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Name: _____

Seeing in the Dark

It's the middle of the night. You are very thirsty. You get out of bed and head to the kitchen. Halfway there, you stumble over a chair. You are so startled you yell! Sound familiar? Human eyes don't see that well in the dark. This is not the case for all creatures. Some animals, like the gecko, see best at night.

Many gecko species are **nocturnal**, which means they are most active at night. Like most nocturnal creatures, the structure of their eyes allows them to see well in the dark. The structure of a gecko's eye is different from the structure of a human eye.

One of the reasons nocturnal creatures see better in the dark is that their eyes can take in more light. When there is little light, the pupils of the gecko open wider. Geckos also have more of the eye cells that allow them to see better in the dark. Their eyes can see color clearly at night! This makes their eyes extremely sensitive to light.

In order to protect their eyes, geckos have slit-like pupils. These pupils are able to close quickly when faced with bright light. Many other nocturnal creatures have these same eye structures.



- What does *nocturnal* mean?
 - knock over
 - knowledgeable
 - active at night
 - active in trees
- Circle the two causes that match the following effect.

Effect Geckos are able to see better than humans at night.

Cause 1: They are more active at night.

Cause 2: They have more eye cells that allow them to see color at night.

Cause 3: They have slit-like pupils that close quickly.

Cause 4: Their pupils open wider when there is little light.

- How are the eyes of *nocturnal* creatures different from human eyes?

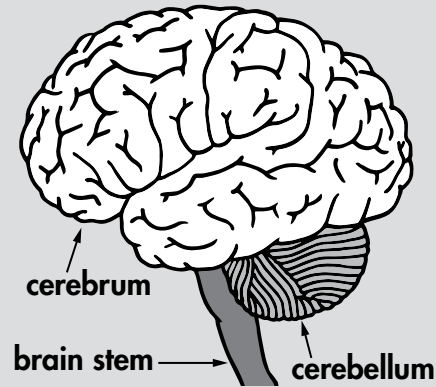
Name: _____

The Wonders of the Human Brain

Our brains are complex and powerful. They are in charge of our thoughts and feelings. Our brains control how we experience the world. To understand the brain, we must understand its structure.

The human brain has three main parts:

- ➔ The largest part of the brain is called the **cerebrum**. When you are eating a meal or watching a movie, the cerebrum is at work. It is in charge of the five senses: sight, smell, touch, taste, and sound. It is also in charge of many other things. The cerebrum controls emotions, thinking, memory, and **personality**.
- ➔ The **brain stem** is another part of the brain. It is found at the brain's base. The brain stem connects to the **spinal cord**. It is responsible for the things you don't think about, like breathing, heartbeat, or body temperature.
- ➔ The third part of the brain is called the **cerebellum**. It is found between the cerebrum and the brain stem. The cerebellum is in charge of muscle activity as well as balance.



1. The structure of the brain has three parts. What are they?

1. _____
2. _____
3. _____

2. Which of the following is an example of the *cerebellum* at work?

- a. A young gymnast balances carefully on a high beam.
- b. Two friends sing along to their favorite song.
- c. A boy smells pizza cooking in the kitchen.
- d. The basketball player's heart thumps steadily.

3. Which of the following is the *cerebrum* not in charge of?

- a. processing how something tastes
- b. feelings and memories
- c. breathing and body temperature
- d. processing how something looks

4. In your opinion, what is the most powerful part of the brain? Why?

Name: _____

The Sneaky Sidewinder

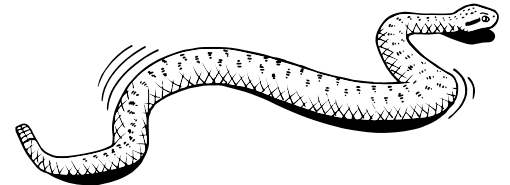
Meet one of the desert's sneakiest creatures! It is called the sidewinder snake. Like the fennec fox, the sidewinder has many adaptations that help it thrive in hot, sandy deserts.

This snake was named for its creative way of getting around. It moves sideways across the sand. When on the move, the snake only touches the sand with a small part of its body at a time. This helps the snake keep itself from getting too hot.

So, why is the sidewinder sneaky? The snake is like an undercover agent. It surprises its prey. When hunting, the sidewinder buries itself under the sand. The snake only keeps its eyes above ground. The snake's light-colored and spotted body blends in with the sand. This camouflages the snake and helps it **ambush** its prey.



- What does the word *ambush* likely mean?
 - to make very little noise
 - an animal that is hunted by another animal
 - a surprise attack
 - to struggle in physical combat
- Which of the following statements best summarizes the passage?
 - The sidewinder has many adaptations that help it thrive in hot, sandy deserts.
 - By decreasing its contact with the sand, the snake keeps itself from getting too hot.
 - Meet one of the desert's sneakiest creatures!
 - The snake is like an undercover agent.
- The author uses the word *sneaky* to describe the sidewinder because the snake _____.
 - is designed for its habitat
 - buries itself under the sand and ambushes its prey
 - moves sideways across the sand
 - only touches the sand with a small part of its body
- In your opinion, what makes the sidewinder "designed" for its habitat?



Name: _____

Parts of a Volcano

Volcanoes shape our world. When volcanoes erupt, they spew **rocks**, **lava**, and **ash**. Over many years, the rocks, ash, and lava build up, layer by layer. In time, landforms such as islands and mountains are created. The Hawaiian Islands were formed in this way.

Deep within Earth, there is **magma**. This is melted rock. During an eruption, magma moves through **vents** in a volcano. Some volcanoes have more than one vent. The main vent leads to the **crater**, which is a large bowl-like opening in a volcano. A crater is formed when the top of a mountain explodes after an eruption! When magma reaches a vent, rocks, lava, and ash spew from the volcano.

In summary, erupting volcanoes have different parts:

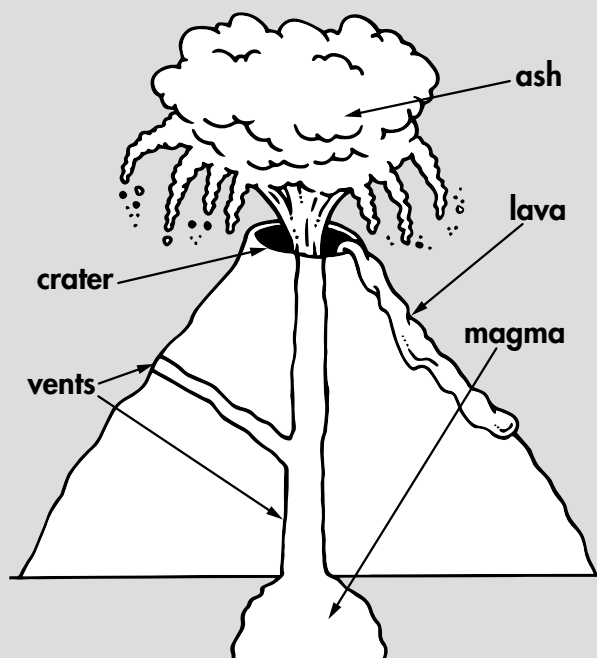
crater: the bowl-like opening of a volcano

vent: an opening in a volcano where magma can escape

magma: melted rock within Earth

lava: melted rock that comes out of a volcano

ash: bits of magma that have exploded into the air



- When magma escapes from a vent, it comes out as rocks, _____ and _____.
- How do volcanoes create landforms? Circle your answer.
 - Eruptions of ash and lava build up over time.
 - Islands become smaller due to melted rock and ash.
 - Magma is found deep underground as melted rock.
 - Most landforms on Earth used to be volcanoes.
- Describe what happens when a volcano erupts. Be sure to include the parts of a volcano in your description.

Name: _____

The Fuel of Modern Life

Powering today's world takes *a lot* of energy. We need energy to drive our cars, heat our homes, and power our machines. But where does all this energy come from?

Much of this energy comes from **fossil fuels**. These are *nonrenewable* resources. When we drive a car, ride a bus, or fly on a plane, we are using fossil fuels. Some examples of fossil fuels are coal, petroleum, and natural gas.

- We use coal to heat our homes.
- We use petroleum to make gasoline.
- Natural gas is used to light some stoves.

Fossil fuels are the ancient remains of plants and other living things. Over millions of years, these remains were covered up with layers of soil. Eventually, they were transformed into fossil fuels.



There are a few big drawbacks to using fossil fuels. One of the main drawbacks is that we use them far too quickly. Fossil fuels cannot be replaced. Fossil fuels also pollute and damage our environment. For these reasons, it is vital that we find better ways to power machines. This may include using solar or wind energy. These energy sources are renewable. They do not cause **pollution**.

1. This passage is mainly about _____.
 - a. a fossil fuel called petroleum and the way it is used
 - b. how fossil fuels were created and how they are used
 - c. different machines that are powered by fossil fuels
 - d. renewable sources of energy such as solar and wind energy
2. Check two downsides to using fossil fuels.
 - ☐ **Fact 1:** They are renewable resources.
 - ☐ **Fact 2:** They can pollute and damage the environment.
 - ☐ **Fact 3:** They cannot be replaced.
 - ☐ **Fact 4:** They fuel machines such as cars and planes.
3. Use complete sentences to describe how fossil fuels were created.
