

4<sup>th</sup> grade Science

Chapter 1-Animals

1. The body part of the warthog that enables it to dig up food is its **snout**.
2. When a parrot says its own name he is demonstrating a **learned behavior**.
3. The **four basic** needs of all living things and one way a bird might meet each of these needs.
  1. **Getting food-catching an insect or worm**
  2. **Getting water-drinking rain as it falls.**
  3. **Finding shelter-building nests.**
  4. **Maintaining body temperature-fluffing feathers to keep in body heat.**
4. If you had a pet hamster and salamander you would have to provide the following for both animals; **food, water, shelter, and the proper temperature.**
5. A savanna is a type of **environment**.
6. A circus dog doing tricks is showing **learned behaviors**.
7. An elephant's tusk is an **adaptation**.
8. A shivering cat is showing **instinctive behaviors**.

9. The crab spider can change colors to blend in with its surroundings. This adaptation will help it survive because it **protects the crab spider from its enemies because they may have trouble seeing it.**

**4<sup>th</sup> Grade**  
**Chapter 2**  
**Animal Study Guide**

1. A snake and alligator both have a **backbone and they breathe air.**
2. If you saw an earthworm on a sidewalk, you could correctly conclude that **it is heading toward a dark, moist area.**
3. Each bone that makes up a backbone is called a **vertebra.**
4. The hard **exoskeleton** of an arthropod protects it.
5. Feathery organs that fish use to breathe are called **gills.**
6. All kinds of living things are called **organisms.**
7. Animals without backbones are **invertebrates.**

## **Animals**

- feed on other organisms;
- reproduce by eggs or live birth;
- have structures for moving.

-many-celled;  
undergo  
respiration;  
need water;  
reproduce

## **Plants**

- make their own food;
- reproduce by seeds and spores;
- no structures for moving.

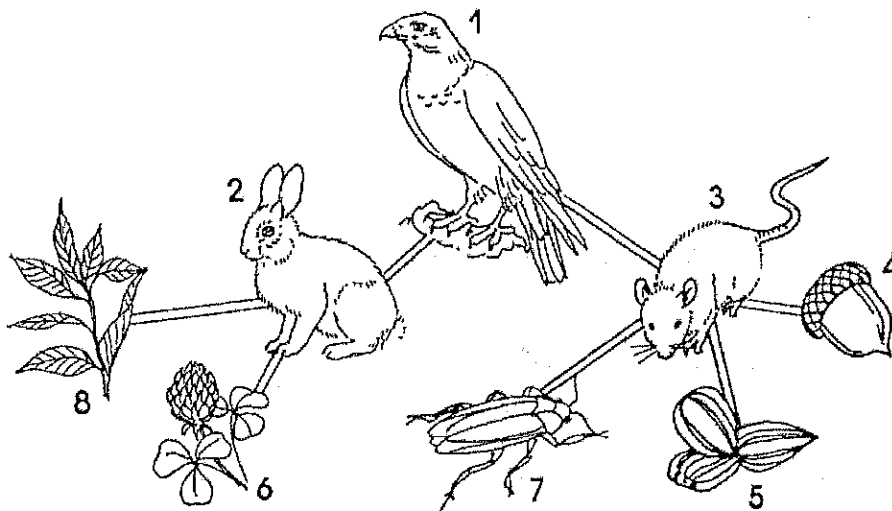
	Fish	Reptiles	Mammals
Type of Body Covering	scales	dry, scaly skin	fur (hair)
How it Breathes	gills	lungs	Lungs
How it maintains body temperature	Temperature of environment		maintains a constant body temp.

4<sup>th</sup> Grade Science  
Chapter 3 Study Guide

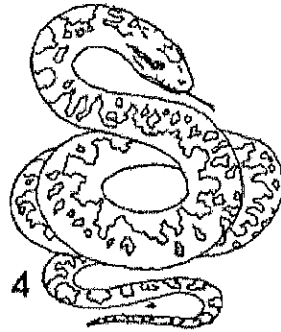
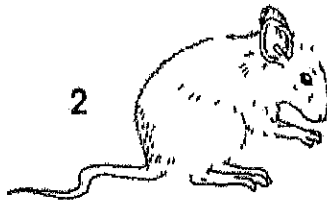
1. Green plants are called **producers** because they make their own food.
2. Every food chain begins with a **producer** that makes food using the sun's energy.
3. A **carnivore** is an animal that eats only other animals.
4. A food web shows **how all the animals in a community get their energy.**
5. Animals that eat both plants and other animals are **omnivores.**
6. Grass, a grasshopper, a **frog**, and a bass form one kind of a food chain.
7. A **food chain** is the path by which energy passes from one living thing to another.
8. All animals depend upon **green plants** for the energy they need to live.
9. The following statements are **FALSE**:
  1. **All green plants are consumers.**
  2. **Herbivores eat plants and other animals.**
  3. **The sun and an animal that eats other animals make up a food chain.**

10. How are a food chain and a food web alike? How are they different?  
A food chain shows the path of energy from the sun to a green plant to an animal and perhaps other animals that are its predators. A food web shows interlocked food chains that account for how all the animals in a community get energy. One kind of plant or animal in a food web often is eaten by more than one other animal, resulting in an overlap of food chains.

11. Why are both predators and prey consumers?  
Predators and prey are both consumers because neither can use the sun's energy to make food. No matter how low they occur on the food chain, both predators and prey must depend on producers, that is, green plants, for energy.



12. The hawk eats rabbit and mouse. (2 and 3)
13. The hawk, rabbit, and flower form a food chain. (1, 2, 6)
14. In this food web the seeds and green plants provide energy for the mouse, the rabbit, and the hawk.



15. Seeds, mouse, snake, and hawk ( 1,2,4,3) is the order of this food chain.



## Science

### Chapter 4 Study Guide

1. An **adaptation** is a body part or an activity that helps a living thing.
2. The roots of cactus plants **cover a large area and grow close to the top of the soil** to take in water when it rains in the desert.
3. A **migration** occurs when animals travel great distances during the winter.
4. Maple trees lose their leaves in the autumn to **prevent water loss and reduce the need for water in winter**.
5. Losing leaves in the autumn **helps a tree survive winter**.
6. A tendril is a structure that helps a plant **climb up toward the sunlight**.
7. Some animals that hibernate to survive the winter are **squirrels and brown bats**.
8. The word ***survives*** means to **stay alive**.
9. A long neck helps a giraffe to **reach food that grows high in trees**.
10. One kind of adaptation that makes an animal slippery and hard to hold are **scales**.
11. The following statements are **FALSE**:
  - a. **Pine trees lose a lot of water through their needles**.
  - b. **Orchids and Spanish moss are adapted to grow on other plants to get sunlight**.
  - c. **Hibernation is an n adaptation that causes an animal to travel a great distance in winter**.

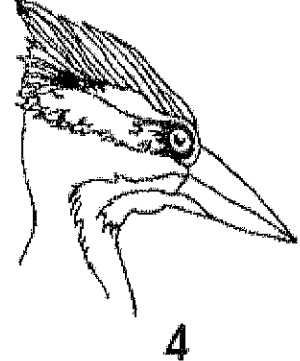
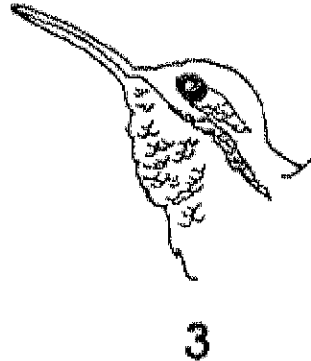
## Essays

12. How are a maple tree and a squirrel both adapted to survive winter?

- a. Maple trees lose their leaves to help save water.
- b. Squirrels crawl into caves or deep holes to sleep.

13. Name three animals' adaptations and explain how each helps animals to survive.

- a. squirrels-hibernation
- b. bats-hibernation
- c. giraffes-long necks
- d. robins-migrate



14. Bird number one has a beak adapted to crushing seeds.

15. Bird number two has a beak adapted to tearing meat.

## 4<sup>th</sup> Grade Science Study Guide

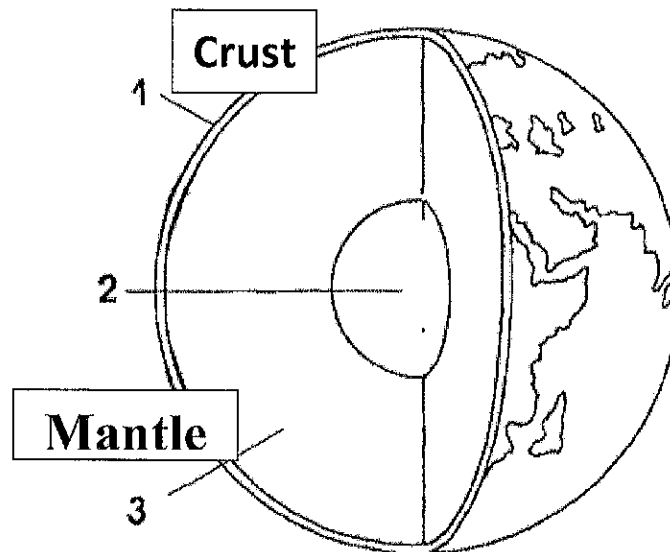
### Chapter 9

1. Scientists believe the earth's **core** is made of iron and has an inner part and an outer part.
2. Sedimentary rock is formed from **sediment**.
3. Metamorphic rock forms when **heat and pressure change igneous and sedimentary rocks**.
4. The bone, footprints, and bodies of animals from long ago are **fossils**.
5. Granite is formed when magma **cools slowly within the earth**.
6. **Talc** is the softest mineral.
7. Cast fossils are formed when **minerals settle in an empty space left by a decayed organism**.
8. Small pieces of mud, sand, or gravel that are carried by wind or water form layers of **sediment**.
9. A very hard metamorphic rock that was once limestone is **marble**.
10. All are necessary to form metamorphic rock ***except* air**.
11. The following statements are **FALSE**:
  - a. **Igneous rock forms when heat and pressure change sedimentary**.
  - b. **Sedimentary rock form when metamorphic rocks are changed by heat and pressure**.
  - c. **A mold fossil is formed when material collects and hardens inside a cast fossil**.

## Essay

12. **Igneous rock forms when molten rock cools and hardens. Sedimentary rock forms when layers of sediment are compacted and harden. Metamorphic rock forms from igneous and sedimentary rocks that are subjected to pressure and heat. Both igneous and metamorphic rocks are formed under the influence of heat.**

13. **Sedimentary rock is the only rock that is formed by gathering layers of sediment that settle and harden. This buildup of layers over time permits living organisms to make their way into the material in a relatively intact condition.**



14. **Layer 1** is the earth's crust.

15. **Layer 3** is the earth's mantle.

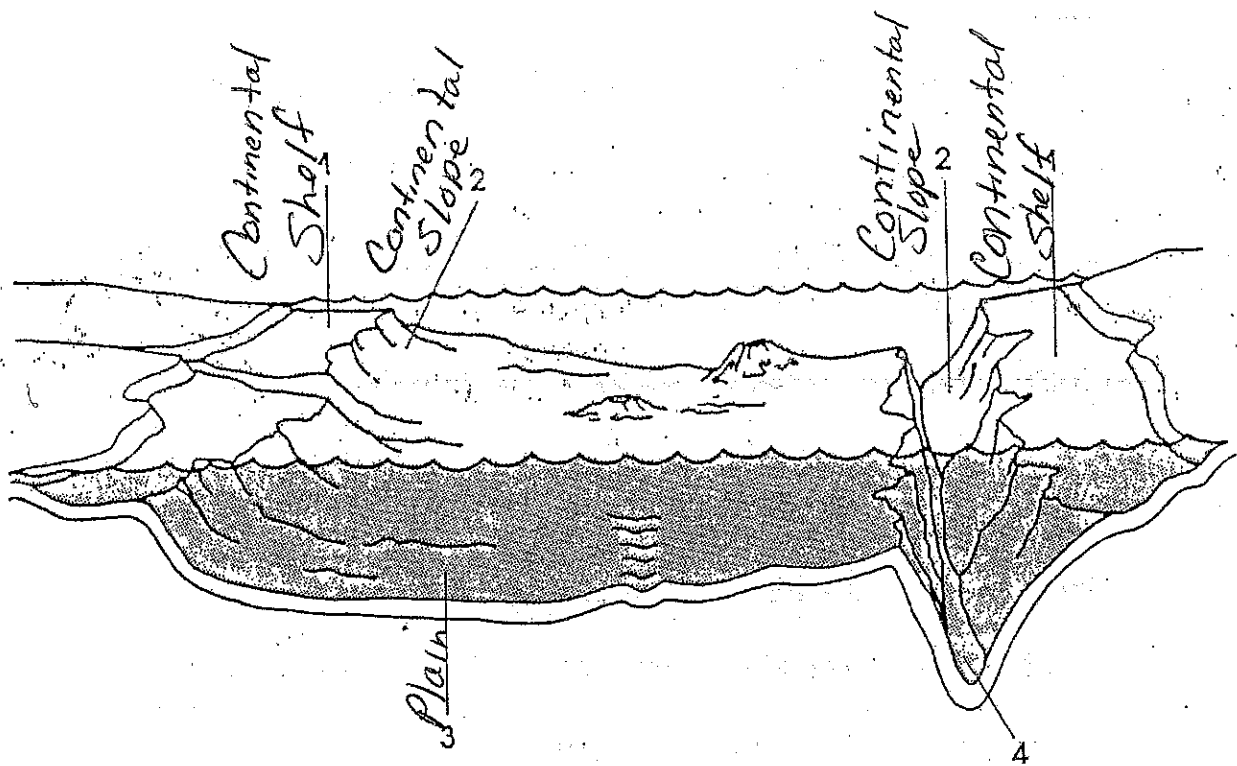
16. **Layer 3** the mantle is made up of rock.

4th Grade Science  
Chapter 10 Oceans  
Study Guide

1. The oceans are difficult to study because they are large and deep.
2. Waves are formed by wind and earthquakes.
3. A very strong current that carries warm water north from the equator is the Gulf Stream.
4. Small rocks containing copper and nickel found on the ocean floor are called nodules.
5. Tides are mainly caused by the gravitational pull of the moon.
6. Deep, narrow slits in the ocean floor are called trenches.
7. The ocean became salty because rain washed salt from the land into rivers and streams that flow into ocean.
8. A tsunami is a giant wave caused by an earthquake.
9. Some of the resources taken from the oceans include seaweed, oil, and gas.
10. There are always two high tides and two low tides.
11. The crest of a wave is called a breaker when it crashes into shore.
12. The oceans cover about three fourths of the earth's surface.
13. The path of the Gulf Stream is changed by land, wind, and the spinning of the earth.
14. The top part of a wave is called a crest.
15. The following statements are **FALSE**:
  - a. **At low tide less of land on the shore can be seen.**
  - b. **Currents form in the deep trenches in the ocean floor.**
  - c. **Nodules on the ocean floor are important sources of fish.**

16. A tide is a change in level of ocean water caused by gravitational pull of the moon. Two high tides cause a rise in the level of the ocean water. Two low tides cause a drop in the level of ocean water.

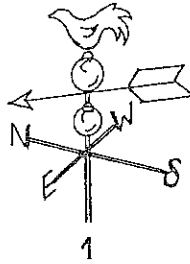
17. It is hard to get natural resources from the ocean because it is so deep, it is large and because the pressure is great.



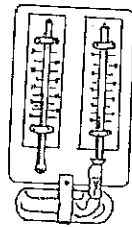
4th Grade Science  
Chapter 11 Study Guide

1. The atmosphere that surrounds the earth is about 2500 km thick.
2. The air in the atmosphere presses down on everything on the earth.
3. Wind is caused by differences of temperature and air pressure.
4. Precipitation is measured with a rain gauge.
5. Changes in air pressure are measured with a barometer.
6. Energy from the sun warms the surface of the earth, which then warms the air above it.
7. As a person goes higher in the atmosphere the air becomes thinner and cooler.
8. When air is heated it rises.
9. A south wind blows from the south.
10. Differences in the way the earth's surface is heated causes changes in air temperature and weather.
11. A thermometer measures air temperature.
12. A hygrometer is used to measure humidity.
13. The following sentences are **FALSE**:
  1. Weather occurs in the layers of atmosphere above the troposphere.
  2. The earth's surface is warmed by air that is heated by the sun's energy.
  3. The air pressure on a mountain top is high because the air is thinner.
  4. Humidity is a measurement of the amount of rain falling to earth.

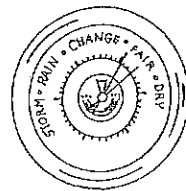
1. This instrument shows the direction in which the wind is blowing.



2. This instrument measures the amount of water vapor in the air.

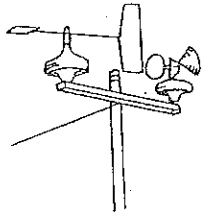


3. This instrument tells whether an area is having a high or a low.



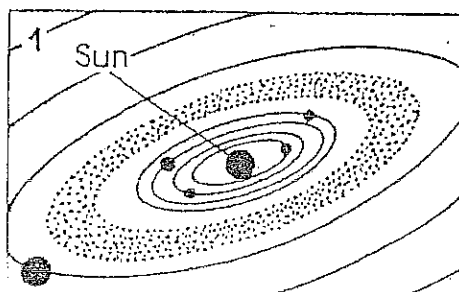


This instrument tells wind speed.

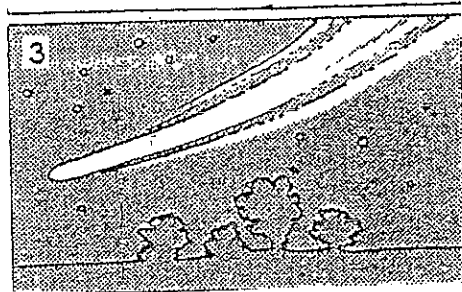


4th Grade Science  
Chapter 12 Study Guide

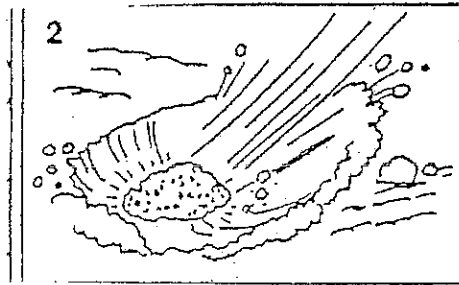
1. It takes about **8 minutes** for some of the sun's energy to travel from the sun to earth.
2. The planet **Saturn** is best known for its hundreds of beautiful rings.
3. A huge ball of hot churning gases that gives energy to the solar system is the **sun**.
4. Mars and Earth are alike because **they have similar temperatures and rotate at the same rate**.
5. A shooting star is actually **not a star but a meteor that burns as it travels in Earth's atmosphere**.
6. **Venus** is an inner planet that has a dense atmosphere, high temperatures, and an air pressure that is 90 times greater than Earth's.
7. **Uranus** rotates on its side and takes 84 Earth years to travel once around the sun.
8. The sun and the planets, moons, and asteroids that revolve around the sun make up the **solar system**.
9. **Saturn** is **NOT** an inner planet.
10. Pieces of rock that orbit the sun between Mars and Jupiter are **asteroids**.
11. **Mars** is **NOT** an outer planet.
12. **Moons** do **NOT** revolve in orbits around the sun.
13. The picture below is of an **asteroid**.



14. The picture below is of a comet.



15. The picture below shows a meteorite.



16. Earth is an inner planet; Saturn is an outer planet. Earth is a solid planet; Saturn is gaseous. Earth has one moon; Saturn has at least 21 moons. Earth has no rings; Saturn has thousands of rings. Earth can support life; Saturn cannot.

17. The sun is in the center of our solar system. The nine planets revolve around the sun. The moons of planets revolve around their planet. The asteroids revolve around the sun in an orbit between Mars and Jupiter. The planets in order are: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus Neptune.