

READ THE PASSAGE Look for evidence that supports the author’s main ideas, or claims.

How Identical Is Identical?

Everyone knows that identical twins look alike, right? Not quite. Although it may be very hard to tell identical twins apart, no two people are exactly the same—even identical twins.

Identical twins develop from the same fertilized egg, so they share the same genes. Genes contain the information that determines people’s physical traits. While most people have their own unique set of genetic instructions, identical twins are unusual because they both have the same set. But researchers have discovered that those instructions do not tell the entire story. The environment in which each twin grows and develops also affects many aspects of their physical appearance and personality. Even small differences can have considerable effects.

Fingerprints are a good example. One might assume that identical twins have the same fingerprints. But detectives have known for many years that this is not the case. Like snowflakes, no two fingerprints are alike. Unique patterns on the tips of the fingers appear as the child develops in the womb. While genetic instructions are the primary influence on fingerprint patterns, researchers have discovered other factors that also have an impact. The rate of bone growth, or environmental factors such as pressure in the mother’s womb and contact with fluid, can also affect the developing twins’ fingerprint patterns. So even though two twins grow next to each other in the womb, they experience slightly different environments. As a result, they develop slightly different fingerprints.

SKILL PRACTICE Read each question. Fill in the bubble next to the correct answer.

1. According to the author, the fact that twins do *not* have identical fingerprints proves that _____.
Ⓐ they are not actually twins
Ⓑ no two people are exactly alike
Ⓒ genetic patterns do not affect appearance
Ⓓ twins often have different personalities
2. Which of the following is *not* an environmental factor that can still affect fingerprint patterns?
Ⓐ contact with fluid
Ⓑ rate of bone growth
Ⓒ pressure in the womb
Ⓓ how twins are raised
3. Evidence in the passage suggests that _____.
Ⓐ twins often have the same thoughts
Ⓑ the shape of a snowflake is determined by genes
Ⓒ environment affects people more than their genes do
Ⓓ genetics and the environment affect growth
4. Evidence in the passage suggests that the physical differences between identical twins are usually _____.
Ⓐ significant
Ⓑ impossible to determine
Ⓒ measured after birth
Ⓓ small

STRATEGY PRACTICE In paragraph 3, the author says that fingerprints are a “good example.” What are they a good example of? Why?

READ THE PASSAGE Look for the reasons the author gives to prove the claims he makes.

A Mystery in Macedonia

Alexander the Great's accomplishments are well-known. One of the greatest military leaders of all time, this Greek king of ancient Macedonia was undefeated in battle. Yet one part of his life remains a mystery—the cause of his death one month before his 33rd birthday.

Historians agree on a few facts about his death. On May 29, 323 BC, Alexander became ill after attending a banquet. He remained in bed with a high fever. By June 9, he was unable to move or speak, and could only acknowledge visitors by waving his hand. Two days later, he was dead.

Today, there are several theories about the cause of his death. Some experts believe he died of a disease. Malaria and typhoid fever were both common in the region at that time. Drinking alcohol, as he did at the banquet, might have increased the effects of the disease.

Other historians suspect that Alexander was murdered—poisoned by one of his many enemies. Critics of this theory point out that twelve days passed before Alexander died, and long-acting poisons were not common in ancient Macedonia. Supporters of the theory, however, respond by suggesting that Alexander might have been poisoned once on May 29 and then again before he died.

Recently, some historians have suggested another possibility. People who knew Alexander often described his unusual posture. He held his head high, looking upward and outward. This pose might have been the result of a spinal condition known as scoliosis. It's possible that a related spinal infection was the cause of his inability to move and may have led to his death. For now, however, the questions surrounding Alexander's death remain unanswered.

SKILL PRACTICE Read each question. Fill in the bubble next to the correct answer.

- Which possible meaning of the title is supported by information in the passage?
 - The location of Macedonia is a mystery.
 - The date of Alexander's death is a mystery.
 - The cause of Alexander's death is a mystery.
 - The cause of scoliosis was a mystery to Macedonians.
- Which detail supports the theory that Alexander died of a disease?
 - Alexander died before his 33rd birthday.
 - Malaria and typhoid fever were common.
 - Alexander's posture was unusual.
 - Alexander attended a banquet before dying.
- Which evidence is used to dispute the theory that Alexander was murdered?
 - Alexander may have been poisoned twice.
 - Alexander had a lot of enemies.
 - Alexander consumed alcohol before his final illness.
 - Long-acting poisons were uncommon.
- Which detail supports the theory that Alexander's death was related to scoliosis?
 - Alexander died after going to a banquet.
 - Alexander was unable to move just before he died.
 - Alexander had many enemies.
 - Alexander drank alcohol heavily.

STRATEGY PRACTICE Before you read the passage, write a question you have about Alexander the Great. If you find the answer as you read, write it, too.

READ THE PASSAGE

Look for cause-and-effect relationships that the author describes.
Think about the evidence that the author gives to support her claims.

What Mosquitoes Like About You

Do you ever feel like mosquitoes single you out in a crowd? Do you think your blood must be extra tasty because you're the one who always gets bitten when no one else does? It turns out that mosquitoes do have preferences, but it isn't tasty blood that attracts them to their target. It's all about how easy a person is to find. Mosquito expert Susan Paskewitz explains that "the main things are how you smell and how warm you are."

Two scents that are particularly attractive to mosquitoes are carbon dioxide and lactic acid. Both of these chemicals are produced when you breathe or sweat. So, when you exercise, mosquitoes may zoom after you. That's because exercising causes your muscles to build up lactic acid. Also, your sweat emits carbon dioxide, and your body temperature increases. But not everyone produces carbon dioxide and lactic acid at the same rate. Some people produce higher levels, so they are more likely to attract mosquitoes.

Even your sense of style can affect whether or not you get bitten. Mosquitoes use color to decide where to land, and they prefer dark colors. Wearing a black or dark blue T-shirt is a good way to turn yourself into a giant target for mosquitoes. Wear white, and they might fly right by.

SKILL PRACTICE

Read each question. Fill in the bubble next to the correct answer.

- Which of the following is most likely to cause a mosquito to find and bite you?
 - the way you look
 - the way you taste
 - the way you smell
 - the way you sound
- The writer would probably agree that a reasonable way to discourage mosquito bites is to _____.
 - avoid all types of exercise
 - wear light-colored clothing
 - stop producing carbon dioxide when you breathe
 - try to increase your lactic acid levels
- Which of the following is *not* a reason that mosquitoes are attracted to people who have just exercised?
 - Their body temperature is higher than normal.
 - They produce higher levels of carbon dioxide.
 - Their lactic acid level increases.
 - Their blood sugar level increases.
- The writer quotes mosquito expert Susan Paskewitz in order to _____.
 - explain what attracts mosquitoes
 - prove that mosquitoes like blood
 - show that mosquitoes have an important job in the ecosystem
 - support the idea that mosquitoes spread deadly diseases

STRATEGY PRACTICE

What information does the author give as evidence of which senses mosquitoes use to find their prey?

Compare and Contrast

Students practice comparing and contrasting by looking at the similarities and differences between two or more people or things.

Make Inferences

Students practice making inferences by using clues in a passage to understand what is being implied or inferred.

DAY 1

Review the *Compare and Contrast* skill with students. Say: **When we compare and contrast, we look at how two or more things are alike and different.** Tell students they are going to read about two superheroes. Then remind students of the *Make Connections* strategy (Week 2). Say: **As you read this passage, think about other superheroes you know about. Think of how those superheroes are similar to and different from the superheroes in this passage.** Then have students read the instructions at the top of the page before they read the passage. When students have finished reading, direct them to complete the skill and strategy practice activities. Review the answers together.

DAY 2

Remind students of the *Compare and Contrast* skill. Then tell students they are going to read about different types of volcanoes. Say: **Scientists classify volcanoes based on the differences between how they form and how they erupt. Pay attention to these differences as you read.** Then remind students of the *Monitor Comprehension* strategy (Week 1). Say: **A good way to monitor your comprehension is to annotate, or mark up, the passage. As you read, underline three ideas that you think are important to remember.** When students have finished reading, direct them to complete the skill practice activity. Review the answers together. For the second part of the strategy practice activity, pair students or complete it as a group.

DAY 3

Review the *Make Inferences* skill with students. Say: **When we make an inference, we use clues from the passage and our background knowledge to figure out information that is not directly stated in the passage.** Tell students they are going to read a passage about two men who discover a cave. Then remind students of the *Make Connections* strategy. Say: **In order to make good inferences, you have to connect what you are reading to what you already know. As you read, use your background knowledge about caves, explorers, and protecting the environment to help you infer.** When students have finished reading, direct them to complete the skill and strategy practice activities. Review the answers together.

DAY 4

Remind students of the *Make Inferences* skill. Then tell students they are going to read about an ancient library. Say: **This library is unlike the libraries you may have visited. However, you can still use your background knowledge about libraries to help you make inferences as you read.** Then remind students of the *Monitor Comprehension* strategy. Say: **A good reader will often reread a passage to make sure he or she understands the writer's main ideas about a topic. After you read the passage, read it again to make sure you did not miss any important information.** When students have finished reading, direct them to complete the skill and strategy practice activities. Review the answers together.

DAY 5

Tell students they will practice both the *Compare and Contrast* and *Make Inferences* skills as they read a science fiction story about living on a new planet. Say: **When writers make up new worlds or write about things that do not exist, they still have to make these things understandable to readers. I could invent an alien language, but if I wrote a story only in that language, you could not understand it. Good writers invent settings, characters, and situations that their readers can compare to people, places, and events in the "real world."** As you read, you can also use clues to make inferences. **This will help you better understand the unusual things you read about.** Direct students to read the passage and to complete the skill and strategy practice activities.

READ THE PASSAGE Think about how the heroes are alike and different.

Two New Superheroes Make Their Debut

Have you ever created your own superhero? I have! My superheroes are named Clockwork and Chrysalis. Like most comic book heroes, my superheroes fight for truth and justice. They deliver criminals to the police and have secret identities.

Clockwork spends his days as Henry Kadosh, a geeky, mild-mannered science teacher who frequently ruins his experiments in class. No one suspects he's really a brilliant scientist who has discovered how to travel through time. The youngest of eight children, Henry has always idolized his oldest brother Raul, also a scientific genius. After Raul was hurt in a lab accident, Henry helped his brother by taking over Raul's work. Eventually, Henry discovered the secret to making time travel possible. Now, as Clockwork, he serves humanity by traveling back in time and stopping crimes before they happen.

Chrysalis was born a Cherokee in 1833. During a forced march from her people's ancestral homeland, Chrysalis's father slipped and twisted his ankle. As Chrysalis knelt on the ground to help her father, she was simultaneously stung by a scorpion and bitten by a rattlesnake. The combination of the venoms gave her the ability to change into different animals and use their powers. For instance, she can temporarily blind enemies by becoming an octopus and shooting ink in their eyes. Or she can stun her enemies the way an electric eel does. She can also see as well as a hawk does. Chrysalis channels her anger into fighting crimes against the environment. Once, after shape-shifting into an arctic clam to eavesdrop on whale hunters, she gained the clam's ability to live for centuries. Chrysalis has countless secret identities.

SKILL PRACTICE Read each question. Fill in the bubble next to the correct answer.

1. According to the passage, how are Clockwork and Chrysalis like other superheroes?
 A They wear special costumes.
 B They stop crimes before they happen.
 C They change their shapes.
 D They fight for truth and justice.
2. What did both Clockwork and Chrysalis experience before they became superheroes?
 A Both were bitten by animals.
 B Both gained their powers while trying to help a family member.
 C Both were forced from their homes.
 D Both admired an older sibling.
3. How are Clockwork and Chrysalis different?
 A Clockwork is geeky and bungling, and Chrysalis is good-natured and calm.
 B Chrysalis uses her abilities for good, but Clockwork uses his abilities for evil.
 C Chrysalis upholds the law, while Clockwork tries to change the laws.
 D Clockwork is mild-mannered, while Chrysalis is angry.
4. How are Clockwork and Chrysalis alike?
 A Both travel back in time to fight crime.
 B Both are scientists.
 C Both have secret identities.
 D Both assume other shapes and forms.

STRATEGY PRACTICE Describe a superhero you know about and how Clockwork or Chrysalis is like that character.
