also known as insomnia
b. People with sleep apnea have a hard time falling asleep and staying asleep
c. Individuals with insomnia tend to wake up several times a night and struggle to fall back asleep
d. In order to be considered an insomniac, a person must experience at least one of the symptoms for at least three nights during the week during a period of one month

A Stroke

The common name for a disruption of blood supply to the brain is a stroke. It is caused by a blockage to an artery in the brain. The blockage is from some type of embolus: a blood clot, a fat embolus, or an air bubble. When the blood cannot travel through the artery, the surrounding tissue that is deprived starves and dies. Strokes will often result in the loss of very specific functions. A stroke in the lateral medulla, for example, can cause a loss in the ability to swallow. Sometimes, seemingly unrelated functions will be lost because they are dependent on structures in the same region. Along with the swallowing in the previous example, a stroke in that region could affect sensory functions from the face or extremities because important white matter pathways also pass through the lateral medulla. Loss of blood flow to specific regions of the cortex can lead to the loss of specific higher functions, from the ability to recognize faces to the ability to move a particular region of the body. Severe or limited memory loss can be the result of a temporal lobe stroke.

Flesch-Kincaid Grade Level: 8.2

Q. All of the following are true of strokes except…

- **a.** They occur when there is a blockage of blood supply to an artery in the brain
- **b.** Tissues rely on the blood flow through arteries and will die from lack of nourishment if there is a disruption
- **c.** While some functions are disrupted for a time, there are no real long-term effects of having a stroke
- **d.** Various levels of memory loss can result from certain types of strokes

Negative Factual Information Questions

Answer Key

Types of Pressure - C

C is correct because the modifier "*sole*" has been added and is not included in the original statement about altitude sickness in paragraph 2. In fact, the sentence states that the lower pressure is only part of the cause of altitude sickness.

Europa, a Moon with an Ocean - C

C is correct because, while it does contain some keywords that can be found in the passage - "*few*" and "*impact craters*" - what it says contradicts the actual passage by saying that "*Europa is in a continual state of geological self-renewal*". Option **C** is not true because it says that it has "*renewed itself geologically once*".

Diseases - B

B is correct because the modifier "*most*" is not used in the original statement about skin cancer; the passage states that skin cancer is "*one common form of cancer*". The passage also does not mention anything about it being the most fatal form.

Plate Tectonics - A

A is correct because the first sentence in paragraph 2 states that plate tectonics is a "*theory that explains how slow motions within the mantle of the Earth move large segments of crust*", while option a not only refers to it as a "proven way" but it also states that the Earth's mantle itself moves. Neither of these claims is true.

Prosopagnosia - C

C is correct because the passage explains that someone with this disease wouldn't recognize celebrities, historical figures, OR "*even a family member*". The keywords "*recognize*", "*celebrity*", and "*family member*" help locate the sentence in the passage. Additionally, option **C** adds some modifiers that aren't in the original passage - "*normally*" before "*recognize*" and "*close*" before "*family members*".

Light as a Photon - B

B is correct because it contradicts the sentence in the passage which actually states that our "*common sense says that waves and particles are opposite concepts*". Option **B** not only states that it is "*logical*" whereas the original sentence says that it is "*common sense*" but it also has the modifier "*closely-related*" rather than "*opposite*" which entirely changes the meaning of the sentence.

The Internal Compartments of the Human Body - C

C is correct because the sentence that contains the keywords "*bacteria cells*", "*circulate*", and "*body*" states that these bacteria "*cannot be allowed to circulate*" inside the body. The added modifier "*certain*" allows signals that it is likely, not true.

Dorothy Hodgkin - A

A is correct because it relates "*x-ray wavelengths*" - which are two keywords that appear in the first sentence of the passage - to the size of particles rather than atoms. It also says that "*scientists*" can determine the structure of molecules, but this is an inference, (and this is not an inference question), as it is not directly stated in the passage.

Adaptive Function of Sleep - B

B is correct because it says "*sleep apnea*", but the passage is about insomnia. The rest of the sentence in option b is accurate and contains some words from the passage - "*staying*" and "*asleep*" - that can help you find the related sentence within it. After finding the sentence, you can read the entire sentence and determine that it mentions insomnia and not apnea.

A Stroke - C

C is correct because the passage does not specifically mention "*disrupted for a time*" or "*no real long-term effects*". Some of the keywords - "*functions*" and "*stroke*" - can be found in more than one sentence in the passage, but none they only refer to the "*loss of functions*" and do not make mention of the duration.

Practice for the TOEFL® Reading Section

Reference Questions (1)

Technological Globalization

Technological globalization is impacted in large part by technological diffusion, the spread of technology across borders. In the last two decades, there has been rapid improvement in the spread of technology to peripheral and semi-peripheral nations, and a 2008 World Bank report discusses both the benefits and ongoing challenges of this diffusion. In general, the report found that technological progress and economic growth rates were linked and that the rise in technological progress has helped improve the situations of many living in absolute poverty. The report recognizes that rural and low-tech products such as corn can benefit from new technological innovations, and that, conversely, technologies like mobile banking can aid those whose rural existence consists of low-tech market vending. In addition, technological advances in areas like mobile phones can lead to competition, lowered prices, and concurrent improvements in related areas such as mobile banking and information sharing.

Flesch-Kincaid Grade Level: 13.4

Q. The words *this diffusion* refers to ...

- **a.** The spread of technology
- **b.** A 2008 World Bank report
- **c.** The last two decades
- **d.** Rapid improvement

The Sapir-Whorf Hypothesis

The Sapir-Whorf hypothesis is based on the idea that people experience their world through their language, and that they, therefore, understand their world through the culture embedded in their language. The hypothesis, which has also been called linguistic relativity, states that language shapes thought. Studies have shown, for instance, that unless people have access to the word "ambivalent," they don't recognize an experience of uncertainty due to conflicting positive and negative feelings about one issue. Essentially, the hypothesis argues, if a person can't describe the experience, the person is not having the experience.

Flesch-Kincaid Grade Level: 9

Q. The word *they* refers to ...

- **a.** Studies
- **b.** People
- **c.** Positive and negative feelings
- **d.** Shapes

Hunter-Gatherer

Hunter-gatherer societies demonstrate the strongest dependence on the environment of the various types of preindustrial societies. As the basic structure of human society until about 10,000–12,000 years ago, these groups were based around kinship or tribes. Hunter-gatherers relied on their surroundings for survival—they hunted wild animals and foraged for uncultivated plants for food. When resources became scarce, the group moved to a new area to find sustenance, meaning they were nomadic. These societies were common until several hundred years ago, but today only a few hundred remain in existence, such as indigenous Australian tribes sometimes referred to as "aborigines," or the Bambuti, a group of pygmy hunter-gatherers residing in the Democratic Republic of Congo. Hunter-gatherer groups are quickly disappearing as the world's population explodes.

Flesch-Kincaid Grade Level: 10.6

Q. The phrase *these groups* refers to ...

- **a.** Human society
- **b.** Years ago
- **c.** Preindustrial societies
- **d.** Hunter-gatherer societies

Cultural Imperialism

A high level of appreciation for one's own culture can be healthy; a shared sense of community pride, for example, connects people in a society. But ethnocentrism can lead to disdain or dislike for other cultures, causing misunderstanding and conflict. People with the best intentions sometimes travel to a society to "help" its people, seeing them as uneducated or backward; essentially inferior. In reality, these travelers are guilty of cultural imperialism, the deliberate imposition of one's own cultural values on another culture. Europe's colonial expansion, begun in the 16th century, was often accompanied by a severe cultural imperialism. European colonizers often viewed the people in the lands they colonized as uncultured savages who were in need of European governance, dress, religion, and other cultural practices. A more modern example of cultural imperialism may include the work of international aid agencies who introduce agricultural methods and plant species from developed countries while overlooking indigenous varieties and agricultural approaches that are better suited to the particular region.

Flesch-Kincaid Grade Level: 14

Q. The words *these travelers* refer to ...

- **a.** Its people
- **b.** Them
- **c.** Cultural values
- **d.** People with the best intentions

Measuring Blood Pressure

Blood pressure is measured using a device called a sphygmomanometer (Greek sphygmos = "pulse"). It consists of an inflatable cuff to restrict blood flow, a manometer to measure the pressure, and a method of determining when blood flow begins and when it becomes impeded. Since its invention in 1881, it has been an essential medical device. There are many types of sphygmomanometers: manual ones that require a stethoscope and are used by medical professionals; mercury ones, used when the most accuracy is required; less accurate mechanical ones; and digital ones that can be used with little training but that have limitations. When using a sphygmomanometer, the cuff is placed around the upper arm and inflated until blood flow is completely blocked, then slowly released. As the heart beats, blood forced through the arteries causes a rise in pressure. This rise in pressure at which blood flow begins is the systolic pressure—the peak pressure in the cardiac cycle. When the cuff's pressure equals the arterial systolic pressure, blood flows past the cuff, creating audible sounds that can be heard using a stethoscope. This is followed by a decrease in pressure as the heart's ventricles prepare for another beat. As cuff pressure continues to decrease, eventually sound is no longer heard; this is the diastolic pressure—the lowest pressure (resting phase) in the cardiac cycle.

Flesch-Kincaid Grade Level: 10.1

Q. The word *its* refers to ...

a. A method
b. A manometer
c. An inflatable cuff
d. A sphygmomanometer

Reference Questions
Answer Key

Technological Globalization - A

A is correct because the word "*diffusion*" is another word for "*spread*", and the specific spread to which "*this diffusion*" is referring is the "*spread of technology*". The answer is in the same sentence but it still comes before the pronoun referent.

The Sapir-Whorf Hypothesis - B

B is correct because the pronoun "*they*" refers back to "*people*", which is in the same sentence but comes before the pronoun referent.

Hunter-Gatherer - D

D is correct because option a is a singular subject that does not refer to multiple groups while option **B**, "*years ago*", does not refer to multiple groups of something. Although option **C** could fit and is grammatically correct, it is not the main subject to which the pronoun referent refers. In order to confirm that this is indeed the correct answer, you could look to the next sentence, which uses the original subject, "*hunter-gatherers*", again.

Cultural Imperialism - D

D is correct because it is another way to refer back to "*People with the best intentions*" that "*travel to a society…*". The entire subject is "*people with the best intentions*", and we read a few words later that they "*travel*", thus we know they are travelers. Options **A** and **B** cannot be correct because it does not say anything about "its people" or "them" traveling. Finally, option **C** is wrong because "*cultural values*" cannot be referred to as travelers.

Measuring Blood Pressure - D

D is correct because, although the subject to which it refers is not in the same or previous sentence, the entire passage is about the sphygmomanometer. The device to which the pronoun referent refers back to is mentioned in the first sentence which is two sentences before. In this case, reading the sentence after can confirm the answer because the subject, "*sphygmomanometer*", is mentioned again. Option **A** is incorrect because it is not a specific object. Options **B** and **C** are wrong because they are just parts of the device which is the subject.

Practice for the TOEFL® Reading Section

Summary Questions (1)

Energy Basics

Chemical changes and their accompanying changes in energy are important parts of our everyday world. The macronutrients in food (proteins, fats, and carbohydrates) undergo metabolic reactions that provide the energy to keep our bodies functioning. We burn a variety of fuels (gasoline, natural gas, coal) to produce energy for transportation, heating, and the generation of electricity. Industrial chemical reactions use enormous amounts of energy to produce raw materials (such as iron and aluminum). Energy is then used to manufacture those raw materials into useful products, such as cars, skyscrapers, and bridges.

Flesch-Kincaid Grade Level: 11.2

Q. 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.

Chemical reactions are accompanied by important energy changes that humans rely on.

a. Chemical changes are necessary for life on Earth
b. Proteins, fats, and carbohydrates are macronutrients in food
c. Metabolic reactions in the nutrients in food supply the energy humans need
d. Gasoline, natural gas, and coal are some forms of fuel that we use
e. In order to produce raw materials, we require the energy from industrial chemical reactions
f. Raw materials are used to produce cars, skyscrapers, and bridges

Components of Language

According to the drive theory of motivation, deviations from homeostasis create physiological needs. These needs result in psychological drive states that direct behavior to meet the need and, ultimately, bring the system back to homeostasis. For example, if it's been a while since you ate, your blood sugar levels will drop below normal. This low blood sugar will induce a physiological need and a corresponding drive state (i.e., hunger) that will direct you to seek out and consume food.

Eating will eliminate the hunger, and, ultimately, your blood sugar levels will return to normal. Interestingly, drive theory also emphasizes the role that habits play in the type of behavioral response in which we engage. A habit is a pattern of behavior in which we regularly engage. Once we have engaged in a behavior that successfully reduces a drive, we are more likely to engage in that behavior whenever faced with that drive in the future.

Flesch-Kincaid Grade Level: 8.0

Q. 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.

The drive theory of motivation proposes that humans are driven to certain behaviors by a need to return to a state of homeostasis.

a. Eating satisfies hunger by balancing our blood sugar levels
b. A straying away from homeostasis, or what we consider normal, causes a psychological need to return to that normal state
c. Habit has a role in this theory in that it also drives humans to certain behaviors
d. Once a habit is developed, it is normal for humans to engage in that habitual behavior to reduce a particular drive or need
e. A habit is defined as a pattern of behavior in which humans engage frequently
f. Our blood sugar levels drop after a certain length of time without food

SIDS

In sudden infant death syndrome (SIDS) an infant stops breathing during sleep and dies. Infants younger than 12 months appear to be at the highest risk for SIDS, and boys have a greater risk than girls. A number of risk factors have been associated with SIDS including premature birth, smoking within the home, and hyperthermia. There may also be differences in both brain structure and function in infants that die from SIDS.

The substantial amount of research on SIDS has led to a number of recommendations to parents to protect their children. For one, research suggests that infants should be placed on their backs when put down to sleep, and their cribs should not contain any items which pose suffocation threats, such as blankets, pillows, or padded crib bumpers (cushions that cover the bars of a crib). Infants should not have caps placed on their heads when put down to sleep in order to prevent overheating, and people in the child's household should abstain from smoking in the home. Recommendations like these have helped to decrease the number of infant deaths from SIDS in recent years.

Flesch-Kincaid Grade Level: 8.3

Q. 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.

SIDS, Sudden Infant Death Syndrome, involves various risk factors, some of which can be controlled.

- **a.** Children under a year old, particularly boys, have the highest risk of dying from SIDS.
- **b.** Various factors can increase the risk of a SIDS death
- **c.** Research suggests lying babies on their backs to sleep and removing any suffocation hazards from the crib
- **d.** The number of deaths from SIDS has gone down in recent years due to parents following safety recommendations
- **e.** It is advised that parents remove blankets, pillows, and cushions from the crib
- **f.** SIDS stands for Sudden Infant Death Syndrome and describes the phenomena of infants dying in their sleep

The Periodic Table

As early chemists worked to purify ores and discovered more elements, they realized that various elements could be grouped together by their similar chemical behaviors. One such grouping includes lithium (Li), sodium (Na), and potassium (K): These elements all are shiny, conduct heat and electricity well, and have similar chemical properties. A second grouping includes calcium (Ca), strontium (Sr), and barium (Ba), which also are shiny, good conductors of heat and electricity, and have chemical properties in common. However, the specific properties of these two groupings are notably different from each other.

Dimitri Mendeleev in Russia (1869) and Lothar Meyer in Germany (1870) independently recognized that there was a periodic relationship among the properties of the elements known at that time. Both published tables with the elements arranged according to increasing atomic mass. But Mendeleev went one step further than Meyer: He used his table to predict the existence of elements that would have the properties similar to aluminum and silicon but were yet unknown. The discoveries of gallium (1875) and germanium (1886) provided great support for Mendeleev's work. Although Mendeleev and Meyer had a long dispute over priority, Mendeleev's contributions to the development of the periodic table are now more widely recognized.

Flesch-Kincaid Grade Level: 12.6

Q. 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.

Various elements have been grouped in a table based on their physical properties and periodic relationship thanks to a few chemists.

- **a.** Some of the first chemists discovered that elements could be organized based on their chemical behaviors
- **b.** Some elements, like lithium and sodium, are shiny and conduct heat and electricity better than others
- **c.** In the 19th century, a couple of chemists discovered the periodic relationship between the properties of certain elements
- **d.** The elements were organized into tables according to atomic mass
- **e.** The names of two of the most prominent chemists for their work on the periodic table are Dimitri Mendeleev and Lothar Meyer
- **f.** Two chemists debated about whose work was more significant

Human Movement

Human movement includes not only actions at the joints of the body but also the motion of individual organs and even individual cells. As you read these words, red and white blood cells are moving throughout your body, muscle cells are contracting and relaxing to maintain your posture and to focus your vision, and glands are secreting chemicals to regulate body functions. Your body is coordinating the action of entire muscle groups to enable you to move air into and out of your lungs, to push blood throughout your body, and to propel the food you have eaten through your digestive tract. Consciously, of course, you contract your skeletal muscles to move the bones of your skeleton to get from one place to another and to carry out all of the activities of your daily life.

Flesch-Kincaid Grade Level: 9.8

Q. 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.

Even when you think you are being still, every bodily process involves movement.

a. Human bodies can move at the joints
b. In fact, human organs and cells move individually
c. An activity as simple as reading involves the movement of red and white blood cells, muscle cells, and glands
d. Some human movement occurs consciously, like walking from one place to another
e. Breathing involves the movement of the lungs as well as entire muscle groups
f. You contract your skeletal muscles consciously when you want to move

Summary Questions
Answer Key

Energy Basics - A, C, E

A, **C**, and **E** are correct because these options are related to the main topic in the summary sentence and do not just provide extra details but actually summarize or introduce broader topics. Options **B**, **C**, and **F** are details that are not related to the summary sentence.

Components of Language - B, C, D

B, **C**, and **D** are correct because they are all related to the summary sentence and require elaboration. These options are elaborated on in the passage. Options **A**, **E**, and **F** are details that aren't related directly to the summary sentence; they are very specific facts that don't require elaboration.

SIDS - B, C, E

B, **C**, and **E** are correct. They require more explanation and they are directly related to the summary sentence. Option **B** can and does elaborate on the specific factors that increase the risk while options **C** and **E** need to elaborate on why the research recommends these. Option **A** is a specific detail, but it's also an uncontrollable risk factor, so it's not quite related to the summary statement. Option **D** is a detail, and option **F** is a specific detail that's not at all related to the summary sentence.

The Periodic Table - A, C, D

A, **C**, and **D** are correct because they require more explanation and are not just details. They add to the summary sentence which states the main point of the passage. Option **B** is a minor detail that only adds information to the passage, as is option **E**, and option **F** is irrelevant and an insignificant detail.

Human Movement - B, C, E

B, **C**, and **E** are correct. They are points that are central to the passage and that require further elaboration. In the passage, they are elaborated on while options **A**, **D**, and **F** are merely details that don't need further explanation nor are they related to the summary sentence. Though they do mention movements of the body, they are specific examples that don't require elaboration.

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