

Week Two

English 11/12

Desoto County
Schools

Distance Learning

You are living through an unprecedented moment in history—right now! Today, tomorrow, and the days that follow will be captured in history books. Someday, you will share stories with your children and grandchildren about living through this time. Because these days are historical, it is critical that we not let these events pass without capturing how they affect you, your family, your school, and your community.

Since you will be “schooling” from home, I will describe here the **daily** assigned work to be done outside the classroom. Here are your daily writing and reading requirements:

Daily Writing

You will be asked to write two pages (or more) a day. It may help to read one of your daily articles for inspiration before writing.

Some possibilities for daily writing:

- Write a letter to a friend or family member detailing tips on how to keep a positive attitude or stay healthy in difficult times.
- Remember a time in your life that was difficult for you. In what ways are you now thankful that event occurred? What did you gain from it? In what ways might you find the positive in a current difficult event in your life?
- Complete the following sentence ten times: “I hope . . .” Review what you have written. How do you feel?
- What is one thing that you know you can do—no matter how small—to make a positive difference in others’ lives? How can you make that action a regular part of your life? Are there other actions you could take that would benefit others? What is the first step you need to take?
- Who is the most inspiring person you know? What qualities does that person have that are inspirational? What similar qualities do you have?

Daily Choice Reading

Find a book to read. Any book that interests you. Your choice. You are asked to read this book for 30 or more minutes every school day. **You are asked to time your reading every day** and to track the time you spend reading on a self-made chart. The chart you create can be hand-written or created digitally, and it might look like this example:

Date	Book	Pages read	Time spent reading
3/18	<i>The Hate U Give</i>	22-48	35 minutes
3/19	<i>The Hate U Give</i>	48-68	30 minutes
3/20	<i>The Hate U Give</i>	68-90	40 minutes
3/23			
3/24			
3/25			

The goal here is 30 minutes a day of sustained, uninterrupted reading. I know that may be difficult for some of you, as you may face interruptions at home, but it is critical that you do your best to find uninterrupted reading time as a means to building your stamina.

If you do not have access a book, consider other types of reading (articles, newspapers, magazines, etc.) and track that reading on a chart.

Daily ACT Practice

Do a practice section of the ACT Reading and a practice section of the ACT English.

For English, the ACT packet contains one ACT practice section.

- Option One: There are five passages in the section. You can take the entire section in one sitting and time yourself for 45 minutes.
- Option Two: There are five passages in the section. You can take one passage each day and time yourself for 9 minutes.

For Reading, the packet contains one ACT practice section.

- Option One: There are four passages for the section. You can take the entire section (all four passages) and time yourself for 35 minutes.
- Option Two: There are four passages in the section. You can take one passage each day (for four days) and time yourself for 9 minutes.

Daily Current Event/Article/Fiction Reading

- Read one of the attached articles or poems each day.
- As you read, it is important to recognize both a reader's purpose and an author's purpose. Read with a questioning stance:
Why am I reading this? What do I want to get out of this text? What does the author want me to know? Why has this been written, and for whom?
- Annotate the text, noting things that surprise you, words you don't know (look them up if possible), and the main idea of each paragraph or stanza.
- Use one of the texts as a "seed" for your daily writing.
- Complete the multiple-choice questions and writing prompts after each article.

Why your mindset matters

By Meg Thacher, Cricket Media, adapted by Newsela staff on 07.20.18

Word Count **692**

Level **980L**



Image 1. In this photo from 2017, Herbert Robinson, left, and Israel McDonald, right, team up to solve a math problem at Turner Elementary School in southeast Washington. If students have a fixed mindset, they might be too embarrassed to ask for help. But it's when students cooperate that they help each other learn and grow. Photo by: Manuel Balce Ceneta/AP.

Imagine that two students, O and Aarti, are taking a really hard math test in September. O has a fixed mindset, which means he believes that a person's intelligence is fixed. According to O, you're either smart or dumb, and if you're smart, everything is easy for you. Aarti has a growth mindset, which means he believes that your intelligence can grow. Not everyone can become a genius or a star athlete, but they can improve the skills they have and develop new ones.

So which is right? It's Aarti, since, believe it or not, research shows that you really can get smarter by working hard, practicing and challenging yourself.

How The Brain Works

Your brain is made up of 86 billion cells called neurons. They're literally wired together by axons in a network that sends electrical and chemical signals. A single neuron in your brain can be connected to 10,000 other neurons. When you think, feel, move or use your senses, signals travel through this network.

Brain researchers have found that, when we learn, new connections form between neurons, old connections grow stronger and unused connections are destroyed. Learning is like exercise for your brain. The more you work it out, the stronger and smarter your network of neurons will become.

How Mindset Works

Your mindset can affect your performance at school, in sports and the arts, and even how you act and feel. Dr. Carol Dweck is a psychology professor at Stanford University who studies how the mind works. She has discovered that people with a fixed mindset tackle problems in a different way from those with a growth mindset.

People with a fixed mindset are very concerned with grades and how smart they look compared to other people. They tend to give up on difficult problems. When they make mistakes, they think it means they're not smart. They're afraid of challenges because, if they don't do well, they might look dumb.

People with a growth mindset, on the other hand, are concerned with learning, not grades. They jump right in and work hard on difficult problems. They learn from mistakes by trying different problem-solving methods or asking for help. They like challenges because they want to stretch and improve their abilities.

For Example, Look At Babies

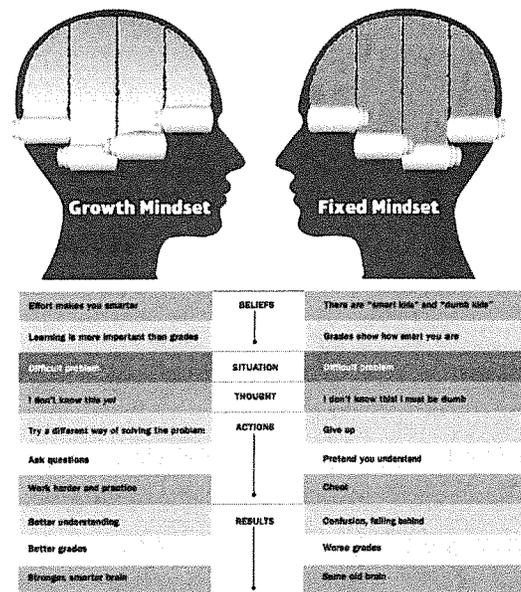
Babies are the best example of the growth mindset. In only two years, they learn to walk, talk and feed themselves. They don't worry about looking dumb while they learn, and when they make mistakes, they just try again. Many successful people have a growth mindset, too.

Dweck and her team discovered that middle school students with a growth mindset do better in math, while those with a fixed mindset do worse. Kids with both mindsets do fine in elementary school, but middle school math is much harder. So while the growth-mindset kids embrace the challenge and work harder, the fixed-mindset kids may just give up, making their grades suffer.

But Dweck's team discovered something even more important than that.

Changing Your Mind(set)

The team taught those middle schoolers about mindset and how the brain works. They talked about the dangers of labeling people as dumb or smart. They discovered that, with some work, kids can choose to have a growth mindset and do better in school. Everyone has some of each type of mindset — they're like voices in your head. The trick is to recognize your fixed mindset voice and your growth mindset voice.



When you hear your fixed mindset voice telling you you're dumb, or that you'll look stupid if you ask for help, or that learning a new skill is hard, talk back to it. You're not dumb, you just haven't learned how to do it yet. Asking for help isn't stupid—it's smart. And learning a new skill is hard, but won't it be worth it?

Meg Thacher teaches astronomy, physics and writing at Smith College in western Massachusetts. Because she's a grown-up, her brain weighs more than yours but has fewer neural connections.

Quiz

- 1 If the author needed to shorten the article, which sentence from the article would be the MOST important to keep?
- (A) Not everyone can become a genius or a star athlete, but they can improve the skills they have and develop new ones.
 - (B) When you think, feel, move or use your senses, signals travel through this network.
 - (C) Kids with both mindsets do fine in elementary school, but middle school math is much harder.
 - (D) They discovered that, with some work, kids can choose to have a growth mindset and do better in school.

- 2 Read the sentence from the section "How Mindset Works."

Your mindset can affect your performance at school, in sports and the arts, and even how you act and feel.

How does this detail develop the author's central idea?

- (A) by elaborating on the difference between mindsets
 - (B) by emphasizing why a person's mindset is very important
 - (C) by illustrating that some people are better at sports and art
 - (D) by indicating that people act and feel differently in school
- 3 Which selection from the article is BEST illustrated by Image 1?
- (A) When they make mistakes, they think it means they're not smart. They're afraid of challenges because, if they don't do well, they might look dumb.
 - (B) They jump right in and work hard on difficult problems. They learn from mistakes by trying different problem-solving methods or asking for help.
 - (C) Dweck and her team discovered that middle school students with a growth mindset do better in math, while those with a fixed mindset do worse.
 - (D) The team taught those middle schoolers about mindset and how the brain works. They talked about the dangers of labeling people as dumb or smart.
- 4 How do Image 2 and the information in the article develop a clear understanding of how mindset works?
- (A) Both illustrate how differences in mindset can lead to different learning outcomes.
 - (B) Both illustrate how differences in mindset form different connections in the brain.
 - (C) Both show that students with a growth mindset can help students with a fixed mindset.
 - (D) Both show that students with a growth mindset probably had that mindset as babies.

How to be patient

By WikiHow, adapted by Newsela staff on 11.12.19

Word Count 1,094

Level 940L



Image 1. Harry Potter fans wait in a very long line in London, England, to purchase "Harry Potter and the Cursed Child" exactly at midnight. Potter fans had to practice patience between books and on release dates, too! Photo from: Daniel Leal-Olivas/Stringer

You probably know what it feels like to get stuck in a long lunch line or struggle with a difficult assignment. Impatience is a natural reaction to have in situations like these when things aren't going your way.

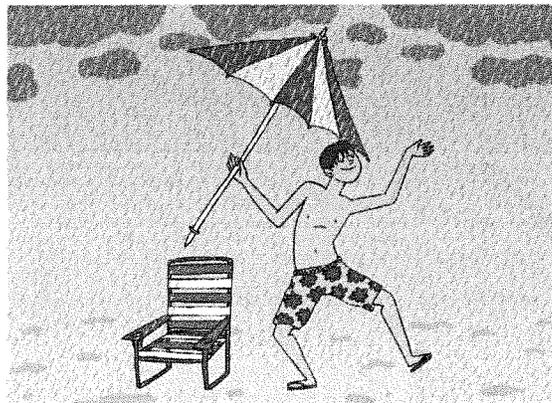
There are strategies you can learn to control and minimize your impatient feelings. Practicing these strategies will help you to feel calmer and happier and be more understanding, no matter the frustrating situation.

Exercising Patience In The Moment

Notice the thoughts and physical feelings you have when you get impatient. When you are in a stressful situation, be alert to thoughts that hint that you might be getting impatient. Examples may be thoughts like, "This is taking forever," or "This person is being so annoying." As soon as you notice these thoughts, check in with your body for signs of frustration, such as clenching your hands, taking shorter breaths, and feeling irritable or angry.

Figure out what is causing your impatience.

Once you've recognized that you are feeling impatient, you can look for the source of this feeling. Ask yourself, "Why am I feeling this way?" and consider a few common causes. Maybe your environment is not meeting your expectations. For example, maybe you have shown up very hungry to a restaurant, and it is much more crowded than you thought it would be. Or maybe someone is not behaving the way you want them to - such as a shopper at the grocery store who is taking too long to pay when you are in a hurry.



The source of impatience can also be internal. Some people feel impatient when they don't master a new skill as fast as they'd like, even if they know the skill takes practice. Thoughts and feelings can also be a source of impatience. Controlling what you think and how you feel is not easy, and you may get impatient with yourself for not being able to control the feelings and thoughts that pop into your mind.

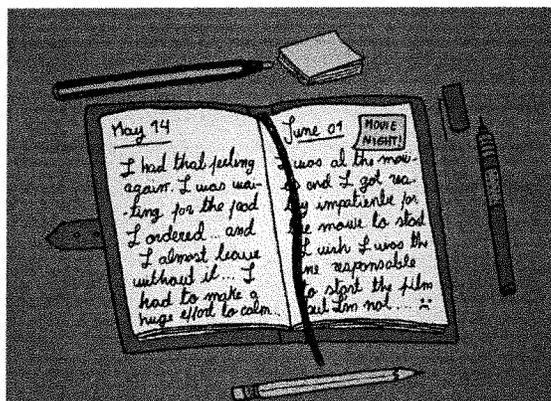
Interrupt the impatience. Taking small, simple actions can break the cycle of impatience and give you a chance to regroup. For example, move your wallet or phone from one pocket to another, focusing on the physical sensation of the movement. This simple task will distract you from your impatience and its source.

Take deep breaths. Close your eyes and inhale deeply, hold in your breathe for a moment, and then let the air out slowly. You will feel your body calm down. Deep breathing also forces you to pause before you say or do anything you may later regret.

Shift your perspective. Most situations that make you feel impatient can't easily be changed. Instead, concentrate on the things you do have the power to change, such as your attitude and outlook. Say to yourself, "Since I can't remove myself completely from this situation, how can I make it better?" You can also try to find something positive in the situation you are facing. This can be hard at first, but forcing yourself to focus on the positive will make you feel better in the long run.

Working Toward Long-Term Patience

Keep a journal of your impatience. When you get impatient, write down the date, the time, what you're impatient about, and how you feel physically and emotionally. Read your journal later and look for patterns in the situations that make you feel the most impatient. This will help you recognize and respond to common triggers. Journaling about these frustrations is also a way to vent your emotions, which can make you feel calmer.



Create a personal strategy. Using your journal, make a list of the things that trigger your impatience. Then make a second list of things you can do to handle these triggers more calmly.

For example, if you often get impatient with your friends or family members, your strategy might be: "Take three deep breaths. Explain why you're frustrated and walk away if needed."

Practice short meditations. Breathe deeply, focus on your breath, and close your eyes. This simple meditation will help you feel calm. Practice these quick meditations a few times a day, even when you're not feeling impatient. Getting comfortable meditating when you're calm will make it easier to do so in the heat of the moment.



Exercise regularly. Getting exercise will burn off the stress hormones that are shortening your fuse, making it easier to maintain your cool in intense situations. Sometimes you can also use exercise to counteract your impatience in the moment. If you're feeling impatient while working on a difficult project, for example, get up and take a five-minute walk.

Be prepared to wait. Many people get impatient when they're forced to wait for a long time, like at a doctor's office. Be prepared to distract yourself from this frustration by bringing a book or crossword puzzle with you.

Ask for help when you need it. If you are feeling overloaded, talk to a friend or family member and ask if he or she can help. Taking some of the pressure off of yourself will lower your stress levels and make you less likely to feel impatient in the first place. You should never feel bad about asking for help, especially when it has to do with your mental health.

Accepting What You Can't Change

Be kind to yourself. If you often get impatient with yourself, try to give yourself a break. Remind yourself that no one is perfect and that you can only expect so much from yourself.

Accept that your expectations might not always be met. People and situations will not always match up to what we expect. Most impatience comes from being frustrated about this reality. Try to accept that people, and life itself, will never be perfect, and remind yourself to take life's twists and turns with humor.



List the things you feel grateful for. Studies show that people who express gratitude in their daily life are more likely to be patient and have better self-control. Practice gratefulness by thinking every day of the things that you are grateful for.

Quiz

- 1 Which statement from the article would be MOST important to include in a summary of the article?
- (A) Impatience is a natural reaction to have in situations like these when things aren't going your way.
 - (B) There are strategies you can learn to control and minimize your impatient feelings.
 - (C) As soon as you notice these thoughts, check in with your body for signs of frustration, such as clenching your hands, taking shorter breaths, and feeling irritable or angry.
 - (D) This can be hard at first, but forcing yourself to focus on the positive will make you feel better in the long run.

- 2 Which statement is a central idea of the article?
- (A) A person can do certain things to practice being more patient.
 - (B) Deep breathing is a proven method to alleviate feelings of impatience.
 - (C) Meditation can help a person recognize what triggers their impatience.
 - (D) Exercise is a way to burn off the stress hormones that are making you feel impatient.

- 3 Read the sentence from the section "Exercising Patience In The Moment."

Taking small, simple actions can break the cycle of impatience and give you a chance to regroup.

Which of the following words, if it replaced the word "cycle" in the sentence above, would CHANGE the meaning of the sentence?

- (A) progression
 - (B) chain
 - (C) loop
 - (D) root
- 4 Read the sentence from the section "Working Toward Long-Term Patience."

Journaling about these frustrations is also a way to vent your emotions, which can make you feel calmer.

How does the word "vent" affect the tone of the sentence above?

- (A) It conveys the importance of learning how to calm yourself.
- (B) It conveys the importance of journaling to manage impatience.
- (C) It conveys the danger of not managing frustrations.
- (D) It conveys the strength of emotions that can cause impatience.

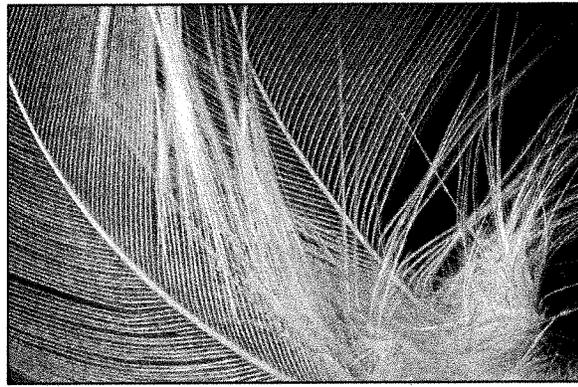
Name: _____ Class: _____

“Hope” is the thing with feathers - (254)

By Emily Dickinson
1891

Emily Dickinson (1830-1886) was an American poet who lived a mostly introverted, secluded life. She wrote over 1,800 poems — many of which deal with themes of death and immortality — in her seclusion. The following poem was first published in 1891 and discusses the nature of hope. As you read, take notes on Dickinson's symbol of hope and the figurative language used to describe it.

- [1] “Hope” is the thing with feathers —
That perches in the soul —
And sings the tune without the words —
And never stops — at all —
- [5] And sweetest — in the Gale¹ — is heard —
And sore² must be the storm —
That could abash³ the little Bird
That kept so many warm —
- I've heard it in the chilliest land —
[10] And on the strangest Sea —
Yet — never — in Extremity,⁴
It asked a crumb — of Me.



“Feathers in Black and White” by arbyreed is licensed under CC BY-NC-SA 2.0

“Hope” is the thing with feathers - (254) by Emily Dickinson is in the public domain.

1. **Gale (noun):** strong wind
2. In this case, “sore” refers to the severity or terribleness of this hypothetical storm.
3. **Abash (verb):** to destroy the self-confidence of; to bewilder or embarrass
4. **Extremity (noun):** the furthest limit; or the extreme degree or nature of something

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: Which of the following best describes a central theme of the poem?
 - A. Love and family help people get through tough times.
 - B. Nature is the natural opponent of people.
 - C. Overcoming obstacles requires great hope, strength, and resilience.
 - D. One can always rely on hope to help overcome obstacles.

2. PART B: Which of the of the following quotes best supports the answer to Part A?
 - A. "'Hope' is the thing with feathers" (Line 1)
 - B. "That perches in the soul — / ... And never stops — at all" (Lines 2-4)
 - C. "sore must be the storm — / That could abash" (Lines 6-7)
 - D. "I've heard it in the chilliest land — / And on the strangest Sea — " (Lines 9-10)

3. PART A: What does the storm most likely represent?
 - A. Hardship
 - B. Death
 - C. Sadness
 - D. Danger

4. PART B: Which of the following quotes best supports the answer to Part A?
 - A. "'Hope' is the thing with feathers" (Line 1)
 - B. "sings the tune without the words" (Line 3)
 - C. "abash the little Bird" (Line 7)
 - D. "the strangest Sea" (Line 10)

5. What does the last stanza suggest about the speaker's point of view regarding hope?
 - A. The speaker has experienced some troubled times but is now in a much better place.
 - B. The speaker thinks of hope as the only source of comfort in his/her life, even more than food (i.e. the "crumb").
 - C. The speaker thinks hope is helpful, but only to a certain point.
 - D. The speaker, having experienced adversity, regards hope in a positive light, as it never asked anything of him/her.

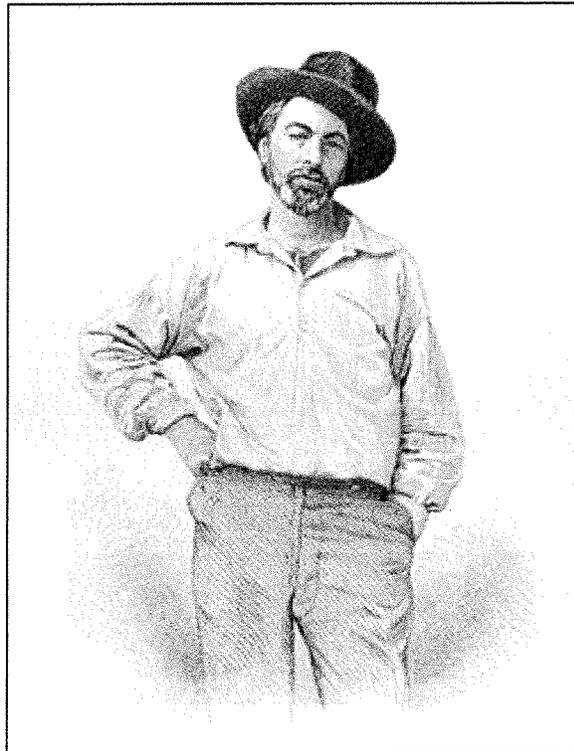
Name: _____ Class: _____

I Hear America Singing

By Walt Whitman
1855

Walt Whitman is a famous American poet, often called the father of "free verse," who wrote during the time of urbanization in America. As you read, consider the images in the poem and the effect they have on the mood.

- [1] I hear America singing, the varied carols I hear,
Those of mechanics, each one singing his as it
should be blithe¹ and strong,
The carpenter singing his as he measures his
plank or beam,
The mason² singing his as he makes ready for
work, or leaves off work,
- [5] The boatman singing what belongs to him in his
boat, the deckhand singing on the steamboat
deck,
The shoemaker singing as he sits on his bench,
the hatter singing as he stands,
The wood-cutter's song, the ploughboy's³ on his
way in the morning, or at noon intermission
or at sundown,
The delicious singing of the mother, or of the
young wife at work, or of the girl sewing or
washing,
Each singing what belongs to him or her and to
none else,
- [10] The day what belongs to the day—at night the
party of young fellows, robust,⁴ friendly,
Singing with open mouths their strong melodious
songs.



"Walt Whitman Steel Engraving" by Samuel Hollyer (1826-1919) of a daguerreotype by Gabriel Harrison (1818-1902) is in the public domain.

I Hear America Singing by Walt Whitman is in the public domain.

1. **Blithe** (*adjective*): carefree, joyous
2. Someone who builds with stone
3. A boy who guides work animals across a farm, drawing a plough
4. **Robust** (*adjective*): strong and healthy; vigorous

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. How do the images in the poem contribute to overall theme? Cite at least two pieces of specific evidence from the text in your response. [RL.2]

2. PART A: In the final line, what does the phrase "Singing with open mouths" suggest about what it means to be American? [RL.3]
- A. that they are diverse, open-minded, tolerant people.
 - B. that they want to be heard.
 - C. that they are generous and benevolent people.
 - D. that they are bold and proud people.

3. PART B: Which phrase provides the best support for the answer to Part A? [RL.1]
- A. "varied carols"
 - B. "blithe and strong"
 - C. "what belongs to him or her and to none else"
 - D. "delicious singing of the mother"

4. Walt Whitman has been called the father of the free verse. What effect does this poetic form have on the poem overall? [RL.5]

Why tough times can create better neighbors

By Christian Science Monitor, adapted by Newsela staff on 03.19.20

Word Count 1,059

Level 1140L



Image 1 Flavia, who is 8 years old, and her mother, Silvia, put a banner reading "Everything will be alright" on the balcony of their apartment in Rome, Italy, March 13, 2020. Photo: Alessandra Tarantino/AP Photo

Residents of a neighborhood in Boston, Massachusetts, emerged from their apartments for a flash mob on the morning of March 14. Staying more than 6 feet apart, the neighbors waved to each other and joined in singing the Beatles song "Let it Be." One of the residents, a professional cellist, played for a sing-along of "Lean on Me" by Bill Withers.

"Everyone appreciated the activity, which brought much-needed levity and connection," resident Minda Sanchez said via email.

The activity not only brought community members to their feet to dance in the sun, it brought many to tears.

Similar scenes are playing out in neighborhoods across the world quarantined because of COVID-19, (short for coronavirus disease 2019). The coronavirus is a flu-like illness that began in China and has been spreading across the globe since December 2019.

In Wuhan, China, whole blocks of apartment buildings chanted, "Keep up the fight." In Rome and in Siena, Italians on lockdown lean out of windows and balconies with tambourines and

accordions to sing songs. On March 14, citizens throughout Spain began clapping in unison to cheer health care workers.

Reaching Out To Strangers

As the practice of "social distancing" burgeons, people are finding ways to meet even though they can't meet face-to-face. Social distancing is the practice of keeping away from crowds and public places to slow down the spread of a disease.

Instead, people are using video calling and social network connections. However, people aren't just staying in touch with friends and family. The global crisis has roused a sense of shared humanity that's causing people to reach out to their communities. Amid the outbreak of COVID-19, there's a surge of kindness among strangers.

"In times of great stress, helping others is a powerful way to reassert control in a moment where many of us feel helpless," said Jamil Zaki, author of "The War for Kindness: Building Empathy in a Fractured World." "Kindness toward others actually can be a great source of healing."

One of the ways that millions of people are being kind to others right now is by practicing social distancing. For many, the motivation is that they want to protect others. There are models for that impulse, said Jill Suttie, a psychologist at the Greater Good Science Center at the University of California, Berkeley. A study demonstrated the most effective way for hospitals to motivate health care professionals to wash their hands isn't by noting the importance of safeguarding oneself from disease. It's stressing the impact it has on protecting patients.

To be sure, not everyone is acting kindly at the moment. Fights have broken out in supermarkets as people wrestle for the last remaining item on a shelf. Some are hoarding hand sanitizer, face masks and toilet paper. Many ignored pleas to practice social distancing, gathering at restaurants. In response, governors in several states, including Massachusetts and Ohio, shut down restaurants except for delivery and takeout.

Kindness Can Go Viral, Too

Even so, instances of selflessness have become increasingly common. Professional basketball players such as Giannis Antetokounmpo and Zion Williamson have donated money to cover the salaries of arena workers affected by the suspension of the season. Other acts of kindness include providing food for children who are out of school.

Witnessing acts of kindness inspires others, said Zaki, a psychologist at Stanford University in California. In 2016, he published an article in *Scientific American*, "Kindness Contagion," that



included findings of studies about how people "catch" cooperation and generosity from others. This desire to help others intensifies during times of crisis and crosses lanes of class, race and other divisions.

For example, when Germans began retreating behind closed doors earlier in March, Molly Wilson realized she didn't know the elderly people in her Berlin neighborhood. Wilson, an American who moved to Germany in 2016, teamed up with a neighbor to post flyers on mailboxes and trash cans on their street. Their notes offered to go shopping on behalf of those who felt unable to go outside.

"My husband and I are both on parental leave, so one of us can absolutely go and get some noodles and beans for somebody who lives a couple streets over," said Wilson. She also posted her note on Twitter to inspire others. "We need to do something off-line in order to let old people know that it's OK to reach out for help."

When in-person activity is limited, technology can temporarily mend rips in the social fabric. Good Samaritans are using social media platforms to post offers to help strangers. For example, Jerry Xu, a tech professional in San Francisco, California, used the app NextDoor to volunteer his services. NextDoor connects members to others in their area.

Beyond Offering A Cup Of Sugar

To Marc Dunkelman, author of "The Vanishing Neighbor," these responses to the coronavirus crisis are notable in their contrast to normal times. Most people's acquaintances resemble a model like the rings of Saturn, with the innermost bands representing the closest connections and each successive loop becoming more distant. Over the past 50 years, people have invested more time on the innermost ring of friends and family. People have also invested more time in the outermost rings. Those include online acquaintances they don't know personally but with whom they share interests such as sports, hobbies or politics.

People have largely abandoned rings in the middle, said Dunkelman. Those are the rings of contacts including neighbors and groups such as bowling leagues or Boy Scouts. Yet the coronavirus offers the opportunity for greater local connection.

"Could it be that in the context of this crisis, people do break through that initial barrier and say to one another, even though they're not supposed to be accosting one another or having real intimacy, 'Hello. You know, I live in apartment 2B. You must live above me?'" said Dunkelman.

The crisis will alter the way we connect socially. Even if it is online, what matters most is how we interact with others, said Suttie.

She recommends "trying to calm each other to the extent that we can and not raise panic because that helps all of us to be a bit calmer."

Quiz

- 1 According to the article, technology can help people stay connected during a crisis. Which paragraph BEST supports this idea?
- (A) In Wuhan, China, whole blocks of apartment buildings chanted, "Keep up the fight." In Rome and in Siena, Italians on lockdown lean out of windows and balconies with tambourines and accordions to sing songs. On March 14, citizens throughout Spain began clapping in unison to cheer health care workers.
 - (B) Instead, people are using video calling and social network connections. However, people aren't just staying in touch with friends and family. The global crisis has roused a sense of shared humanity that's causing people to reach out to their communities. Amid the outbreak of COVID-19, there's a surge of kindness among strangers.
 - (C) Even so, instances of selflessness have become increasingly common. Professional basketball players such as Giannis Antetokounmpo and Zion Williamson have donated money to cover the salaries of arena workers affected by the suspension of the season. Other acts of kindness include providing food for children who are out of school.
 - (D) "Could it be that in the context of this crisis, people do break through that initial barrier and say to one another, even though they're not supposed to be accosting one another or having real intimacy, 'Hello. You know, I live in apartment 2B. You must live above me?'" said Dunkelman.

- 2 Read the list of sentences from the article.

1. *Social distancing is the practice of keeping away from crowds and public places to slow down the spread of a disease.*
2. *A study demonstrated the most effective way for hospitals to motivate health care professionals to wash their hands isn't by noting the importance of safeguarding oneself from disease.*
3. *Professional basketball players such as Giannis Antetokounmpo and Zion Williamson have donated money to cover the salaries of arena workers affected by the suspension of the season.*
4. *This desire to help others intensifies during times of crisis and crosses lanes of class, race and other divisions.*

Which two sentences taken together provide the BEST evidence to support the idea that many people are primarily concerned with helping others during the coronavirus crisis?

- (A) 1 and 2
 - (B) 1 and 3
 - (C) 2 and 4
 - (D) 3 and 4
- 3 Which of the following people or groups quoted in the article would be MOST likely to agree with the idea that music can bring people together?
- (A) Minda Sanchez
 - (B) Jill Suttie
 - (C) Jamil Zaki
 - (D) Marc Dunkelman

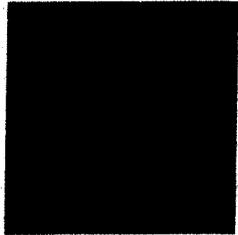
4

Which of the following would BEST describe Molly Wilson's reaction to the coronavirus outbreak?

- (A) She used apps to volunteer to help elderly neighbors with errands they could not do themselves.
- (B) She worked to make her neighbors a part of her more intimate social circle.
- (C) She helped her neighbors organize a singalong in order to raise their spirits.
- (D) She strove to get supplies for her elderly neighbors to help them stay safe.

Form A11

(June 2018)



The **ACT**[®]

2017 | 2018

In response to your request for Test Information Release materials, this booklet contains the test questions, scoring keys, and conversion tables used in determining your ACT scores. Enclosed with this booklet is a report that lists each of your answers, shows whether your answer was correct, and, if your answer was not correct, gives the correct answer.

If you wish to order a photocopy of your answer document—including, if you took the writing test, a copy of your written essay—please use the order form on the inside back cover of this booklet.





ENGLISH TEST

45 Minutes—75 Questions

DIRECTIONS: In the five passages that follow, certain words and phrases are underlined and numbered. In the right-hand column, you will find alternatives for the underlined part. In most cases, you are to choose the one that best expresses the idea, makes the statement appropriate for standard written English, or is worded most consistently with the style and tone of the passage as a whole. If you think the original version is best, choose "NO CHANGE." In some cases, you will find in the right-hand column a question about the underlined part. You are to choose the best answer to the question.

You will also find questions about a section of the passage, or about the passage as a whole. These questions do not refer to an underlined portion of the passage, but rather are identified by a number or numbers in a box.

For each question, choose the alternative you consider best and fill in the corresponding oval on your answer document. Read each passage through once before you begin to answer the questions that accompany it. For many of the questions, you must read several sentences beyond the question to determine the answer. Be sure that you have read far enough ahead each time you choose an alternative.

PASSAGE I

From Salad to Symphony

[1]

Though they can often be seen lugging bags stuffed with fresh vegetables home from Beijing markets, brothers Nan Weidong and Nan Weiping are not chefs—they are musicians. [A] Their instruments of choice is considered¹ rather unusual: a pan pipe fashioned from carrots, an ocarina created from a sweet potato, other brightly colored vegetables.² Gourds,

daikon radishes, and other vegetables,³ are used to round out the "orchestra."

[2]

From an early age, the Nan brothers, raised on a vegetable farm in China's Anhui province, who were⁴ taught to play conventional musical instruments by their father, a music teacher. [B] The siblings' love of music and passion for performance led them to begin

1. A. NO CHANGE
B. does seem
C. are
D. is
2. Which choice best maintains the pattern established in the sentence's two previous examples?
E. NO CHANGE
G. vegetable instruments of all shapes and sizes.
H. a flute made from a bamboo shoot.
J. a certain type of root vegetable.
3. A. NO CHANGE
B. other; vegetables are used
C. other vegetables are used,
D. other vegetables are used
4. F. NO CHANGE
G. were
H. and were
J. DELETE the underlined portion.



experimenting with vegetable musical instruments a few years ago.

[3]

Working by hand while constructing their edible instruments, the brothers manually bore holes into the vegetables by using long metal drill bits, snacking on discarded pieces as they work. [C] Weiping says that to create a low pitch, which makes a deep hole.

Nonetheless, a high pitch requires a shallow hole.

Other factors, like, the diameter of the hole and changes in air temperature and humidity, also

effects the sound quality.

[4]

[1] A newly picked vegetable that sits at the market for even one day may lose much of its water content, producing a pitch that is out of tune. [2] Because of this, the brothers must carve a fresh set of instruments before each performance. [3] Still, the most critical ingredient in creating high-quality sound, Weidong says, is the

vegetables' high water content. 12

- 5. A. NO CHANGE
- B. Eating unused vegetable parts while they construct
- C. Using metal tools to construct
- D. To construct

- 6. F. NO CHANGE
- G. having made
- H. by making
- J. he makes

- 7. A. NO CHANGE
- B. Conversely,
- C. Otherwise,
- D. Even so,

- 8. F. NO CHANGE
- G. factors—like
- H. factors, like
- J. factors like

- 9. A. NO CHANGE
- B. affects
- C. affect
- D. effect

- 10. F. NO CHANGE
- G. such vegetables produce
- H. it will produce
- J. this produces

- 11. A. NO CHANGE
- B. sound, Weidong says
- C. sound Weidong says,
- D. sound Weidong says

- 12. Which sequence of sentences makes this paragraph most logical?
- F. NO CHANGE
- G. 1, 3, 2
- H. 2, 1, 3
- J. 3, 1, 2

1 ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ 1

[5]

While the brothers' musical repertoire is as varied as their instruments, ranging from traditional Chinese flute music to modern pop songs. [D] They maintain that different vegetables have different scales and are therefore suited to different types of music. Since 2011, the Nan brothers have performed regularly, playing a wide variety of music on their edible instruments and bringing a whole new meaning to the idea of playing with your food. [14]

13. A. NO CHANGE
B. With the brothers' musical repertoire being
C. Having the brothers' musical repertoire be
D. The brothers' musical repertoire is
14. At this point, the writer is considering adding the following true statement:
Each pitch is tested and perfected with the help of an old electronic tuner.
Should the writer make this addition here?
F. Yes, because it supports the idea that the brothers exercise care and attention to detail as they craft their vegetable instruments.
G. Yes, because it helps explain how vegetables can be turned into precise musical instruments.
H. No, because it provides information about the process of creating instruments that is not relevant at this point in the essay.
J. No, because it conflicts with the idea that the brothers have a strong musical background.

Question 15 asks about the preceding passage as a whole.

15. The writer wants to add the following sentence to the essay:
As teenagers, they performed with a local theater company.
The sentence would most logically be placed at:
A. Point A in Paragraph 1.
B. Point B in Paragraph 2.
C. Point C in Paragraph 3.
D. Point D in Paragraph 5.

PASSAGE II

Nature Meets Art

[1]

Located in Olympic Sculpture Park in Seattle, artist Mark Dion's *Neukom Vivarium* has been called a combination of art and ecology, sculpture and nature.

1 ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ 1

The installation contains a sixty-foot-long nurse log, it is¹⁶
a slowly decaying piece of tree trunk that provides a home
and nutrients for young plants and supports a variety of
microbial life. [A] This single log offers visitors to the¹⁷

urban park, a glimpse into the complicated cycle of life¹⁸
unfolding in the forests outside the city.

[2]

Vivarium comes from the Latin word *vivus*, which
means "alive"—a fitting description for a piece of art that
exemplifies a thriving forest ecosystem. [B] Dion found
the log, part of a western hemlock lying in a Washington¹⁹

forest, and, transporting it to the city along with some²⁰
of the soil, fungi, and plants that had surrounded the
tree. [C] Working with a team of scientists and
architects, Dion installed the log in a specially
constructed eighty-foot-long greenhouse. The
greenhouse is customized with magnifying glasses
and microscopes that disclose minute details of the
life supported by the log. Repeated visits to the²¹

installation reveals the larger process of decay²²
and transformation.

[3]

In the wild, this complex, interconnected
system of life would have had no trouble sustaining
itself. In the city, however, maintaining the nurse log
requires a great number of energy and technology. [D]²³

16. F. NO CHANGE
G. the term "nurse log" is defined as
H. this type of log is
J. DELETE the underlined portion.
17. A. NO CHANGE
B. log, in addition to acting as a home and providing nutrients for young plants, offers visitors
C. massive piece of tree (a sixty-foot log) offers visitors
D. decaying nurse log offers visitors who come
18. F. NO CHANGE
G. park a glimpse into the complicated cycle of life
H. park a glimpse into the complicated cycle of life,
J. park, a glimpse into the complicated cycle of life,

19. A. NO CHANGE
B. laying within
C. lying with
D. laying in
20. F. NO CHANGE
G. and, to transport
H. and transported
J. transported

21. A. NO CHANGE
B. log, repeating
C. log repeating
D. log, repeated
22. F. NO CHANGE
G. has revealed
H. is revealing
J. reveal

23. A. NO CHANGE
B. a great amount in
C. great amounts of
D. great numbers in

Humidity is electronically monitored, the soil is
constantly replenished with nutrients, and sunlight is
²⁴
filtered through green-hued glass designed to mimic

the color of a forest canopy. 25

[4]

For Dion, the amount of work in the middle
²⁶
of a busy city required to sustain this ecosystem
²⁶

conveys an important message. According with the
²⁷
artist, the constant effort substitutes for what nature does
instinctively, which highlights the fact that "it's incredibly
difficult, expensive, and technological to approximate that
system." In other words, nature, once destroyed is virtually
²⁸
impossible to reconstruct.

Questions 29 and 30 ask about the preceding passage as a whole.

24. F. NO CHANGE
G. constantly provided with and restored by nutrient on a regular basis,
H. often constantly replenished with healthful nutrients,
J. constantly replenished with restorative nutrients regularly,
25. If the writer were to delete the preceding sentence, the paragraph would primarily lose a statement that:
A. explains why good air quality and healthy soil are necessary to maintain nature-based exhibits.
B. illustrates how much effort is required to ensure that the exhibit survives in an urban setting.
C. describes how the greenhouse is more important to the installation than is the nurse log.
D. emphasizes how difficult it was for Dion to build the greenhouse.
26. The best placement for the underlined portion would be:
F. where it is now.
G. before the word *the*.
H. after the word *this*.
J. after the word *ecosystem*.
27. A. NO CHANGE
B. In accordance with
C. In accord with
D. According to
28. F. NO CHANGE
G. destroyed, is virtually,
H. destroyed, is virtually
J. destroyed is virtually,
29. The writer is considering adding the following parenthetical information to the essay:
(The *Neukom* in the installation's title refers to the name of the work's patrons.)
If the writer were to add this sentence, it would most logically be placed at:
A. Point A in Paragraph 1.
B. Point B in Paragraph 2.
C. Point C in Paragraph 2.
D. Point D in Paragraph 3.
30. Suppose the writer's primary purpose had been to describe how one artist uses a work of art to educate people about an issue the artist feels is important. Would this essay accomplish that purpose?
F. Yes, because it describes how Dion saw that local forests were being destroyed and then decided to make a sculpture out of a fallen tree.
G. Yes, because it describes Dion's nature-based installation and explains the message Dion hopes to convey through *Neukom Vivarium*.
H. No, because it focuses on what Dion's installation looks like and how it contributes to the Olympic Sculpture Park.
J. No, because it fails to indicate what *Neukom Vivarium*'s viewers actually learn from the installation.

PASSAGE III

Internet Gain: Andreessen's Mosaic

Before Mosaic—the web browser widely credited with popularizing the World Wide Web—was invented, the Internet wasn't user-friendly. Internet navigation required knowledge of specific typed commands; online documents, consisting almost entirely of text, were hard to locate and download. Given these obstructive hindrances, many people assumed the web would remain the domain of technology experts and never have mass appeal. Marc Andreessen believed the opposite, everyone would want the Internet.

As a student worker, for the National Center for Supercomputing Applications, (NCSA) at the University

of Illinois, Andreessen became enthralled by the Internet. In 1992, he conceived of a browser that would simplify web navigation. Rather than typing specific commands, people would be able to access different web pages by clicking on icons. He showed his idea to fellow student Eric Bina, who helped refine the program. The two then worked with the NCSA to develop Mosaic, which became available in 1993. Free to anyone with an Internet connection, Mosaic quickly became popular.

31. A. NO CHANGE
 B. navigation, which required
 C. navigation that required
 D. navigation requiring
32. F. NO CHANGE
 G. What with the problematic issues,
 H. Because of these difficulties,
 J. Owing to the messiness,
33. A. NO CHANGE
 B. opposite; because
 C. opposite:
 D. opposite
34. Which of the following statements, if added here, would provide the best transition to the discussion of Andreessen's browser?
 F. He thought Internet speeds would eventually increase.
 G. The amount of information online was immense.
 H. Few people had Internet access at the time.
 J. People just needed the right tool.
35. A. NO CHANGE
 B. worker, for the National Center for Supercomputing Applications, (NCSA),
 C. worker for the National Center for Supercomputing Applications, (NCSA),
 D. worker for the National Center for Supercomputing Applications (NCSA)
36. Which choice most strongly conveys that Andreessen developed a strong affinity for the Internet?
 F. NO CHANGE
 G. first gained access to
 H. spent many hours on
 J. saw the utility of
37. A. NO CHANGE
 B. the NCSA made the program
 C. they made Mosaic
 D. it became

1 ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ 1

Approximately 60,000 copies of the browser were
³⁸
downloaded in its first year.

Mosaic was soon not the first web browser, but
³⁹
it surpassed all rivals. Unlike other browsers, Mosaic
was easy to install, and it worked on every operating
system. It was the first browser to display pictures
and text on the same page 40. Featuring hyperlinks,

the user of the program was able to visit other web
⁴¹
pages with one click. "With Mosaic," said one writer,
"the online world appears to be a vast, interconnected
universe of information." 42

Even though it gave way to other, more
sophisticated browsers within a few years, Mosaic
showed average users the significance of the Internet.

Comparatively, its simplicity encouraged people to
⁴³
create and upload their own content. In the year

Mosaic was discharged, 623 websites existed.
⁴⁴

38. F. NO CHANGE
G. That year, approximately 60,000 copies of t
browser
H. Approximately 60,000 copies of the brows
(Mosaic)
J. Approximately, but not exactly, 60,000 copies
the browser
39. The best placement for the underlined portion wou
be:
A. where it is now.
B. after the word *Mosaic*.
C. after the word *browser* (and before the comma).
D. after the word *it*.
40. At this point, the writer is considering adding the fo
llowing phrase (adjusting the punctuation as needed):
adding much-needed visual appeal
Should the writer make this addition?
F. Yes, because it reveals that Mosaic was the fir
browser to display pictures alongside text.
G. Yes, because it emphasizes that using Mosa
made web browsing more enjoyable.
H. No, because it implies that the text-based doc
uments on the Internet weren't useful.
J. No, because it suggests that, initially, Mosaic w
similar to other web browsers.
41. A. NO CHANGE
B. the program's user was enabled
C. the program enabled the user
D. it was easy for the user
42. If the writer were to delete the preceding sentence, th
essay would primarily lose a statement that:
F. argues that, before Mosaic, few people searche
the Internet for information.
G. specifies some of the features that made Mosa:
popular among its users.
H. credits Mosaic with making the Internet feel mor
coherent to users.
J. compares the designs of later web browsers t
Mosaic's design.
43. A. NO CHANGE
B. Moreover,
C. Conversely,
D. Instead,
44. F. NO CHANGE
G. relinquished,
H. released,
J. emitted,

Four years later, there were more than 600,000.

45

45. Given that all the choices are true, which one best concludes the essay by using specific information to complete the contrast begun in the previous sentence?
- A. NO CHANGE
 - B. Mosaic's point-and-click interface revolutionized the way people used the Internet.
 - C. Andreessen would go on to develop another highly successful web browser.
 - D. Since then, the web has expanded at an exponential rate.

PASSAGE IV

A Poetic Olympics

[1]

During athletic festivals in ancient Greece, great poets were placed alongside champion athletes. This has never been true of the modern Olympic Games. [A] The Olympic literary competition, reintroduced in 1912 in Stockholm and included in the Games for decades, is poorly remembered and rarely missed. The only genuine

47

public excitement for even the very first modern, Olympic literary contest was focused on the scandal surrounding the winning poem. [B]

[2]

French aristocrat Baron Pierre de Coubertin, who in 1896 founded the modern Olympic Games, he insisted that talent in the fine arts was as important as skill in athletics. After years of opposition from officials whom felt that the modern Games should focus solely on athletics, Coubertin implemented fine arts competitions, known as the Pentathlon of Muses, in 1912. [C]

46. Which choice most clearly emphasizes the overwhelmingly positive reception great poets enjoyed during athletic festivals in ancient Greece?
- F. NO CHANGE
 - G. celebrated
 - H. accepted
 - J. liked
47. Given that all the choices are accurate, which one best connects this sentence to the information that follows in the next sentence?
- A. NO CHANGE
 - B. was featured along with competitions in music composition, architecture, sculpture, and painting.
 - C. is sometimes commented upon when the Olympic Games are held today.
 - D. was an homage to the traditions of the people of ancient Greece.
48. F. NO CHANGE
G. very, first, modern Olympic
H. very first, modern Olympic,
J. very first modern Olympic
49. A. NO CHANGE
B. insistent in his belief
C. insisting
D. insisted
50. F. NO CHANGE
G. themselves whom
H. who
J. which

1 ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ 1

For the literary contest, it would submit an unpublished
⁵¹

work; Coubertin did not establish a length requirement.

After a long deliberation ⁵² during the literary event's first

year; finally judges named duo George Hohrod and Martin
⁵³ Eschbach as gold medalists for their poem "Ode to Sport."

[3]

The judges, so impressed by "Ode to Sport" that
⁵⁴ they called it "the perfect poem," refused to award either
silver or bronze medals to any other literary competitors.

Weeks, after the Games had come to an end, the judges
⁵⁵ attempted to contact Hohrod and Eschbach given that
the two had not come forward to receive their medals.

The judges discovered that neither author existed.
⁵⁶

51. A. NO CHANGE
B. competitors
C. those
D. they

52. Given that all the choices are accurate, which one provides information about the Olympic literary contest that is most clearly relevant at this point in the essay?

F. NO CHANGE
G. work. At the Olympic Games in Paris in 1924, poem about fencing called "Sword Songs" was the winning piece.
H. work, though critics mocked some of the limitations placed on writers.
J. work, preferably a poem, that was "inspired by the idea of sport."

53. A. NO CHANGE
B. year, judges
C. year, then judges
D. year. Judges

54. F. NO CHANGE
G. judges, and having been
H. judges had been
J. judges were

55. A. NO CHANGE
B. Weeks after the Games had come to an end,
C. Weeks, after the Games had come to an end
D. Weeks after the Games had come to an end

56. Given that all the choices are true, which one most effectively leads the reader from the information about Hohrod and Eschbach in the preceding sentence to the information about Coubertin in the next sentence?

F. NO CHANGE
G. After "Ode to Sport" won, Swedish art academies claimed that the contest, with its thematic focus on sport, lacked purpose.
H. Submissions began to arrive in anticipation of the next Olympic literary competition.
J. The judges had read the winning poem, "Ode to Sport," aloud to spectators.

1 ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ 1

A few years later, Coubertin admitted that he himself had submitted "the perfect poem" pseudonymously. 57

[4]

The judges argued that they did not know that Coubertin had written "Ode to Sport." But once Coubertin's ruse was uncovered, distrust for the already unpopular competition expanded as a result—and the feeling endured. [D] The literary competition was dropped after the 1948 London Games. Many of the winning poems have since vanished, with only their titles remaining. Few literary historians think that much has been lost.

Questions 59 and 60 ask about the preceding passage as a whole.

59. The writer is considering adding the following sentence to the essay:

Over the years, the contest attracted many people who wanted to be poets but few talented poets, and even contest organizers began to doubt the quality of the submissions.

If the writer were to add this sentence, it would most logically be placed at:

- A. Point A in Paragraph 1.
- B. Point B in Paragraph 1.
- C. Point C in Paragraph 2.
- D. Point D in Paragraph 4.

57. At this point, the writer is considering adding the following sentence:

The founder of the modern Olympic Games, Coubertin was also the person who brought about the fine arts competitions.

Given that the information is true, should the writer make this addition here?

- A. Yes, because it makes clear why Coubertin didn't include his real name on his poetry submission.
- B. Yes, because it suggests that Coubertin knew that the poem he submitted was particularly well written.
- C. No, because it repeats information about Coubertin that is provided earlier in the essay.
- D. No, because it doesn't make clear whether Coubertin had discussed "Ode to Sport" with the judges of the literary competition.

58. F. NO CHANGE

- G. increased even though dislike of it was not new—
- H. grew—
- J. blew up because of this unveiling—

60. Suppose the writer's primary purpose had been to explain a lesser-known aspect of a widely known event. Would this essay accomplish that purpose?

- F. Yes, because it outlines Coubertin's most important accomplishments as the founder of the modern Olympic Games.
- G. Yes, because it describes an element of the modern Olympic Games that was relatively short lived and is not very well remembered.
- H. No, because it instead considers the merits of fine arts competitions being a part of popular athletic events.
- J. No, because it instead discusses the poem "Ode to Sport" and explains why the poem influenced Coubertin to compete in literary competitions.

PASSAGE V

Capturing the Arctic

San Francisco native, Louise Arner Boyd,
⁶¹
first saw the blue glaciers and glittering fjords

of the Arctic ice cap during a 1924 photography
⁶²
expedition to Spitsbergen, a Norwegian island.

- 61. A. NO CHANGE
- B. native Louise Arner Boyd
- C. native Louise Arner Boyd,
- D. native, Louise Arner Boyd

- 62. F. NO CHANGE
- G. cap, which she had never before seen,
- H. cap—both glaciers and fjords—
- J. cap initially

1 ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ 1

In the United States, little was known about the Arctic: its⁶³

nearly frozen seas, packed with icebergs,⁶⁴ made boat travel to the area treacherous. But Boyd, an amateur naturalist and practiced photographer, made exploring this wide,

frigid terrain her life's focus. She would lead⁶⁵ seven Arctic expeditions, six by sea and one by air, mainly to the east coast of Greenland.

Boyd's first two Arctic trips, taken in a small ship with a small crew, were designed for photographing the magnificent glaciers. Soon her interest in the region⁶⁶ expanded beyond capturing its beauty. She secured a larger, sturdier ship, the *Veslekari*, and invited several scientists to travel with her. Over the course of three 1930s voyages, she led her team to the farthest

reaches of the Arctic,⁶⁷ in 1938, the group anchored

close⁶⁸ south of the North Pole. Botanists gathered

plant specimens from the tundra⁶⁹—paleogeologists studied the ancient ice fields, and hydrogeographers searched for mountains on the ocean floor.

63. A. NO CHANGE
B. their
C. it's
D. its'

64. If the writer were to delete the underlined portion (adjusting the punctuation as needed), the essay would primarily lose:

- F. an indication that the purpose of the 1924 photography expedition Boyd participated in was to photograph icebergs.
G. an explanation of a technique used by seafarers make traveling the dangerous seas near Spitsberg safer.
H. an example of a particular danger facing people who might have attempted to travel the Arctic by boat.
J. a reason most seafaring boats in the 1920s were equipped to navigate around icebergs.

65. Given that all the choices are accurate, which one most strongly suggests that Boyd conceived of and managed the seven Arctic expeditions?

- A. NO CHANGE
B. be a part of
C. experience
D. embark on

66. Given that all the choices are true, which one most effectively leads the reader from the first sentence of this paragraph to the information that follows in the next two sentences?

- F. NO CHANGE
G. Boyd had the opportunity to present some of these early photographs to the king and queen of England.
H. In 1960, Boyd became the first woman to be elected to the board of the American Geographical Society.
J. On both journeys, the crew came ashore on a group of islands called Franz Josef Land.

67. A. NO CHANGE
B. Arctic and
C. Arctic;
D. Arctic

68. F. NO CHANGE
G. nearby
H. about
J. just

69. A. NO CHANGE
B. tundra,
C. tundra:
D. tundra

1 ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ 1

Boyd took thousands of photographs. She worked with the best equipment available, including a tripod-mounted large-format camera that freed crisp,

high-resolution images of the landscape. She knew about photogrammetry, the science of making 3-D measurements from photographic images, Boyd used precise methods to choose locations and camera positions for its shots. Her well-executed photos, featured in her book *The Fiord*

Region of East Greenland, provided the basis for the first accurate large-scale maps of the east coast of the country.

The polar expert's final Arctic journey in 1955 was over the North Pole, in a chartered flight. Her aerial photos document the trip. Today, scientists are exploring how Boyd's photographs and writing, along with her team's studies, might be used to monitor environmental change in the Arctic.

70. F. NO CHANGE
G. delivered
H. performed
J. disengaged
71. A. NO CHANGE
B. The advanced knowledge she had of
C. She had advanced knowledge of
D. Knowledgeable about
72. F. NO CHANGE
G. his or her
H. their
J. her
73. A. NO CHANGE
B. established the foundation that was the spring-board to
C. gave support that assisted in the making of
D. lent themselves to the purpose of creating
74. Which choice provides the clearest indication that Boyd's chartered flight over the North Pole was her final Arctic journey ever, not only her final Arctic journey in the year 1955?
F. NO CHANGE
G. The polar expert's final Arctic journey in 1955 was a chartered flight over the North Pole.
H. A chartered flight over the North Pole in 1955 was the polar expert's final Arctic journey.
J. A chartered flight over the North Pole was the polar expert's final Arctic journey in 1955.

Question 75 asks about the preceding passage as a whole.

75. Suppose the writer's primary purpose had been to explain the way Boyd's photographs were used to make maps of the east coast of Greenland. Would this essay accomplish that purpose?
A. Yes, because the writer hints that because Boyd had studied photogrammetry, she deliberately created photographs that could be used to make maps.
B. Yes, because the writer makes clear that Boyd had photographed a region that, before her expeditions, had not been thoroughly documented.
C. No, because although the writer mentions that Boyd's photographs were used to make maps, the writer does not elaborate on how this was done.
D. No, because the writer instead focuses on describing how Boyd positioned her camera to create high-resolution images of glaciers.

END OF TEST 1

STOP! DO NOT TURN THE PAGE UNTIL TOLD TO DO SO.

READING TEST

35 Minutes—40 Questions

DIRECTIONS: There are several passages in this test. Each passage is accompanied by several questions. After reading a passage, choose the best answer to each question and fill in the corresponding oval on your answer document. You may refer to the passages as often as necessary.

Passage I

LITERARY NARRATIVE: This passage is adapted from the novel *The Cat's Table* by Michael Ondaatje (©2011 by Michael Ondaatje).

The ship *Oronsay* is departing from Colombo, Ceylon (a city in what is today Sri Lanka), in the early 1950s.

Michael was eleven years old that night when, green as he could be about the world, he climbed aboard the first and only ship of his life. It felt as if a city had been added to the coast, better lit than any town or village. He went up the gangplank, watching only the path of his feet—nothing ahead of him existed—and continued till he faced the dark harbour and sea. There were outlines of other ships farther out, beginning to turn on lights. He stood alone, smelling everything, then came back through the noise and the crowd to the side that faced land. A yellow glow over the city. Already it felt there was a wall between him and what took place there. Stewards began handing out food and cordials. He ate several sandwiches, and after that he made his way down to his cabin, undressed, and slipped into the narrow bunk. He'd never slept under a blanket before, save once in Nuwara Eliya. He was wide awake. The cabin was below the level of the waves, so there was no porthole. He found a switch beside the bed and when he pressed it his head and pillow were suddenly lit by a cone of light.

He did not go back up on deck for a last look, or to wave at his relatives who had brought him to the harbour. He could hear singing and imagined the slow and then eager parting of families taking place in the thrilling night air. I do not know, even now, why he chose this solitude. Had whoever brought him onto the *Oronsay* already left? In films people tear themselves away from one another weeping, and the ship separates from land while the departed hold on to those disappearing faces until all distinction is lost.

I try to imagine who the boy on the ship was. Perhaps a sense of self is not even there in his nervous stillness in the narrow bunk, in this green grasshopper or little cricket, as if he has been smuggled away accidentally, with no knowledge of the act, into the future.

What had there been before such a ship in my life? A dugout canoe on a river journey? A launch in Trincomalee harbour? There were always fishing boats on our horizon. But I could never have imagined the grandeur of this castle that was to cross the sea. The longest journeys I had made were car rides to Nuwara Eliya and Horton Plains, or the train to Jaffna, which we boarded at seven a.m. and disembarked from in the late afternoon. We made that journey with our egg sandwiches, a pack of cards, and a small Boy's Own adventure.

But now it had been arranged I would be travelling to England by ship, and that I would be making the journey alone. No mention was made that this might be an unusual experience or that it could be exciting or dangerous, so I did not approach it with any joy or fear. I was not forewarned that the ship would have seven levels, hold more than six hundred people including a captain, nine cooks, engineers, a veterinarian, and that it would contain a small jail and chlorinated pools that would actually sail with us over two oceans. The departure date was marked casually on the calendar by my aunt, who had notified the school that I would be leaving at the end of the term. The fact of my being at sea for twenty-one days was spoken of as having not much significance, so I was surprised my relatives were even bothering to accompany me to the harbour. I had assumed I would be taking a bus by myself and then change onto another at Borella Junction.

There had been just one attempt to introduce me to the situation of the journey. A lady named Flavia Prins, whose husband knew my uncle, turned out to be making the same journey and was invited to tea one afternoon to meet with me. She would be travelling in First Class but promised to keep an eye on me. I shook her hand carefully, as it was covered with rings and bangles, and she then turned away to continue the conversation I had interrupted. I spent most of the hour listening to a few uncles and counting how many of the trimmed sandwiches they ate.

On my last day, I found an empty school examination booklet, a pencil, a pencil sharpener, a traced map of the world, and put them into my small suitcase.

As I got into the car, it was explained to me that after I'd crossed the Indian Ocean and the Arabian Sea and the Red Sea, and gone through the Suez Canal into

the Mediterranean, I would arrive one morning on a small pier in England and my mother would meet me there. It was not the magic or the scale of the journey that was of concern to me, but that detail of how my mother could know when exactly I would arrive in that other country.

And if she would be there.

1. The passage can most reasonably be described as being divided into two sections that, taken together, explore:
 - A. Michael's first week on the *Oronsay* as told from two perspectives, one being that of Michael's mother.
 - B. elements of Michael's journey as told from two perspectives, one being that of Michael as a young boy.
 - C. two outcomes of Michael's journey, both presented from the perspective of Michael as an adult.
 - D. Michael's relationship with his family, presented from the perspective of two of Michael's relatives.
2. The description of the *Oronsay* as having seven levels, nine cooks, a veterinarian, a small jail, and chlorinated pools (lines 52–56) most strongly supports which of the following statements about the *Oronsay* or its passengers?
 - F. "It felt as if a city had been added to the coast" (lines 3–4).
 - G. "The cabin was below the level of the waves, so there was no porthole" (lines 18–19).
 - H. "I do not know, even now, why he chose this solitude" (lines 26–27).
 - J. "But now it had been arranged I would be traveling to England by ship" (lines 47–48).
3. As it is used in lines 65–66, the phrase "introduce me to the situation of the journey" most nearly means:
 - A. list for the narrator the people he will likely meet on his trip.
 - B. explain to the narrator what his mother knows about his trip.
 - C. draw for the narrator a map of the exact route of his trip.
 - D. prepare the narrator in general for the circumstances of his trip.
4. Based on the passage, Michael's relatives arrange for and approach Michael's journey to England in a manner that can best be described as:
 - F. fearful and tense.
 - G. excited and frantic.
 - H. meticulous and generous.
 - J. understated and matter-of-fact.
5. The passage makes clear that once Michael boards the *Oronsay*, he feels that the city he is leaving has become:
 - A. morally corrupt.
 - B. physically shut off from him.
 - C. aesthetically beautiful.
 - D. figuratively lifted and carried with him.
6. The main point of the second paragraph (lines 22–31) is for the narrator to analyze the circumstance of:
 - F. Michael's relatives leaving the harbor as soon as Michael had boarded the *Oronsay*.
 - G. Michael enjoying listening to families singing but refusing to join in with them.
 - H. Michael not returning to the deck to wave goodbye to his relatives.
 - J. Michael's relatives weeping as the *Oronsay* departed.
7. The interaction between Michael and Flavia Prins that is described in the passage most strongly suggests that although Prins has promised to keep an eye on Michael during his journey, she is:
 - A. fairly indifferent to him and not particularly focused on his well-being.
 - B. likely going to retract her promise as a result of Michael's rude behavior during tea.
 - C. planning to make sure someone else provides him with constant attention and care.
 - D. intending to ignore him, if not make certain that his journey is difficult.
8. In the passage, Michael is metaphorically referred to as:
 - F. a smuggler.
 - G. rings and bangles.
 - H. green grass.
 - J. a little cricket.
9. The passage indicates that Michael's journey to England will require:
 - A. relying on the expertise of a team of captains.
 - B. disembarking the *Oronsay* midjourney.
 - C. avoiding traveling on the Red Sea.
 - D. spending twenty-one days at sea.
10. It can most reasonably be inferred from the passage that the narrator counts the sandwiches his uncles eat (lines 73–75) mainly because the narrator:
 - F. wants to know how many sandwiches he will be given to eat once he boards the ship.
 - G. hopes that his uncles like the sandwiches.
 - H. feels bored as the adults converse.
 - J. is nervous around his loud uncles.

Passage II

SOCIAL SCIENCE: Passage A is adapted from “The Unified Theory of Gumbo” by Lolis Eric Elie (©2012 by Smithsonian Institution). Passage B is adapted from “The Borscht Belt” by Julia Ioffe (©2012 by Condé Nast).

Passage A by Lolis Eric Elie

As the Cajun craze had its way with America in the 1980s, I began to hear tourists, visitors and transplants to New Orleans praising this or that gumbo for its thickness and darkness. This was strange to me. Gumbo was supposed to be neither thick nor dark. Even more important, “dark” and “thick” were being used not as adjectives, but as achievements. It was as if making a dark gumbo was a culinary accomplishment on par with making a featherlight biscuit or a perfectly barbecued beef brisket. Naturally, I viewed these developments with suspicion and my suspicion focused on the kitchen of Commander’s Palace and its celebrated chef, Paul Prudhomme.

Prudhomme hails from Cajun Country, near Opelousas, Louisiana. He refers to his cooking not so much as Cajun, but as “Louisiana cooking,” and thus reflective of influences beyond his home parish. For years I blamed him for the destruction of the gumbo universe. Many of the chefs and cooks in New Orleans restaurants learned under him or under his students. Many of these cooks were not from Louisiana, and thus had no homemade guide as to what good gumbo was supposed to be. As I saw it then, these were young, impressionable cooks who lacked the loving guidance and discipline that only good home training can provide.

My reaction was admittedly nationalistic, since New Orleans is my nation. The Cajun incursion in and of itself didn’t bother me. We are all enriched immeasurably when we encounter other people, other languages, other traditions, other tastes. What bothered me was the tyrannical influence of the tourist trade. Tourist trap restaurants, shops, cooking classes, and at times it seemed the whole of the French Quarter, were given over to providing visitors with what they expected to find. There was no regard for whether the offerings were authentic New Orleans food or culture. Suddenly andouille sausage became the local standard even though most New Orleanians had never heard of it. Chicken and andouille gumbo suddenly was on menus all over town. This was the state of my city when I moved back here in 1995.

Passage B by Julia Ioffe

As a self-appointed guardian of authentic Russian fare, Maksim Syrnikov, who has spent the past two decades studying traditional Russian cuisine, has a problem: Russians don’t hold Russian food in particularly high esteem. When they eat out, they favor more exotic cuisines, like Italian or Japanese. The tendency to find foreign food more desirable is a prejudice that

goes back centuries—to a time when the Russian aristocracy spoke French, not Russian. Russian food is pooh-pooed as unhealthy and unsophisticated.

Among the many things that annoy Syrnikov is the fact that a good number of the despised Russian dishes aren’t even Russian. “I did an informal survey of eighteen- to twenty-five-year-olds in Moscow and St. Petersburg, and asked them, ‘Name some traditional Russian dishes,’” Syrnikov told me. “What they named was horrible: borscht, which is Ukrainian, and potatoes, which are an American plant. In the middle of the eighteenth century, there were riots because people didn’t want to grow potatoes.” He insists that real Russian food contained no potatoes, no tomatoes, few beets, and little meat. Instead, there were a lot of grains, fish, and dairy, as well as honey, cucumbers, turnips, cabbage, apples, and the produce of Russia’s vast forests—mushrooms and berries. Because of the climate, little of this was eaten fresh; it was salted, pickled, or dried for the long winter. Most of Russia ate this way until the twentieth century.

By exploring the Russian food that existed before potatoes, Syrnikov hopes to help Russians reacquaint themselves with the country’s agrarian roots, and to convince them that their national cuisine can be just as flavorful as anything they might find in a sushi bar. He spends his time travelling through the countryside in search of old recipes, trying them himself, and blogging about his experiences. Often, he is brought in as a consultant on projects to make a restaurant authentically Russian. Recently, he hatched a plan for a user-generated database of folk recipes. “My idea is to send out a call across all of Russia,” he told me. “If you have a grandmother who makes *shanishki*”—disk-shaped pastries—“take a picture of them, write down the recipe. To me, it’s absolutely obvious that, if we don’t wake up and find out from these old women and set it down on paper, in twenty years we won’t have anyone to ask. Russian culture will lose a very significant part of itself.”

Questions 11–13 ask about Passage A.

11. The author of Passage A mentions “a featherlight biscuit” and “a perfectly barbecued beef brisket” (lines 9–10) primarily to:
- contrast their deliciousness with the inferior taste of a dark and thick gumbo.
 - offer additional examples of New Orleans cuisine that was, in the author’s view, being corrupted.
 - illustrate the types of authentic New Orleans food that tourists used to gravitate toward.
 - provide examples of what the author views as real culinary successes, in contrast to dark gumbo.

12. It can reasonably be inferred that the author of Passage A thinks that in comparison to authentic Cajun cuisine, Prudhomme's "Louisiana cooking":

- F. demands less creativity.
- G. requires more discipline.
- H. is much easier to master.
- J. reflects broader influences.

13. The author of Passage A most directly indicates that he originally attributed the ruin of the gumbo universe to which of the following?

- A. Tourists monopolizing New Orleans's entire French Quarter
- B. The Cajun craze that took hold of the United States in the 1980s
- C. The sudden prevalence of chicken and andouille gumbo in the 1990s
- D. The pervasive influence of Prudhomme on New Orleans restaurants

Questions 14–17 ask about Passage B.

14. The author of Passage B most strongly indicates that Syrnikov believes Russians tend not to favor their national cuisine mainly because:

- F. they are embarrassed by their country's agrarian history and want to distance themselves from it.
- G. the prejudices held by Russia's ruling class long ago led to a ban on traditional Russian cuisine.
- H. they consider food from other countries to be more appealing and more refined.
- J. only old women know how to make traditional Russian dishes like *shanishki*.

15. The author of Passage B describes some of Syrnikov's common activities in lines 75–81 primarily to:

- A. suggest that Syrnikov feels overwhelmed by the scope and number of his projects.
- B. emphasize Syrnikov's dedication to helping Russians rediscover their true culinary roots.
- C. imply that Syrnikov plans to open his own authentic Russian restaurant after completing his research.
- D. downplay Syrnikov's lack of culinary training by focusing on his experience with traditional folk recipes.

16. According to Passage B, Syrnikov makes which of the following claims regarding potatoes?

- F. Potatoes were once a staple ingredient in traditional Russian cuisine.
- G. Potatoes were grown throughout Russia until the twentieth century.
- H. Potatoes were unpopular in eighteenth-century Russia.
- J. Potatoes actually originated in Ukraine, not in Russia.

17. As he is presented in Passage B, Syrnikov most clearly indicates that he believes failing to record traditional Russian folk recipes will:

- A. force Russian cuisine to reinvent itself.
- B. ruin his existing database of folk recipes.
- C. result in a significant loss of Russian culture.
- D. lead younger generations of Russians to learn folk recipes from their grandmothers.

Questions 18–20 ask about both passages.

18. Which of the following statements best captures a main difference in the focus of the two passages?

- F. Passage A focuses on the author's interactions with Prudhomme, while Passage B focuses on Syrnikov's frustration with the ignorance of the general Russian public.
- G. Passage A focuses on how the tourist trade affected New Orleans cuisine, while Passage B focuses on how communities are working together to preserve authentic Russian fare.
- H. Passage A focuses on the author's prejudice against food from non-Cajun cultures, while Passage B focuses on Syrnikov's attempt to spread awareness about what Russian cuisine truly is.
- J. Passage A focuses on the author's struggle with public perception of authentic New Orleans food, while Passage B focuses on Syrnikov's efforts to correct misconceptions about Russian cuisine.

19. With regard to their own region's authentic cuisine, both New Orleans transplants in Passage A and modern Russians in Passage B are characterized as being:

- A. perplexed.
- B. disdainful.
- C. misinformed.
- D. knowledgeable.

20. Both passages support the idea that learning how to cook traditional and authentic regional food is best accomplished by:

- F. gleaning knowledge from cooks native to the area.
- G. studying under professional chefs in a restaurant.
- H. traveling and learning about other cultures' foods.
- J. receiving hands-on training in a culinary school.

Passage III

HUMANITIES: This passage is adapted from the article “An Interview with C. E. Morgan” by Thomas Fabisiak (©2010 by University of North Carolina-Chapel Hill).

All the Living is C. E. Morgan's debut novel. Set in rural Kentucky in the 1980s, her novel follows a young couple's struggles as they take responsibility for a family farm.

Thomas Fabisiak: In what way does the fact that your descriptive work in *All the Living* focuses on landscape make it a political act?

C. E. Morgan: I think it's akin to the moral force that's there in fiction in the presentation of character. Fiction asks us to bring sustained attention to the Other; when a reader chooses to continue reading a novel, regardless of the likability of a character, the sustained attention to that character has moral ramifications. Landscape writing—most especially when it's done at length and in a style that deviates from prose norms, so that its very presentation is interruptive or “estranging” as the formalists might have said—encourages the reader to stop, reread, listen, imagine, reconsider, admire, appreciate with new eyes. The reader might complain that this kind of writing draws attention to itself, but this kind of writing doesn't merely draw attention to its own aesthetic strategies—it also draws attention to land. The land is imperiled; we know that. Land is always imperiled wherever the human puts his or her foot. The attention paid to landscape in a narrative is, I believe, attention that's paid to land itself, not just to marks on a page. Deep appreciation can result from an engagement with that kind of beauty, and that can manifest in action. That is how it might be seen as a political act to do this kind of writing (particularly about a region, such as this one, rural Kentucky, that is continuously being ravaged by corporations that consumers unwittingly feed).

Thomas Fabisiak: In addition to landscape, though, *All the Living* also involves a sustained focus on work, and specifically on work on the land, farming, taking care of animals, etc. Together these suggest an overarching pastoral quality. Without wanting you to interpret *All the Living* for readers, because you've told me that you hate imposing yourself into people's encounters with the book, I'm wondering if you could say something about your focus on work, and whether and to what extent it is related to the focus on landscape more generally. One thing that occurred to me repeatedly as I was reading the book was that, as a writer, you work very meticulously, and take “your work” as seriously, perhaps, as “the work” itself in the sense of the finished book, etc. Would I be wrong to think that there may be a latent ethical, if not political, component to this aspect of your writing as well, both in your own commitment to hard work and in the ongoing presence of the theme of work in the novel?

C. E. Morgan: Well, while there are many novels I admire that depict working-class labor (*Anna Karenina* and *In the Skin of the Lion* and *Germinal* are the first

that spring to mind), the presence of work—agrarian or domestic—in *All the Living* was not a self-conscious choice. For that matter, even though I conceptualize landscape writing as overtly political, that doesn't mean I self-consciously insert it in a text where it doesn't belong. With *All the Living*, I don't feel I made choices in the first draft of the novel. It felt like the book just came, and it came with an inborn temperament, tenor, and set of characters and concerns. I obeyed the book. Or perhaps, because a text is not a willful or sentient being (though it sometimes feels like it!), it might be more accurate to say I obeyed the hazy, deepest part of the brain, which bypasses the intellect as it constructs meaning via image, myth, poetry: our essential languages.

For myself, though you're right that I work intensely on any project when I have one, I don't think of my writing as a job. I think of it as a vocation, and as such, there's a huge gulf between what I do and capitalist notions of productivity, though the work is disseminated in the marketplace through a capitalist framework. I'm very wary of rigorous work ethic for the sake of rigorous work ethic—this idea that a writer should produce a novel every year or two years; that they should be punching a clock somehow. A lot of people seem to buy into that; it's hard not to in this culture. But I don't want to produce just to produce. I don't want to write just to write, or publish just to get a paycheck. I see no value in that. Frankly, the world doesn't need more books; it needs better books. Vocation is tied up with notions of service, and as an artist you serve people by giving them your best, the work you produce that you truly believe to be of value, not just what you're capable of producing if you work ten hours a day every day for forty years.

21. The structure of the passage can best be described as an interview in which the interviewee:
- A. defends herself against harsh commentary by the interviewer.
 - B. challenges the interviewer, urging him to ask her relevant questions.
 - C. turns questions asked to her back to the interviewer, inviting a casual dialogue.
 - D. responds to the interviewer's questions with involved, abstract answers.
22. In the passage, Morgan argues that, for the reader, landscape writing might feel particularly “interruptive or ‘estranging’” (line 12) when it is presented:
- F. in an otherwise plot-driven novel.
 - G. by an unskilled or inexperienced writer.
 - H. at length and in an unconventional prose style.
 - J. in the opening pages of a novel.

23. Based on the passage, how would Morgan respond to a reader's complaint that landscape writing "draws attention to itself" (line 16)?
- She would agree but claim that landscape writing also draws attention to land.
 - She would agree but claim that if the writer had been focused, landscape writing should be engaging.
 - She would disagree, arguing that landscape writing focuses solely on drawing attention to land.
 - She would disagree, arguing that some readers are simply not willing to read landscape writing.
24. In the passage, Morgan most strongly suggests that a reader's attention to the land while reading a landscape narrative might lead the reader to:
- act to protect the land.
 - forget that the land is in peril.
 - misinterpret the writer's purpose.
 - research the writer's academic background.
25. As it is used in line 22, the word *marks* most nearly refers to:
- creases and smudges.
 - words and symbols.
 - notches and ticks.
 - lines and boundaries.
26. As it is used in line 24, the phrase "that kind of beauty" most specifically refers to the beauty of the:
- human being.
 - intellect.
 - political act.
 - land.
27. The passage makes clear that, from a previous exchange with Morgan, Fabisiak knows that Morgan does not like to do which of the following?
- Interpret *All the Living* for her readers
 - Tell her readers that, like the characters in *All the Living*, she lives in Kentucky
 - Work ten hours a day every day
 - Discuss which regions of the United States she plans to write about
28. The passage most strongly suggests that Morgan focuses on depicting which types of work in her novel *All the Living*?
- Corporate or agrarian
 - Agrarian or domestic
 - Domestic or creative
 - Creative or corporate
29. Morgan directly compares a writer being expected to produce a novel every year or two years to the act of having to:
- work overtime.
 - assemble products in a factory.
 - punch a clock.
 - sell goods on commission.
30. In the passage, Morgan makes clear her perspective that an artist is serving people when that artist takes which of the following approaches to his or her work?
- Continually offering new work that the artist knows people will want to buy
 - Regularly studying others' work and learning from it
 - Creating and presenting work that the artist believes to be valuable.
 - Modifying the focus of the work when people's interest in it wanes

Passage IV

NATURAL SCIENCE: This passage is adapted from *Free Radicals* by Michael Brooks (©2011 by Michael Brooks).

As the twentieth century began, Robert Millikan was fast approaching forty. All around him, physics was at its most exhilarating, yet Millikan had done practically nothing. So he decided to measure e , the charge on the electron.

Millikan's idea was simple. A droplet of water that had been given an electric charge would be attracted to a metal plate which carried an opposite charge. He arranged his apparatus so that the electrical attraction pulled the droplet up, while gravity pulled it down. This gave him a way to measure e . First he would find the mass of the droplet. Then he would measure the voltage needed for the attraction to the metal plate to cancel out the downward pull of gravity. From those two pieces of information he could get a measure of the charge on the droplet.

The experiment was far from simple to carry out, however. Finding that the water droplets tended to evaporate before any measurements could be made, Millikan set to the task of trying the same trick with oil droplets.

In 1910, at the age of forty-two, he finally published a value for e . It was meant to be his career-defining publication. Eventually, it was—but Millikan still had years of difficult and dirty work ahead of him.

The Austrian physicist Felix Ehrenhaft refuted Millikan's results with a similar set of experiments that seemed to show that electrical charge can be infinitely small. There is no fundamental, minimum unit of charge, Ehrenhaft said; there is no 'electron'. The series of experiments the desperate Millikan then performed were to cast a lasting shadow over his scientific integrity.

According to biologist Richard Lewontin, Millikan 'went out of his way to hide the existence of inconvenient data'. David Goodstein, a physics professor, says Millikan 'certainly did not commit scientific fraud'. So where does the truth lie?

The debate hangs on a phrase in Millikan's 1913 paper refuting Ehrenhaft and showing that every measurement of electric charge gives a value of e or an integer multiple of e . In his 1913 paper, Millikan says that his data table 'contains a complete summary of the results obtained on all of the 58 different drops upon which complete series of observations were made'. The statement is written in italics, as if to give it special weight. The notebooks for the 1913 paper show that Millikan actually took data on 100 oil droplets. Did Millikan cherry-pick the data in order to confirm his original result and crush Ehrenhaft underfoot?

He certainly had motive. In Millikan's 1910 paper he had made the 'mistake' of full disclosure with state-

ments such as, 'Although all of these observations gave values of e within 2 percent of the final mean, the uncertainties of the observations were such that . . . I felt obliged to discard them'. This admirable honesty about the selection of data points had given Ehrenhaft ammunition that he used enthusiastically in his long feud with Millikan. Perhaps, with the italicised statement, Millikan was making sure that he gave his foe no more.

That would certainly explain something that is otherwise inexplicable. Millikan aborted the experimental run on twenty-five of the droplets in the work reported in the 1913 paper. According to Goodstein, Millikan preferred to use droplets that showed a change in charge, gaining or losing an electron (as he saw it) during the measurement. Millikan may also have judged some droplets to be too small or too large to yield reliable data, Goodstein says. If they were too large, they would fall too rapidly to be reliably observed. Too small, and their fall (and thus the charge result) would be affected by random collisions with air molecules. Goodstein interprets the italicised statement as an assertion that there were only fifty-eight 'complete enough' sets of data.

* But Goodstein undoes his defence by stating that in order to make the 'too large' or 'too small' distinction, *all* the data would need to have been taken in the first place.

Millikan certainly did not convince his peers straight away. The arguments with Ehrenhaft rumbled on long enough for Millikan's Nobel Prize to be delayed for three years—it eventually came in 1923.

But here's the point: Millikan was right about the electron and its charge. Few laboratories managed to replicate Ehrenhaft's results, but students now replicate Millikan's results all across the world. No one now believes that the fundamental unit of charge is anything other than Millikan's e .

To get his Nobel Prize, Millikan had to play hard and fast with what we might call 'accepted practice'.

31. The main purpose of the passage is to use the example of Millikan to show:

- A. how a theory becomes accepted.
- B. that some well-accepted scientific ideas have a sullied past.
- C. the challenges scientists faced in measuring e .
- D. that some scientists get credit for work that is not their own.

32. Based on the passage, the debate between Millikan and Ehrenhaft is best described as:
- F. tense; their professional reputations were at stake.
 - G. unprofessional; they sabotaged each other's experiments.
 - H. collegial; each wanted to push the other to create a stronger theory.
 - J. indirect; although their work intersected along some lines, they were primarily working in different fields.
33. The passage indicates that the debate regarding Millikan's integrity centers on:
- A. others' ability to replicate the results of Ehrenhaft's experiments more readily than those of Millikan's experiments.
 - B. Millikan's decision to switch from using water droplets to oil droplets.
 - C. certain statements Millikan made about the apparatus he used in his experiments.
 - D. a discrepancy between data in Millikan's 1913 paper and information in his notebooks.
34. It can reasonably be inferred that the passage author considers Millikan's decision to offer full disclosure in his 1910 paper as:
- F. an understandable mistake that most scientists rightfully avoid.
 - G. an admirable choice with an unfortunate consequence.
 - H. a strategic decision that paid off in the end.
 - J. a naive decision revealing desperation.
35. The passage indicates that in his experiment to measure e , Millikan switched from water to oil droplets because:
- A. other physicists had found that oil droplets were easier to work with.
 - B. with oil he found it easier to form droplets with little variation in size.
 - C. oil droplets allowed him to take accurate measurements more consistently.
 - D. oil droplets could be reused for other experiments.
36. In the passage, the primary purpose of the ninth paragraph (lines 62–76) is to:
- F. present Goodstein's defense of Millikan's choices regarding the data reported in Millikan's 1913 paper.
 - G. argue against Goodstein's interpretation of Millikan's motives.
 - H. summarize the current prevailing view of Millikan's methods.
 - J. offer an overview of Millikan's explanation of how he organized and presented his data.
37. The passage indicates that Ehrenhaft's experiments led him to make which of the following assertions in refuting the claims in Millikan's 1910 paper?
- A. There is no electron.
 - B. Millikan's value for e is too low.
 - C. Millikan failed to take prevailing scientific theories into account.
 - D. The value of e varies with the substance one is measuring.
38. Based on the passage, the author's assertion that Millikan's experiments "were to cast a lasting shadow over his scientific integrity" (lines 32–33) is best described as:
- F. an opinion based on casual assumptions about scientists working in the early 1900s.
 - G. an opinion based on the passage author's efforts to imagine himself in Millikan's position.
 - H. a reasoned judgment based on consideration of the debate sparked by these experiments.
 - J. a fact that Millikan clearly explains in his notebooks.
39. The passage author references Lewontin and Goodstein in the sixth paragraph (lines 34–38) primarily in order to:
- A. identify two leading arguments about Millikan's methodology.
 - B. explain how a scientist's background might influence his or her opinion of Millikan's findings.
 - C. emphasize that current experiments on the electron contradict Millikan's findings.
 - D. highlight the difficulty Millikan's contemporaries had in replicating Millikan's experiments.
40. As it is used in line 39, the phrase *hangs on* most nearly means:
- F. continues.
 - G. depends on.
 - H. sticks with.
 - J. blames on.

END OF TEST 3

STOP! DO NOT TURN THE PAGE UNTIL TOLD TO DO SO.

DO NOT RETURN TO A PREVIOUS TEST.