

UNIT 7

Complete the paragraph with the correct words.

collide	conditions	occurs	threatens	violent
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1. Lightning happens under certain weather _____. It usually _____ during thunderstorms when electricity travels from cloud to cloud or to the ground. The electrical charges are caused when bits of ice _____ with drops of water in the clouds. The electricity causes a _____ flash of light and heat, which we see and hear as lightning and thunder. The powerful electrical charge of lightning _____ local power grids and electrical systems, as it can hit power lines and damage them, or travel along them into homes and buildings.

Complete the sentences with the correct words.

coast	data	dig	extend	fuel
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2. Scientists track and collect _____ about the weather, such as amounts of rainfall and daily high and low temperatures.
3. San Francisco is a city in California, on the _____ of the Pacific Ocean.
4. Be careful when you _____ holes on your property because there could be water pipes, gas lines, or electric cables underground.
5. Paulo decided to _____ his vacation by staying three extra days at the beach resort.
6. Our hybrid car runs on two types of _____: gasoline and electricity.

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Match the words with their definitions.

- | | |
|-------------|--|
| 7. extend ● | ● a. to send out goods to another country for sale |
| 8. export ● | ● b. to go out of a place, such as a building |
| 9. exit ● | ● c. to stretch out from one place to another |

Complete the sentences with the adverb form of the adjectives.

happy	loud	possible
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10. As the thunderstorm began, I _____ stayed indoors reading.
11. I knew that the lightning couldn't _____ strike us while we were inside the house.
12. I fell asleep to the sound of the rain beating _____ against the windows and roof.

Read the passage.

When Tornadoes Strike

A On April 25–28, 2011, a huge number of tornadoes hit the southern United States, striking areas like Mississippi, Alabama, Tennessee, and Georgia. In fact, more tornadoes struck the United States in April 2011 than in any other month on record. On April 27—its worst day—there were more than 120 separate twisters. They moved through six states and killed at least 316 people. The 2011 Super Outbreak, as it's now called, remains one of the deadliest and costliest tornado outbreaks in U.S. history, with total damages reaching about \$10 billion.

The “Perfect Storm”

- B** Most tornadoes in the United States occur in a region called Tornado Alley, between the Rocky Mountains and the Gulf of Mexico. Warm, wet air from the Gulf of Mexico collides with the cold, dry mountain air, creating ideal conditions for a storm. Sometimes, “perfect storm” conditions lead to extremely violent tornadoes.
- C** The “perfect storm” conditions that occurred in April 2011 gave birth to a monster twister in Tuscaloosa, Alabama. Tornadoes usually touch the ground for only a few kilometers before they die. The 1.6-kilometer-wide Tuscaloosa tornado, however, stayed on the ground for an unusually long time. It traveled

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approximately 480 kilometers across a region extending from Alabama to Georgia, with winds of over 420 kilometers per hour.

Conflicting Theories

- D** What caused the 2011 Super Outbreak? Experts aren't sure. Some think warmer than-normal water temperatures in the Gulf of Mexico—a result of global warming—were the cause. Russell Schneider, director of the U.S. Storm Prediction Center, thinks the outbreak of violent tornadoes occurred largely because of a weather pattern called "La Niña." La Niña occurs when cold water in the Pacific Ocean rises to the surface off the coast of South America. This can also affect the climate in the United States and create more thunderstorms and tornadoes.
- E** Pablo Saide, a scientist at the University of Iowa, has another theory. He believes that fires in Central America were part of the cause. These fires are set to clear land for farming. The resulting smoke drifting into the United States increases air temperature, which can lead to cloud formation and irregular wind patterns—common risk factors for tornadoes. "We're not saying that the outbreak happened because of the smoke," says Saide. "We're saying that, given the conditions already in place, the smoke intensified the tornadoes."
- F** More than a decade has passed since the Super Outbreak of 2011. In that time, research on tornadoes has not stopped. Using improved storm tracking technology, scientists continue to study and gather data about tornadoes. They want to better understand the conditions that cause violent tornadoes to form and improve tornado forecasts. Hopefully, their research, and the lessons learned from April 2011, will save lives the next time a major tornado outbreak occurs.

Choose the correct answers.

13. What is the main idea of this passage?
- Experts do not agree about what caused the 2011 Super Outbreak of tornadoes, but there are three major theories.
 - "Perfect storm" conditions can lead to violent, deadly tornadoes, and global warming has made these more likely.
 - Scientists have been studying the potential causes of a deadly and damaging series of tornados in 2011 in order to better prepare for the future.
14. What causes so many tornadoes to occur in Tornado Alley?
- A tropical weather pattern called "La Niña."
 - Warm air from the Gulf of Mexico colliding with cold mountain air.
 - Experts aren't really sure what causes them.
15. What was different about the April 2011 tornado in Tuscaloosa, Alabama?
- It created \$10 billion in damage and killed 316 people.
 - It happened hundreds of miles outside of Tornado Alley.
 - It stayed on the ground for a long time and traveled a long distance.

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16. What is professor Pablo Saide's theory about Central American fires in 2011?
- Smoke from the fires made the tornadoes more powerful.
 - Smoke from the fires created hotter tornadoes.
 - Smoke from the fires caused the tornadoes.
17. Reread paragraph F. What inference can you make about tornados?
- They are less deadly than they were a decade ago.
 - They are difficult to predict.
 - They are still mostly mysterious.

Read the passage.**Here Come the Hurricanes!**

- A** Hurricanes are violent tropical storms with strong winds and large amounts of rain. *Hurricane* is the name for the storms in the Atlantic Ocean, but they are known as *typhoons* and *cyclones* in the Pacific and Indian Oceans. As these storms hit land, they threaten coastal towns and cities. Fortunately, weather scientists—called *meteorologists*—can predict the route of the storms, and how strong they will be. This allows people to prepare for possible damage.
- B** Hurricanes often start in the warm waters off the African coast. First, a “tropical disturbance” appears, which is a group of thunderstorms. As the storms move over the warm water, the winds may increase in speed and begin to turn in a circular motion. Then the smaller storms join into a *tropical depression*. Next, if the winds reach 39 miles per hour (63 km/h), meteorologists consider it a *tropical storm* and start to follow its path as it crosses the Atlantic. Finally, when the winds reach 74 miles per hour (119 km/h), meteorologists consider it a hurricane. Hurricanes are labeled according to their wind speeds. There are five stages, going as high as 156.5 miles per hour (252 km/h) for a Category 5 hurricane.
- C** Meteorologists at NASA (National Aeronautical and Space Agency) and NOAA (National Oceanographic and Atmospheric Administration) keep data on hurricanes. Typically, hurricanes have a center, known as the “eye” of the storm, where winds are quiet. The eye is surrounded by a ring of thunderstorms where high winds circle around the eye. Beyond that are rings of heavy rain that can extend for hundreds of miles. NOAA weather satellites take photos of developing hurricanes where these three features are clearly visible. In addition, the National Hurricane Center fly special airplanes directly into the storm to gather data on wind speeds and the direction in which the storm is moving. Then they use the data to make predictions about the landfall—where the hurricane will collide with the coast—and what will happen.
- D** As a hurricane approaches landfall, its winds and rains rightly cause fear. However, another significant source of damage is the storm surge, a wall of water that can rise as high as 10.3 yards (10 meters). First, a storm surge can destroy buildings and roads along the coast, sweeping anything in its path out to sea. After that, the surge leads to dangerous flooding in low-lying areas. This is why government officials usually act before a hurricane is predicted to strike. They warn people to leave coastal areas to prevent deaths and injuries. Dr.

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Phil Klotzbach, a hurricane researcher at Colorado State University, explains that with the help of new computer models, landfall predictions can be made up to five days in advance. So, the people in its path have time to make preparations.

Choose *True* or *False*.

18. This passage is mostly about how meteorologists study hurricanes.
 - a. True
 - b. False
19. Hurricanes mainly strike areas on the Atlantic coast.
 - a. True
 - b. False
20. Hurricane winds move in straight lines from the ocean towards the land.
 - a. True
 - b. False
21. The eye of a hurricane is the most dangerous, violent part of the storm.
 - a. True
 - b. False
22. Dr. Phil Klotzbach is a meteorologist with the National Oceanographic and Atmospheric Administration.
 - a. True
 - b. False

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Complete the sentences explaining the steps in the process of hurricane formation using the correct words and numbers.

119	63	after	depression	disturbance	finally
first		follow its path	hurricane		storm
		move in a circular motion	then		warm waters

23. _____, a tropical _____ forms in _____.
- _____ it grows and organizes into a tropical _____, and the winds _____.
- _____ that, when the winds reach _____ km/h, it becomes a tropical _____, and scientists begin to _____.
- _____, it becomes a _____ when the winds reach _____ km/h.

Complete the paragraph with the correct verbs to describe a process.

appears	bends	go	passes	separates	try
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24. At the end of a rainstorm, the sun _____ from behind the clouds. As the sunlight _____ through the raindrops, it _____.
- Then the white light _____ into the many colors of the rainbow. When this happens, many people _____ outside and _____ to take pictures of the rainbow to post on social media!

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Match the descriptions with the correct sequence words or phrases.

- | | | | |
|---|---|---|---------------|
| 25. indicates the beginning of a process | ● | ● | a. During |
| 26. shows the steps that follow | ● | ● | b. Eventually |
| 27. shows actions that happen at the same time | ● | ● | c. As soon as |
| 28. describes an event that happens just before another event | ● | ● | d. After that |
| 29. indicates the final step | ● | ● | e. Initially |

Complete the paragraph with the correct sequence words or phrases. Two are extra.

at the same time	finally	first	once	second	then	while
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30. How does a plant “eat”? _____, a plant absorbs sunlight and carbon dioxide (CO₂) through its leaves. _____, it is also absorbing water from the ground through its roots. _____ the plant has absorbed sunlight, water, and carbon dioxide, it processes them into sugar and oxygen. _____ the plant releases oxygen into the air. _____, it uses the sugar for energy to grow.

You are going to write a paragraph on one of the following topics.

31. **Discuss your experiences with one of these three topics.**

Topic 1: Describe what happens each year during a particular season, or the changing of seasons, in a place you have lived.

Topic 2: Describe what happens during a particular type of storm or weather event that happens in your area.

Topic 3: Describe any other process you are familiar with, such as how to write a good research paper.

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A. OUTLINE Plan an outline for your paragraph.

Include notes for a topic sentence and at least four steps in the process.

B. Think of some words and phrases you can use in your paragraph. Write them in the box.

The words and phrases below can be useful when writing about a process.

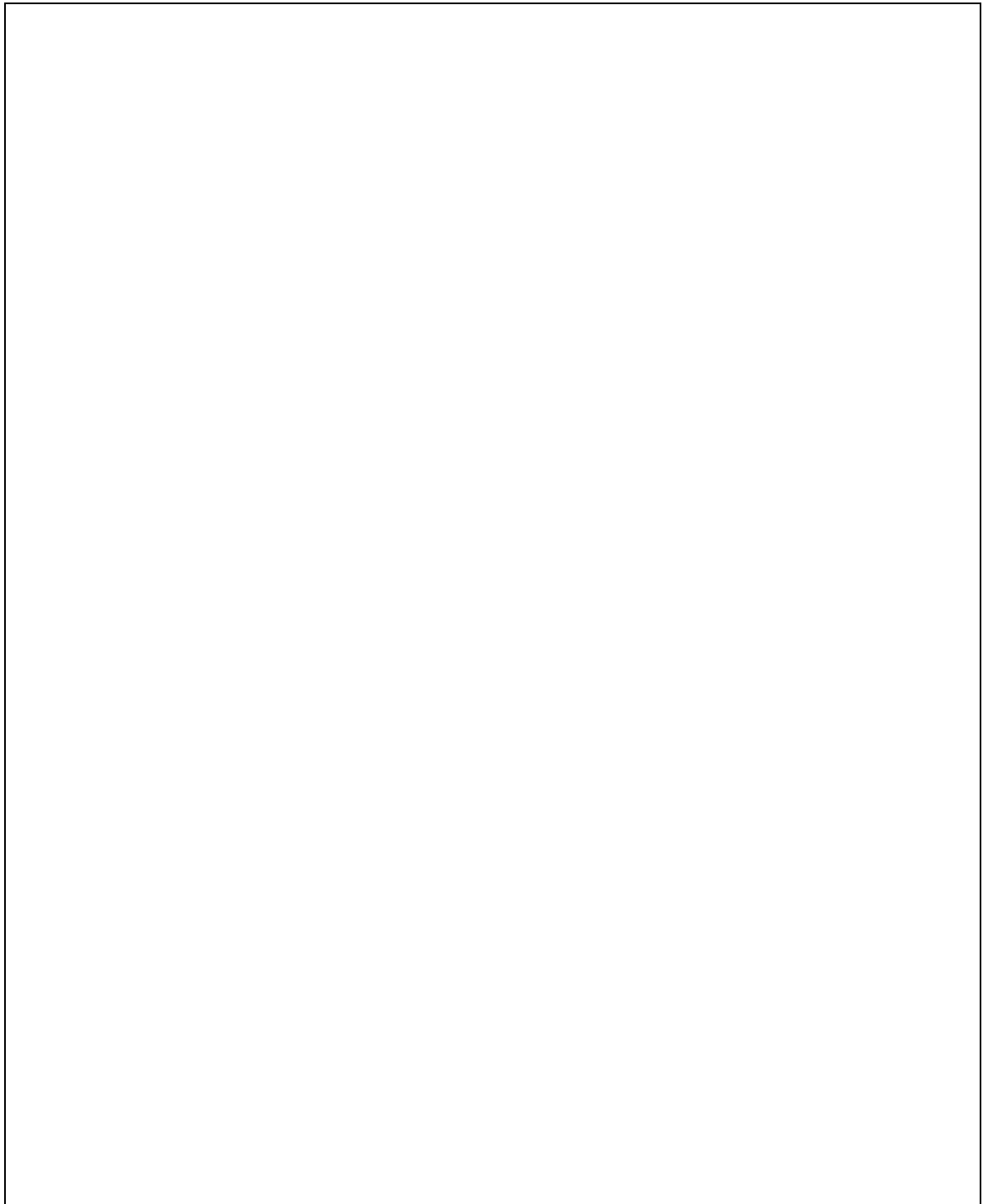
- | | |
|--------------------------|-----------------------------|
| • <i>After that, ...</i> | • <i>Next, ...</i> |
| • <i>frequently</i> | • <i>To begin with, ...</i> |
| • <i>Last, ...</i> | • <i>while</i> |

C. Write your paragraph based on your outline. Use the model to help you. Remember to use the vocabulary you wrote down.

Model:

The monarch butterfly has a life cycle that is different from that of most other insects. First, a monarch butterfly lays its eggs on a milkweed plant. After about four days, the eggs hatch into baby caterpillars. As soon as they are born, the caterpillars eat the milkweed in order to grow. When they are fully grown, they start the pupa stage. Each caterpillar attaches itself to a stem or a leaf and hangs upside down. It forms a chrysalis—a protective shell—around its body. Once it is in this chrysalis, its body begins to change. It grows wings, legs, and other parts of a butterfly. This transformation is called a metamorphosis. After the metamorphosis, an adult butterfly flies out of the chrysalis and looks for a mate. This starts the cycle all over again.

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(12 points)