1

While researching a topic, a student has taken the following notes:

- Organisms release cellular material into their environment by shedding substances such as hair or skin.
- The DNA in these substances is known as environmental DNA, or eDNA.
- Researchers collect and analyze eDNA to detect the presence of species that are difficult to observe.
- Geneticist Sara Oyler-McCance's research team analyzed eDNA in water samples from the Florida Everglades to detect invasive constrictor snake species in the area.
- The study determined a 91% probability of detecting Burmese python eDNA in a given location.

The student wants to present the study to an audience already familiar with environmental DNA. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Sara Oyler-McCance's researchers analyzed eDNA in water samples from the Florida Everglades for evidence of invasive constrictor snakes, which are difficult to observe.

B. An analysis of eDNA can detect the presence of invasive species that are difficult to observe, such as constrictor snakes.

C. Researchers found Burmese python eDNA, or environmental DNA, in water samples; eDNA is the DNA in released cellular materials, such as shed skin cells.

D. Sara Oyler-McCance's researchers analyzed environmental DNA (eDNA)—that is, DNA from cellular materials released by organisms—in water samples from the Florida Everglades.

2

While researching a topic, a student has taken the following notes:

- Sam Maloof (1916–2009) was an American woodworker and furniture designer.
- He was the son of Lebanese immigrants.
- He received a "genius grant" from the John D. and Catherine T. MacArthur Foundation in 1985.
- The Museum of Fine Arts in Boston, Massachusetts, owns a rocking chair that Maloof made from walnut wood.
- The armrests and the seat of the chair are sleek and contoured, and the back consists of seven spindle-like slats.

The student wants to describe the rocking chair to an audience unfamiliar with Sam Maloof. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. With its sleek, contoured armrests and seat, the walnut rocking chair in Boston's Museum of Fine Arts is just one piece of furniture created by American woodworker Sam Maloof.

B. Sam Maloof was born in 1916 and died in 2009, and during his life, he made a chair that you can see if you visit the Museum of Fine Arts in Boston.

C. Furniture designer Sam Maloof was a recipient of one of the John D. and Catherine T. MacArthur Foundation's "genius grants."

D. The rocking chair is made from walnut, and it has been shaped such that its armrests and seat are sleek and contoured.

3

While researching a topic, a student has taken the following notes:

- Species belonging to the Orchidaceae (orchid) family can be found in both tropical and temperate environments.
- Orchidaceae species diversity has not been well studied in temperate forests, such as those in Oaxaca, Mexico.
- Arelee Estefanía Muñoz-Hernández led a study to determine how many different Orchidaceae species are present in the forests of Oaxaca.
- Muñoz-Hernández and her team collected orchids each month for a year at a site in Oaxaca.
- Seventy-four Orchidaceae species were present at the site.

The student wants to present the study and its findings. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. A study led by Arelee Estefanía Muñoz-Hernández identified a total of 74 Orchidaceae species in the temperate forests of Oaxaca, Mexico.

B. There are orchids in many environments, but there are 74 Orchidaceae species in Oaxaca, Mexico.

C. Oaxaca, Mexico, is home to temperate forests containing 74 Orchidaceae species.

D. Arelee Estefanía Muñoz-Hernández and her team wanted to know how many different Orchidaceae species are present in the forests of Oaxaca, Mexico, so they conducted a study to collect orchids.

4

While researching a topic, a student has taken the following notes:

- Platinum is a rare and expensive metal.
- It is used as a catalyst for chemical reactions.
- Platinum catalysts typically require a large amount of platinum to be effective.
- Researcher Jianbo Tang and his colleagues created a platinum catalyst that combines platinum with liquid gallium.
- Their catalyst was highly effective and required only trace amounts of platinum (0.0001% of the atoms in the mixture).

The student wants to explain an advantage of the new platinum catalyst developed by Jianbo Tang and his colleagues. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Researcher Jianbo Tang and his colleagues created a platinum catalyst that combines platinum, a rare and expensive metal, with liquid gallium.

B. Like other platinum catalysts, the new platinum catalyst requires a particular amount of the metal to be effective.

C. Platinum is a rare and expensive metal that is used as a catalyst for chemical reactions; however, platinum catalysts typically require a large amount of platinum to be effective.

D. While still highly effective, the new platinum catalyst requires far less of the rare and expensive metal than do other platinum catalysts.

5

While researching a topic, a student has taken the following notes:

- Allan Houser was a Chiricahua Warm Springs Apache sculptor, illustrator, and painter.
- Many of his sculptures featured Native American figures.
- He depicted this subject matter using abstract, modernist forms, developing a distinctive style that influenced many other artists.
- His well-known sculpture *Sacred Rain Arrow* was pictured on the State of Oklahoma license plate.

The student wants to describe the distinctive style of Houser's sculptures. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. A sculptor, illustrator, and painter, Houser developed a distinctive style for portraying Native American figures.

B. Houser's sculptures employ abstract, modernist forms to depict Native American figures.

C. Many other artists have been influenced by the style of Houser's sculptures.

D. The sculpture *Sacred Rain Arrow* is a well-known example of Houser's style.

6

While researching a topic, a student has taken the following notes:

- In the midst of the US Civil War, Susie Taylor escaped slavery and fled to Union-army-occupied St. Simons Island off the Georgia coast.
- She began working for an all-Black army regiment as a nurse and teacher.
- In 1902, she published a book about the time she spent with the regiment.
- Her book was the only Civil War memoir to be published by a Black woman.
- It is still available to readers in print and online.

The student wants to emphasize the uniqueness of Taylor's accomplishment. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Taylor fled to St. Simons Island, which was then occupied by the Union army, for whom she began working.

B. After escaping slavery, Taylor began working for an all-Black army regiment as a nurse and teacher.

C. The book Taylor wrote about the time she spent with the regiment is still available to readers in print and online.

D. Taylor was the only Black woman to publish a Civil War memoir.

7

While researching a topic, a student has taken the following notes:

- Cities tend to have a wide range of flowering vegetation in parks, yards, and gardens.
- This vegetation provides a varied diet for honeybees, strengthening bees' immune systems.
- On average, 62.5 percent of bees in an urban area will survive a harsh winter.
- Rural areas are often dominated by monoculture crops such as corn or wheat.
- On average, only 40 percent of honeybees in a rural area will survive a harsh winter.

The student wants to make and support a generalization about honeybees. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Cities tend to have a wider range of flowering vegetation than do rural areas, which are often dominated by monoculture crops.

B. In urban areas, over 60 percent of honeybees, on average, will survive a harsh winter, whereas in rural areas, only 40 percent will.

C. The strength of honeybees' immune systems depends on what the bees eat, and a varied diet is more available to bees in an urban area than to those in a rural area.

D. Honeybees are more likely to thrive in cities than in rural areas because the varied diet available in urban areas strengthens the bees' immune systems.

8

While researching a topic, a student has taken the following notes:

- In 2018 researchers Adwait Deshpande, Shreejata Gupta, and Anindya Sinha were observing wild macaques in India's Bandipur National Park.
- They saw macaques calling out to and gesturing at humans who were eating or carrying food.
- They designed a study to find out if the macaques were intentionally communicating to try to persuade the humans to share their food.
- In the study trials, macaques frequently called out to and gestured at humans holding food.
- In the study trials, macaques called out to and gestured at empty-handed humans less frequently.

The student wants to present the study's results. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Macaques in the study called out to and gestured more frequently at humans holding food than at empty-handed humans.

B. In 2018, researchers who had observed macaques in India's Bandipur National Park calling out to and gesturing at humans designed a study.

C. The researchers hoped to find out if the macaques were intentionally communicating to try to persuade humans to share their food.

D. The researchers studied how macaques behaved around both humans holding food and empty-handed humans.

9

While researching a topic, a student has taken the following notes:

- In 2013, archaeologists studied cat bone fragments they had found in the ruins of Quanhucun, a Chinese farming village.
- The fragments were estimated to be 5,300 years old.
- A chemical analysis of the fragments revealed that the cats had consumed large amounts of grain.
- The grain consumption is evidence that the Quanhucun cats may have been domesticated.

The student wants to present the Quanhucun study and its conclusions. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. As part of a 2013 study of cat domestication, a chemical analysis was conducted on cat bone fragments found in Quanhucun, China.

B. A 2013 analysis of cat bone fragments found in Quanhucun, China, suggests that cats there may have been domesticated 5,300 years ago.

C. In 2013, archaeologists studied what cats in Quanhucun, China, had eaten more than 5,000 years ago.

D. Cat bone fragments estimated to be 5,300 years old were found in Quanhucun, China, in 2013.

10

While researching a topic, a student has taken the following notes:

- Muckrakers were journalists who sought to expose corruption in US institutions during the Progressive Era (1897–1920).
- Ida Tarbell was a muckraker who investigated the Standard Oil Company.
- She interviewed Standard Oil Company executives, oil industry workers, and public officials.
- She examined thousands of pages of the company's internal communications, including letters and financial records.
- Her book *The History of the Standard Oil Company* (1904) exposed the company's unfair business practices.

The student wants to emphasize the thoroughness of Ida Tarbell's investigation of the Standard Oil Company. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Ida Tarbell not only interviewed Standard Oil executives, oil industry workers, and public officials but also examined thousands of pages of the company's internal communications.

B. Ida Tarbell, who investigated the Standard Oil Company, was a muckraker (a journalist who sought to expose corruption in US institutions during the Progressive Era, 1897–1920).

C. As part of her investigation of the Standard Oil Company, muckraker Ida Tarbell conducted interviews.

D. Published in 1904, muckraker Ida Tarbell's book *The History of the Standard Oil Company* exposed the company's unfair business practices.

11

While researching a topic, a student has taken the following notes:

- John Carver was one of the 41 signatories of the Mayflower Compact.
- The Mayflower Compact was a legal agreement among the pilgrims that immigrated to Plymouth Colony.
- It was created in 1620 to establish a common government.
- It states that the pilgrims who signed it wanted to “plant the first colony in the northern parts of Virginia” under King James.
- Carver became the first governor of Plymouth Colony.

The student wants to specify the reason the Mayflower Compact was created. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Stating that its signatories wanted to “plant the first colony in the northern parts of Virginia,” the Mayflower Compact was a legal agreement among the pilgrims that immigrated to Plymouth Colony.

B. Created in 1620, the Mayflower Compact states that the pilgrims wanted to “plant the first colony in the northern parts of Virginia.”

C. The Mayflower Compact was created to establish a common government among the pilgrims that immigrated to Plymouth Colony.

D. The Mayflower Compact had 41 signatories, including John Carver, the first governor of Plymouth Colony.

12

While researching a topic, a student has taken the following notes:

- Jordan Bennett is a Mi'Kmaq visual artist.
- The Mi'Kmaq are a First Nations people in North America.
- Bennett's paintings pay homage to traditional Mi'Kmaq craftsmanship and have been displayed in over 75 exhibitions.
- His 2017 exhibition *Wije'wi* was held at the Grenfell Art Gallery.
- His 2018 exhibition *Ketu'elmita'jik* was held at the Art Gallery of Nova Scotia.

The student wants to emphasize the order in which two of Jordan Bennett's exhibitions were held. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Jordan Bennett's 2017 exhibition *Wije'wi* was followed a year later by his exhibition *Ketu'elmita'jik*.

B. Jordan Bennett's paintings, some of which appeared in 2017 and 2018 exhibitions, pay homage to traditional Mi'Kmaq craftsmanship.

C. Mi'Kmaq visual artist Jordan Bennett has displayed his work in over 75 exhibitions, including *Wije'wi* and *Ketu'elmita'jik*.

D. Jordan Bennett's 2018 exhibition *Ketu'elmita'jik* was held at the Art Gallery of Nova Scotia; another was held at the Grenfell Art Gallery.

13

While researching a topic, a student has taken the following notes:

- Marine biologist Camille Jazmin Gaynus studies coral reefs.
- Coral reefs are vital underwater ecosystems that provide habitats to 25% of all marine species.
- Reefs can include up to 8,000 species of fish, such as toadfish, seahorses, and clown triggerfish.
- The Amazon Reef is a coral reef in Brazil.
- It is one of the largest known reefs in the world.

The student wants to introduce the scientist and her field of study to a new audience. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Located in Brazil, the Amazon Reef is one of the largest known coral reefs in the world.

B. Marine biologist Camille Jazmin Gaynus studies coral reefs, vital underwater ecosystems that provide homes to 25% of all marine species.

C. Providing homes to 25% of all marine species, including up to 8,000 species of fish, coral reefs are vital underwater ecosystems and thus of great interest to marine biologists.

D. As Camille Jazmin Gaynus knows well, coral reefs are vital underwater ecosystems, providing homes to thousands of species of fish.

14

While researching a topic, a student has taken the following notes:

- *The Heartbeat of Wounded Knee: Native America from 1890 to the Present* is a history book by Ojibwe author David Treuer.
- In a review, a critic for *The Economist* noted that "Treuer's storytelling skills shine" and that the book is an "elegant handling of [a] complex narrative."
- A critic for *O, The Oprah Magazine* called it "a marvel of research and storytelling."
- A critic for the *Missoulian* dubbed it "a monumental achievement."

The student wants to emphasize a similarity in how critics responded to Treuer's book. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Treuer's book, which was widely reviewed, focuses on Native American history from 1890 to the present.

B. Dubbed "a monumental achievement" by the *Missoulian*, Treuer's book documents over a century of Native American history.

C. Critics praised Treuer's book for its compelling narrative, with *O, The Oprah Magazine* calling it "a marvel of research and storytelling" and *The Economist* likewise writing that "Treuer's storytelling skills shine" and that the book is an "elegant handling of [a] complex narrative."

D. While the *Missoulian* focused on the book's broader achievement, *The Economist* zeroed in on Treuer's storytelling skills.

15

While researching a topic, a student has taken the following notes:

- In 2019, Emily Shepard and colleagues in the UK and Germany studied the effect of wind on auks' success in landing at cliffside nesting sites.
- They found as wind conditions intensified, the birds needed more attempts in order to make a successful landing.
- When the wind was still, almost 100% of landing attempts were successful.
- In a strong breeze, approximately 40% of attempts were successful.
- In near-gale conditions, only around 20% of attempts were successful.

The student wants to summarize the study. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. For a 2019 study, researchers from the UK and Germany collected data on auks' attempts to land at cliffside nesting sites in different wind conditions.

B. Emily Shepard and her colleagues wanted to know the extent to which wind affected auks' success in landing at cliffside nesting sites, so they conducted a study.

C. Knowing that auks often need multiple attempts to land at their cliffside nesting sites, Emily Shepard studied the birds' success rate, which was only around 20% in some conditions.

D. Emily Shepard's 2019 study of auks' success in landing at cliffside nesting sites showed that as wind conditions intensified, the birds' success rate decreased.

16

While researching a topic, a student has taken the following notes:

- In 2020, theater students at Radford and Virginia Tech chose an interactive, online format to present a play about woman suffrage activists.
- Their "Women and the Vote" website featured an interactive digital drawing of a Victorian-style house.
- Audiences were asked to focus on a room of their choice and select from that room an artifact related to the suffrage movement.
- One click took them to video clips, songs, artwork, and texts associated with the artifact.
- The play was popular with audiences because the format allowed them to control the experience.

The student wants to explain an advantage of the "Women and the Vote" format. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. "Women and the Vote" featured a drawing of a Victorian-style house with several rooms, each containing suffrage artifacts.

B. To access video clips, songs, artwork, and texts, audiences had to first click on an artifact.

C. The "Women and the Vote" format appealed to audiences because it allowed them to control the experience.

D. Using an interactive format, theater students at Radford and Virginia Tech created "Women and the Vote," a play about woman suffrage activists.

17

While researching a topic, a student has taken the following notes:

- Soo Sunny Park is a Korean American artist who uses light as her primary medium of expression.
- She created her work *Unwoven Light* in 2013.
- *Unwoven Light* featured a chain-link fence fitted with iridescent plexiglass tiles.
- When light passed through the fence, colorful prisms formed.

The student wants to describe *Unwoven Light* to an audience unfamiliar with Soo Sunny Park. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Park's 2013 installation *Unwoven Light*, which included a chain-link fence and iridescent tiles made from plexiglass, featured light as its primary medium of expression.

B. Korean American light artist Soo Sunny Park created *Unwoven Light* in 2013.

C. The chain-link fence in Soo Sunny Park's *Unwoven Light* was fitted with tiles made from iridescent plexiglass.

D. In *Unwoven Light*, a 2013 work by Korean American artist Soo Sunny Park, light formed colorful prisms as it passed through a fence Park had fitted with iridescent tiles.

18

While researching a topic, a student has taken the following notes:

- Bharati Mukherjee was an Indian-born author of novels and short stories.
- She published the novel *The Holder of the World* in 1993.
- A central character in the novel is a woman living in twentieth-century United States.
- Another central character is a woman living in seventeenth-century India.

The student wants to introduce the novel *The Holder of the World* to an audience already familiar with Bharati Mukherjee. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Bharati Mukherjee's settings include both twentieth-century United States and seventeenth-century India.

B. In addition to her novel *The Holder of the World,* which was published in 1993, Indian-born author Bharati Mukherjee wrote other novels and short stories.

C. Bharati Mukherjee's novel *The Holder of the World* centers around two women, one living in twentieth-century United States and the other in seventeenth-century India.

D. *The Holder of the World* was not the only novel written by Indian-born author Bharati Mukherjee.

19

While researching a topic, a student has taken the following notes:

- Severo Ochoa discovered the enzyme PNPase in 1955.
- PNPase is involved in both the creation and degradation of mRNA.
- Ochoa incorrectly hypothesized that PNPase provides the genetic blueprints for mRNA.
- The discovery of PNPase proved critical to deciphering the human genetic code.
- Deciphering the genetic code has led to a better understanding of how genetic variations affect human health.

The student wants to emphasize the significance of Ochoa's discovery. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Ochoa's 1955 discovery of PNPase proved critical to deciphering the human genetic code, leading to a better understanding of how genetic variations affect human health.

B. Ochoa first discovered PNPase, an enzyme that he hypothesized contained the genetic blueprints for mRNA, in 1955.

C. In 1955, Ochoa discovered the PNPase enzyme, which is involved in both the creation and degradation of mRNA.

D. Though his discovery of PNPase was critical to deciphering the human genetic code, Ochoa incorrectly hypothesized that the enzyme was the source of mRNA's genetic blueprints.

20

While researching a topic, a student has taken the following notes:

- Pterosaurs were flying reptiles that existed millions of years ago.
- In a 2021 study, Anusuya Chinsamy-Turan analyzed fragments of pterosaur jawbones located in the Sahara Desert.
- She was initially unsure if the bones belonged to juvenile or adult pterosaurs.
- She used advanced microscope techniques to determine that the bones had few growth lines relative to the bones of fully grown pterosaurs.
- She concluded that the bones belonged to juveniles.

The student wants to present the study and its findings. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. In 2021, Chinsamy-Turan studied pterosaur jawbones and was initially unsure if the bones belonged to juveniles or adults.

B. Pterosaur jawbones located in the Sahara Desert were the focus of a 2021 study.

C. In a 2021 study, Chinsamy-Turan used advanced microscope techniques to analyze the jawbones of pterosaurs, flying reptiles that existed millions of years ago.

D. In a 2021 study, Chinsamy-Turan determined that pterosaur jawbones located in the Sahara Desert had few growth lines relative to the bones of fully grown pterosaurs and thus belonged to juveniles.

21

While researching a topic, a student has taken the following notes:

- Some US reformers sought to improve society in the 1800s by building utopias.
- A utopia is a community intended to represent a perfect society based on a specific set of principles.
- One such community was Brook Farm near Boston, Massachusetts.
- It was founded in 1841 by writer George Ripley.
- Ripley wrote in a letter that his goal for Brook Farm was "to guarantee the highest mental freedom, by providing all with labor, adapted to their tastes and talents, and securing to them the fruits of their industry."

The student wants to explain the goal of Brook Farm using a quotation from George Ripley. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. In a letter, writer George Ripley explained his goal to "guarantee the highest mental freedom."

B. Utopias, such as Brook Farm, founded by George Ripley in 1841, were based on a specific set of principles intended to create a perfect society.

C. Founded by George Ripley near Boston, Massachusetts, Brook Farm was part of a trend in the 1800s, when reformers in the United States built utopias.

D. Established in 1841, Brook Farm was a utopian community created to "guarantee the highest mental freedom, by providing all with labor... [and] the fruits of their industry," according to founder George Ripley.

22

While researching a topic, a student has taken the following notes:

- In 1999, astronomer Todd Henry studied the differences in surface temperature between the Sun and nearby stars.
- His team mapped all stars within 10 parsecs (approximately 200 trillion miles) of the Sun.
- The surface temperature of the Sun is around 9,800°F, which classifies it as a G star.
- 327 of the 357 stars in the study were classified as K or M stars, with surface temperatures under 8,900°F (cooler than the Sun).
- 11 of the 357 stars in the study were classified as A or F stars, with surface temperatures greater than 10,300°F (hotter than the Sun).

The student wants to emphasize how hot the Sun is relative to nearby stars. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. At around 9,800°F, which classifies it as a G star, the Sun is hotter than most but not all of the stars within 10 parsecs of it.

B. Astronomer Todd Henry determined that the Sun, at around 9,800°F, is a G star, and several other stars within a 10-parsec range are A or F stars.

C. Of the 357 stars within ten parsecs of the Sun, 327 are classified as K or M stars, with surface temperatures under 8,900°F.

D. While most of the stars within 10 parsecs of the Sun are classified as K, M, A, or F stars, the Sun is classified as a G star due to its surface temperature of 9,800°F.

23

While researching a topic, a student has taken the following notes:

- In 1851, German American artist Emanuel Leutze painted *Washington Crossing the Delaware*.
- His huge painting (149 × 255 inches) depicts the first US president crossing a river with soldiers in the Revolutionary War.
- In 2019, Cree artist Kent Monkman painted *mistikôsiwak (Wooden Boat People): Resurgence of the People*.
- Monkman's huge painting (132 × 264 inches) was inspired by Leutze's.
- It portrays Indigenous people in a boat rescuing refugees.

The student wants to emphasize a similarity between the two paintings. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Monkman, a Cree artist, finished his painting in 2019; Leutze, a German American artist, completed his in 1851.

B. Although Monkman's painting was inspired by Leutze's, the people and actions the two paintings portray are very different.

C. Leutze's and Monkman's paintings are both huge, measuring 149 × 255 inches and 132 × 264 inches, respectively.

D. Leutze's painting depicts Revolutionary War soldiers, while Monkman's depicts Indigenous people and refugees.

24

While researching a topic, a student has taken the following notes:

- In the early 1960s, the US had a strict national-origins quota system for immigrants.
- The number of new immigrants allowed from a country each year was based on how many people from that country lived in the US in 1890.
- This system favored immigrants from northern Europe.
- Almost 70% of slots were reserved for immigrants from Great Britain, Ireland, and Germany.
- The 1965 Hart-Celler Act abolished the national-origins quota system.

The student wants to present the significance of the Hart-Celler Act to an audience unfamiliar with the history of US immigration. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Almost 70% of slots were reserved for immigrants from Great Britain, Ireland, and Germany at the time the Hart-Celler Act was proposed.

B. Prior to the Hart-Celler Act, new immigration quotas were based on how many people from each country lived in the US in 1890.

C. The quota system in place in the early 1960s was abolished by the 1965 Hart-Celler Act.

D. The 1965 Hart-Celler Act abolished the national-origins quota system, which favored immigrants from northern Europe.

25

While researching a topic, a student has taken the following notes:

- Roughly 96% of Australia's estimated 200,000 animal species are invertebrates.
- Invertebrates of the order Hymenoptera, which consists of sawflies, wasps, bees, and ants, are estimated to total 14,800 species in Australia.
- Invertebrates of the order Coleoptera, which consists of beetles and weevils, are estimated to total 28,200 species in Australia.
- Some of these invertebrates' populations are threatened by invasive bird and fish species.

The student wants to emphasize the different orders in which Australia's invertebrate animals are classified. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. In Australia, 28,200 species are estimated to be beetles and weevils, both classified as invertebrates of the order Coleoptera.

B. Among Australia's many invertebrates, sawflies, wasps, bees, and ants belong to the order Hymenoptera, while beetles and weevils belong to the order Coleoptera.

C. Many sawflies, wasps, bees, and ants of the order Hymenoptera are threatened by some of Australia's invasive bird and fish species.

D. The order Hymenoptera is estimated to make up 14,800 of Australia's 200,000 animal species.

26

While researching a topic, a student has taken the following notes:

- Gaspar Enriquez is an artist.
- He specializes in portraits of Mexican Americans.
- A portrait is an artistic representation of a person.
- Enriquez completed a painting of the sculptor Luis Jimenez in 2003.
- He completed a drawing of the writer Rudolfo Anaya in 2016.

The student wants to emphasize a difference between the two portraits. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. The portraits, or artistic representations, of Luis Jimenez and Rudolfo Anaya were both completed by Enriquez in the early 2000s.

B. Enriquez has completed portraits of numerous Mexican Americans, including sculptor Luis Jimenez and writer Rudolfo Anaya.

C. While both are by Enriquez, the 2003 portrait of Luis Jimenez is a painting, and the 2016 portrait of Rudolfo Anaya is a drawing.

D. Luis Jimenez was a Mexican American sculptor, and Rudolfo Anaya was a Mexican American writer.

27

While researching a topic, a student has taken the following notes:

- Wool is a natural—and economically important—fiber that is obtained from animals like sheep.
- Australia is a leading producer of wool.
- The thickness of wool fibers varies across sheep breeds.
- Merino sheep produce fine wool that is used for apparel.
- Rambouillet sheep produce fine wool that is used for apparel.
- Romney sheep produce thick wool that is used for rugs and blankets.

The student wants to emphasize how Romney wool differs from Merino and Rambouillet wool. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Romney wool is just one of the many kinds of wools, each originating from a different breed of sheep.

B. Sheep wool varies from breed to breed, so Romney wool will be different than other kinds of wool.

C. The fine wool produced by Merino and Rambouillet sheep is used for apparel, whereas the thicker wool of Romney sheep is used in rugs and blankets.

D. Wool is an economically important fiber—especially in Australia—that can be used to make apparel or even rugs and blankets.

28

While researching a topic, a student has taken the following notes:

- Shaun Tan is an Australian author.
- In 2008, he published *Tales from Outer Suburbia*, a book of fifteen short stories.
- The stories describe surreal events occurring in otherwise ordinary suburban neighborhoods.
- In 2018, he published *Tales from the Inner City*, a book of twenty-five short stories.
- The stories describe surreal events occurring in otherwise ordinary urban settings.

The student wants to emphasize a similarity between the two books by Shaun Tan. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Shaun Tan's book *Tales from Outer Suburbia*, which describes surreal events occurring in otherwise ordinary places, contains fewer short stories than *Tales from the Inner City* does.

B. *Tales from Outer Suburbia* was published in 2008, and *Tales from the Inner City* was published in 2018.

C. Unlike *Tales from the Inner City*, Shaun Tan's book *Tales from Outer Suburbia* is set in suburban neighborhoods.

D. Shaun Tan's books *Tales from Outer Suburbia* and *Tales from the Inner City* both describe surreal events occurring in otherwise ordinary places.

29

While researching a topic, a student has taken the following notes:

- Mexican tetras are a fish species with two distinct populations.
- Surface-dwelling tetras live on the surface and are able to see.
- Cave-dwelling tetras live in total darkness and have lost the ability to see.
- Cave-dwelling tetras have asymmetrical skulls with more sensory receptors on one side than the other.
- These receptors help cave-dwelling tetras navigate in darkness.

The student wants to emphasize a difference between surface-dwelling and cave-dwelling tetras. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Surface-dwelling and cave-dwelling tetras may belong to the same species, but they are quite different.

B. Cave-dwelling tetras can no longer see but use sensory receptors on their skulls to navigate.

C. Mexican tetras are a fish species with two distinct populations: surface-dwelling tetras and cave-dwelling tetras.

D. Surface-dwelling tetras can see, whereas cave-dwelling tetras cannot.

30

While researching a topic, a student has taken the following notes:

- When medical students mention their patients on social media, they may violate patient confidentiality.
- Terry Kind led a study to determine how many medical schools have student policies that mention social media use.
- Kind and her team reviewed 132 medical school websites, examining publicly available student policies.
- Only thirteen medical schools had guidelines that explicitly mention social media, and only five defined what constitutes acceptable social media use.

The student wants to emphasize the study's methodology. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. The student policies of 132 medical schools can be found online, according to research by Terry Kind.

B. To find out how many medical schools have guidelines about student social media use, Terry Kind and her team examined the student policies of 132 medical schools.

C. Out of 132 medical schools, only thirteen had student policies that mentioned social media, and only five specified what use was acceptable.

D. Terry Kind and her team wanted to know how many medical schools have student social media policies in place about protecting patient confidentiality.

31

While researching a topic, a student has taken the following notes:

- A marathon is a long-distance running race that is 26.2 miles long.
- An ultramarathon is a long-distance running race of more than 26.2 miles.
- The Kepler Challenge is a one-day, 37.3-mile ultramarathon in New Zealand.
- The Spreelauf is a six-day, 261-mile ultramarathon in Germany.

The student wants to make a generalization about ultramarathons. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Examples of ultramarathons include the 37.3-mile Kepler Challenge in New Zealand and the 261-mile Spreelauf in Germany.

B. A marathon is 26.2 miles long, but the Spreelauf ultramarathon, at 261 miles, is far longer.

C. Ultramarathons range widely in length, from a few dozen miles to a few hundred.

D. While the Kepler Challenge is a one-day ultramarathon, the Spreelauf is a six-day ultramarathon.

32

While researching a topic, a student has taken the following notes:

- From Earth, all the meteors in a meteor shower appear to originate from a single spot in the sky.
- This spot is called the meteor shower's radiant.
- The Perseid meteor shower is visible in the northern hemisphere in July and August.
- Like many meteor showers, it is named for the location of its radiant.
- Its radiant is located within the constellation Perseus.

The student wants to explain the origin of the Perseid meteor shower's name. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. The Perseid meteor shower is named for the constellation Perseus, the location of the meteor shower's radiant.

B. A meteor shower's name may be linked to a single spot in the sky.

C. The Perseid meteor shower, which has a radiant, is visible in the northern hemisphere in July and August.

D. From Earth, all the meteors in a meteor shower appear to originate from a radiant, such as the one within Perseus.

33

While researching a topic, a student has taken the following notes:

- Physicist Muluneh Abebe was working on a garment suited for both warm and cold conditions.
- He analyzed the emissivity, or ability to emit heat, of the materials he planned to use.
- Abebe found that reflective metal fibers emitted almost no heat and had an emissivity of 0.02.
- He found that silicon carbide fibers absorbed large amounts of heat and had an emissivity of 0.74.
- The amount of heat a material absorbs is equal to the amount of heat it emits.

The student wants to contrast the emissivity of reflective metal fibers with that of silicon carbide fibers. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. The ability of reflective metal fibers and silicon carbide fibers to emit heat was determined by an analysis of each material's emissivity.

B. The amount of heat a material absorbs is equal to the amount it emits, as evidenced in Abebe's analyses.

C. Though the reflective metal fibers and silicon carbide fibers had different rates of emissivity, Abebe planned to use both in a garment.

D. Whereas the reflective metal fibers had an emissivity of just 0.02, the silicon carbide fibers absorbed large amounts of heat, resulting in an emissivity of 0.74.

34

While researching a topic, a student has taken the following notes:

- The Haudenosaunee Confederacy is a nearly 1,000-year-old alliance of six Native nations in the northeastern US.
- The members are bound by a centuries-old agreement known as the Great Law of Peace.
- Historian Bruce Johansen is one of several scholars who believe that the principles of the Great Law of Peace influenced the US Constitution.
- This theory is called the influence theory.
- Johansen cites the fact that Benjamin Franklin and Thomas Jefferson both studied the Haudenosaunee Confederacy.

The student wants to present the influence theory to an audience unfamiliar with the Haudenosaunee Confederacy. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Historian Bruce Johansen believes that the Great Law of Peace was very influential.

B. The influence theory is supported by the fact that Benjamin Franklin and Thomas Jefferson both studied the Haudenosaunee Confederacy.

C. The influence theory holds that the principles of the Great Law of Peace, a centuries-old agreement binding six Native nations in the northeastern US, influenced the US Constitution.

D. Native people, including the members of the Haudenosaunee Confederacy, influenced the founding of the US in many different ways.

35

While researching a topic, a student has taken the following notes:

- Claude McKay (1889–1948) was a Jamaican American writer.
- *Songs of Jamaica* (1912) and *Constab Ballads* (1912) are two acclaimed poetry collections that McKay published while living in Jamaica.
- McKay moved to Harlem in New York City in 1914.
- He is best known as a poet and novelist of the Harlem Renaissance, a literary and cultural movement of the 1920s and 1930s.
- His most famous works include the poetry collection *Harlem Shadows* (1922) and the novel *Home to Harlem* (1928).

The student wants to emphasize Claude McKay's accomplishments before moving to Harlem. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Jamaican American writer Claude McKay is the author of works such as *Songs of Jamaica* (1912), *Constab Ballads* (1912), *Harlem Shadows* (1922), and *Home to Harlem* (1928).

B. Although he is best known as a Harlem Renaissance writer, Claude McKay had published two acclaimed poetry collections in 1912 while living in Jamaica: *Songs of Jamaica* and *Constab Ballads*.

C. In 1914, Claude McKay moved to Harlem, where he would become known as a poet and novelist of the Harlem Renaissance (a literary and cultural movement of the 1920s and 1930s).

D. Before moving to Harlem, Claude McKay—author of the poetry collection *Harlem Shadows* (1922) and the novel *Home to Harlem* (1928)—lived in Jamaica.

36

While researching a topic, a student has taken the following notes:

- Architect Julian Abele studied Gregorian and neo-Gothic architecture in Europe.
- Abele worked for an architecture firm that was hired in 1924 to design buildings for Duke University's new campus.
- Most of the buildings on Duke's campus were designed in the Gregorian or neo-Gothic architectural styles.
- At the time, Abele was not formally credited with designing the buildings.
- Based on the buildings' architectural styles, historians believe Abele designed most of the campus buildings.

The student wants to specify why historians believe Abele designed most of Duke's campus buildings. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Given that most of the buildings on Duke's campus feature architectural styles that Abele had studied in Europe, historians believe Abele is the one who designed them.

B. Though Abele wasn't formally credited at the time, historians believe he designed most of the buildings on Duke's campus.

C. Most of Duke's campus buildings, which were designed by a firm Abele worked for, were designed in the Gregorian and neo-Gothic architectural styles.

D. Abele, an architect who studied Gregorian and neo-Gothic architecture in Europe, is believed to have designed most of the buildings on Duke's campus.

37

While researching a topic, a student has taken the following notes:

- Cecilia Vicuña is a multidisciplinary artist.
- In 1971, her first solo art exhibition, *Pinturas, poemas y explicaciones*, was shown at the Museo Nacional de Bellas Artes in Santiago, Chile.
- Her poetry collection *Precario/Precarious* was published in 1983 by Tanam Press.
- Her poetry collection *Instan* was published in 2002 by Kelsey St. Press.
- She lives part time in Chile, where she was born, and part time in New York.

The student wants to introduce the artist's 1983 poetry collection. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Before she published the books *Precario/Precarious* (1983) and *Instan* (2002), Cecilia Vicuña exhibited visual art at the Museo Nacional de Bellas Artes in Santiago, Chile.

B. Cecilia Vicuña is a true multidisciplinary artist whose works include numerous poetry collections and visual art exhibitions.

C. Published in 1983 by Tanam Press, *Precario/Precarious* is a collection of poetry by the multidisciplinary artist Cecilia Vicuña.

D. In 1971, Cecilia Vicuña exhibited her first solo art exhibition, *Pinturas, poemas y explicaciones*, in Chile, her country of birth.

38

While researching a topic, a student has taken the following notes:

- Planetary scientists classify asteroids based on their composition.
- C-type asteroids are composed primarily of carbon.
- They account for roughly 75 percent of known asteroids.
- S-type asteroids are primarily made up of silicate minerals.
- They account for roughly 17 percent of known asteroids.

The student wants to emphasize a difference between C-type and S-type asteroids. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Planetary scientists classify asteroids into types, two of which are the C-type and the S-type.

B. Planetary scientists consider an asteroid's composition (such as whether the asteroid is composed mainly of silicate minerals or carbon) when classifying it.

C. Roughly 17 percent of known asteroids are classified as S-type asteroids; another percentage is classified as C-type asteroids.

D. C-type asteroids are mainly composed of carbon, whereas S-type asteroids are primarily made up of silicate minerals.

39

While researching a topic, a student has taken the following notes:

- In geology, an Aeolian landform is one that has been created by the wind.
- In Greek mythology, Aeolus is the keeper of the winds.
- Aeolian landforms are created when the wind erodes, transports, or deposits material.
- A mushroom rock is a rock formation in which the top is wider than the base.
- A mushroom rock can be formed when the wind erodes the base and the top at different rates.

The student wants to provide an explanation and an example of Aeolian landforms. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Aeolian landforms are created by different wind-based processes; for example, some are created by wind erosion.

B. Aeolian landforms—landforms created by the wind—include the mushroom rock, a rock formation in which the wind erodes the base of the rock faster than the top.

C. Erosion, transportation, and deposition are three examples of how the wind can create Aeolian landforms and mushroom rocks.

D. A mushroom rock is a rock formation that owes its shape to the wind, a natural force associated with Aeolus in Greek mythology.

40

While researching a topic, a student has taken the following notes:

- Circular particle accelerators known as synchrotrons radiate energy in the form of light.
- Synchrotron light is among the brightest light ever produced.
- Synchrotron light is an ideal tool for researchers investigating the structure of matter.
- The first synchrotron created for the purpose of providing synchrotron light was built in 1968.
- It was called Tantalus and was housed near the University of Wisconsin–Madison.

The student wants to emphasize the location of the first synchrotron built to provide synchrotron light. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Tantalus, the first synchrotron created for the purpose of providing synchrotron light, was built in 1968.

B. Circular particle accelerators known as synchrotrons radiate energy in the form of light, and this light is an ideal tool for researchers investigating the structure of matter.

C. The first synchrotron created for the purpose of providing synchrotron light, Tantalus, was housed near the University of Wisconsin–Madison.

D. Synchrotron light is among the brightest light ever produced, making it an ideal tool for researchers investigating the structure of matter.

41

While researching a topic, a student has taken the following notes:

- Pinnipeds, which include seals, sea lions, and walruses, live in and around water.
- Pinnipeds are descended not from sea animals but from four-legged, land-dwelling carnivores.
- Canadian paleobiologist Natalia Rybczynski recently found a fossil with four legs, webbed toes, and the skull and teeth of a seal.
- Rybczynski refers to her rare find as a "transitional fossil."
- The fossil illustrates an early stage in the evolution of pinnipeds from their land-dwelling ancestors.

The student wants to emphasize the fossil's significance. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Canadian paleobiologist Natalia Rybczynski's fossil has the skull and teeth of a seal, which, like sea lions and walruses, is a pinniped.

B. Pinnipeds are descended from four-legged, land-dwelling carnivores; a fossil that resembles both was recently found.

C. Having four legs but the skull and teeth of a seal, the rare fossil illustrates an early stage in the evolution of pinnipeds from their land-dwelling ancestors.

D. A "transitional fossil" was recently found by paleobiologist Natalia Rybczynski.

42

While researching a topic, a student has taken the following notes:

- J.R.R. Tolkien's 1937 novel *The Hobbit* features two maps.
- The novel opens with a reproduction of the map that the characters use on their quest.
- This map introduces readers to the fictional world they are about to enter.
- The novel closes with a map depicting every stop on the characters' journey.
- That map allows readers to reconstruct the story they have just read.

The student wants to contrast the purposes of the two maps in *The Hobbit*. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. *The Hobbit*'s opening map introduces readers to the fictional world they are about to enter, while the closing map allows them to reconstruct the story they have just read.

B. *The Hobbit*, a novel published by J.R.R. Tolkien in 1937, features a reproduction of a map that the characters use on their quest, as well as a map that appears at the end of the novel.

C. *The Hobbit*'s two maps, one opening and one closing the novel, each serve a purpose for readers.

D. In 1937, author J.R.R. Tolkien published *The Hobbit*, a novel featuring both an opening and a closing map.

43

While researching a topic, a student has taken the following notes:

- Etel Adnan was a Lebanese American poet and artist known for making many leporellos.
- A leporello is an artist's book that is folded accordion style.
- When the book is expanded, the artist's work is revealed, and its zigzag shape allows it to stand on its own.
- Her leporello *December from My Window* (1993) features a panoramic landscape.
- It is painted using ink and watercolor.

The student wants to describe Adnan's *December from My Window* to an audience already familiar with leporellos. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Featuring a panoramic landscape, the 1993 work is one of Adnan's many leporellos, which are accordion-style folded books that when expanded reveal the artist's work.

B. When expanded, Adnan's 1993 leporello *December from My Window* reveals a panoramic landscape painted in ink and watercolor.

C. Known for making many other accordion-style folded books called leporellos, Adnan created *December from My Window* in 1993.

D. A leporello, such as Adnan's *December from My Window*, is folded accordion style, and due to its zigzag shape it is able to stand on its own when fully expanded.

44

While researching a topic, a student has taken the following notes:

- In the art world, the term biennial traditionally refers to an art exhibition that takes place every two years in a single location.
- Such biennials are held in New York, Berlin, and Venice.
- In 2006, artists Ed Gomez and Luis Hernandez founded the unconventional MexiCali Biennial.
- The MexiCali Biennial hosts exhibitions in different venues on both sides of the US-Mexico border.
- The MexiCali Biennial has taken place on an uneven schedule, with exhibitions in 2006, 2009–10, 2013, and 2018–20.

The student wants to emphasize a difference between the MexiCali Biennial and traditional biennials. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. In 2006, artists Ed Gomez and Luis Hernandez founded the MexiCali Biennial, which has taken place in 2006, 2009–10, 2013, and 2018–20.

B. Unlike traditional biennials, the MexiCali Biennial hosts exhibitions in different venues on an uneven schedule.

C. The term biennial traditionally refers to an art exhibition that takes place every two years in a single location, not to exhibitions hosted at a variety of times and venues.

D. Biennial exhibitions have been held in New York, Berlin, and Venice but also on both sides of the US-Mexico border.

45

While researching a topic, a student has taken the following notes:

- The Pueblo of Zuni is located about 150 miles west of Albuquerque, New Mexico.
- It is the traditional home of the A:shiwi (Zuni) people.
- The A:shiwi A:wan Museum and Heritage Center was established by tribal members in 1992.
- Its mission is stated on its website: "As a tribal museum and heritage center for the Zuni people and by the Zuni people we work to provide learning experiences that emphasize A:shiwi ways of knowing, as well as exploring modern concepts of knowledge and the transfer of knowledge."

The student wants to emphasize how long the museum has existed. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. The Pueblo of Zuni is home to the A:shiwi A:wan Museum and Heritage Center, which was founded by tribal members.

B. The A:shiwi A:wan Museum and Heritage Center has served the Pueblo of Zuni since 1992.

C. According to its website, the A:shiwi A:wan Museum and Heritage Center (founded in the 1990s) works to "emphasize A:shiwi ways of knowing."

D. Knowledge has been one of the central themes of the A:shiwi A:wan Museum and Heritage Center from its founding.

46

While researching a topic, a student has taken the following notes:

- Ancient Native American and Australian Aboriginal cultures described the Pleiades star cluster as having seven stars.
- It was referred to as the Seven Sisters in the mythology of ancient Greece.
- Today, the cluster appears to have only six stars.
- Two of the stars have moved so close together that they now appear as one.

The student wants to specify the reason the Pleiades' appearance changed. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Ancient Native American and Australian Aboriginal cultures described the Pleiades, which was referred to in Greek mythology as the Seven Sisters, as having seven stars.

B. Although once referred to as the Seven Sisters, the Pleiades appears to have only six stars today.

C. In the time since ancient cultures described the Pleiades as having seven stars, two of the cluster's stars have moved so close together that they now appear as one.

D. The Pleiades has seven stars, but two are so close together that they appear to be a single star.

47

While researching a topic, a student has taken the following notes:

- Samuel Selvon was a Trinidadian author.
- *The Lonely Londoners* is one of his most celebrated novels.
- Selvon published the novel in 1956.
- It is about a group of men who emigrate from the Caribbean to Great Britain after World War II.
- Some of *The Lonely Londoners*' characters also appear in Selvon's later novel *Moses Ascending*.

The student wants to introduce Samuel Selvon and his novel *The Lonely Londoners* to a new audience. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. In 1956, Trinidadian author Samuel Selvon published one of his most celebrated novels, *The Lonely Londoners,* which is about a group of men who emigrate from the Caribbean to Great Britain after World War II.

B. Samuel Selvon wrote the novel *Moses Ascending* after he wrote *The Lonely Londoners*.

C. *The Lonely Londoners*, a celebrated novel that was published in 1956, depicts post–World War II Caribbean migration from the perspective of a Trinidadian author.

D. Some of the characters who appear in Samuel Selvon's *Moses Ascending* also appear in *The Lonely Londoners*.

48

While researching a topic, a student has taken the following notes:

- Seven species of sea turtle exist today.
- Five sea turtle species can be found in the Atlantic Ocean.
- One of those species is the Kemp's ridley sea turtle.
- Its scientific name is *Lepidochelys kempii*.
- Another of those species is the olive ridley sea turtle.
- Its scientific name is *Lepidochelys olivacea*.

The student wants to emphasize a similarity between the two sea turtle species. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Among the seven species of sea turtle is the olive ridley sea turtle, which can be found in the Atlantic Ocean.

B. The Kemp's ridley sea turtle is referred to as *Lepidochelys kempii*, while the olive ridley sea turtle is referred to as *Lepidochelys olivacea*.

C. Both the Kemp's ridley sea turtle and the olive ridley sea turtle can be found in the Atlantic Ocean.

D. The Kemp's ridley sea turtle (*Lepidochelys kempii*) and the olive ridley sea turtle (*Lepidochelys olivacea*) are different species.

49

While researching a topic, a student has taken the following notes:

- Gravitational waves are powerful ripples that originate in deep space and eventually pass through Earth.
- The Laser Interferometer Gravitational Wave Observatory (LIGO) is a physics study that began in 2002.
- LIGO's goal is to detect and analyze gravitational waves.
- LIGO uses a pair of massive gravitational wave detectors called interferometers that are thousands of miles apart.
- In 2015, for the first time in history, LIGO researchers detected a gravitational wave passing through Earth.

The student wants to present LIGO's aim and methodology. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. In 2015, LIGO's massive interferometers detected a powerful ripple that originated in deep space and eventually passed through Earth.

B. Though the physics study LIGO began in 2002, its massive interferometers didn't detect a gravitational wave until 2015.

C. To achieve its aims, LIGO uses a pair of massive interferometers that are thousands of miles apart.

D. A physics study designed to detect and analyze gravitational waves, LIGO uses a pair of massive interferometers that are thousands of miles apart.

50

While researching a topic, a student has taken the following notes:

- Most, but not all, of the Moon's oxygen comes from the Sun, via solar wind.
- Cosmochemist Kentaro Terada from Osaka University wondered if some of the unaccounted-for oxygen could be coming from Earth.
- In 2008, he analyzed data from the Japanese satellite Kaguya.
- Kaguya gathered data about gases and particles it encountered while orbiting the Moon.
- Based on the Kaguya data, Terada confirmed his suspicion that Earth is sending oxygen to the Moon.

The student wants to emphasize the aim of the research study. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. As it orbited the Moon, the Kaguya satellite collected data that was later analyzed by cosmochemist Kentaro Terada.

B. Before 2008, Kentaro Terada wondered if the Moon was receiving some of its oxygen from Earth.

C. Cosmochemist Kentaro Terada set out to determine whether some of the Moon's oxygen was coming from Earth.

D. Kentaro Terada's study determined that Earth is sending a small amount of oxygen to the Moon.

51

While researching a topic, a student has taken the following notes:

- In the late 1890s, over 14,000 unique varieties of apples were grown in the US.
- The rise of industrial agriculture in the mid-1900s narrowed the range of commercially grown crops.
- Thousands of apple varieties considered less suitable for commercial growth were lost.
- Today, only 15 apple varieties dominate the market, making up 90% of apples purchased in the US.
- The Lost Apple Project, based in Washington State, attempts to find and grow lost apple varieties.

The student wants to emphasize the decline in unique apple varieties in the US and specify why this decline occurred. Which choice most effectively uses relevant information from the notes to accomplish these goals?

A. The Lost Apple Project is dedicated to finding some of the apple varieties lost following a shift in agricultural practices in the mid-1900s.

B. While over 14,000 apple varieties were grown in the US in the late 1890s, only 15 unique varieties make up most of the apples sold today.

C. Since the rise of industrial agriculture, US farmers have mainly grown the same few unique apple varieties, resulting in the loss of thousands of varieties less suitable for commercial growth.

D. As industrial agriculture rose to prominence in the mid-1900s, the number of crops selected for cultivation decreased dramatically.

52

While researching a topic, a student has taken the following notes:

- Started in 1925, the Scripps National Spelling Bee is a US-based spelling competition.
- The words used in the competition have diverse linguistic origins.
- In 2008, Sameer Mishra won by correctly spelling the word “guerdon.”
- “Guerdon” derives from the Anglo-French word “guerdun.”
- In 2009, Kavya Shivashankar won by correctly spelling the word “Laodicean.”
- “Laodicean” derives from the ancient Greek word “Laodíkeia.”

The student wants to emphasize a difference in the origins of the two words. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. “Guerdon,” the final word of the 2008 Scripps National Spelling Bee, is of Anglo-French origin, while the following year’s final word, “Laodicean,” derives from ancient Greek.

B. In 2008, Sameer Mishra won the Scripps National Spelling Bee by correctly spelling the word “guerdon”; however, the following year, Kavya Shivashankar won based on spelling the word “Laodicean.”

C. Kavya Shivashankar won the 2009 Scripps National Spelling Bee by correctly spelling “Laodicean,” which derives from the ancient Greek word “Laodíkeia.”

D. The Scripps National Spelling Bee uses words from diverse linguistic origins, such as “guerdon” and “Laodicean.”

53

While researching a topic, a student has taken the following notes:

- *Las sergas de Esplandián* was a novel popular in sixteenth-century Spain.
- The novel featured a fictional island inhabited solely by Black women and known as California.
- That same century, Spanish explorers learned of an "island" off the west coast of Mexico.
- They called it California after the island in the novel.
- The "island" was actually the peninsula now known as Baja California ("Lower California"), which lies to the south of the US state of California.

The student wants to emphasize the role a misconception played in the naming of a place. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. The novel *Las sergas de Esplandián* featured a fictional island known as California.

B. To the south of the US state of California lies Baja California ("Lower California"), originally called California after a fictional place.

C. In the sixteenth century, Spanish explorers learned of a peninsula off the west coast of Mexico and called it California.

D. Thinking it was an island, Spanish explorers called a peninsula California after an island in a popular novel.

54

While researching a topic, a student has taken the following notes:

- Some sandstone arches in Utah's Arches National Park have been defaced by tourists' carvings.
- Park rangers can smooth away some carvings using power grinders.
- For deep carvings, power grinding is not always feasible because it can greatly alter or damage the rock.
- Park rangers can use an infilling technique, which involves filling in carvings with ground sandstone and a bonding agent.
- This technique is minimally invasive.

The student wants to explain an advantage of the infilling technique. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. To remove carvings from sandstone arches in Utah's Arches National Park, power grinding is not always feasible.

B. Filling in carvings with ground sandstone and a bonding agent is less invasive than smoothing them away with a power grinder, which can greatly alter or damage the sandstone arches.

C. Park rangers can use a power grinding technique to smooth away carvings or fill them in with ground sandstone and a bonding agent.

D. As methods for removing carvings from sandstone, power grinding and infilling differ in their level of invasiveness.

55

While researching a topic, a student has taken the following notes:

- Just like states have state flags, some cities have city flags.
- Over one hundred US cities have redesigned their flags since 2015.
- The city of Pocatello, Idaho, redesigned its flag after it was named the most poorly designed flag in North America.
- Pocatello's new flag better represents the city's mountainous geography and civic priorities.
- Residents consider the new flag to be a meaningful symbol of civic pride.

The student wants to make and support a generalization about the effect of redesigning a city flag. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Over one hundred US cities have redesigned their flags, including Pocatello, whose flag had been named the most poorly designed flag in North America.

B. Pocatello is just one of over one hundred US cities that have redesigned their flags.

C. After it was named the most poorly designed flag in North America, the flag of Pocatello was redesigned to better represent the city's geography and civic priorities.

D. Redesigning a poorly designed city flag can create a meaningful symbol of civic pride, as was the case when Pocatello redesigned its original flag to better represent its geography and civic priorities.

56

While researching a topic, a student has taken the following notes:

- Minnesota defines a lake as an inland body of water of at least 10 acres.
- Wisconsin's definition of a lake doesn't take size into account.
- By its own definition, Wisconsin has over 15,000 lakes, many smaller than 10 acres.
- By Minnesota's definition, Wisconsin has only about 6,000 lakes.

The student wants to contrast Minnesota's definition of a lake with Wisconsin's. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Wisconsin, which doesn't take size into account in defining a lake, claims that it has over 15,000 lakes.

B. Because its definition of a lake is different from Minnesota's, it is unclear how many lakes Wisconsin really has.

C. According to Minnesota's definition of a lake—an inland body of water of at least 10 acres—Wisconsin has about 6,000 lakes.

D. Minnesota's definition of a lake—an inland body of water of at least 10 acres—is more restrictive than Wisconsin's, which doesn't take size into account.

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While researching a topic, a student has taken the following notes:

- Chemical leavening agents cause carbon dioxide to be released within a liquid batter, making the batter rise as it bakes.
- Baking soda and baking powder are chemical leavening agents.
- Baking soda is pure sodium bicarbonate.
- To produce carbon dioxide, baking soda needs to be mixed with liquid and an acidic ingredient such as honey.
- Baking powder is a mixture of sodium bicarbonate and an acid.
- To produce carbon dioxide, baking powder needs to be mixed with liquid but not with an acidic ingredient.

The student wants to emphasize a difference between baking soda and baking powder. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. To make batters rise, bakers use chemical leavening agents such as baking soda and baking powder.

B. Baking soda and baking powder are chemical leavening agents that, when mixed with other ingredients, cause carbon dioxide to be released within a batter.

C. Baking soda is pure sodium bicarbonate, and honey is a type of acidic ingredient.

D. To produce carbon dioxide within a liquid batter, baking soda needs to be mixed with an acidic ingredient, whereas baking powder does not.

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While researching a topic, a student has taken the following notes:

- Maika'i Tubbs is a Native Hawaiian sculptor and installation artist.
- His work has been shown in the United States, Canada, Japan, and Germany, among other places.
- Many of his sculptures feature discarded objects.
- His work *Erasure* (2008) includes discarded audiocassette tapes and magnets.
- His work *Home Grown* (2009) includes discarded pushpins, plastic plates and forks, and wood.

The student wants to emphasize a similarity between the two works. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. *Erasure* (2008) uses discarded objects such as audiocassette tapes and magnets; *Home Grown* (2009), however, includes pushpins, plastic plates and forks, and wood.

B. Tubbs's work, which often features discarded objects, has been shown both within the United States and abroad.

C. Like many of Tubbs's sculptures, both *Erasure* and *Home Grown* include discarded objects: *Erasure* uses audiocassette tapes, and *Home Grown* uses plastic forks.

D. Tubbs completed *Erasure* in 2008 and *Home Grown* in 2009.

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While researching a topic, a student has taken the following notes:

- Abdulrazak Gurnah was awarded the 2021 Nobel Prize in Literature.
- Gurnah was born in Zanzibar in East Africa and currently lives in the United Kingdom.
- Many readers have singled out Gurnah's 1994 book *Paradise* for praise.
- *Paradise* is a historical novel about events that occurred in colonial East Africa.

The student wants to introduce *Paradise* to an audience unfamiliar with the novel and its author. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. Abdulrazak Gurnah, who wrote *Paradise* and later was awarded the Nobel Prize in Literature, was born in Zanzibar in East Africa and currently lives in the United Kingdom.

B. Many readers have singled out Abdulrazak Gurnah's 1994 book *Paradise,* a historical novel about colonial East Africa, for praise.

C. A much-praised historical novel about colonial East Africa, *Paradise* (1994) was written by Abdulrazak Gurnah, winner of the 2021 Nobel Prize in Literature.

D. *Paradise* is a historical novel about events that occurred in colonial East Africa, Abdulrazak Gurnah's homeland.