

READ THE PASSAGE Think about the main idea of each paragraph.

Hidden Cities Beneath Our Feet

In big cities, people dig all the time. Construction workers dig to make foundations for new buildings and homes. Utility companies dig to access broken water pipes or bad electrical wires. City governments dig to make the land more usable. Often while digging, people find items from the past, such as old shoes, bottles, or plates. Although these items can be interesting, they are usually not extraordinary.

In 1978, electric company workers in Mexico City, Mexico, made an amazing discovery. They were digging in the middle of the city when they uncovered a monumental carved stone disk that was 500 years old. The object weighed more than eight tons and showed the image of the striking Aztec moon goddess, Coyolxauhqui.

As surprising as the discovery was, it was only the beginning. The disk turned out to be one small part of the ruins of the ancient capital of the Aztec empire, Tenochtitlan. Historians knew that Tenochtitlan had been destroyed in 1521 when Spanish conquerors tore down buildings and began to build new structures on top of the ruins. But no one knew exactly where the ruins were, nor how much still existed. Despite years of searching, the ancient city's location remained a mystery until those lucky electricians unearthed the first huge clue.

After the discovery of the carved disk, workers uncovered more remains of the city, including a large pyramid-shaped temple that was a ceremonial center of Tenochtitlan. Today, visitors to Mexico City can tour the original site and visit the Templo Mayor Museum. The museum has eight halls featuring thousands of objects that have been excavated, or dug up, from beneath the modern city. This vast treasure includes shells, carved figures, skeletons, ceramics, mosaics, weapons, and statues.

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

- The first paragraph is mostly about _____.
 - tools used by ancient Aztecs
 - how workers find old objects
 - the unexpected discovery of a stone disk
 - how scientists learn about other cultures
- Why were historians surprised to find the ruins of Tenochtitlan?
 - They thought the ruins had been completely destroyed.
 - They believed the city was buried much deeper underground.
 - They thought the ruins were somewhere else.
 - They had never known where the city was located.
- Which detail best supports the idea that the ruins of Tenochtitlan are a "vast treasure"?
 - The stone disk weighed more than eight tons.
 - Tenochtitlan had been destroyed in 1521.
 - The temple was shaped like a pyramid.
 - Thousands of ancient objects were discovered.
- Which of these statements best tells the main idea of the passage?
 - Tenochtitlan was destroyed in 1521.
 - Many people visit Mexico City to see the ruins of the Aztec people.
 - Construction workers helped Mexico City discover its ancient past.
 - Coyolxauhqui was an Aztec moon goddess who is represented on an ancient stone disk.

STRATEGY PRACTICE Underline any parts you did not understand. Reread only those parts.

READ THE PASSAGE Look for good details in the passage that help you picture submarines.

Submarine Basics

Submarines are boats that are designed to operate and travel underwater. Because they are full of air, like a balloon, submarines do not sink. The air makes them less dense than the water around them. Many kinds of boats use "ballast," which is any material that adds weight to make the boat more stable. Ballast can be anything from metal plates to rocks, but submarines use water to make them dense enough to dive deep into the ocean.

In order to store the water it takes in, a submarine has large ballast tanks, which can hold different amounts of water. To make the submarine dive, special operators pump water into the ballast tanks. Once the controllers have pumped in enough water, the submarine can begin its journey into the ocean depths. The speed at which the submarine dives is partially controlled by how quickly the ballast tanks take in water.

When the submarine is underwater, operators maintain a steady depth by pumping some air back into the ballast tanks. In this state, known as "neutral buoyancy," a submarine can travel around without rising or falling. In order to move through water, the submarine has propellers. The propellers are curved in such a way that they push water forward or backward depending on which way the propellers are spinning. The faster the propellers spin, the faster the submarine will travel. Navigators use special equipment that helps pilots steer submarines safely in dark or murky waters.

To return the submarine to the surface, air is pumped into the ballast tanks, which pushes all of the water out. As the amount of ballast in the submarine decreases, the craft once again becomes less dense and begins to rise.

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

- What is the passage mostly about?
 - ocean density and buoyancy
 - how to navigate a submarine
 - different kinds of ballast
 - how submarines operate
- Which of the following is an example of using water as ballast?
 - spinning propellers to move forward
 - pumping in water to become more dense
 - navigating through underwater obstacles
 - measuring the density of ocean water
- A submarine can sink when it _____.
 - is denser than ocean water
 - is navigating through dark water
 - turns on its propellers
 - is pumped full of air
- When a submarine is at "neutral buoyancy," it _____.
 - pumps air to rise to the surface
 - stays at the same depth underwater
 - adds water to become faster
 - is easy to navigate through the dark

STRATEGY PRACTICE Visualize what you read about. On a separate sheet of paper, sketch a submarine, including its ballast tanks.

READ THE PASSAGE Pay attention to the order of events in the passage.

Running Late

Natasha ran as fast as she could to the tennis courts. The yearbook meeting had run long, and practice was already starting. Coach Parks made the players who showed up late collect all the tennis balls after practice was over. "Great," Natasha thought as she tightened the laces on her tennis shoes, "that means I'll be late for my guitar lesson." The day had been a blur of activities, classes, clubs, and projects. Natasha felt sure there was something she was forgetting.

When practice was over, Natasha raced around the court, scooping the fuzzy yellow tennis balls into a large plastic bucket. Her mind was already working on the apology for her guitar teacher, Mr. Takanawa, when she heard the familiar honk of her mother's car horn.

Natasha returned the balls and bucket to the equipment room and hopped in the front seat. "Do you think Mr. Takanawa will be upset that I'm late?"

"We moved your guitar lesson to next Monday," Mom said, smiling. "Did you forget what day it is today, sweetie?"

Natasha thought back carefully. "Well, yesterday was science club and swim practice, and tomorrow is dance class and then volunteer time at the library, so that means today is Wednesday. I didn't forget."

"You're right, it is Wednesday. Wednesday the 18th. Which means . . ."

Natasha's face flushed bright red. "Oh no! How could I forget my own birthday dinner? Well, at least this means I won't have to apologize to Mr. Takanawa for being late!"

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

1. According to the passage, when does Natasha usually have guitar lessons?
 - (A) Tuesday, after swim practice
 - (B) Wednesday, before yearbook club
 - (C) Wednesday, after tennis practice
 - (D) Tuesday, before science club
2. Which of Natasha's activities happens latest in the week?
 - (A) guitar lesson
 - (B) dance class
 - (C) tennis practice
 - (D) volunteer time at the library
3. Which event caused Natasha to be late for tennis practice?
 - (A) a canceled guitar lesson
 - (B) a long yearbook meeting
 - (C) cleaning up the tennis equipment
 - (D) attending her birthday dinner
4. On which day of the week does Natasha have the most activities?
 - (A) Monday
 - (B) Tuesday
 - (C) Wednesday
 - (D) Thursday

STRATEGY PRACTICE On a separate sheet of paper, make a chart of Natasha's weekly schedule. Then compare your chart to a partner's.

READ THE PASSAGE As you read, visualize each step the author gives for surviving a bear attack.

How to Survive a Bear Attack

Thousands of nature lovers see black bears and grizzly bears each year, and most walk away with exciting memories and photographs. But for the unlucky few, bear encounters can lead to serious injury or death. If you come upon a bear in its natural setting, your first instinct may be to panic. But staying safe depends on acting carefully and calmly.

There are many theories about how a person should react when faced with a giant bear. Some people would suggest running away, but bears can run much faster than humans can. Others say a person should drop to the ground, curl up, and play dead. That turns out to be good advice in some situations but not in others. It is best to be as educated as possible about different bear behaviors before you head into the wild.

If a bear is coming toward you, you must first determine if the bear attack is defensive (such as when defending cubs) or predatory (such as when hunting). Black bears and grizzly bears tend to attack for different reasons. Most grizzly bear attacks are defensive. When a bear is defensive, it is feeling threatened. Dropping to the ground is an effective way to show the bear that you are not a threat.

Black bears do not often challenge humans, but when they do, their attacks are usually predatory. Bears do not feel threatened when they are hunting, so playing dead will not help you stay safe. During a predatory bear attack, the first thing you should do is drop any food you have and back away. If the bear still comes toward you, make as much noise as possible by shouting and banging objects. Your own aggressive behavior can convince the bear to back down. You can also use pepper spray during a bear attack. Always bring it with you in the wild, and have it ready to use immediately.

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

- If a bear is coming toward you, the first thing you need to do is determine _____.
 - whether you have pepper spray
 - how far away the bear is
 - if the attack is defensive or predatory
 - where the nearest hiding place is
- At what point is it a good idea to drop down and play dead?
 - after determining that the bear is defensive
 - at the first sign that a bear is nearby
 - after trying to run away
 - before making noise
- What should you do before hiking in an area where you might encounter bears?
 - learn to identify black bears and grizzly bears
 - practice dropping to the ground and playing dead
 - act aggressively, making loud noises
 - train yourself to run very quickly
- During a predatory bear attack, you should make loud noises _____.
 - while looking for pepper spray
 - before dropping down and playing dead
 - while running for safety
 - after dropping any food you have

STRATEGY PRACTICE Write three details from the passage that were easy for you to visualize.

READ THE PASSAGE Think about the order of steps used to create stop-motion animation.

Stop-Motion Animation

Stop-motion animation uses multiple photos of real objects to create the appearance of movement. To make your own stop-motion movie, you will need a digital camera, a tripod (camera stand), one or more background sets, editing software, and your story's characters. Your characters can be anything you can move: action figures, stuffed animals, or clay creatures of your own design.

First, place your camera on a tripod to keep the camera still. Even though you are creating the illusion of movement, the camera should not move at all. With the camera in place, set up your first background set.

You will take about 10 pictures for each second of your animation. Think about the movements you want to create and the story you want to tell. To begin shooting, place your character and take a picture. Then move the character a small amount and snap another picture. Keep repeating this process, and you will have a series of photos that you can upload into your editing software. Remember that the speed your characters move during the animation will be determined by how much you moved them in between photos. For example, if you want a character to walk from one side of the screen to the other in two seconds, you will need to break the movement into 20 pictures.

When you are editing your movie, you can add dialogue, sound effects, and music. You can also add titles and special effects, such as zooming in on a character. When you have finished, you can share your masterpiece with the world.

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

- The passage is mostly about _____.
 - the history of stop-motion animation
 - how to use movie-editing software
 - using the movie setting on a digital camera
 - how to make a stop-motion movie
- To make a stop-motion movie, which of the following should you do first?
 - move your character a small amount
 - put your camera on a tripod
 - upload photos into editing software
 - add special effects
- What should you *always* try to do while taking the pictures?
 - use action figures
 - add music and special effects
 - keep the camera from moving
 - zoom in on characters
- One of the final steps in making a stop-motion movie is adding _____.
 - a title
 - movement
 - characters
 - a background

STRATEGY PRACTICE Did you understand the directions for making a stop-motion movie? Why or why not?

