



JEFFERSON COUNTY
PUBLIC SCHOOLS
DIGITAL: NTI

Supplemental Practice
for
9th & 10th
ELA
Packet #3

The material in this packet is to be used as extra practice for students who would like to extend their learning once they have completed the Choice Boards for their grade level.

The expected time frame for this practice is approximately 2 weeks.

The Early-Late Debate (1180L)

Step 1: Before Reading Poll (Write Your Answer)

Some people want later start times for middle schools and high schools. These people want start times pushed back until 8 a.m. or later. What do you think?

Middle schools and high schools should start later.

- Do you agree or disagree?

Step 2: Article (Read the Article)



Photo credit: Tom Wang/Shutterstock.com

It's hard to learn when you're nodding off at your desk! Should the school day get off to a later start?

SACRAMENTO, California (Achieve3000, October 30, 2019). Ever feel like drifting back to dreamland instead of bouncing out of bed when it's time to get up for school? If you think school shouldn't kick off at the crack o' dawn, you're not alone. Lots of researchers and doctors agree, so some groups are pushing for later start times. Advocates say a little extra shut-eye makes a big difference in students' health and academic achievement.

Their efforts are paying off, and there's good news for some teens who like to snooze. In October 2019, the governor of the U.S. state of California approved new legislation. It regulates the start times of public schools in the state. Beginning in the 2022 academic year, high schools will start at 8:30 a.m. or later, and middle schools will start at 8 a.m. or later.

So middle schoolers and high schoolers will have a chance to get more minutes of California dreamin' in the morning, but what about younger students? The reason the new law doesn't cover elementary schools has a lot to do with *circadian rhythms*, which might sound like a hip-hop dance craze but actually refers to changes that happen in the body in 24-hour cycles. *How much* you sleep is important, but *when* you sleep matters, too.

Research shows that most adolescents need about nine hours of sleep a night, but unlike younger or older people, they typically get their best sleep between 11 p.m. and 8 a.m. So, while a 5-year-old or a 35-year-old might get a great night's rest by hitting the pillow at 7 p.m. and waking up at dawn, most teens' bodies just don't work that way. If they get up at 5 or 6 a.m., they miss out on a lot of top-quality z's.

What's more, sleep deprivation puts students at risk of developing serious physical and mental health issues, like eating disorders, diabetes, heart problems, anxiety, and depression. Academic performance is affected, too. It's hard to learn when you're nodding off at your desk!

But not everyone concurs that starting the school day later is a smart way to go. Opponents argue there's no guarantee that students will get more sleep. (A law that mandated bedtimes would be a real nightmare, right?!) Although data suggest students do get more sleep when schools start later, additional research is needed. And schools that start later will finish later. That will leave students with less time for things like sports, jobs, chores, homework, and—last but not least—fun.

Maybe the biggest roadblock for school districts looking into later start times? Buses! If all schools start near the same time, a district needs to allocate more money to buses and drivers, which is one reason so many high schools start very early. Flipping the schedules so that elementary schools start first has drawbacks, too. Younger kids need more total hours of sleep. And early elementary dismissal times could be hard on working parents. Another option would be shifting all school schedules later, but that could create a whole new set of logistical problems, with elementary schools getting out much later in the day.

California schools will have to work through these and other issues as they implement the new rules in 2022. Educators and government officials in other places will be watching to see how the experiment goes and looking to apply the lessons learned. In fact, several school districts outside California have already implemented start times that meet California's new standards. In Seattle Public Schools, for example, high schools now start no earlier than 8:45 a.m., and an Ohio legislator recently introduced a bill to push back school start times there.

How about you—would you rather start school bright and early or snooze till the sun is high in the sky?

Dictionary

concur (*verb*) to agree with someone or something

logistics (*noun*) the things that must be done to plan and organize a complicated activity or event that involves many people

Step 3: Activity (Answer the Questions)

Question 1

What cause and effect relationship is described in this Article?

- Ⓐ If all schools in a district start around the same time, the cost of providing buses and drivers will increase.
- Ⓑ If adolescents are able to sleep later and start the school day at a later time, their school attendance will be more consistent.
- Ⓒ If the new school start times work well for California, all other states in the U.S. will implement similar changes to their school start times.
- Ⓓ If high schools start earlier, students will have energy levels high enough to enable more of them to participate in afterschool activities.

Question 2

What is this Article mainly about?

- Ⓐ Students who get too little sleep risk physical and mental health issues like diabetes, cardiovascular problems, eating disorders, anxiety, and depression, and may perform worse academically than students who get adequate sleep.
- Ⓑ A later school start time for adolescents could have such unintended consequences as reduced time for after-school activities and responsibilities, additional transportation expenses for districts, and negative impacts on younger children.
- Ⓒ Some schools in the U.S. are moving to later start times, but there's ongoing debate about whether starting school later will make a difference in students' health and success at school and whether the predicted benefits justify the problems caused by implementing the shift.
- Ⓓ Officials across the country are delaying decisions about starting high schools earlier by observing the outcomes and implications of the shift in California, rather than accepting the risks of experimenting with earlier start times themselves.

Question 3

Which of these is a statement of opinion?

- Ⓐ Adolescents with later school start times will take advantage of the additional time for sleeping in the morning by staying up later at night.
- Ⓑ Seattle Public Schools implemented later high school start times that meet California's standards before California did.
- Ⓒ California middle schools must start their school days no earlier than 8 a.m. beginning in the 2022 academic year.
- Ⓓ Changes occur in the body according to the time of day during 24-hour cycles in response to circadian rhythms.

Question 4

Which is the closest **antonym** for the word *concur*?

- Ⓐ conspire
- Ⓑ classify
- Ⓒ contradict
- Ⓓ clarify

Question 5

Which of these statements is **contrary** to the ideas presented in the Article?

- Ⓐ The amount of time that adolescents spend sleeping is more important than what time of day they sleep.
- Ⓑ Additional research is needed to determine whether students do in fact get more sleep when schools have later start times.
- Ⓒ Schools in places beyond California may consider revising their school schedules based on how the experiment works.
- Ⓓ Sleep deprivation can interfere with academic performance and cause serious physical and mental health problems.

Question 6

The Article states:

What's more, sleep deprivation puts students at risk of developing serious physical and mental health issues, like eating disorders, diabetes, heart problems, anxiety, and depression. Academic performance is affected, too. It's hard to learn when you're nodding off at your desk!

The author's purpose for writing this passage was to _____.

- (A) analyze the quality of the research on adolescent sleep
- (B) identify issues common to all students during adolescence
- (C) illustrate that sleep is more important to adults than adolescents
- (D) emphasize how important sleep is for adolescents

Question 7

The Article states:

Maybe the biggest roadblock for school districts looking into later start times? Buses! If all schools start near the same time, a district needs to *allocate* more money to buses and drivers, which is one reason so many high schools start very early.

Which is the closest **synonym** for the word *allocate*?

- (A) displace
- (B) perforate
- (C) dispense
- (D) replicate

Question 8

Which passage from the Article best supports the idea that it's too soon to tell whether or not students will benefit from a later school start time?

- (A) If you think school shouldn't kick off at the crack o' dawn, you're not alone. Lots of researchers and doctors agree, so some groups are pushing for later start times. Advocates say a little extra shut-eye makes a big difference in students' health and academic achievement.
- (B) Opponents argue there's no guarantee that students will get more sleep. (A law that mandated bedtimes would be a real nightmare, right?!) Although data suggest students do get more sleep when schools start later, additional research is needed. And schools that start later will finish later. That will leave students with less time for things like sports, jobs, chores, homework, and—last but not least—fun.
- (C) What's more, sleep deprivation puts students at risk of developing serious physical and mental health issues, like eating disorders, diabetes, heart problems, anxiety, and depression. Academic performance is affected, too. It's hard to learn when you're nodding off at your desk!
- (D) Research shows that most adolescents need about nine hours of sleep a night, but unlike younger or older people, they typically get their best sleep between 11 p.m. and 8 a.m. So, while a 5-year-old or a 35-year-old might get a great night's rest by hitting the pillow at 7 p.m. and waking up at dawn, most teens' bodies just don't work that way. If they get up at 5 or 6 a.m., they miss out on a lot of top-quality z's.

Step 4: After Reading Poll (Did you change your mind?)

Now that you have read the article, indicate whether you agree or disagree with this statement.

Middle schools and high schools should start later.

- Agree
- Disagree

Step 5: Thought Question (Write Your Response)

Do you think middle schools and high schools should start later in the day? Why or why not? Cite evidence from the Article to support your response.

Give Me S'more! (1180L)

Step 1: Before Reading Poll (Write Your Answer)

Many people like to make a dessert called s'mores, which are gooey treats made with marshmallows, chocolate, and graham crackers. What do you think of this well-known saying?

S'mores always leave you beggin' for s'more!

- Do you agree or disagree?

Step 2: Article (Read the Article)



Photo credit: kellyvandellen/iStock/Getty Images

This melty combination of chocolate, marshmallows, and graham crackers is a s'more.

SAVANNAH, Georgia (Achieve3000, July 18, 2019). *S'more, j'adore!* Roughly translated from French, that means, "I love a s'more." And who among us has not become instantly enamored with the popular campfire treat the minute it melted in our mouths for the very first time?

If you've never had the opportunity to savor the fresh, gooey delight, now's your chance! Here's how to craft a proper s'more:

1. Break a graham cracker in half and place part of a chocolate bar on one of the halves.
2. Put a marshmallow on a stick and hold it over a campfire until it gets slightly charred.
3. Use the stick to set the hot marshmallow on the chocolate-graham cracker combo.
4. Place the other graham cracker half on top of the marshmallow, creating a sandwich.
5. Smoosh everything together and pull out the stick.
6. Devour the gooey goodness immediately!

A s'more (pronounced "smore" or "sa-MORE") takes the three best elements of dessert-dom—the gooey, the chocolatey, and the crispy—and combines them to create melty bliss. Yes, it's messy—everyone knows some of the world's best foods are the ones that dribble down your chin. And yes, it's the best thing you will ever taste. Just one bite in, and you'll think, "I want *some more!*" Then you'll no doubt wonder, "Who thought of *this?*"

We're reasonably certain it wasn't our ancient ancestors. After all, it's not like they could just run over to Walmart, hit the baking aisle, and grab a bag of marshmallows, a few bars of chocolate, and a box of graham crackers. Furthermore, in order for s'mores to become available to the masses, some of the key ingredients had to be refined first.

Take the marshmallows. These yummy treats aren't new, but for centuries, they were complicated to create. Marshmallow recipes called for eggs, sugar, and the root sap of a plant called the "marsh mallow." Additionally, each individual treat had to be poured and molded by hand, a process so laborious that marshmallows were a rare luxury reserved for the wealthy. Thankfully, marshmallows no longer have to be crafted by hand, and since they're now prepared using inexpensive ingredients (corn syrup, cornstarch, and gelatin), more people can indulge in marshmallow snacks.

As for the chocolate, many Americans say that a s'more isn't the real deal unless it's made with a Hershey's milk chocolate bar. Ancient chocolate was very different from the modern chocolate many of us know and love. For 3,000 years, Mesoamericans made chocolate from cacao seeds, like we do, but while they may have added other ingredients to the cacao, they didn't add sweetener. The resulting product was dark, grainy, and somewhat bitter. It wasn't until 1875 that a Swiss candlemaker-turned-chocolatier named Daniel Peter invented a process to mix milk and sugar with chocolate to make what we know as "milk chocolate."

No one's really sure what genius first thought of sticking marshmallows and chocolate between two graham crackers, but it might have been someone associated with the Girl Scouts organization. A 1927 edition of a Girl Scouts manual contains a reference to the delectable treat, calling it "Some More," presumably because that's what you want after eating one.

These days, s'mores are widely known and beloved, but that doesn't mean we've all had a chance to sample one. What if you don't have a campfire handy? There are ways to satisfy your craving for s'mores without ever lifting a stick. Many stores have a slew of s'more-inspired products, from s'more Pop-Tarts to candy bars. Sadly, none of these wannabes manage to capture the essence of an authentic s'more. But don't fret. In a pinch, you can construct a s'more (or two, or three) and zap it in the microwave for a bit or toast it in the oven. It's not quite the same, but it's still got the goo factor.

S'more deliciousness? Yes, please!

The Associated Press contributed to this story.

Video credit: Hilah Cooking

Dictionary

delectable (*adjective*) tasty; delicious

enamored (*adjective*) captivated by

laborious (*adjective*) requiring a great amount of work and effort

savor (*verb*) to enjoy or relish

Step 3: Activity (Answer the Questions)

Question 1

According to the Article, why were marshmallows once considered a rare luxury?

- Ⓐ Marshmallow recipes required significant amounts of gelatin and root sap, which for 3,000 years were produced only in Mesoamerica.
- Ⓑ Candy makers reserved marshmallows for their wealthiest clients because they were made with expensive ingredients like corn syrup and cornstarch.
- Ⓒ The process for making marshmallows was complicated and involved pouring and molding each individual marshmallow by hand.
- Ⓓ Until 1875, only Swiss candlemaker Daniel Peter knew the secret to extracting root sap from the marsh mallow plant.

Question 2

Which of these is **most** important to include in the summary of the Article?

- Ⓐ Making a s'more involves roasting a marshmallow over a fire and sandwiching it and a piece of chocolate between graham crackers, but nobody knows who invented the treat.
- Ⓑ Mesoamericans were the first people known to make chocolate, harvesting cacao seeds and using them in various dishes.
- Ⓒ Large-scale retail stores today offer a variety of s'more-inspired products, from s'more Pop-Tarts to s'more-flavored candy bars, but none of them capture the essence of a true s'more.
- Ⓓ Daniel Peter, the Swiss chocolatier who invented an important process used in making milk chocolate, was originally a candlemaker.

Question 3

Which is the closest **antonym** for the word *delectable*, as it is used in the Article?

- Ⓐ Distasteful
- Ⓑ Dehydrated
- Ⓒ Defective
- Ⓓ Distorted

Question 4

The Article says all of the following **except** _____.

- Ⓐ Graham crackers, originally created in the late 1800s using coarse whole wheat flour, have become more popular with the addition of molasses and sugar.
- Ⓑ Today's marshmallows are produced using lower-cost ingredients such as corn syrup, corn starch, and gelatin, making the sweet treat more affordable.
- Ⓒ In 1875, Swiss candlemaker Daniel Peter developed a way to mix milk, sugar, and chocolate to create what is now called "milk chocolate."
- Ⓓ The name "s'more" probably originated with the idea that the dessert was so delicious anyone who tried it would automatically ask for "some more."

Question 5

In the *second-to-last* paragraph, the author presents information regarding s'more-inspired snacks and microwave cooking processes in order to _____.

- Ⓐ Convince readers to purchase more breakfast snacks and candy bars, and to utilize safer cooking methods than campfires
- Ⓑ Describe the inspirational products available for s'more lovers at grocery stores, as well as the inadequacies of campfire cooking
- Ⓒ Demonstrate the popularity of s'mores among consumers and provide readers with alternatives to traditional s'more making
- Ⓓ Analyze the variety of s'more-inspired foods at grocery markets and compare oven-baked s'mores with microwaved s'mores

Question 6

Which two words are the closest **antonyms**?

Only some of these words are used in the Article.

- Ⓐ Slew and superfluity
- Ⓑ Indulge and partake
- Ⓒ Authentic and inexpensive
- Ⓓ Enamored and disenchanted

Question 7

Which passage from the Article best supports the idea that chocolate was not initially cultivated to create desserts?

- Ⓐ For 3,000 years, Mesoamericans made chocolate from cacao seeds, like we do, but while they may have added other ingredients to the cacao, they didn't add sweetener. The resulting product was dark, grainy, and somewhat bitter.
- Ⓑ No one's really sure what genius first thought of sticking marshmallows and chocolate between two graham crackers, but it might have been someone associated with the Girl Scouts organization. A 1927 edition of a Girl Scouts manual contains a reference to the delectable treat, calling it "Some More," presumably because that's what you want after eating one.
- Ⓒ As for the chocolate, many Americans say that a s'more isn't the real deal unless it's made with a Hershey's milk chocolate bar.
- Ⓓ A s'more (pronounced "smore" or "sa-MORE") takes the three best elements of dessert-dom—the gooey, the chocolatey, and the crispy—and combines them to create melty bliss.

Question 8

The reader can infer from the Article that _____.

- Ⓐ Very few Girl Scouts made s'mores during camping trips after their group's 1927 manual came out.
- Ⓑ S'mores are a relatively quick and easy dessert that even the most inexperienced cooks can make.
- Ⓒ Daniel Peter would not have approved of the current ingredients used to make s'mores.
- Ⓓ More Americans prefer s'mores to other chocolate desserts, including Hershey bars.

Step 4: After Reading Poll (Did you change your mind?)

Now that you have read the article, indicate whether you agree or disagree with this statement.

S'mores always leave you beggin' for s'more!

- Agree
- Disagree

Step 5: Thought Question (Write Your Response)

Write a summary of today's Article. As you write your summary, complete the following steps:

STEP 1: Read the Article in order to understand the text.

STEP 2a: Identify the topic sentence for each paragraph.

STEP 2b: Take out any details that are not needed.

STEP 2c: Combine the information—in your own words—into a single paragraph.

STEP 3: Rethink your summary and the Article.

STEP 4: Check your summary. Then double-check it.

Global Game Fame (1180L)

Step 1: Before Reading Poll (Write Your Answer)

In 2019, several video games were inducted into the World Video Game Hall of Fame. One game came out in 1976 and two others were released in the 1990s. What do you think?

Older video games are more fun to play.

- Do you agree or disagree?

Step 2: Article (Read the Article)



Photo credit: The Strong National Museum of Play via AP

Since 2015, The Strong National Museum of Play has accepted nominations and selected an elite group of new entrants for the World Video Game Hall of Fame.

ROCHESTER, New York (Achieve3000, May 10, 2019). Have you ever felt a video game was so good or important that it deserves the gamer's equivalent of the Nobel Prize? If so, The Strong National Museum of Play agrees with you!

In 2015, the museum, located in the U.S. state of New York, established the very first World Video Game Hall of Fame. It houses the official collection of the world's most awesome and influential video games. The interactive exhibit, called "eGameRevolution," allows visitors the opportunity to play their way through video game history.

In the four years since the hall of fame began, hundreds of games have been nominated, but only a few have earned a place in these hallowed halls. Among this year's inductees are *Colossal Cave Adventure*, *Super Mario Kart*, and the standard computer card game *Microsoft Solitaire*. On May 2, 2019, these games joined an elite collection of previous winners selected among computer, console, handheld, mobile, and arcade games.

The chosen winners are not always the most recent or exciting games but can often be old or archaic games that few people actually play anymore. *Colossal Cave Adventure*, for instance, is a text-based computer game from 1976. Its imaginary world inspired numerous adventure games that helped launch the commercial computer game industry.

So what does it take for a video game to earn hall-of-famer status? Nominated games are judged on four basic criteria: icon-status, longevity, geographical reach, and influence. To earn a place among the best,

games must have had a substantial impact on the gaming industry, as well as demonstrated a meaningful contribution to world culture. The games must also have maintained a presence or influence over time. That means some of the games chosen seem obscure or simple to today's high-tech virtual reality gamers, but they once helped transform the industry.

Microsoft Solitaire, for instance, has likely been installed on more than 1 billion computers around the world since 1991. Based on a centuries-old card game, *it was both* popular and influential, and even taught computer users how to use a new device—the mouse.

"The game proved that sometimes...games can be even more popular in the digital world and demonstrated that a market existed for games that appeal to people of all types," said Jeremy Saucier, assistant vice president for interpretation and electronic games at The Strong.

Super Mario Kart, the first of the *Mario Kart* racing game series launched back in 1992, is a widely beloved game that also finally made the grade in 2019. Interestingly enough, a trip to the hall of fame exhibit will tell you that the game wasn't actually meant to feature Mario. But once a sketch of the famous plumber in the driver's seat captured everyone's attention, the rest was history.

The remaining field of this year's nominees, which was narrowed down to just 12 games, featured cell phone, online, and virtual games. Some of the finalists included *Candy Crush Saga*, *Centipede*, and *Dance Dance Revolution*.

Maybe you play some of these, or maybe your favorite didn't make the cut. Have strong opinions about which games should be nominated for the World Video Game Hall of Fame next year? Get involved! During the first few months of each year, anyone can go online to nominate games. If enough people suggest the same game, it will win a nomination and be sent to The Strong museum committee for consideration.

So which games will get nominated next year? We could say the choice is yours! But even if your nominee doesn't make it, you can still consider attending the award ceremony. It's held annually in Rochester, NY. Attendees play interactive trivia, bands perform video game theme songs, and the world's most globally influential video games finally get their due.

The Associated Press contributed to this story.

Dictionary

archaic (*adjective*) marked by the characteristics of an earlier period

hallowed (*adjective*) sacred or of great fame

longevity (*noun*) how long something lasts

status (*noun*) how good something is thought to be

Step 3: Activity (Answer the Questions)

Question 1

What is this Article mainly about?

- Ⓐ Every year, The Strong National Museum of Play inducts video games that have had a substantial influence on the gaming industry into its World Video Game Hall of Fame.
- Ⓑ *Microsoft Solitaire* is an inductee into the World Video Game Hall of Fame that has tremendous geographical reach, having been installed on more than 1 billion computers worldwide.
- Ⓒ In 2019, *Candy Crush Saga*, *Centipede*, and *Dance Dance Revolution* were all finalists for induction into the World Video Game Hall of Fame.
- Ⓓ Games inducted into the World Video Game Hall of Fame are not always exciting, new games but instead are games that display icon-status, longevity, geographical reach, and influence over time.

Question 2

Which is the closest **synonym** for the word *hallowed*, as it is used in the Article?

- Ⓐ Revered
- Ⓑ Bizarre
- Ⓒ Extravagant
- Ⓓ Captivated

Question 3

Which of these is a statement of opinion?

- Ⓐ The Strong National Museum of Play in New York welcomed its first inductees into the World Video Game Hall of Fame in 2015.
- Ⓑ *Colossal Cave Adventure*, which debuted in 1976, is a text-based computer game that helped launch the commercial computer game industry.
- Ⓒ Each year, anyone can go online to nominate the games they believe should be inducted into the World Video Game Hall of Fame.
- Ⓓ Video games that offer continuous action such as *Super Mario Kart* are more enjoyable to play than static-screen games like *Microsoft Solitaire*.

Question 4

Based on information in the Article, in what way do *Super Mario Kart* and *Microsoft Solitaire* contrast?

- Ⓐ Only *Microsoft Solitaire* was designed to teach players a valuable computer skill.
- Ⓑ Only *Super Mario Kart* had a significant influence on the video game industry.
- Ⓒ Only *Super Mario Kart* was available for use on personal computers.
- Ⓓ Only *Microsoft Solitaire* gained immediate popularity among gaming enthusiasts.

Question 5

The Article states:

The chosen winners are not always the most recent or exciting games but often can be old or *archaic* games that few people actually play anymore. *Colossal Cave Adventure*, for instance, is a computer game from 1976. Its imaginary world inspired numerous adventure games that helped launch the commercial computer game industry.

Which would be the closest **antonym** for the word *archaic*, as it is used above?

- Ⓐ Endearing
- Ⓑ Obsolete
- Ⓒ Adversarial
- Ⓓ Contemporary

Question 6

The Article states:

So what does it take for a video game to earn hall-of-famer status? Nominated games are judged on four basic criteria: icon-status, longevity, geographical reach, and influence. To earn a place among the best, games must have had a substantial impact on the gaming industry as well as demonstrated a meaningful contribution to world culture. The games must also have maintained a presence or influence over time. That means some of the games chosen seem obscure or simple to today's high-tech virtual reality gamers, but they once helped transform the industry.

Why did the author include this passage?

- Ⓐ To describe The Strong National Museum of Play's standards for selecting inductees into the World Video Game Hall of Fame
- Ⓑ To emphasize the fact that a game's popularity is the principal standard for it to be chosen as a finalist for induction into the World Video Game Hall of Fame
- Ⓒ To suggest that a video game's icon-status is more important than its longevity for being inducted into the World Video Game Hall of Fame
- Ⓓ To explain to the reader why older, outdated games are often overlooked as inductees into the World Video Game Hall of Fame

Question 7

Which passage from the Article best supports the idea that a game should have significantly impacted the gaming industry in order to be inducted into the hall of fame?

- Ⓐ Have strong opinions about which games should be nominated for the World Video Game Hall of Fame next year? Get involved! During the first few months of each year, anyone can go online to nominate games.
- Ⓑ *Microsoft Solitaire*, for instance, has likely been installed on more than 1 billion computers around the world since 1991. Based on a centuries-old card game, it was *both* popular and influential, and even taught computer users how to use a new device—the mouse.

- Ⓒ On May 2, 2019, these games joined an elite collection of previous winners selected among computer, console, handheld, mobile, and arcade games.
- Ⓓ The remaining field of this year's nominees, which was narrowed down to just 12 games, featured cell phone, online, and virtual games. Some of the finalists included *Candy Crush Saga*, *Centipede*, and *Dance Dance Revolution*.

Question 8

Based on the Article, the reader can predict that _____.

- Ⓐ Next year's inductees into the World Video Game Hall of Fame may not be the most popular games available at the time.
- Ⓑ The criteria for selecting inductees into the World Video Game Hall of Fame will change significantly next year.
- Ⓒ *Colossal Cave Adventure*, *Super Mario Kart*, and *Microsoft Solitaire* will be among the games nominated for the World Video Game Hall of Fame next year.
- Ⓓ All of next year's nominees for the World Video Game Hall of Fame will be selected by a team of judges at the Strong National Museum of Play.

Step 4: After Reading Poll (Did you change your mind?)

Now that you have read the article, indicate whether you agree or disagree with this statement.

Older video games are more fun to play.

- Agree
- Disagree

Step 5: Thought Question (Write Your Response)

Write a story about visiting the World Video Game Hall of Fame. Which video game did you most want to see and why? Use descriptive words and phrases from the Article in your response.

Good, Bad, or Ugly? (1180L)

Step 1: Before Reading Poll (Write Your Answer)

The demand for "perfect" fruits and veggies means a lot of food gets wasted. Now, some companies are selling and shipping "ugly" produce to people's homes. What do you think?

All "ugly" produce should be given away to people in need.

- Do you agree or disagree?

Step 2: Article (Read the Article)



Photo credit: AP/Joshua McKerrow/The Baltimore Sun

Does this carrot have a tail? Well, Imperfect Produce, a company that delivers "ugly" fruits and vegetables to customers around the country, is selling it anyway.

URBANDALE, Iowa (Achieve3000, May 6, 2019). Brace yourselves, people. This may not be pretty!

We'd like to have a fruitful debate about what to do with the most hideous produce. You know—strawberries that seem to be sprouting arms, apples so bruised they look like they've just staggered out of the boxing ring, tomatoes you're convinced have devil horns, and those mean-mugged potatoes.

Now, be honest. Would you put these peculiar fruits and veggies in your shopping cart? Your answer might be "heck no," and that's why many supermarkets put only the most appealing choices in front of customers.

But ugly fruits deserve love, too, and in recent years, a new crop of "ugly produce" start-ups have blossomed across the U.S. These companies sell those supermarket rejects—and even deliver them right to your door.

The start-ups say they're on a mission to forestall billions of pounds of imperfect produce from needlessly going to waste each year. Because really, a banged-up banana isn't any less tasty in a peanut butter sandwich, so why should it be thrown away?

On the surface, these companies may seem to have the right idea. They even offer deep discounts for their misfit goods, which is great news for customers. But skeptics say ugly produce peddlers—Imperfect Produce, Hungry Harvest, and Misfits Market, to name a few—may only be focused on what's best for their profits.

The Ugly Truth?

Sink your teeth into this juicy fruit scandal: Critics say that imperfect produce isn't really wasted to the extent that the startups maintain.

Case in point: Many local farmers across the country had already been selling boxes of imperfect produce directly to consumers and farmers markets for years before the ugly produce companies started sprouting up. Critics complain that because the start-ups are able to provide a wide assortment of fruits and veggies from large farms around the country, it's gotten difficult for small farms to compete with these marketing machines—and the farmers are losing profits fast.

Also, some of the companies may fail to mention that plenty of ugly fruits and veggies do have other uses. In the food service industry, for example, produce is sliced, diced, blended, and more—regardless of what it looks like. On farms, fruits like melons can be fed to animals, and rotted fruit is plowed back into soil to add nutrients. And, maybe most importantly, ugly produce companies have been denounced for cashing in on food that could otherwise be sent to food banks.

It's not that critics of ugly produce start-ups believe the companies don't have a right to exist, but they want the companies to tell people the truth about imperfect produce—the good, the bad, and the ugly—and they want to make sure the start-ups don't cause more harm than good.

Not So Bad, After All?

Clearly, the criticism of the imperfect produce movement can get ugly at times. But the companies are defending themselves.

In March 2019, Imperfect Produce clapped back at critics on its website, letting people know that not only does it *not* take away from food banks that help the needy—Imperfect Produce says it sources from farms only *after* food banks take what they want—but that the company itself regularly donates to food banks. Now put *that* in your food basket!

As for the companies' messaging that they save unwanted produce from being wasted, it's true that some produce goes to waste in America. In fact, the Department of Agriculture has even confirmed that with an estimated 30 to 40 percent of the country's food supply wasted, food waste is a major problem in the U.S.

But what about those local farmers who view ugly produce companies as competition? Imperfect Produce claims it doesn't have to be either-or; both farmers and ugly produce sellers can play a part in reducing food waste.

No matter whom you're siding with on this one, remember this: It's what's on the inside that counts.

Dictionary

forestall (*verb*) to prevent, hinder, or thwart by action in advance

skeptic (*noun*) a person who questions if something is true

Step 3: Activity (Answer the Questions)

Question 1

According to the Article, what is one reason why skeptics believe ugly produce companies aren't being completely forthcoming in their messaging?

- Ⓐ Ugly produce companies have refused to discuss why their business model allows them to offer such deep discounts to customers.
- Ⓑ Some ugly produce companies conceal the fact that some of their produce has previously been rejected by supermarkets.
- Ⓒ Ugly produce companies may fail to mention that ugly fruits and vegetables are also utilized on farms and in the food industry.
- Ⓓ Some ugly produce companies do not acknowledge the results of a Department of Agriculture study about food waste in the United States.

Question 2

Which of these is **most** important to include in a summary of this Article?

- Ⓐ Some local farmers across the country have been selling boxes of imperfect produce directly to consumers and farmers markets for years.
- Ⓑ Ugly produce start-ups say their mission is to prevent billions of pounds of imperfect produce from needlessly going to waste each year.
- Ⓒ In March 2019, Imperfect Produce revealed on its website that it regularly donates food to food banks that help the needy.
- Ⓓ Some imperfect fruits can be fed to farm animals, and rotted fruit can be plowed back into the soil to add nutrients.

Question 3

Which of these is a fact?

- Ⓐ Supermarkets deserve much of the blame for today's food waste problem, considering that they reject perfectly good produce based on appearance alone.
- Ⓑ It's important for local farmers who view ugly produce companies as competition to launch online marketing campaigns in order to attract more customers.
- Ⓒ The criticism piled on imperfect produce companies is pointless because consumers are more motivated than ever to prevent food waste and save money.
- Ⓓ Ugly produce companies not only sell fruits and vegetables that may have been rejected by supermarkets, but they also deliver them right to customers' doorsteps.

Question 4

Which is the closest **synonym** for the word *forestall*, as it is used in the Article?

- Ⓐ Exempt
- Ⓑ Contaminate
- Ⓒ Avert
- Ⓓ Dispense

Question 5

The author probably wrote this Article in order to _____.

- Ⓐ Criticize the founders of ugly produce companies for not doing enough to support food banks that distribute unwanted fruits and vegetables to the needy
- Ⓑ Convince readers to only purchase food from companies that work with small farmers to reduce food waste in the United States
- Ⓒ Inspire companies like Imperfect Produce and Hungry Harvest to reconsider their marketing messaging
- Ⓓ Offer readers both sides of a debate about ugly produce start-ups, their intentions, and whether these companies are doing more harm than good

Question 6

Which passage from the Article best supports the opinion that imperfect produce companies are only concerned with what's best for their own profits?

- Ⓐ The start-ups say they're on a mission to forestall billions of pounds of imperfect produce from needlessly going to waste each year. Because really, a banged-up banana isn't any less tasty in a peanut butter sandwich, so why should it be thrown away?
- Ⓑ In March 2019, Imperfect Produce clapped back at critics on its website, letting people know that not only does it not take away from food banks that help the needy—Imperfect Produce says it sources from farms only after food banks take what they want—but that the company itself regularly donates to food banks. Now put that in your food basket!
- Ⓒ But what about those local farmers who view ugly produce companies as competition? Imperfect Produce claims it doesn't have to be either-or; both farmers and ugly produce sellers can play a part in reducing food waste.
- Ⓓ Case in point: Many local farmers across the country had already been selling boxes of imperfect produce directly to consumers and farmers markets for years before the ugly produce companies started sprouting up. Critics complain that because the start-ups are able to provide a wide assortment of fruits and veggies from large farms around the country, it's gotten difficult for small farms to compete with these marketing machines—and the farmers are losing profits fast.

Question 7

The Article states:

Also, some of the companies may fail to mention that plenty of ugly fruits and veggies do have other uses. In the food service industry, for example, produce is sliced, diced, blended, and more—regardless of what it looks like. On farms, fruits like melons can be fed to animals, and rotted fruit is plowed back into soil to add nutrients. And, maybe most importantly, ugly produce companies have been *denounced* for cashing in on food that could otherwise be sent to food banks.

Which is the closest **synonym** for the word *denounced*, as it is used above?

- Ⓐ Dispraised
- Ⓑ Acquitted
- Ⓒ Commended
- Ⓓ Disciplined

Question 8

Based on the Article, which is most likely to happen?

- Ⓐ Ugly produce companies will be forced out of business as local farmers start selling imperfect fruits and vegetables to people in their neighborhoods.
- Ⓑ As more consumers start buying goods from ugly produce start-ups, some supermarkets may consider adding imperfect produce to their grocery aisles.
- Ⓒ Food banks will begin to purchase their fruits and vegetables from ugly produce companies that offer deep discounts.
- Ⓓ To please critics who question if they are always truthful, ugly produce companies will inform customers that food waste may not be a problem in the U.S.

Step 4: After Reading Poll (Did you change your mind?)

Now that you have read the article, indicate whether you agree or disagree with this statement.

All "ugly" produce should be given away to people in need.

- Agree
- Disagree

Step 5: Thought Question (Write Your Response)

Are ugly produce companies causing more harm than good? Summarize both sides of the argument for and against ugly produce companies. Which side do you agree with and why? Cite evidence from the text to support your response.

Katherine the Great (1180L)

Step 1: Before Reading Poll (Write Your Answer)

One woman worked for NASA as a math expert. She started in the 1950s at a time when women and minorities were often discouraged from pursuing high-level jobs. What do you think?

If you can imagine it, you can achieve it.

- Do you agree or disagree?

Step 2: Article (Read the Article)



Photo credit: Joseph Rodriguez/AP

Katherine Johnson's expert work as a mathematician for NASA made headlines in more ways than one.

HAMPTON, Virginia (Achieve3000, February 25, 2019). Katherine Johnson has never had a hit song or given an Oscar-winning performance, nor has she been an Olympic athlete or a fashion icon. Instead, Johnson's greatness comes from her work as a math expert.

Math directly impacts all our lives, whether we're aware of it or not. Here's how Johnson's math affects your life: From the 1950s until the 1980s, Johnson worked for NASA, the U.S. space agency. Without NASA's space program, which her calculations helped push forward, we wouldn't have the technology necessary for things like satellite TV, sophisticated meteorology, and small computers (like laptops and iPhones). So while Johnson may never be on the Hollywood Walk of Fame, you could say she's quite a hero.

You may be conversant with Johnson's name and work if you've seen the 2016 movie *Hidden Figures*, which tells the story of Johnson and two other African American women who worked behind the scenes at NASA as "human computers." They did things like calculate orbital trajectories—vital work when you're preparing to send people into space. Remarkably, they did this work at a time when women and minorities were often dissuaded from pursuing high-level jobs.

To get a job as a "human computer," of course, Johnson had to be extremely proficient at math—and she was. Born in West Virginia in 1918, Johnson was a whiz kid who skipped several grades in school. After graduating from college with high honors and a degree in mathematics, she began teaching at a public school. In 1953, Johnson heard that jobs for African American women with math and science backgrounds were available at the National Advisory Committee for Aeronautics (NACA, which later became part of NASA). It was then that Johnson applied and was offered a position.

Johnson worked on numerous space missions. By 1962, she had earned a reputation for the accuracy of her calculations. That year, NASA was preparing for Friendship 7, a mission that would put astronaut John Glenn into orbit around Earth. NASA had programmed computers with the necessary equations to calculate the trajectory of Glenn's space capsule. Anyone who has ever used a computer knows how fast and accurate they are. But Glenn wondered what would happen if the computers broke down or malfunctioned. To guard against this, he requested a human computer—specifically, Katherine Johnson—to run the equations that had been programmed into the computers.

"If she says they're good," Johnson later remembered Glenn saying, "then I'm ready to go." Johnson did the equations, and the mission was a success.

In her three decades at NASA, Johnson worked on many other missions, including Project Apollo's lunar lander (yes, that's the famous one that landed astronauts on the moon for the first time, in 1969), as well as the space shuttle program.

Johnson, who has been retired from NASA since 1986, turned 100 in 2018 but hasn't slowed down—not significantly, anyway. In fact, Johnson, who is finally ready to tell her own story, will release *Reaching for the Moon*, an autobiography for young readers, in the summer of 2019.

The NASA legend believes *she* was able to reach for the moon because of a lifetime of curiosity. "You learn if you want to. So you've got to want to learn," she says. Johnson wants young people to be able to follow in her impressive footsteps and to believe that they can do anything.

The Associated Press contributed to this story.

Video credit: NASA

Dictionary

conversant (*adjective*) having knowledge or experience

dissuade (*verb*) to advise or urge against

proficient (*adjective*) skillful

trajectory (*noun*) the path of an object through space

Step 3: Activity (Answer the Questions)

Question 1

What is a cause and effect relationship that takes place in the Article?

- Ⓐ Because Katherine Johnson was the subject of the 2016 hit movie *Hidden Figures*, her name appears on the Hollywood Walk of Fame.
- Ⓑ Because NASA did not yet have computers programmed to calculate the trajectory of astronaut John Glenn's space capsule, he asked Katherine Johnson to run the equations for his mission.
- Ⓒ Because Katherine Johnson was proficient at math, she was hired as a "human computer" for NASA and earned a reputation for the accuracy of her calculations.
- Ⓓ Because women and minorities were encouraged to pursue high-level jobs in the 1950s, Katherine Johnson was hired by the National Advisory Committee for Aeronautics.

Question 2

The best alternate headline for this Article would be _____.

- Ⓐ From Whiz Kid to Math Hero, Katherine Johnson's Life Is Proof That Anything Is Possible
- Ⓑ "Human Computer" Katherine Johnson Celebrates Turning 100 Years Old
- Ⓒ It's No Surprise Math Expert Katherine Johnson Skipped Several Grades in School
- Ⓓ Katherine Johnson Tells Her Story in an Autobiography for Young Readers

Question 3

Which of these had **not** yet happened when this Article was written?

This question asks about when events happened. It does not ask where in the Article the events appear. Look back at the Article for clues, such as dates.

- Ⓐ Katherine Johnson retired from NASA after three decades of work at the agency.
- Ⓑ Katherine Johnson was one of the women portrayed in the movie *Hidden Figures*.
- Ⓒ Katherine Johnson released an autobiography titled *Reaching for the Moon*.
- Ⓓ Katherine Johnson worked on a mission that sent astronauts to the moon.

Question 4

Which is the closest **antonym** for the word *conversant*, as it is used in the Article?

- Ⓐ Astonished
- Ⓑ Discontent
- Ⓒ Captivated
- Ⓓ Unfamiliar

Question 5

This Article would be **most** useful as a source for a student research project on _____.

- Ⓐ The extraordinary accomplishments of former NASA astronaut John Glenn
- Ⓑ NASA's contributions to modern-day technology
- Ⓒ Groundbreaking women in the fields of science, technology, engineering, and math
- Ⓓ Katherine Johnson's childhood years in West Virginia

Question 6

Based on the Article, the reader can infer that _____.

- Ⓐ Katherine Johnson was a respected public figure who enjoyed the spotlight during her career, which spanned three decades at NASA.
- Ⓑ In the 1960s, John Glenn and other astronauts completely trusted the accuracy of the technology available at the time.
- Ⓒ In 1953, Katherine Johnson was likely not surprised to learn that the National Advisory Committee for Aeronautics was interested in hiring African American women.
- Ⓓ Many young people, especially those who have experienced race or gender discrimination, will likely find Katherine Johnson's autobiography inspirational.

Question 7

Which passage from the Article best supports the notion that Katherine Johnson's work at NASA was more important than most astronauts likely realized at the time?

- Ⓐ In her three decades at NASA, Johnson worked on many other missions, including Project Apollo's lunar lander (yes, that's the famous one that landed astronauts on the moon for the first time, in 1969), as well as the space shuttle program.
- Ⓑ To guard against this, he requested a human computer—specifically, Katherine Johnson—to run the equations that had been programmed into the computers.
- Ⓒ Johnson worked on numerous space missions. By 1962, she had earned a reputation for the accuracy of her calculations.
- Ⓓ Without NASA's space program, which her calculations helped push forward, we wouldn't have the technology necessary for things like satellite TV, sophisticated meteorology, and small computers (like laptops and iPhones).

Question 8

The Article states:

They did things like calculate orbital trajectories—*vital* work when you're preparing to send people into space. Remarkably, they did this work at a time when women and minorities were often dissuaded from pursuing high-level jobs.

Which would be the closest **synonym** for the word *vital*, as it is used above?

- Ⓐ Tedious
- Ⓑ Humorous
- Ⓒ Trivial
- Ⓓ Critical

Step 4: After Reading Poll (Did you change your mind?)

Now that you have read the article, indicate whether you agree or disagree with this statement.

If you can imagine it, you can achieve it.

- Agree
- Disagree

Step 5: Thought Question (Write Your Response)

Describe Katherine Johnson's work at NASA and how she helped lead the way for both women and African Americans to succeed in math and other technical fields. Use facts and details from the lesson in your response.

The Last Generation? (1180L)

Step 1: Before Reading Poll (Write Your Answer)

Some people from the Pacific Islands are working to stop climate change. They're afraid rising sea levels could take away their homeland. What do you think?

Everyone should work together to stop climate change.

- Do you agree or disagree?

Step 2: Article (Read the Article)



Photo credit: maloff/Shutterstock

The capital city of Majuro, Marshall Islands, is only 300 feet wide in most places, yet the thin strip of land is home to over 27,000 people.

MAJURO, Marshall Islands (Achieve3000, November 7, 2019). Living on a tropical island might sound fabulous, but what if you took a trip or went away for college and found you could never return? What if your home, and even the land it stood on, was gone forever? This isn't the plot of a fantasy movie or the premise of a video game—it's a painfully real possibility faced by people living in the Pacific Islands. Rising sea levels, due to the advent of climate change, threaten the very existence of these island nations. And young people whose families have deep roots on the islands are starting to wonder if they will be the last generation.

But the islanders' determination is as strong as their connection to their home. The Pacific Islands are made up of 11 independent countries, including the Marshall Islands, Fiji, Samoa, and the Federated States of Micronesia. However, the people of these distinct nations are banding together to confront the challenges of climate change.

Why is climate change such a huge threat to this part of the world? It's a matter of "first and worst." Because of their low elevations, islands are among the *first* places where communities are harmed by rising sea levels, and scientists have found that sea levels have risen more in the South Pacific than in other parts of the world. The Pacific Islands will likely face some of the *worst* devastation from the impacts of climate change. The region is susceptible to very destructive tropical storms, and it's hard for small, remote countries to recover from natural disasters.

The nations of the Pacific Islands, which are home to more than 2 million people, recognize that when it comes to climate change, they are all in the same boat. Working together, they set about looking for ways to take the helm and address the problem. Scientists already know one way to slow or reverse the impacts of climate change. That's by significantly reducing carbon dioxide and other greenhouse gas emissions. But cutting back air pollution on the islands is unlikely to have a big effect because they aren't a major source of emissions to begin with. China, for example, emits 29 percent of the world's carbon annually, and the United States emits 16 percent. The Marshall Islands, on the other hand, emit less than 0.00001 percent of the world's carbon!

But there's one feature of island life that gives these small nations an opportunity to make a big difference. Most of the things that people on islands buy are delivered by ships, and the environmental impact of these seafaring vessels is enormous. In fact, experts say cargo ships are responsible for almost 3 percent of the world's carbon emissions. That's about the same amount attributed to the entire country of Germany!

Realizing it was up to them to come up with solutions in their own backyards—or bays and harbors—Pacific Islanders came up with a plan. At the United Nations Climate Action Summit in 2019, the governments of Fiji, the Marshall Islands, Samoa, Vanuatu, the Solomon Islands, and Tuvalu announced the Pacific Blue Shipping Partnership. The alliance pledges a 40 percent reduction in carbon emissions from shipping by 2030 and wants to achieve zero-carbon shipping by 2050.

How will the countries meet these ambitious goals for going green with Pacific Blue? They plan to leverage some really cool, environmentally friendly, carbon-free technologies, including solar-powered ships and hydrogen fuel cells. They'll also harness wind energy for sailing and converting to electric power. Through the partnership and their efforts to assemble a fleet of these greener ships, Pacific Island nations are leading the world by example. They're hoping their move could start a wave of change in the shipping industry.

But Pacific Islanders aren't stopping there! They're coordinating programs to focus attention on increasing their resilience to changes in climate, preparing for natural disasters, and protecting fisheries and farms from rising seawater.

Sea levels are rising, but hopes aren't sinking in the Pacific Islands, where people are fighting for life and land. The citizens of these island nations are inspired to work together so they all can survive and thrive in their homelands for generations to come.

Video credit: United Nations

Dictionary

leverage (*verb*) to use (something valuable) to achieve a desired result

resilience (*noun*) the ability to become strong, healthy, or successful again after something bad happens

susceptible (*adjective*) easily affected, influenced, or harmed by something

Step 3: Activity (Answer the Questions)

Question 1

What is a cause and effect relationship that takes place in the Article?

- Ⓐ Because China emits high levels of carbon as compared with the rest of the world, communities in China will be some of the first places to experience the harmful consequences of rising sea levels resulting from climate change.
- Ⓑ Because Pacific Island countries contribute only a minor proportion of the world's carbon emissions, reducing air pollution on the islands is unlikely to significantly impact the amount of carbon worldwide.
- Ⓒ Because cargo ships are responsible for approximately 3 percent of the world's carbon emissions, the United Nations Climate Action Summit made a plan called the Pacific Blue Shipping Partnership in 2019.
- Ⓓ Because the Pacific Island region is coordinating programs to increase its ability to effectively react to destructive tropical storms, some Pacific Island countries pledged to achieve zero-carbon emissions from shipping by 2050.

Question 2

The Article primarily discusses _____.

- Ⓐ the potential of solar power, hydrogen fuel cells, and wind energy, all of which are technologies that do not emit carbon, to replace carbon-emitting technologies that cause damage to the environment in the Pacific Islands
- Ⓑ the effect of climate change on the Pacific Island nations, and the Pacific Blue Shipping Partnership, in which carbon-free technologies will be used to reduce carbon emitted by cargo ships that deliver goods to the islands
- Ⓒ the amount of carbon dioxide and other greenhouse gases emitted by the Pacific Islands compared to larger countries, including China, which emits 29 percent of the world's carbon annually, and the United States, which emits 16 percent
- Ⓓ the geography of the Pacific Islands, including their location in the South Pacific and the 11 independent countries they encompass, such as the Marshall Islands, Fiji, Samoa, and the Federated States of Micronesia

Question 3

Which is the closest **synonym** for the word *resilience*?

- Ⓐ flexibility
- Ⓑ clarity
- Ⓒ probability
- Ⓓ sensitivity

Question 4

Which information is **not** in the Article?

- Ⓐ Why the Marshall Islands, Fiji, Samoa, the Federated States of Micronesia, and other countries in the Pacific Islands have started working together
- Ⓑ Why the countries in the Pacific Islands rely on carbon-producing cargo ships more than some other countries do
- Ⓒ Why the Pacific Blue Shipping Partnership includes only some of the countries that make up the Pacific Islands rather than all of them
- Ⓓ Why the Pacific Island countries are experiencing the effects of climate change more than some other areas

Question 5

Read the following passage from the Article:

But there's one feature of island life that gives these small nations an opportunity to make a big difference. Most of the things that people on islands buy are delivered by ships, and the environmental impact of these seafaring vessels is enormous. In fact, experts say cargo ships are responsible for almost 3 percent of the world's carbon emissions. That's about the same amount attributed to the entire country of Germany!

Why did the author include this information?

- Ⓐ To emphasize the dangerous environmental impact of climate change caused by carbon dioxide and other greenhouse gas emissions
- Ⓑ To inform readers that the Pacific Islands are responsible for producing almost 3 percent of the world's carbon emissions
- Ⓒ To describe a variety of creative strategies for reducing carbon emissions in an effort to slow or reverse climate change
- Ⓓ To explain why the Pacific Island countries developed a plan for reducing carbon emissions from cargo ships rather than emissions from other sources

Question 6

The Article states:

This isn't the plot of a fantasy movie or the premise of a video game—it's a painfully real possibility faced by people living in the Pacific Islands. Rising sea levels, due to the *advent* of climate change, threaten the very existence of these island nations.

Which is the closest **antonym** for the word *advent*?

- Ⓐ apprehension
- Ⓑ expansion
- Ⓒ affirmation
- Ⓓ termination

Question 7

What is one inference the reader can make from the Article?

- Ⓐ Zero-carbon shipping is an unattainable ideal, so the countries in the Pacific Blue Shipping Partnership accept a 40 percent reduction in shipping-related carbon emissions as a realistic goal.
- Ⓑ Small island nations are unable to reduce air pollution since their levels of carbon and other greenhouse gas emissions are already so low.
- Ⓒ The Pacific Island countries are the first to propose solutions to the problems resulting from climate change because other countries are not affected by rising sea levels.
- Ⓓ Countries that emit high levels of carbon cause negative consequences not only in their own backyards but around the entire world.

Question 8

Which passage from the Article best supports the belief that the threat to the Pacific Islands resulting from climate change is critical?

- Ⓐ How will the countries meet these ambitious goals for going green with Pacific Blue? They plan to leverage some really cool, environmentally friendly, carbon-free technologies, including solar-powered ships and hydrogen fuel cells. They'll also harness wind energy for sailing and converting to electric power. Through the partnership and their efforts to assemble a fleet of these greener ships, Pacific Island nations are leading the world by example. They're hoping their move could start a wave of change in the shipping industry.
- Ⓑ What if your home, and even the land it stood on, was gone forever? This isn't the plot of a fantasy movie or the premise of a video game—it's a painfully real possibility faced by people living in the Pacific Islands. Rising sea levels, due to the advent of climate change, threaten the very existence of these island nations. And young people whose families have deep roots on the islands are starting to wonder if they will be the last generation.
- Ⓒ But there's one feature of island life that gives these small nations an opportunity to make a big difference. Most of the things that people on islands buy are delivered by ships, and the environmental impact of these seafaring vessels is enormous. In fact, experts say cargo ships are responsible for almost 3 percent of the world's carbon emissions. That's about the same amount attributed to the entire country of Germany!
- Ⓓ But cutting back air pollution on the islands is unlikely to have a big effect because they aren't a major source of emissions to begin with. China, for example, emits 29 percent of the world's carbon annually, and the United States emits 16 percent.

Step 4: After Reading Poll (Did you change your mind?)

Now that you have read the article, indicate whether you agree or disagree with this statement.

Everyone should work together to stop climate change.

- Agree
- Disagree

Step 5: Thought Question (Write Your Response)

How is climate change affecting the Pacific Islands? What are some Pacific Island nations doing about this problem? Include information from the Article in your response.

A Musical Pioneer (1180L)

Step 1: Before Reading Poll (Write Your Answer)

In the world of classical music, most conductors are men, and there are few conductors of color. But South Africa's Ofentse Pitse stands out. She's a young, black, female conductor. What do you think?

People who are willing to stand out help to bring about change.

- Do you agree or disagree?

Step 2: Article (Read the Article)



Photo credit: Courtesy Ofentse Pitse

Ofentse Pitse is the conductor and founder of Anchored Sound, an orchestra and choir for disadvantaged youth in South Africa.

JOHANNESBURG, South Africa (Achieve3000, January 14, 2020). Ofentse Pitse is making waves. Sound waves, that is! She's the conductor and founder of Anchored Sound, an orchestra and youth choir in her home country of South Africa. The visionary leader of this all-black ensemble has set her sights on empowering black youth and showcasing classical music created by African artists.

Pitse is a pioneer in the world of classical music, and not just because this go-getter is only 27 years old. In terms of diversity, classical music has lagged far behind most other kinds of music. A 2017 study about the most prestigious orchestras worldwide found that only 5 of the 100 most sought after conductors were women. (That might sound ludicrously lopsided. But it's an improvement over the statistics from 2013, when the top 100 included just 1 female conductor!) There are relatively few people of color on the podium as well—about 80 percent of classical music conductors in the U.S., for example, are white. Finally, classical music started in Europe hundreds of years ago, and although its influence and audience now extend far beyond the continent, many people still associate it with European culture. In short, as a young, black, female conductor born and raised in South Africa, Pitse is truly one of a kind.

Musical mastery runs in Pitse's family. Her grandfather was a jazz band conductor and choir director who played the trumpet. So you might guess that she picked up the baton as soon as she was old enough to stand. However, music wasn't even her first career path, and unlike most conductors, she didn't go through years of formal training before taking the stage. Although she enjoyed singing as a child and learned to play the English horn at age 12, she also excelled at drawing and chose to become an architect.

But music called to Pitse...and she listened. In 2017, she started a choir, selecting young singers who had exceptional talent and big aspirations but were from disadvantaged communities and therefore had limited opportunities for success. She says the experience has been transformative for these young people, allowing them a chance to develop their gifts, build their confidence, and realize their dreams. Now that's something worth singing about!

Pitse's impressive project didn't stop there: You could say she was just getting tuned up. With the intention of forming an orchestra to accompany her singers, she enlisted the help of two top-notch mentors, Thami Zungu and Gerben Grooten, both acclaimed conductors at universities in South Africa. By 2019, Pitse had honed her conducting skills and recruited a number of accomplished musicians and financial supporters, creating a 40-member orchestra.

What's on the program at an Anchored Sound performance? Audiences might get to hear pieces written by Mzilikazi Khumalo, Phelelani Mnomiya, or Sibusiso Njeza. If these names are new to you, you're not alone. At classical music concerts, it's more common to hear music written centuries ago by European composers like Mozart and Beethoven, but Pitse wants listeners to know that classical music is alive and well in Africa, so the group's repertoire focuses on African composers. It's all part of Pitse's plan to bring the beauty and artistry of African classical music to the world. Clearly, this former architect's not afraid to orchestrate change on a big scale!

Video credit: Mesia Gumede

Dictionary

ludicrous (*adjective*) very foolish: ridiculous

mentor (*noun*) someone who teaches or gives help and advice to a less experienced and often younger person

repertoire (*noun*) all the plays, songs, dances, etc., that a performer or group of performers knows and can perform

Step 3: Activity (Answer the Questions)

Question 1

What is this Article mainly about?

- Ⓐ Most people are familiar with the works of Mozart and Beethoven, but Ofentse Pitse wants to include the works of African composers in her concerts, so her audiences can enjoy pieces written by Mzilikazi Khumalo, Phelelani Mnomiya, or Sibusiso Njeza.
- Ⓑ Ofentse Pitse is the conductor and founder of Anchored Sound, an orchestra and youth choir that gives disadvantaged young singers with exceptional talent and big aspirations the chance to develop their gifts while performing the works of leading African composers.
- Ⓒ Although Ofentse Pitse enjoyed singing as a little girl and learned to play the English horn at the age of 12, she also excelled at drawing and chose to become an architect before she decided to pick up a baton and lead an orchestra.
- Ⓓ With the intention of forming an orchestra to accompany her singers, Ofentse Pitse enlisted the help of two top-notch mentors, Thami Zungu and Gerben Grooten, both acclaimed conductors at universities in South Africa.

Question 2

Which of these is a statement of opinion?

- Ⓐ A recent study that gathered data on the most prestigious orchestras worldwide found that only 5 out of the 100 most sought after conductors were women.
- Ⓑ Ofentse Pitse never would have become a conductor of a classical orchestra and choir had her grandfather not been a trumpet player and jazz band conductor.
- Ⓒ Classical music started in Europe hundreds of years ago, and although its influence and audience now extend far beyond the continent, many people associate it with European culture.
- Ⓓ When Ofentse Pitse needed help forming her orchestra, she enlisted two mentors, Thami Zungu and Gerben Grooten.

Question 3

Why did the author include this passage?

- Ⓐ To point out different ways in which the sound of classical music has changed since the days of Beethoven and Mozart
- Ⓑ To show how Ofentse Pitse is trying to change people's ideas of what classical music is in the world today
- Ⓒ To explain who had originally inspired Ofentse Pitse to create and lead a classical orchestra and choir
- Ⓓ To suggest that Khumalo, Mnomiya, and Njeza are more accomplished composers than many of the European masters

Question 4

Which is the closest **antonym** for the word *ludicrous*?

- Ⓐ juvenile
- Ⓑ jovial
- Ⓒ logical
- Ⓓ liable

Question 5

What is one inference the reader can make from the Article?

- Ⓐ The performances of Ofentse Pitse's choir typically feature at least one piece written by Mozart or Beethoven.
- Ⓑ Khumalo, Mnomiya, and Njeza often take the role of conductor and lead Ofentse Pitse's choir and 40-member orchestra.
- Ⓒ Ofentse Pitse has written many of the classical pieces that are often performed by her orchestra and choir.
- Ⓓ Many of the young people in Ofentse Pitse's choir might not have been able to pursue their musical gifts without her help.

Question 6

Which information is **not** in the Article?

- Ⓐ What musical instrument Ofentse Pitse learned to play when she was just 12 years old
- Ⓑ Why Ofentse Pitse is considered a pioneer in the world of classical music conductors
- Ⓒ How Ofentse Pitse felt when she directed her first orchestra and choir performance
- Ⓓ Who helped Ofentse Pitse when she wanted to form an orchestra to accompany her singers

Question 7

Read this passage from the Article:

She's the conductor and founder of Anchored Sound, an orchestra and youth choir in her home country of South Africa. The visionary leader of this all-black *ensemble* has set her sights on empowering black youth and showcasing classical music created by African artists.

In this passage, the word *ensemble* means _____.

- Ⓐ a group of people who together make a complete musical unit
- Ⓑ an organization of historians who fund musical research
- Ⓒ an organization of artists who specialize in regional artwork
- Ⓓ a group of people who work for social justice or change

Question 8

Which passage from the Article best supports the idea that Ofentse Pitse's concerts feature classical music that some listeners might not be familiar with?

- Ⓐ Pitse is a pioneer in the world of classical music, and not just because this go-getter is only 27 years old. In terms of diversity, classical music has lagged far behind most other kinds of music. A 2017 study about the most prestigious orchestras worldwide found that only 5 of the 100 most sought-after conductors were women. (That might sound ludicrously lopsided. But it's an improvement over the statistics from 2013, when the top 100 included just 1 female conductor!)
- Ⓑ What's on the program at an Anchored Sound performance? Audiences might get to hear pieces written by Mzilikazi Khumalo, Phelelani Mnomiya, or Sibusiso Njeza. If these names are new to you, you're not alone. At classical music concerts, it's more common to hear music written centuries ago by European composers like Mozart and Beethoven, but Pitse wants listeners to know that classical music is alive and well in Africa, so the group's repertoire focuses on African composers.
- Ⓒ But music called to Pitse...and she listened. In 2017, she started a choir, selecting young singers who had exceptional talent and big aspirations but were from disadvantaged communities and therefore had limited opportunities for success. She says the experience has been transformative for these young people, allowing them a chance to develop their gifts, build their confidence, and realize their dreams. Now that's something worth singing about!
- Ⓓ Musical mastery runs in Pitse's family. Her grandfather was a jazz band conductor and choir director who played the trumpet. So you might guess that she picked up the baton as soon as she was old enough to stand. However, music wasn't even her first career path, and unlike most conductors, she didn't go through years of formal training before taking the stage. Although she enjoyed singing as a child and learned to play the English horn at age 12, she also excelled at drawing and chose to become an architect.

Step 4: After Reading Poll (Did you change your mind?)

Now that you have read the article, indicate whether you agree or disagree with this statement.

People who are willing to stand out help to bring about change.

- Agree
- Disagree

Step 5: Thought Question (Write Your Response)

Retell this story from the perspective of a journalist who is interviewing Ofentse Pitse. Indicate what questions the reporter might ask Pitse, as well as the answers she might give. Be sure to include information from the Article, as well as vocabulary terms and descriptive phrases, in your response.

Ötzi the Iceman (1180L)

Step 1: Before Reading Poll (Write Your Answer)

Ötzi the Iceman lived about 5,300 years ago. Scientists have been studying Ötzi's remains since his body was found in 1991. What do you think?

Ötzi should be left alone.

- Do you agree or disagree?

Step 2: Article (Read the Article)



Photo credit: Sergio Monti Photography/Shutterstock

Ötzi the Iceman lives again in this life-size recreation that's based on medical scans of his skeleton and 3-D modeling techniques.

BOLZANO, Italy (Achieve3000, November 21, 2019). It had to have been rough going for Ötzi (pronounced OET-see) the Iceman those last few days of his life some 5,300 years ago. There he was, a 46-ish-year-old man about 5 feet and 2 inches and 110 pounds (157 centimeters and 50 kilograms), climbing up a steep mountain in what is now called the Ötztal Alps of northern Italy (hence his name). And, unfortunately, the poor guy was suffering from a blow to his head, a serious wound on his right hand, and an arrowhead lodged in his left shoulder.

Some days were better than others in prehistory.

Chances are, Ötzi had battled with another or maybe several other late-Neolithic men in the valley below. Clearly, he didn't fare too well in the encounter. His wounds probably prevented him from retaliating, or he would've finished the half-made wooden bow and arrows that he carried with him. He also had a copper ax on hand. After all, this *was* the Copper Age. But fleeing up a cold mountain was probably preferable to using it in combat. Fortunately, he was wearing warm clothing made of leather, hides, and grass. He had also eaten a bellyful of goat meat and grain earlier. But would he survive the cold and the wounds? He would not, and if you're wondering how *so* much detailed info is known about a man who lived and died so long ago, here's one more detail that explains it all: Shortly after his death, Ötzi's body was covered

and frozen solid by glacial ice. He remained that way until 1991, when two hikers found him in his partially thawed ice tomb looking rather well, all things considered. Understandably, the discovery made international headlines. Here was the first well-preserved body from the late-Neolithic period ever to be found in Europe, fully attired and accessorized no less. The find offered historians a treasure trove of information about prehistoric life.

Just as a frame of reference—the Egyptian pyramids and Stonehenge had not even been built yet when Ötzi was alive.

Ötzi has become one of the most carefully studied ancient human specimens ever. His remains have been X-rayed, CAT-scanned, carbon-dated, and analyzed, as have his clothing and gear. As a result, scientists have been able to ascertain quite a lot about him. He had a narrow and pointed face, brown eyes, tanned and tattooed skin, long dark hair, a scraggly beard, and type O-positive blood. And amazingly, his DNA shows that he has at least 19 modern-day relatives through his father's genetic line.

Aside from his injuries and wounds, Ötzi likely had a slew of medical issues. These included heart disease, joint pain, tooth decay, damaged lungs, stomach worms, fleas, and probably Lyme disease as well. It's speculated that the many tattoos on his body are evidence of some prehistoric treatment to relieve body aches—akin to acupuncture. And it sounds like he sure could've used the relief.

So what did a primitive dude-on-the-go like Ötzi wear to beat the cold? A leather overcoat made of hides from at least four different sheep and goats stitched together with animal sinews, a sheepskin loincloth, goatskin leggings, a furry bearskin hat with chinstrap, leather shoes stuffed with grass, and cow leather shoelaces. An analysis of the various skins indicates that animals during this era were domesticated as well as hunted.

In addition to his copper ax and bow and arrows, Ötzi's possessions included a flint dagger with a wooden handle, a grass net that may have also served as a mat or cape, a wooden U-shaped backpack, a deerskin quiver for his arrows, and a calfskin belt with a sewn-on pouch that contained several small tools. Interestingly, the materials used in Ötzi's tools came from different regions hundreds of miles away, suggesting some sort of trade network. Oh, yes, Ötzi had a few snacks on hand, too—a sloe berry, some mushrooms, and a few gnawed goat bones.

In November 2019, some new data was added to the Ötzi file: An analysis of the vegetation found in his stomach and underfoot reveals his actual travel route in the days before his death. Alas, poor Ötzi is long gone but not forgotten—and still full of surprises.

Dictionary

akin (*adjective*) similar or related

carbon dating (*noun*) a scientific way of finding the age of something that is very old (such as a dinosaur bone) by measuring the amount of certain forms of carbon in it

Neolithic (*adjective*) of or relating to the time during the Stone Age when people used stone tools and began to grow crops, raise animals, and live together in large groups but did not read or write

Step 3: Activity (Answer the Questions)

Question 1

What is this Article mainly about?

- Ⓐ Because of the injuries sustained by Ötzi the Iceman, including a blow to his head, a serious wound on his right hand, and an arrowhead lodged in his left shoulder, it is believed he had battled with one or more other late-Neolithic men before beginning his trek up the Ötztal Alps.
- Ⓑ Ötzi the Iceman appears to have suffered from a host of medical conditions, including severe body aches, heart disease, tooth decay, Lyme disease, and parasites, such as fleas and stomach worms.
- Ⓒ It is speculated that the many tattoos on Ötzi the Iceman's body are evidence of some prehistoric therapeutic technique to relieve body aches, which was possibly the first occurrence of modern-day acupuncture.
- Ⓓ After being preserved for more than 5,000 years in a tomb of ice, Ötzi the Iceman is teaching the world about prehistoric life based on the food, tools, and accessories he carried, along with an analysis of his many health issues.

Question 2

Read the following passage from the Article:

Shortly after his death, Ötzi's body was covered and frozen solid by glacial ice. He remained that way until 1991, when two hikers found him in his partially thawed ice tomb looking rather well, all things considered. Understandably, the discovery made international headlines. Here was the first well-preserved body from the late-Neolithic period ever to be found in Europe, fully attired and accessorized no less. The find offered historians a treasure trove of information about prehistoric life.

Why did the author include this information?

- Ⓐ To describe how the attire worn by prehistoric men and women aided in their survival during harsh weather conditions
- Ⓑ To determine how much information historians already knew about the late-Neolithic period before the discovery of Ötzi
- Ⓒ To explain the significance of the discovery of Ötzi the Iceman's 5,300-year-old body in such excellent condition
- Ⓓ To provide evidence of the impact the late-Neolithic period had on the advancement of modern-age tools and other accessories

Question 3

Which is the closest **synonym** for the word *akin*?

- Ⓐ comparable
- Ⓑ superfluous
- Ⓒ disastrous
- Ⓓ supplemental

Question 4

Which of these is a statement of opinion?

- Ⓐ Food discovered around Ötzi and in his stomach revealed clues leading to the discovery of the route he traveled before his passing.
- Ⓑ The remains of Ötzi have unearthed many discoveries, including DNA and genetic information showing that there are at least 19 modern-day people related to Ötzi.
- Ⓒ Ötzi is the most interesting archaeological find in history because the knowledge scientists are gaining from his discovery is unparalleled.
- Ⓓ Ötzi was covered in tattoos, which some believe to be evidence of a technique used to relieve body aches and pains.

Question 5

Which passage from the Article best supports the idea that Ötzi's injuries led to his untimely death?

- Ⓐ In November 2019, some new data was added to the Ötzi file: An analysis of the vegetation found in his stomach and underfoot reveals his actual travel route in the days before his death. Alas, poor Ötzi is long gone but not forgotten—and still full of surprises.
- Ⓑ Shortly after his death, Ötzi's body was covered and frozen solid by glacial ice. He remained that way until 1991, when two hikers found him in his partially thawed ice tomb looking rather well, all things considered.
- Ⓒ It had to have been rough going for Ötzi (pronounced OET-see) the Iceman those last few days of his life some 5,300 years ago. There he was, a 46-ish-year-old man about 5 feet and 2 inches and 110 pounds (158 centimeters and 50 kilograms), climbing up a steep mountain in what is now called the Ötztal Alps of northern Italy (hence his name). And, unfortunately, the poor guy was suffering from a blow to his head, a serious wound on his right hand, and an arrowhead lodged in his left shoulder.
- Ⓓ Aside from his injuries and wounds, Ötzi likely had a slew of medical issues. These included heart disease, joint pain, tooth decay, damaged lungs, stomach worms, fleas, and probably Lyme disease as well. It's speculated that the many tattoos on his body are evidence of some prehistoric treatment to relieve body aches—akin to acupuncture. And it sounds like he sure could've used the relief.

Question 6

The Article states:

As a result, scientists have been able to *ascertain* quite a lot about him. He had a narrow and pointed face, brown eyes, tanned and tattooed skin, long dark hair, a scraggly beard, and type O-positive blood.

Which is the closest **synonym** for the word *ascertain*?

- Ⓐ disapprove
- Ⓑ verify
- Ⓒ prioritize
- Ⓓ tolerate

Question 7

This Article would be **most** useful as a source for a student research project on _____.

- Ⓐ everyday attire worn by men and women of the late-Neolithic period
- Ⓑ ancient battles along the Ötztal Alps during the late-Neolithic period
- Ⓒ various trade networks established in the late-Neolithic period
- Ⓓ major scientific discoveries involving the late-Neolithic period

Question 8

Based on the Article, which is most likely to happen next?

- Ⓐ Acupuncture will increase in popularity as people learn it was administered during the late-Neolithic period and likely provided Ötzi with substantial relief of pain.
- Ⓑ Trade routes will be established to connect faraway places based on the routes taken by ancient people, such as Ötzi.
- Ⓒ Scientists will continue to examine Ötzi in hopes of making further groundbreaking discoveries about the Neolithic Age.
- Ⓓ Through further study of Ötzi's remains, scientists will uncover revolutionary clues relating to the creation of the Egyptian pyramids and Stonehenge.

Step 4: After Reading Poll (Did you change your mind?)

Now that you have read the article, indicate whether you agree or disagree with this statement.

Ötzi should be left alone.

- Agree
- Disagree

Step 5: Thought Question (Write Your Response)

Who was Ötzi the Iceman? What have scientists learned about Ötzi and about the time when he lived? Include facts and details from the Article in your response.

Sniffing Out Extinction (1180L)

Step 1: Before Reading Poll (Write Your Answer)

Trained dogs are now being used to help save endangered species. What do you think?

All endangered species are worth saving.

- Do you agree or disagree?

Step 2: Article (Read the Article)



Photo credit: Marina Makouskaya/iStock/Getty Images Plus

This conservation detection dog can sniff out the scent of different species on land and in water.

MELBOURNE, Australia (Achieve3000, December 4, 2019). What *can't* a dog sniff out once it puts its snout to the task? Police K-9s detect everything from missing persons to counterfeit money. Healthcare pup-fessionals can pick up the scent markers of certain early-stage cancers, dangerous allergens in foods, and sudden changes in human blood-sugar levels. And let's not forget an ordinary dog's amazing ability to smell a just-opened can of dog food from afar.

Now add another smellable to the list: endangered species.

Indeed, conservationists around the world are putting dogs on the trail—and tail—of at-risk animals with the hope of protecting and breeding them. The dogs' hunt begins unceremoniously with a healthy whiff of an animal's scent, usually in the form of scat (droppings). After all, dogs can divine scads of info just by sniffing the scents of fellow canines—who's in the neighborhood, what they've eaten, or if danger is lurking. So why not use a dog's astonishing nasal radar to track down a species that's in serious trouble, like the critically endangered Baw Baw frog of southeastern Australia?

Since 1980, problems stemming from climate change, non-native species, and a deadly fungus have decimated about 98 percent of the Baw Baw frog population. Fewer than 1,200 of them remain in the wild. Conservationists fear that unless the trend is reversed soon, these small brown amphibians will be extinct within the next 10 years. The problem is, finding Baw Baw frogs is no easy feat. They live in the hard-to-get-to forests of Mount Baw Baw, where they burrow in mud about 3 feet (1 meter) deep. To compound matters further, the males do their frog call only five to six weeks a year and females don't call at all. So the frogs aren't easily reached, seen, or heard.

But none of this is of any consequence to Rubble and Uda. These two border collies have been enlisted by Zoos Victoria, an Australian conservation group, to lend a paw-paw to the Baw Baw. Zoos Victoria has been trying to save the frogs by learning about their habitat and breeding them in captivity. With Rubble and Uda's help, the results have been note- and nose-worthy. As soon as the dogs were trained to identify the smell of Baw Baw frogs, they led the Zoos Victoria conservationists straight to the home of the slippery frogs.

Phase two of their mission will begin as conservationists refine their technique for releasing frogs and tadpoles into the wild. Then, Rubble and Uda will be re-enlisted periodically to find the Baw Baw frog community once again so that conservationists can see if the zoo-bred frogs are surviving.

And that's how you save a species.

So what makes border collies such superb sniffers? First and foremost, they're dogs. That means their noses have about 50 times more olfactory receptors than people's noses. Dogs also use proportionally 40 times more brainpower than we do to analyze smells. The net result is a living, breathing "scent-alyzer" whose sense of smell is 10,000 to 100,000 times more acute than ours.

And according to the dogs' trainer, Luke Edwards, Rubble and Uda have other invaluable skills that make them well suited for the job, in particular, their stamina: "That's what we're after for a working dog, is their stamina—both mentally and physically."

But Baw Baw frogs aren't the only species being sniffed out before they're snuffed out. Conservation detection dogs are also being used to track down Chinese pangolins, Pacific pocket mice, silverspot butterfly caterpillars, snow leopards, koalas, and even killer whales—all by smelling their scat and hitting the trail.

Yes, conservation can be a gritty business all right. But someone's got to work to save endangered animals—and dogs win out by a nose.

Voice of America contributed to this story.

Video credit: Voice of America

Dictionary

olfactory (*adjective*) of, relating to, or connected with the sense of smell

receptor (*noun*) a nerve ending that senses changes in light, temperature, pressure, etc., and causes the body to react in a particular way

Step 3: Activity (Answer the Questions)

Question 1

What is this Article mainly about?

- Ⓐ Since 1980, problems stemming from climate change, non-native species, and a deadly fungus have destroyed roughly 98 percent of the Baw Baw frog population in Australia, and scientists now estimate that there are fewer than 1,200 of the species left in their native habitats.
- Ⓑ With a sense of smell somewhere between 10,000 and 100,000 times more acute than that of humans, dogs have been used to detect counterfeit money, the scent markers of certain early-stage cancers, and even sudden changes in diabetics' blood-sugar levels.
- Ⓒ Dogs have roughly 50 times more olfactory receptors in their noses than human beings do, and the part of their brains that analyze smells is proportionally 40 times larger than it is in humans, which means that dogs have an amazing sense of smell.
- Ⓓ Dogs have such an incredible sense of smell that they have been recruited as conservation detection specialists who use their noses to locate endangered species so that scientists can find these rare animals, breed them in captivity, and later release them into the wild.

Question 2

According to the Article, why did conservationists at Zoos Victoria train two border collies to locate a critically endangered species using the scent of the animal?

- Ⓐ The conservationists have had success with police K-9 dogs that have been trained to detect not only missing persons but also counterfeit money.
- Ⓑ The conservationists want to find a better home for the Baw Baw frogs, away from the remote, wild terrain of southeastern Australia.
- Ⓒ The conservationists want to use the dogs to also track down Pacific pocket mice, silverspot butterfly caterpillars, and koalas.
- Ⓓ The conservationists have had great difficulty locating the endangered Baw Baw frogs because the animals aren't easily reached, seen, or heard in the wild.

Question 3

The Article states:

Conservationists fear that unless the trend is reversed soon, these small brown amphibians will be extinct within the next 10 years. The problem is, finding Baw Baw frogs is no easy feat. They live in the hard-to-get-to forests of Mount Baw Baw, where they burrow in mud about 3 feet (1 meter) deep. To compound matters further, the males do their frog call only five to six weeks a year and females don't call at all. So the frogs aren't easily reached, seen, or heard.

Why did the author include this passage?

- Ⓐ To say why it is important that even seemingly insignificant animals like the Baw Baw frog should be protected from extinction
- Ⓑ To explain why conservationists find it so difficult to locate the slippery Baw Baw frog in its natural habitat

- Ⓒ To point out the fact that there is little that can be done to help the Baw Baw frog because the species will be extinct in 10 years
- Ⓓ To show how a dog's keen sense of smell can be used to find endangered animals such as the Baw Baw frog

Question 4

Which two words are the closest **synonyms**?

Only some of these words are used in the Article.

- Ⓐ superb and belligerent
- Ⓑ decimated and amassed
- Ⓒ allergen and irritant
- Ⓓ technique and adaptation

Question 5

What is one inference the reader can make from the Article?

- Ⓐ Scientists find it more difficult to locate female Baw Baw frogs than males during the five or six weeks that the frogs' calls occur.
- Ⓑ None of the Baw Baw frogs that have been raised in captivity have so far been able to survive when they've been released into the wild.
- Ⓒ Rubble and Uda have been trained to find a number of different animals other than the Baw Baw frog, including koalas and even killer whales.
- Ⓓ Killer whales are some of the most difficult animals for dogs to detect because they have to swim to areas where the killer whales have been sighted.

Question 6

Which information is **not** in the Article?

- Ⓐ Why dogs have a much better sense of smell than humans do
- Ⓑ Which animals other than the Baw Baw frog have dogs been trained to detect
- Ⓒ Which breed of dogs has proven to be the best at sniffing out certain illnesses
- Ⓓ Why the Baw Baw frog is so hard for conservationists to locate on their own

Question 7

Read this passage from the Article:

The dogs' hunt begins unceremoniously with a healthy whiff of an animal's scent, usually in the form of scat (droppings). After all, dogs can *divine* scads of info just by sniffing the scents of fellow canines—who's in the neighborhood, what they've eaten, or if danger is lurking.

In this passage, the word *divine* means _____.

- Ⓐ to give others information about someone or something
- Ⓑ to understand something without having direct evidence
- Ⓒ to refuse to show that you hear or see something
- Ⓓ to question the reason for someone else's actions

Question 8

Which passage from the Article best supports the idea that an animal might not continue to live on as a species without help from humans?

- Ⓐ Since 1980, problems stemming from climate change, non-native species, and a deadly fungus have decimated about 98 percent of the Baw Baw frog population. Fewer than 1,200 of them remain in the wild. Conservationists fear that unless the trend is reversed soon, these small brown amphibians will be extinct within the next 10 years. The problem is, finding Baw Baw frogs is no easy feat.
- Ⓑ What *can't* a dog sniff out once it puts its snout to the task? Police K-9s detect everything from missing persons to counterfeit money. Healthcare pup-fessionals can pick up the scent markers of certain early-stage cancers, dangerous allergens in foods, and sudden changes in human blood-sugar levels. And let's not forget an ordinary dog's amazing ability to smell a just-opened can of dog food from afar.
- Ⓒ And according to the dogs' trainer, Luke Edwards, Rubble and Uda have other invaluable skills that make them well suited for the job, in particular, their stamina: "That's what we're after for a working dog, is their stamina—both mentally and physically."
- Ⓓ So what makes border collies such superb sniffers? First and foremost, they're dogs. That means their noses have about 50 times more olfactory receptors than people's noses. Dogs also use proportionally 40 times more brainpower than we do to analyze smells. The net result is a living, breathing "scent-alyzer" whose sense of smell is 10,000 to 100,000 times more acute than ours.

Step 4: After Reading Poll (Did you change your mind?)

Now that you have read the article, indicate whether you agree or disagree with this statement.

All endangered species are worth saving.

- Agree
- Disagree

Step 5: Thought Question (Write Your Response)

Explain how trained dogs are being used to help save endangered species, such as the Baw Baw frog. Include information from the Article in your response.