Directions:

**Daily Directions**

1. Read each passage.
2. Complete the following comprehension questions.
3. Students should complete approximately 5-6 pages per day.

**Note**- The work increases difficulty throughout the week.

Contact Information:

**Teacher Contact Information**

**School Contact Information**
How Do Plants Carry Out Life Processes?

Plants are living things. They are made of cells. They carry out life processes. One thing makes most plants different from animals. Plants have special parts to make their own food. They have special parts to carry out other life processes.

The main parts of a plant are the roots, the stem, and the leaves. The root takes in water and materials from the ground. The stem carries water and nutrients to and from the roots and leaves. A leaf uses sunlight and air to help the plant make food. The parts work together to carry out life processes.

Comparing Plant Parts

Plants can be sorted into groups. When scientists sort things into groups, they are classifying them. Plants can be classified by their parts. For example, plants with the same kinds of leaves or roots can be grouped together.
Some plants have thick leaves. Some plants have broad leaves. Some plants have needle-like leaves. Thick leaves help the plant store water. Needle-like leaves help a plant live where it is cold and dry.

Plants can be grouped by the kinds of roots they have. Some plants have one large, main root called a taproot. Others have roots that branch out. These roots are called fibrous roots. Fibrous roots can gather water from a wide area. Roots also help hold soil together and prevent it from being washed away.

Plants have different kinds of stems. Some stems are woody, like tree trunks. Plants with woody stems can survive cold weather. Other plants have soft stems. Plants with soft stems usually cannot survive cold weather.

Some plants have very thick stems, such as cactuses. Thick stems help store water. This helps cactuses survive long periods without rain.

**How Plants Make Food**

The way plants make food is called photosynthesis. This often takes place in a plant’s leaves. Most leaf cells have special parts called chloroplasts. Chloroplasts have chlorophyll inside. Chlorophyll is a green material that can trap energy from sunlight. It also gives leaves their green color.

Leaves take in carbon dioxide from the air. Roots take in water. Water goes to the leaves through the stem. In the chloroplasts, carbon dioxide and water are changed into food. Oxygen is also made. It is released into the air and is used by both plants and animals.
How Do Plants Carry Out Life Processes?

Label each part of the plant on the diagram below.

1. 
2. 
3. 
4. 

Write answers to the questions on the lines below.

5. What are three ways that plants can be classified?

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

6. What are the two types of root systems?

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

7. What is photosynthesis?

_________________________________________________________________
8. **Main Idea** How do roots help plants meet their needs?

9. **Vocabulary** What is *chlorophyll*?

10. **Reading Skill: Classify** Two bushes each have woody stems. What other features could you use to classify the bushes?

11. **Critical Thinking: Analyze** If a plant does not get any sunlight, which life process can it no longer carry out?

12. **Inquiry Skill: Use Numbers** The data shows the height of bean plants given different amounts of light and water: Plant A, extra light, 10 cm; Plant B, extra water, 7 cm; Plant C, normal light and water, 6 cm. Which factor affected plant growth the most?

13. **Test Prep** What do stems do?
   - A carry water
   - B carry seeds
   - C make chlorophyll
   - D release oxygen into the air
How Do Animals Use Their Senses?

Have you ever seen a dog start sniffing the ground? Sometimes dogs catch the scent of other animals in the grass. Sometimes they even smell themselves on the ground. This sniffing behavior is instinctual. When something is instinctual, it comes naturally. Dogs have been sniffing since they first appeared on Earth. When they engage in sniffing behavior, they are using their sense of smell.

Responding to Senses

People and animals have five major senses: sight, hearing, touch, taste, and smell. A sense is a way that the brain receives information about the outside world. Senses also help the brains of people and animals receive information about their bodies. For example, senses tell us when we are in pain. Senses also tell animals when an enemy is coming.

Both human and animal bodies are made up of many sensory receptors. A sensory receptor is a specialized nerve cell that sends messages to the brain. The nerve cell responds to a stimulus from both inside and outside of an organism. A stimulus is something that causes a change in behavior to occur. Hunger is an internal stimulus. It makes an animal look for food. The sound of a baby bird crying would be an external stimulus. It tells the baby’s mother that she needs to take care of the baby. External stimuli are those that we can hear, see, touch, taste, and smell.
Learned Versus Instinctual Behaviors

When the brain receives information from sensory receptors, it processes the information and figures out the best way to respond. The response that results is usually some kind of behavior. There are two types of behaviors. They are learned behaviors and instinctual behaviors. Remember, instinctual behavior is not taught. It comes naturally. A spider instinctually knows how to build a web, and birds know to fly to a warmer climate for the winter. Animals know that when they hear a predator, they must run away or prepare to fight. With instinctual behaviors, the response is automatic. Animals do not even have to think about how to act when certain stimuli occur. Their brains just rapidly process the information and immediately trigger a response.

Learned behaviors result from experience. With learned behaviors, animals rely on their memories and perceptions. Memories are pieces of information stored in the brain, while perceptions are the things seen, heard, tasted, smelled, or felt with the senses.

Humans teach dogs to sit and roll over on command. They usually do this by giving dogs treats and praise. When dogs hear humans say commands, they remember that responding in a certain way will result in rewards. So dogs respond to these stimuli with the behaviors they learned. Their memories directly affect their responses.

Like humans, animals repeat behaviors that have good consequences. They avoid behaviors that have bad consequences. Some birds approach people when they see and hear them. These birds have probably been fed by people before and expect to be fed again. Other birds might stay far away from people. They probably have had a negative experience with human beings.
How Do Animals Use Their Senses?

Identify whether each behavior listed below is instinctual or learned. Write an I for instinctual behaviors and an L for learned ones.

___ 1. Sea turtles move toward the ocean after they hatch.
___ 2. A rattlesnake rattles its tail as a warning.
___ 3. A dog shakes its fur after getting wet.
___ 4. A baby duck figures out how to avoid danger by watching its mother.
___ 5. A dog stays on command.

Fill in the blanks.

6. A sense helps the brain receive ______________________ about the outside world.

7. A ______________________ is a specialized nerve cell that sends messages to the brain.

8. A ______________________ is something that causes a change in behavior to occur.

9. ______________________ stimuli are those that we can hear, see, touch, taste, and smell.
10. **Main Idea**  How do an animal’s sensory receptors work?

11. **Vocabulary**  Write a sentence using the words *memories* and *perceptions*.

12. **Reading Skill: Compare and Contrast**  How are internal and external stimuli the same? How are they different?

13. **Critical Thinking: Infer**  When groups of animals stampede, they all take off running at the same time. What kinds of stimuli might cause a herd of cattle to start a stampede?

14. **Inquiry Skill: Observe**  Watch your pet or another animal for thirty minutes. Record the behaviors you see. Then identify whether they are instinctual or learned.

15. **Test Prep**  An instinctual behavior
   
   A results from experience.
   
   B comes naturally.
   
   C can be learned from parents.
   
   D is affected by memory.
How Are Organisms Adapted to Survive?

Different plants and animals live in different environments. The place where a plant or animal lives is called its habitat. The habitat of a dolphin is the ocean. The habitat of a cactus is the desert.

Sometimes, plants and animals change over time to help them survive in a habitat. These changes are called adaptations. An adaptation can be a physical feature or a behavior. The webbed feet of a duck are an adaptation that is a physical feature. Hunting at night is an adaptation that is a behavior.

The role a plant or animal plays in its environment is called its niche. A niche includes the kind of food a living thing uses. An opossum’s niche includes eating berries at night. Many living things can share a habitat. However, each has its own niche.

Camouflage

Some animals hide by looking like what is around them. These animals have an adaptation called camouflage. Camouflage is the coloring or marking of an animal that helps it look like what is around it. Camouflage can help both predators and prey.

The color and spots of a young deer’s fur help the deer look like its forest habitat. Predators have a hard time seeing it.

An arctic fox is a predator that uses camouflage. Its fur looks like what is around it. Its prey does not see the fox.
Color and Mimicry

Some animals have bright colors. Other animals can see them easily. This adaptation is called warning coloration. The blue poison dart frog stands out. Its bright color warns predators that it is poisonous.

Some animals protect themselves by using mimicry. Mimicry is an adaptation where an animal looks like another animal or a plant. Many insects use mimicry. The South American owl butterfly has large spots on its wings. The spots look like the eyes of an owl. These spots scare away birds that might eat the butterfly.

Behavior

Behavior can help a predator as it hunts. Wolves and other animals hunt in groups. The group surrounds the prey so it cannot escape. Behavior also helps prey survive. Rabbits run in a zig-zag pattern. This behavior can help them escape from predators.

Some animals, such as bats, frogs, and chipmunks, have an adaptation that helps them survive winter. They hibernate, or go into a deep sleep, during which they use very little energy. This behavior helps the animals get through long, cold winters.
How Are Organisms Adapted to Survive?

Fill in the blanks using the terms *mimicry*, *camouflage*, and *behavior*.

1. ___________ A kangaroo rat stays in its burrow to avoid the heat.
2. ___________ An arctic fox has fur that turns white in winter.
3. ___________ A South American owl butterfly has spots that look like an owl’s eyes.
4. ___________ A rabbit runs in a zig-zag to escape a predator.
5. ___________ The color and spots of a young deer help it look like its habitat.
6. ___________ An archer fish shoots a jet of water at insects to knock them into the water.
7. ___________ Wolves hunt in packs so they can surround their prey.
8. Main Idea  Explain why it is important for plants and animals to be adapted to their environment.

9. Vocabulary  What is a niche?

10. Reading Skill: Problem-Solution  How does hibernation help frogs survive the winter?

11. Critical Thinking: Apply  Some katydids look like the leaves they live on. What might happen to a katydid in the fall when the leaves change color?

12. Inquiry Skill: Observe  What features of an insect would you look at to determine what adaptations the insect has?

13. Test Prep  Hawks are birds that hunt small animals. A hawk would most likely have feet with
   A  webs.
   B  large claws.
   C  small toes.
   D  no claws.
What Are Some Properties of Light?

Electromagnetic Waves

Mechanical waves, such as sound waves, can only pass through matter, such as air or water. Electromagnetic waves can travel through a vacuum as well as matter. Electromagnetic waves include gamma rays, x-rays, ultraviolet rays, visible light, infrared rays, microwaves, and radio waves. These waves fall along the electromagnetic spectrum from shorter wavelengths to longer wavelengths.

Visible light is electromagnetic radiation that people can see. It is in the middle of the spectrum and can be split into different colors.

The sun and other stars give off all the wavelengths of electromagnetic waves. Some of these waves are harmful to life on Earth, but Earth’s atmosphere blocks many of them.

Ultraviolet radiation in sunlight does reach Earth’s surface. This radiation can burn your skin and cause skin cancer. Wearing sunscreen helps protect against this radiation.

Reflection

Electromagnetic waves act in different ways when they hit different materials. Sometimes the waves are absorbed and changed into thermal energy. Other wavelengths are reflected. Reflection occurs when a wave bounces off a surface. Light reflecting from objects is what makes them visible.

A mirror is coated with metal that reflects almost all light that shines on it. When you look at a mirror, you see all the different wavelengths of light reflected. It is almost like looking at the object itself.

Light waves move at different speeds through different mediums. When light waves pass from one medium into another, they often change speed. As it changes speed, light refracts, or bends.
Refraction

Refraction takes place when the path of a light wave changes as it moves from one medium to another. For example, look at the picture of the pencil in the glass. The pencil appears to be broken, but it is not. Light travels at different speeds through water, glass, and air. The light waves refract, or bend, as they pass through each medium, so images can appear bent or broken.

How can refraction be put to good use? Tools that refract light include eyeglasses, contact lenses, cameras, microscopes, and telescopes.

All these tools use lenses. A lens is a curved piece of clear material that refracts light in a controlled way. It refracts light to create useful images. A convex lens is thicker at the center than at its edges. It bends light rays toward one another. A concave lens is thinner at its center. It bends light rays away from one another.

Your eyes have lenses to help them see. In an eye that sees perfectly, the lens focuses images onto a part called the retina. If an image forms just in front of or behind the retina, vision is blurry. Glasses or contact lenses correct vision. They bend light rays just enough to focus the image correctly.

By combining convex and concave lenses in different ways, people can make many different tools. For example, many telescopes use two convex lenses to make faraway objects look larger. Microscopes use lenses to make small objects appear larger.

Fiber Optics

Reflection of light makes the use of fiber optics possible. In fiber optics, special fibers carry light waves along a cable that bends. The development of fiber optics has made it easier to communicate over the telephone and the Internet.
What Are Some Properties of Light?

Write answers to the questions on the lines below.

1. What determines where electromagnetic waves fall on the electromagnetic spectrum?

2. Give three examples of electromagnetic waves.

3. What is visible light?

4. What electromagnetic wave can damage the skin?

5. Give three examples of tools that use refracted light.

6. What is a lens?
7. **Main Idea** How are electromagnetic waves different from mechanical waves?

8. **Vocabulary** Write a sentence about light using the terms *reflection* and *refraction*.

9. **Reading Skill: Cause and Effect** What causes light to refract? Give an example from everyday life.

10. **Critical Thinking: Apply** What might cause an overhead projector image to be out of focus? How might you correct the problem?

11. **Inquiry Skill: Analyze Data** On the electromagnetic spectrum, electromagnetic waves appear from left to right, from shorter wavelengths to longer wavelengths. Based on the diagram data in the reading, which electromagnetic waves have the longest wavelength?

12. **Test Prep** Electromagnetic waves differ from mechanical waves in that they
   
   A can be reflected.
   
   B contain less energy.
   
   C can travel through a vacuum.
   
   D can travel through matter.
Chapter 3
Structure and Processes of Organisms

**Standards Covered:** 4-PS4-2, 4-LS1-1, 4-LS1-2

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<td>1. What role has adaptation played in animals developing internal and external structures?</td>
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<td>2. How has animal eye development helped in survival?</td>
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<td>3. How have plants adapted to ensure survival?</td>
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**Animal Structures and Processes**

To eat, survive, and reproduce, animals have developed advanced senses. They use their senses to process information about their environment. These structures work differently for each animal. In this chapter, we look at how they work.

**Adaptation**

An adaptation is anything which helps an organism survive. Adaptations take a long time to develop. Change in the appearance of an organism happens over a very long period of time. For example, eagles have talons (claws) to catch fish. How did they get these talons? A long time ago, birds started eating fish to survive. Fish are slippery. Birds needed sturdy feet and claws to catch and hold onto fish. Birds with the strongest feet caught more fish than birds with weak feet. They lived a long time, raising many children. Their children had the feature of strong feet. Over time, the adaptation for strong feet, called talons, developed.

![Adaptations for eating fish](image1)

![Adaptations for catching fish](image2)

*Figure 3.1 Eagle Adaptations*

What happened to the fish-eating birds with weak feet? They did not survive and did not have children. Their traits were not passed on to their offspring. Sometimes adaptations are the way organisms look, or their external structures. Other times adaptations are the way living things behave (act) and their internal structures. For example, there is less food for bears in winter. Bears that could rest through the winter were more likely to live, causing bears to develop the adaptation of hibernation.
External Features

Changes in habitat and evolution caused animals to adapt certain processes and external features. Let us look at some examples. Webbed feet, like on a duck, help the animal move through the water. The webbed feet also help ducks swim more quickly to catch prey. Sharp beaks, like the ones eagles have, are another external feature giving animals an advantage. Sharp beaks make it easier to catch prey and eat it. Having a sharp beak helps the animal defend itself. Animals which evolved wings gained multiple benefits. Birds travel great distances because of their wings. They also can escape ground predators with their wings. There are some birds which can fly at speeds up to 60 miles per hour. Wings serve an added purpose for specific bird species. For penguins, their wings help them swim faster in water. Penguins have wings but cannot fly, so their wings had to adapt to different conditions.

The covering on an animals is another survival method and reproductive process. The environment impacted their evolution. For example, tigers living in the jungles developed stripes. The stripes hid them in the trees from their predators.

Additionally, the stripes help them sneak up on other animals. The spots on leopards and cheetahs serve the same purpose. Some external structures are mainly to attract mates. A male peacock’s feathers are brightly colored to attract female peacocks. The female peacocks, called peahens, do not have bright feathers. The peahens need the dull colored feathers to hide and protect their nests. Body coverings are a survival feature, too. Scales protect fish and reptiles. The scales on alligators, crocodiles, and snakes defend them from harm. The scales also help them regulate body temperature. Did you know some animals can change colors when they sense predators? There are species of chameleons, fish, and frogs which can change color to blend in with their surroundings.

Animals are not the only ones who develop external structures. Plants are very adaptive to their environment. Plants develop brightly colored flowers to attract pollinators like bees, hummingbirds, and butterflies. Pollinators visit flowers and move the pollen to other flowers. It is how flowers and plants reproduce. Many plants develop features to defend themselves, too. Thorns keep animals from eating plants. Some plants give off bad smells to keep predators away.
All in the Eyes

The evolution of eyesight is one of the most beneficial features for animals. Light enters the eye and passes through. When light reflects off an object, the eyes receive information, like whether something is light or dark and what colors are present. Some animals rely on their eyesight more than others. Eagles rely heavily on their vision. Eagle eyes are exceptionally sharp. Eagles see fish in the water from hundreds of feet above. Eagle eyes are 4 to 8 times stronger than a human eye.

Cats are also animals with exceptional eyesight. Cats see very well in the dark. Their eyes only need about 15% of light a human would need to see an object. The cat’s pupils control the amount of light they receive. Their excellent eyesight helps them see prey in the dark. Their eyes can also track fast-moving objects better than humans. It is why cats are so good at catching mice.
Prey animals also developed superior eyesight to help them survive. Their pupils are horizontal to give the animals a wide range of vision. Their eyes also rotate differently than the eyes of other species. They do not have to turn their heads to see. When deer eat grass, their eyes can look in different directions at the same time. Combined with their horizontal pupil, this adaptation allows them to detect predators more easily.

**Animal Behaviors**

Animals have developed diverse types of behaviors to survive and reproduce. These behaviors allow them to thrive. One famous instance of adapted behavior is bird migration. Birds like geese fly from the cold, northern climates in the winter to the warmer climates of the south. Each year the birds make the journey south. Because of their migration, birds find food in winter. In an earlier section, we mentioned bears hibernating. Bears hibernate to survive the winter. They eat an excess of food in the fall which gives them energy throughout their hibernation.

Some behaviors are for hunting and defense against predators. The **predator-prey cycle** causes many of these adaptations. Predators develop behaviors to catch more prey. Jaguars hunt at night when many animals are asleep. They also do not roar like other large cats. This helps them stalk their prey. Some creatures set traps for their prey. Spiders weave webs to catch prey. The webs are sticky, which causes the prey to remain in the web. Prey developed behaviors to protect themselves, too. When a skunk is threatened, it will spray a stinky chemical all over the predator. Some animals will play dead to deter predators. Animals like the zebra will herd together for protection. A large group of animals is harder to catch than a single animal.

Many of the animals who live around people, like raccoons, opossums, bobcats, and foxes, are **nocturnal**. Nocturnal means are active at night. Because these animals look for food at night, people do not see them very often. Being nocturnal is a behavioral adaptation.

Some animals mimic other things. A mimic is something which looks like something else but isn't. The adaptation is called **mimicry**. Stick bugs mimic tree twigs so predators who are looking for a tasty bug will think they are a plant. Some mimics look like other harmful animals to scare off predators. The Scarlet Kingsnake also lives in the southeast. It has black, red, and yellow stripes like the dangerous Coral Snake. But it is non-venomous. It does not bite.

Some butterflies have "eye spots" on their wings. These spots or markings look like the eyes of animals.

Animals and insects also develop social behaviors. Social behaviors are good for mating and protection. Bees live in large colonies. Bees divide into groups and perform jobs in the hive. The queen rules over the other bees. The worker bees make the honeycombs, clean the hive, and watch out for the young bees. Dr. bee bees mate with the queen. Their social structure helps bees survive.
Some animals have adapted dancing as social behavior. Certain male species of animals dance to attract mates. For example, male flamingos will group together and dance. They will stretch their necks and their heads back and forth. Male Adelie penguins will gather rocks and present them to the female. If the female likes the male, she will use the rocks to line her nest. She will also make him her mate. The most successful animals using these behaviors guarantee their species’ survival.

Plants also display behaviors. Some trees survive the winter by shedding (losing) their leaves. They are called deciduous trees. If the leaves remained on the trees through the winter, they would freeze and die on the tree, and there would be no new leaves in the spring. Pine trees and other conifers (evergreen trees with needles and cones) can also be found in the mountains. They do not need to shed their needles because the needles have a thick “skin” or waxy coating (called a cuticle) that helps to protect them from freezing. This adaptation helps conifers survive when it is windy and cold in the mountains. The cuticle also helps conifers live through drought (lack of rain). Some plants eat insects. Venus flytraps and Pitcher plants lure flies into their specialized leaves and then eat them.

**Internal Structures**

The internal structures of plants and animals help them process the world. These structures also aid in survival, growth, and reproduction. The brains of animal species process the information they receive from other senses. The brain lets animals know when they are in danger or if something is not good to eat. Their sense of smell sends signals to the brain. Dogs recognize humans and other animals by smell. The “fight or flight” response happens when senses send danger signals to the brain. If a gazelle senses a lion, its brain will tell it to run or fight. Different internal systems are working. The animal’s heart beats faster. Its breathing becomes shallow. Although it may seem like a slow process, it all happens very fast.

Animals and humans have a **circulatory system**. The circulatory system sends blood throughout the body through a network of veins and arteries. The heart pumps the blood through the body. Blood exchanges carbon dioxide for oxygen in the body. When the heart pumps faster, like when an animal is in danger, it pumps more blood through the body. More blood means more oxygen for the animal to use for fight or flight.

The **digestive system** moves food through the stomach and intestines. Food passes through the esophagus into the stomach where it digests. The remains are passed through the intestines and finally exit the body as waste. Some animals have unique digestive systems. The cow has four stomachs for food to pass through. Each one further breaks down food before it is finally passed. Animals like pigs have one stomach for digestion.
The digestive system of chickens is entirely different. Chickens store their food in a special organ called a crop. The crop then pushes the food into the stomach and gizzard. The gizzard breaks down the food. Animals draw energy from the food they eat.

The **respiratory system** helps animals breathe. In the animal kingdom, there are three types of respiratory systems. Animals use either lungs, gills, or an outside exchange system. Birds, mammals, and reptiles use lungs to breathe. Fish use gills, which are openings on the sides of the fish. An integumentary or outside system is common on organisms like sponges and insects. There are openings in the body which filter gas and oxygen. Breathing is vital for bodily functions and an organism's survival.

The internal structures of plants are different from the internal structures of animals. Plants have two organ systems. There is the **shoot system** and the **root system**. The shoot system is above ground. The system includes the leaves, stems, flowers, and buds. The shoot system absorbs light and nutrients. The vascular system of the plant sends water and nutrients to the roots. The root system keeps the plant in the ground and absorbs nutrients. The roots also store nutrients. The nutrients help plants create cells. Plants can sense environmental conditions. For example, a sunflower will tilt in the direction of the sun. Plants will also grow in the direction of water and sound. The theory that plants grow better when you play music is not entirely a myth.
Objective: Learn how adaptations help animals survive.

Notes: Perry the Penguin is going on vacation to Africa. Research information about penguins (what they eat, where they live, how they survive).

Data: Write a story about what Perry needs to pack to survive while in Africa. You can even make a postcard from Perry describing his trip.

Summary: Now, write a similar story about your favorite animal.

Animal Sixth Sense

Animals have adapted to have better senses than humans. Animals can smell, hear, taste, touch, and see. Some of these senses are greater in some animals than in others. Dogs are a perfect example. Their noses are 100,000 times more powerful than the noses of humans. Dogs create odor profiles of people and other animals. They smell in 3D. Dogs are used to sniff out plants and other animals at airports. Dogs are also known to smell and detect certain diseases in humans. Hound dogs have the most powerful noses among dog breeds.

Figure 3.14 Beagle sniffing for food at airport

The deep pits between the nose and the eye on pit vipers allow them to see in infrared. Infrared is light waves invisible to the human eye. The pit viper sees this light spectrum at night. Its night vision determines the size and distance of the prey. This sixth sense makes it an excellent hunter.

Have you heard of homing pigeons? These pigeons are expert navigators. They contain iron structures in their beaks. Like a compass, the iron is attracted to the magnetic waves around the Earth. The homing pigeons, among other bird species, sense these magnetic waves. Their sense of direction is nearly perfect. Sharks can detect electric charges given off by other animals. The Hammerhead shark is extra sensitive to these waves. It can find prey easily in the water. A shark can sense one drop of blood in the water and scent blood a quarter of a mile away. Native to Europe and Asia is a species of fish called the Weatherfish. It’s known as the meteorologist of the sea. It can detect high and low-pressure systems (which cause weather). The air pressure affects the buoyancy of the water. This is what the fish senses. The fish swims more when a storm is coming as a warning to take cover.
Practice 1: Animal Structures and Processes

1. Bees and butterflies are
   A. predators.
   B. pollinators.
   C. prey.
   D. drones.

2. Christina sees a bird dancing with its feathers ruffled. What is the bird most likely doing?
   A. fighting a predator
   B. finding food
   C. attracting a mate
   D. sensing magnetic currents

3. A bug mimics a twig when it sits on a branch. What would be the main reason it does this?
   A. hiding from a predator
   B. attracting a mate
   C. finding food
   D. fighting predators

4. Which of the following is an example of an internal structure?
   A. fur
   B. lungs
   C. scales
   D. whiskers
Chapter 3 Key Term Activity

Fill in the blank with the correct word.

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<td>Nocturnal</td>
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<td>Adaptation</td>
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<tr>
<td>Internal</td>
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1. _____________ is what living things must do to survive. They develop 2. _____________ and 3. _____________ structures. For example, a fish developed gills to breathe underwater. Cats developed eyes which can see in the dark. A large factor in animal changes is the 4. _____________. To survive and catch food, living things had to change their behavior. Many animals became 5. ________________ so they could catch food at night.

Key terms are defined in the book’s glossary. Answers to Key Term Activities are found in the Teacher’s Guide.