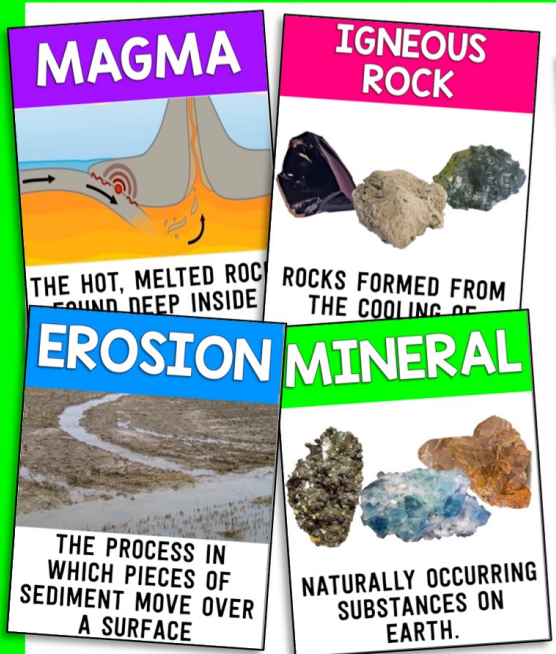
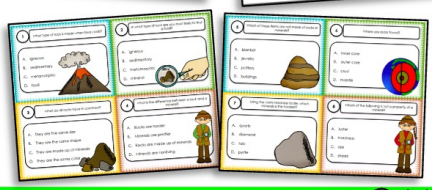
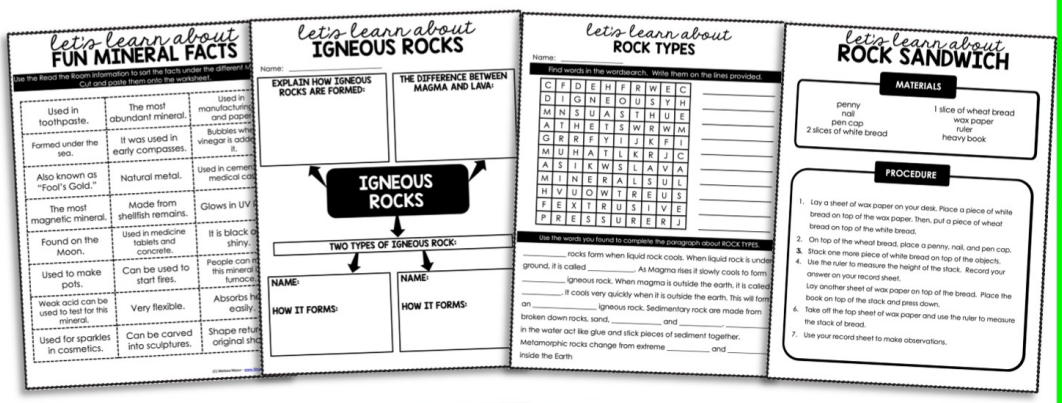
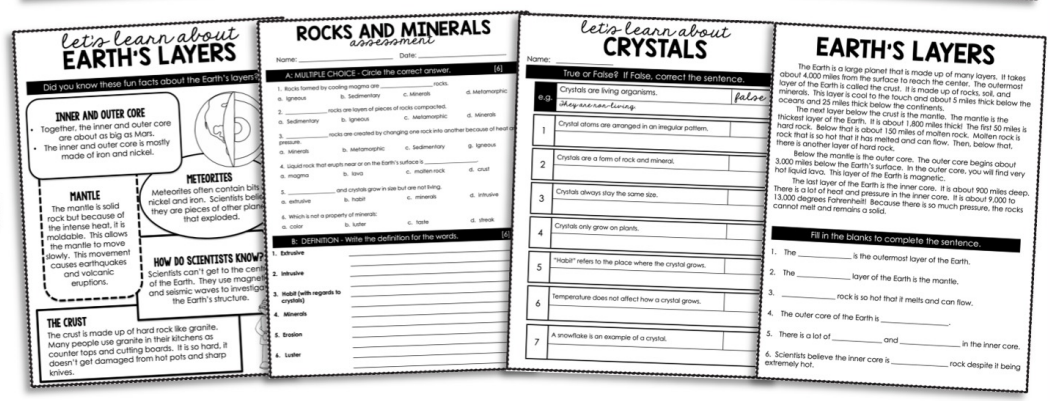
ROCKS AND MINERALS

TASK CARDS ACTIVITY PAGES SCIENCE LABS POSTERS









Thank You for Respecting My Work!

Learning® LAB RESOURCES....

CREATED BY MELISSA MAZUR

You May:

- Use this item for personal/student use in a single classroom.
- Purchase licenses at a big discount for others to use this resource.
- Enjoy this product for years to come (check back for updated versions).
- Post on **password protected** classroom websites (Schoology, Google Classrooms, etc.)

You May Not:

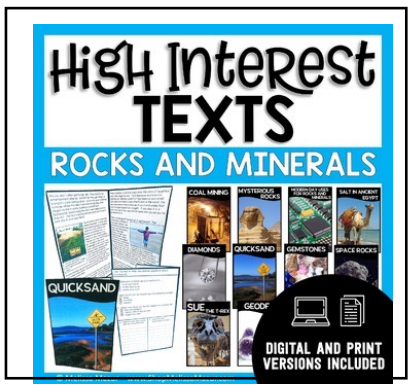
- Give this item to your friends or colleagues.
- Copy this item for use by others.
- Post this item on a website for download. This includes personal websites, district websites, Amazon Inspire, Outschool, etc.
- Post this item or any like copy for sale or for free.

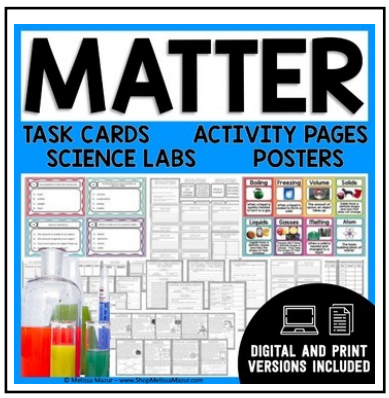
Learning® LAB RESOURCES....

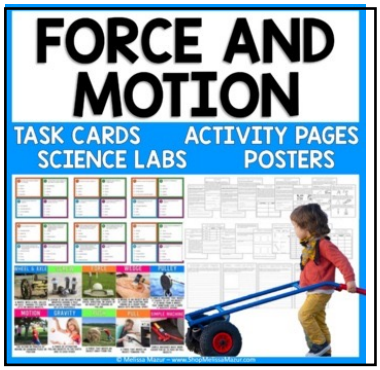
CREATED BY MELISSA MAZUR

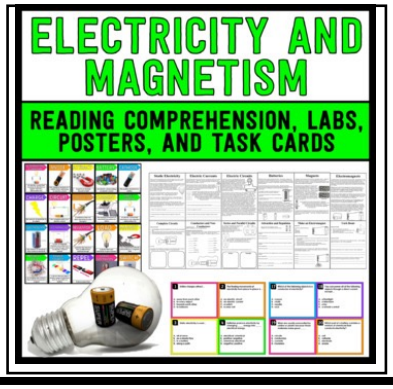
CLIP ART CREDITS:

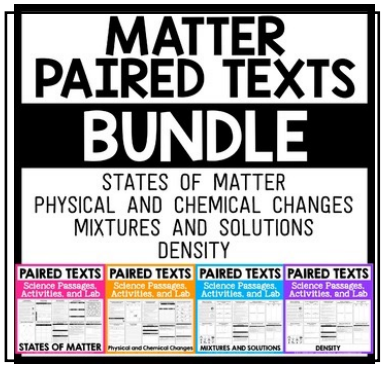
YOU MAY ALSO LIKE...











IGNEOUS ROCK

ROCKS FORMED FROM THE COOLING OF MAGMA.

SEDIMENTARY ROCKS

LAYERS OF SEDIMENTS THAT ARE COMPACTED OVER TIME.

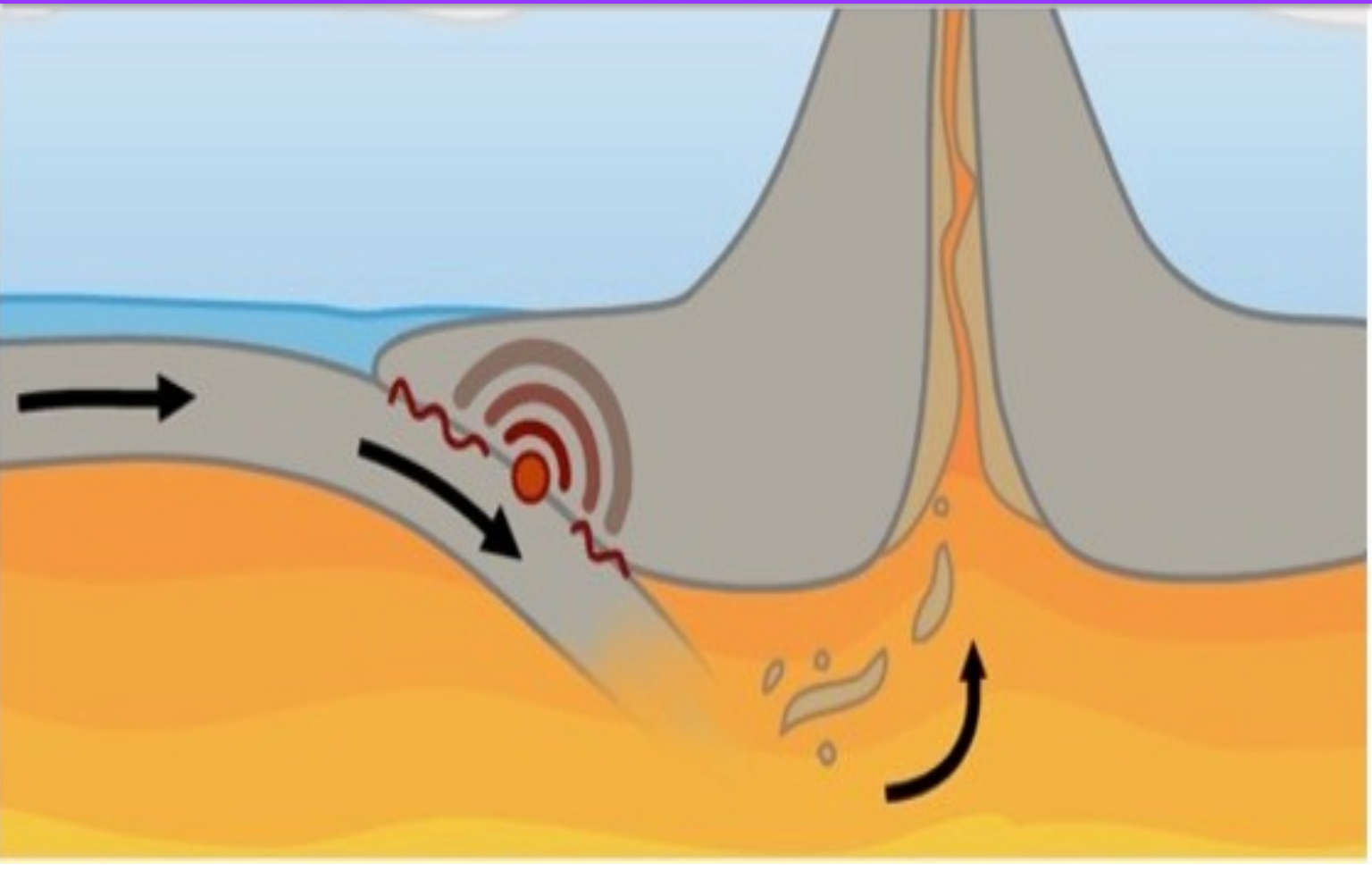
METAMORPHIC ROCK

ROCKS THAT ARE CHANGED BECAUSE OF EXTREME HEAT AND/OR PRESSURE

ROCKS

NATURALLY OCCURRING SOLID SUBSTANCES MADE OF ONE OR MORE MINERALS.

MAGMA

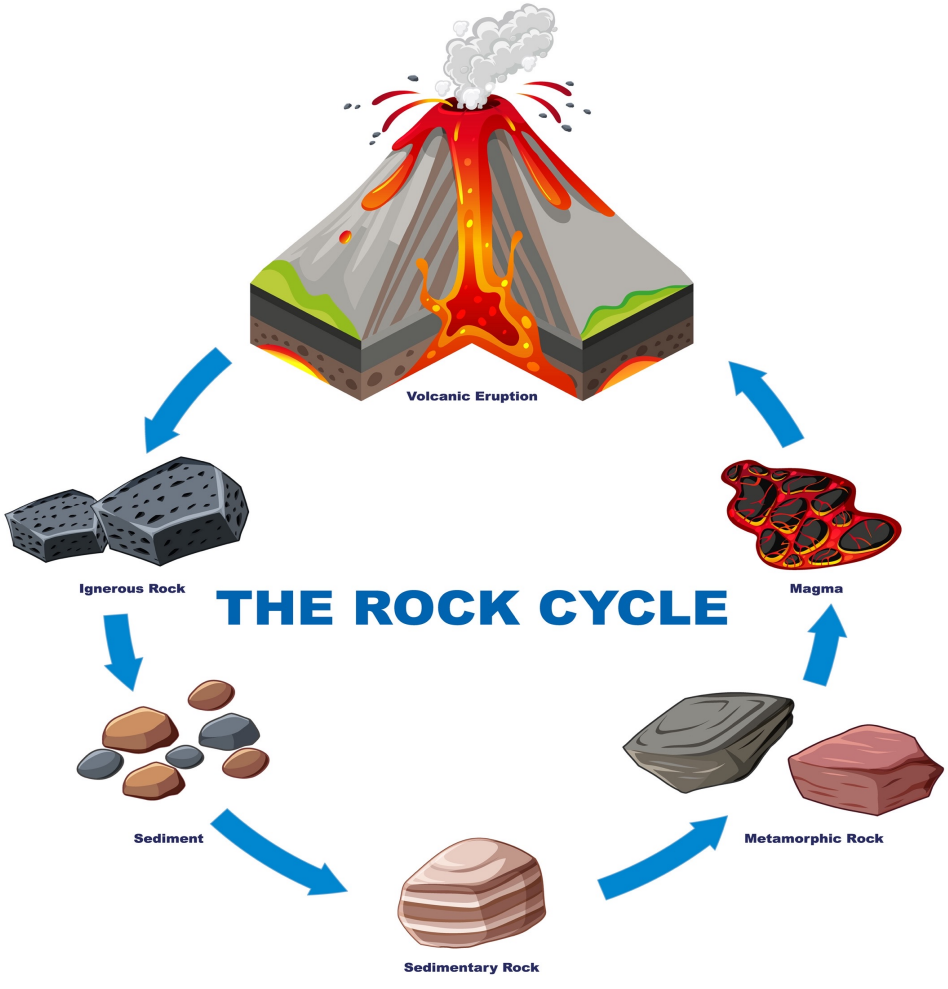


THE HOT, MELTED ROCK FOUND DEEP INSIDE THE EARTH.

LAVA

MOLTEN ROCK THAT ERUPTS ON OR NEAR EARTH'S SURFACE

ROCK CYCLE



THE PROCESS OF ROCKS CHANGING FROM ONE TYPE TO ANOTHER.

MINERAL

NATURALLY OCCURRING SUBSTANCES ON EARTH.

EROSION

THE PROCESS IN WHICH PIECES OF SEDIMENT MOVE OVER A SURFACE

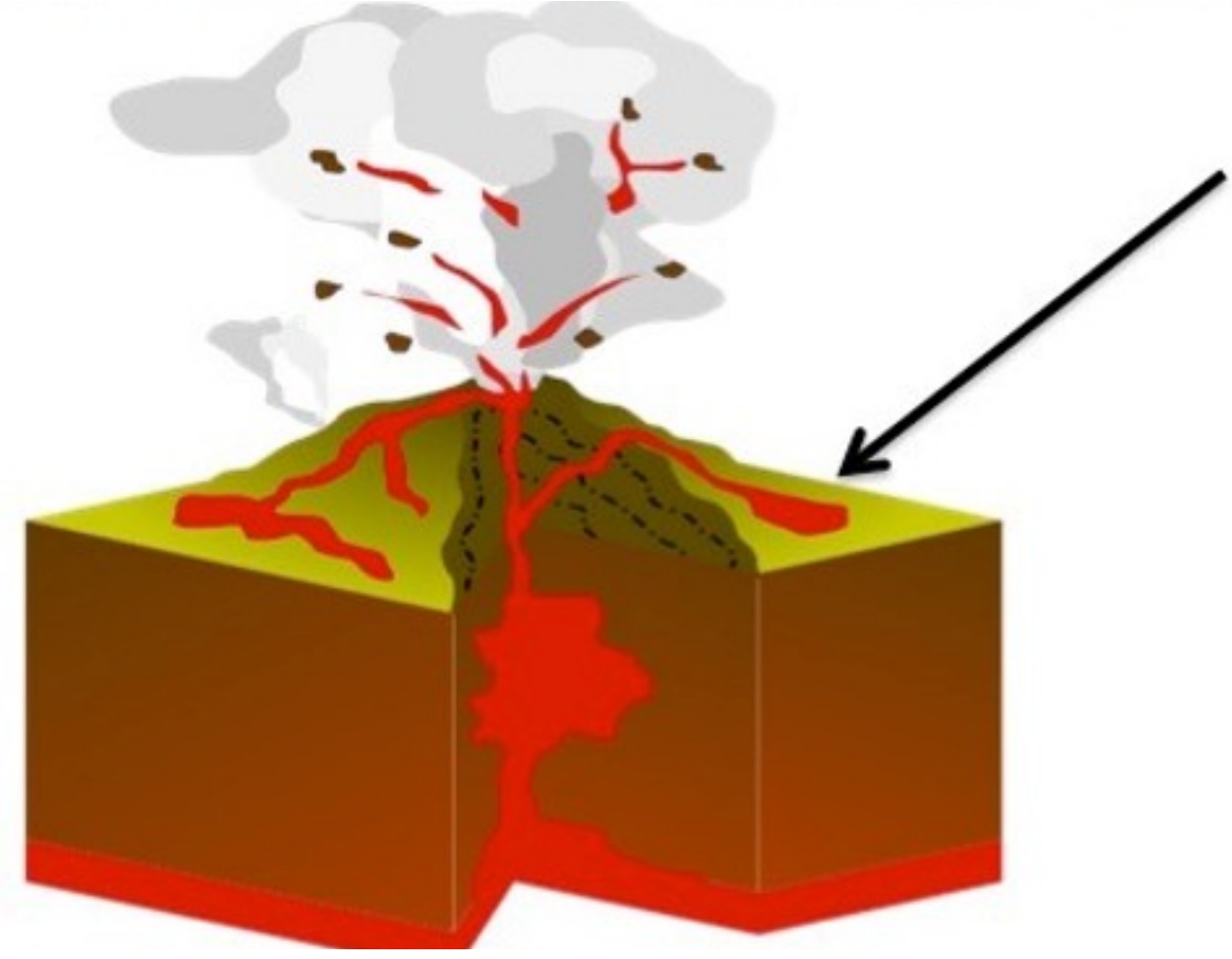
SEDIMENT

SOLID MATERIAL THAT SETTLES ON LAND OR AT THE BOTTOM OF WATER.

WEATHERING

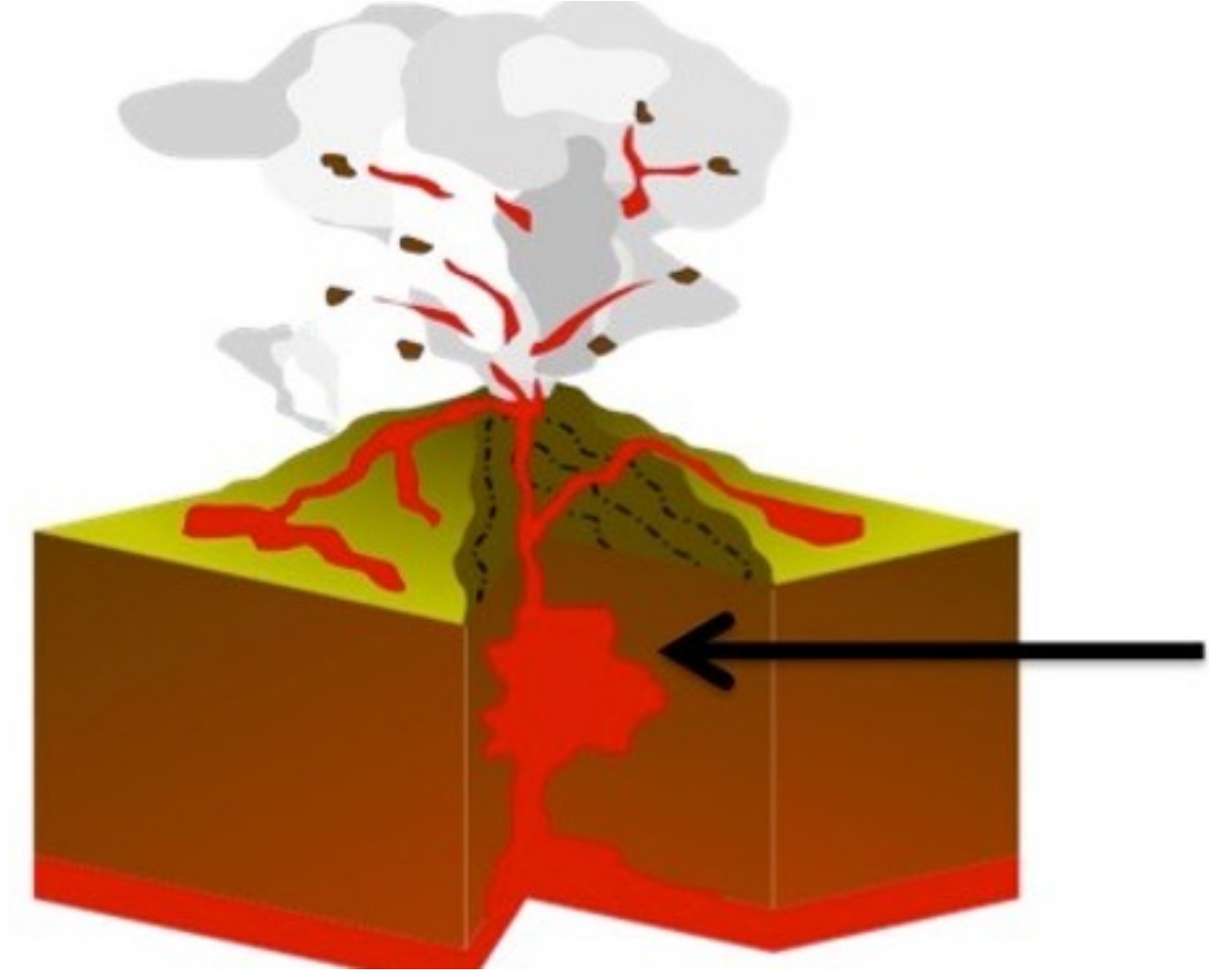
THE BREAKING DOWN OF ROCK INTO SMALLER PIECES BY WIND, RAIN, AND TEMPERATURE

EXTRUSIVE



IGNEOUS ROCKS FORM FROM MAGMA OUTSIDE THE EARTH.

INTRUSIVE



IGNEOUS ROCKS FORM FROM LAVA INSIDE THE EARTH.

GEOLOGIST

A PERSON WHO STUDIES THE EARTH AND THE CHANGES THAT TAKE PLACE ON OR BELOW THE SURFACE

EARTH'S LAYERS

The Earth is a large planet that is made up of many layers. It takes about 4,000 miles from the surface to reach the center. The outermost layer of the Earth is called the crust. It is made up of rocks, soil, and minerals. This layer is cool to the touch and about 5 miles thick below the oceans and 25 miles thick below the continents.

The next layer below the crust is the mantle. The mantle is the thickest layer of the Earth. It is about 1,800 miles thick! The first 50 miles is hard rock. Below that is about 150 miles of molten rock. Molten rock is rock that is so hot that it has melted and can flow. Then, below that, there is another layer of hard rock.

Below the mantle is the outer core. The outer core begins about 3,000 miles below the Earth's surface. In the outer core, you will find very hot liquid lava. This layer of the Earth is magnetic.

The last layer of the Earth is the inner core. It is about 900 miles deep. There is a lot of heat and pressure in the inner core. It is about 9,000 to 13,000 degrees Fahrenheit! Because there is so much pressure, the rocks cannot melt and remains a solid.

Fill in the blanks to complete the sentence.

1. The _____ is the outermost layer of the Earth.

2. The _____ layer of the Earth is the mantle.

3. _____ rock is so hot that it melts and can flow.

4. The outer core of the Earth is _____.

5. There is a lot of _____ and _____ in the inner core.

6. Scientists believe the inner core is _____ rock despite it being extremely hot.

EARTH'S LAYERS

The Earth is a large planet that is made up of many layers. It takes about 4,000 miles from the surface to reach the center. The outermost layer of the Earth is called the crust. It is made up of rocks, soil, and minerals. This layer is cool to the touch and about 5 miles thick below the oceans and 25 miles thick below the continents.

The next layer below the crust is the mantle. The mantle is the thickest layer of the Earth. It is about 1,800 miles thick! The first 50 miles is hard rock. Below that is about 150 miles of molten rock. Molten rock is rock that is so hot that it has melted and can flow. Then, below that, there is another layer of hard rock.

Below the mantle is the outer core. The outer core begins about 3,000 miles below the Earth's surface. In the outer core, you will find very hot liquid lava. This layer of the Earth is magnetic.

The last layer of the Earth is the inner core. It is about 900 miles deep. There is a lot of heat and pressure in the inner core. It is about 9,000 to 13,000 degrees Fahrenheit! Because there is so much pressure, the rocks cannot melt and remains a solid.

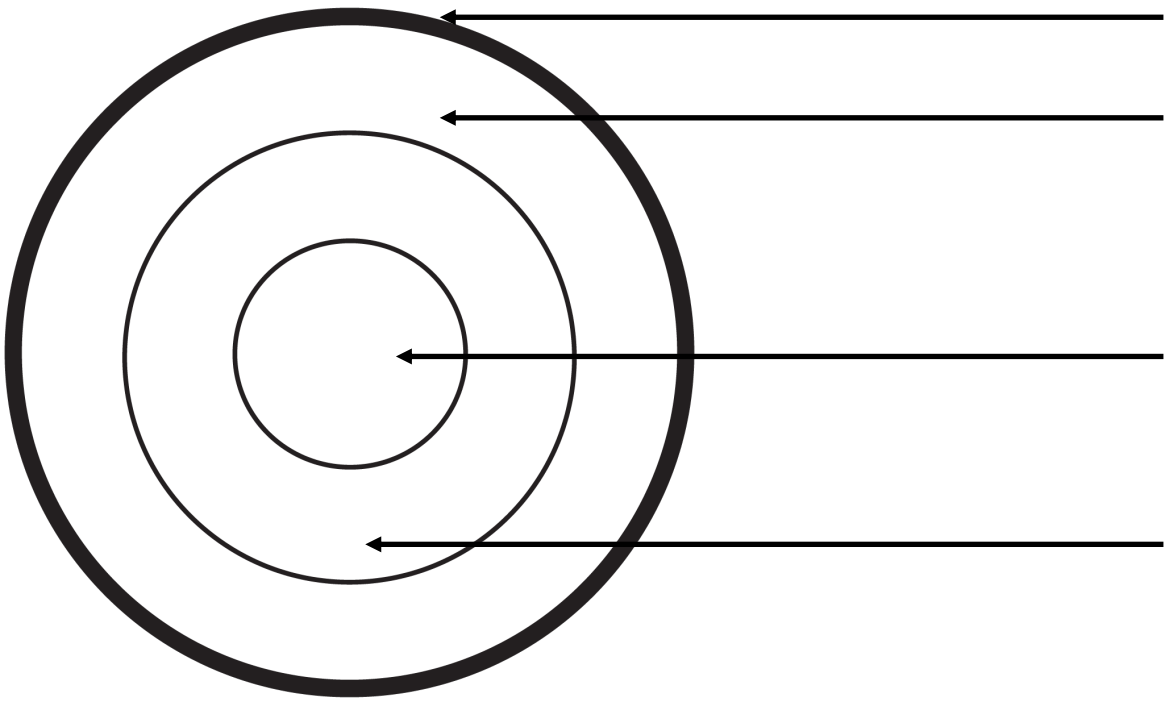
Fill in the blanks to complete the sentence.

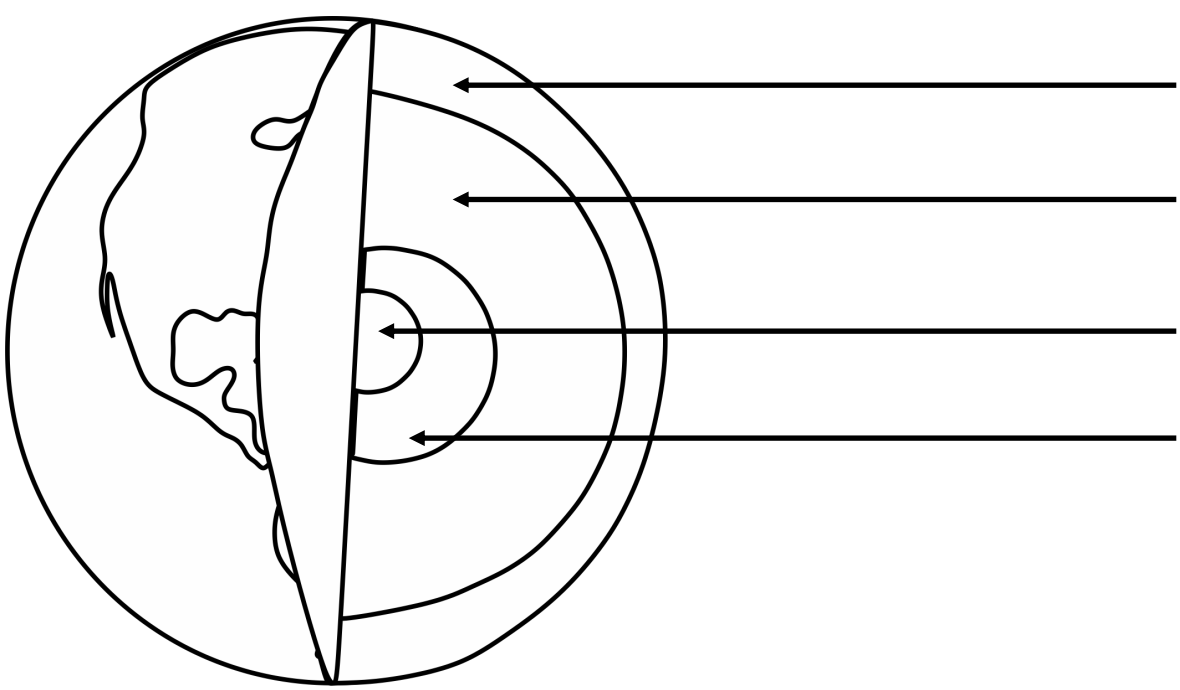
1. The **CRUST** is the outermost layer of the Earth.
2. The **THICKEST** layer of the Earth is the mantle.
3. **MOLTEN** rock is so hot that it melts and can flow.
4. The outer core of the Earth is **MAGNETIC.**
5. There is a lot of **HEAT** and **PRESSURE** in the inner core.
6. Scientists believe the inner core is **SOLID** rock despite it being extremely hot.

let's learn about EARTH'S LAYERS

Label the diagrams showing the layers of the Earth.

The first diagram shows what Earth will look like inside if it was cut in half. The second is a 3D diagram of the Earth.



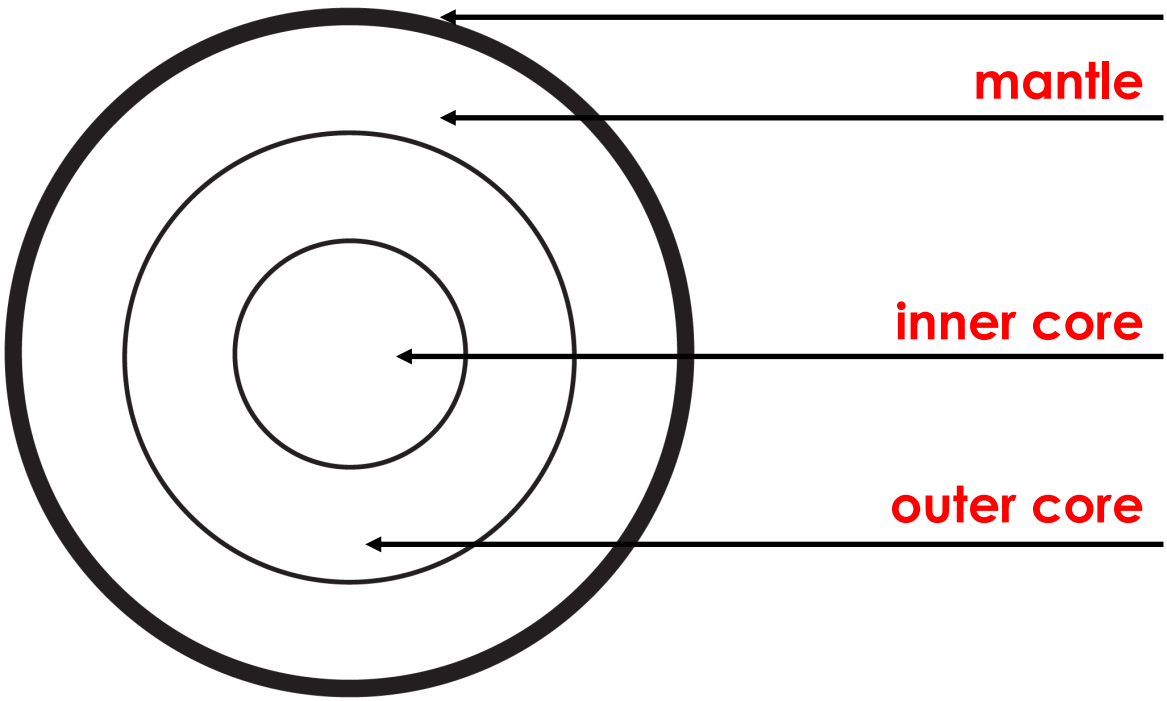


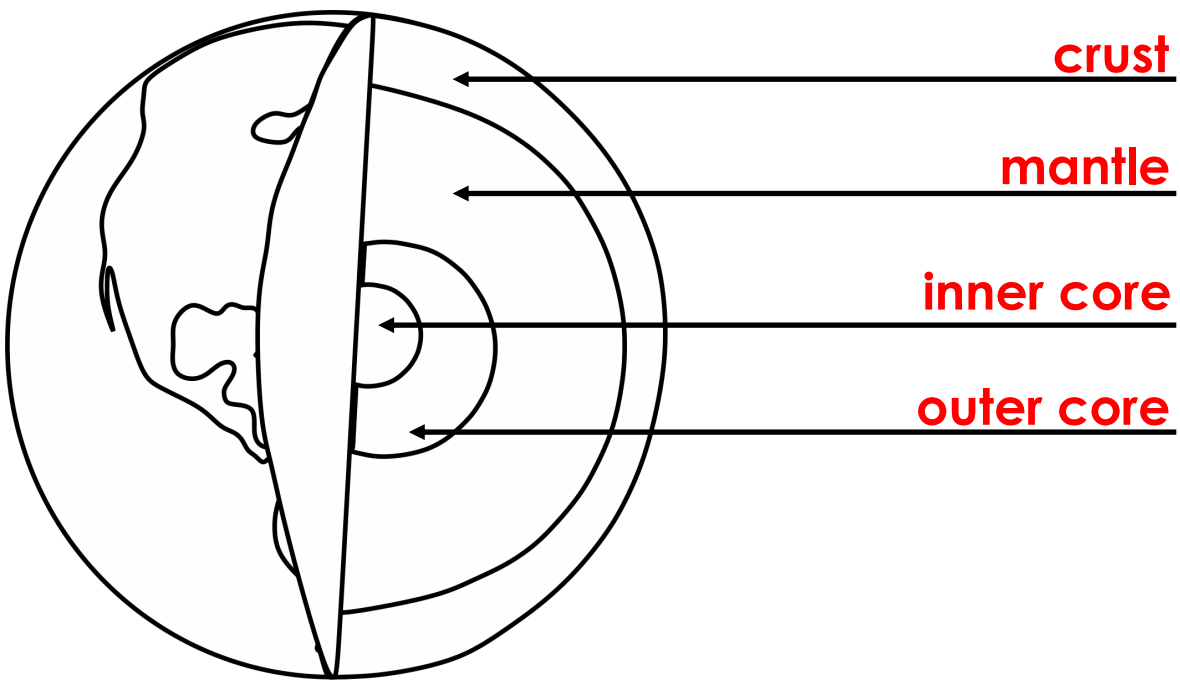
ANSWER KEY

let's learn about EARTH'S LAYERS

Label the diagrams showing the layers of the Earth.

The first diagram shows what Earth will look like inside if it was cut in half. The second is a 3D diagram of the Earth.



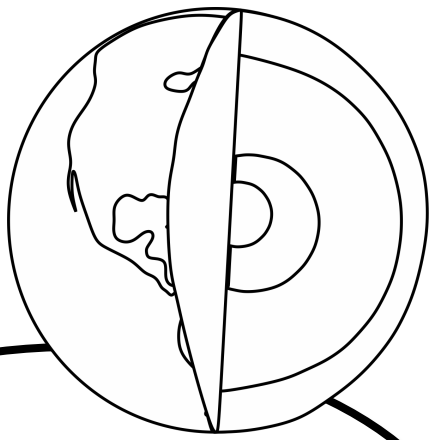


let's learn about EARTH'S LAYERS

Did you know these fun facts about the Earth's layers?

INNER AND OUTER CORE

- Together, the inner and outer core are about as big as Mars.
- The inner and outer core is mostly made of iron and nickel.



METEORITES

Meteorites often contain bits of nickel and iron. Scientists believe they are pieces of other planets that exploded.

MANTLE

The mantle is solid rock but because of the intense heat, it is moldable. This allows the mantle to move slowly. This movement causes earthquakes and volcanic eruptions.

HOW DO SCIENTISTS KNOW?

Scientists can't get to the centre of the Earth. They use magnetic and seismic waves to investigate the Earth's structure.

THE CRUST

The crust is made up of hard rock like granite. Many people use granite in their kitchens as counter tops and cutting boards. It is so hard, it doesn't get damaged from hot pots and sharp knives.

let's learn about

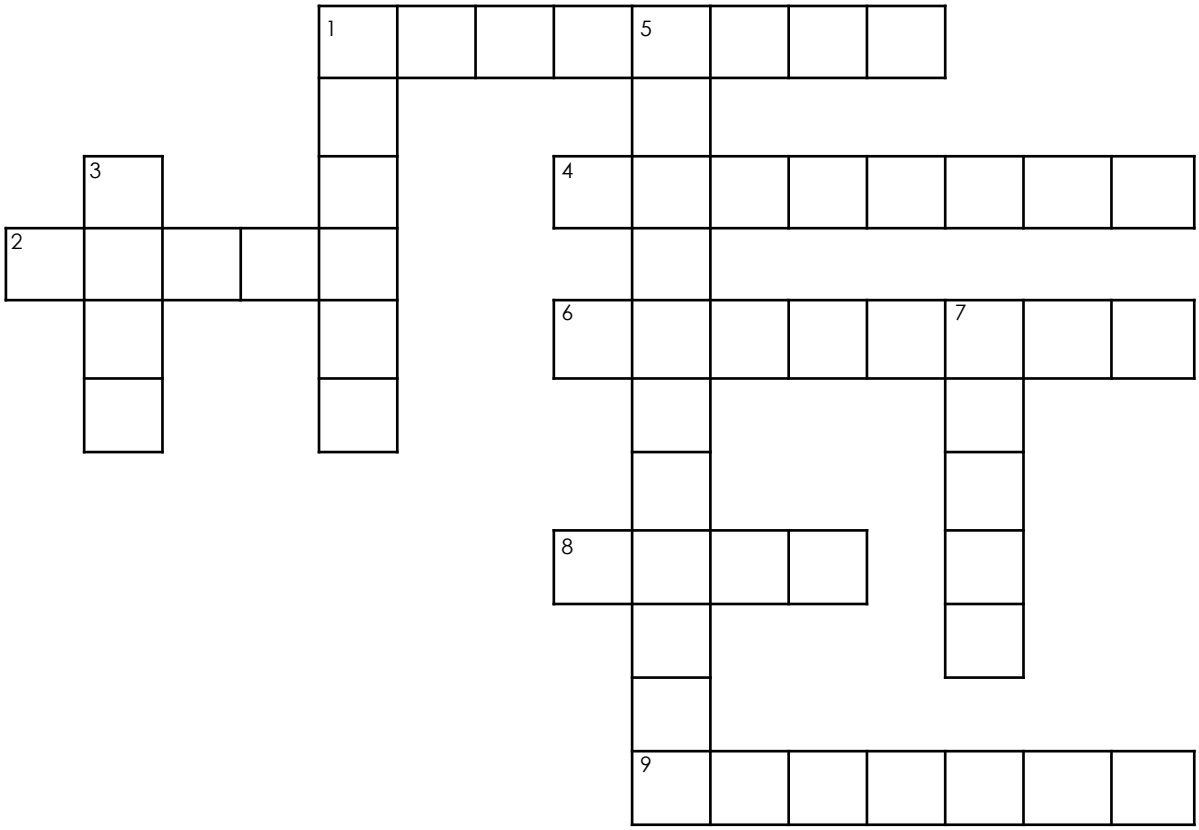
EARTH'S LAYERS VOCABULARY

WORD	DEFINITION	PICTURE
Crust		
Mantle		
Inner Core		
Outer Core		

let's learn about
EARTH'S LAYERS

Name: _____

Complete the crossword puzzle using the clues below:



Across

1. The outer core of the Earth is _____.

2. The outermost layer of the Earth is called the _____.

4. There is a lot of _____ on the inner core and therefore the rocks cannot melt.

6. The mantle is the _____ layer of the Earth.

8. There is hot liquid _____ in the outer core.

9. Scientists use _____ waves to investigate the Earth's structure.

Down

1. Below the hard rock of the mantle is _____ rock.

3. The inner and outer core is mostly made of nickel and _____.

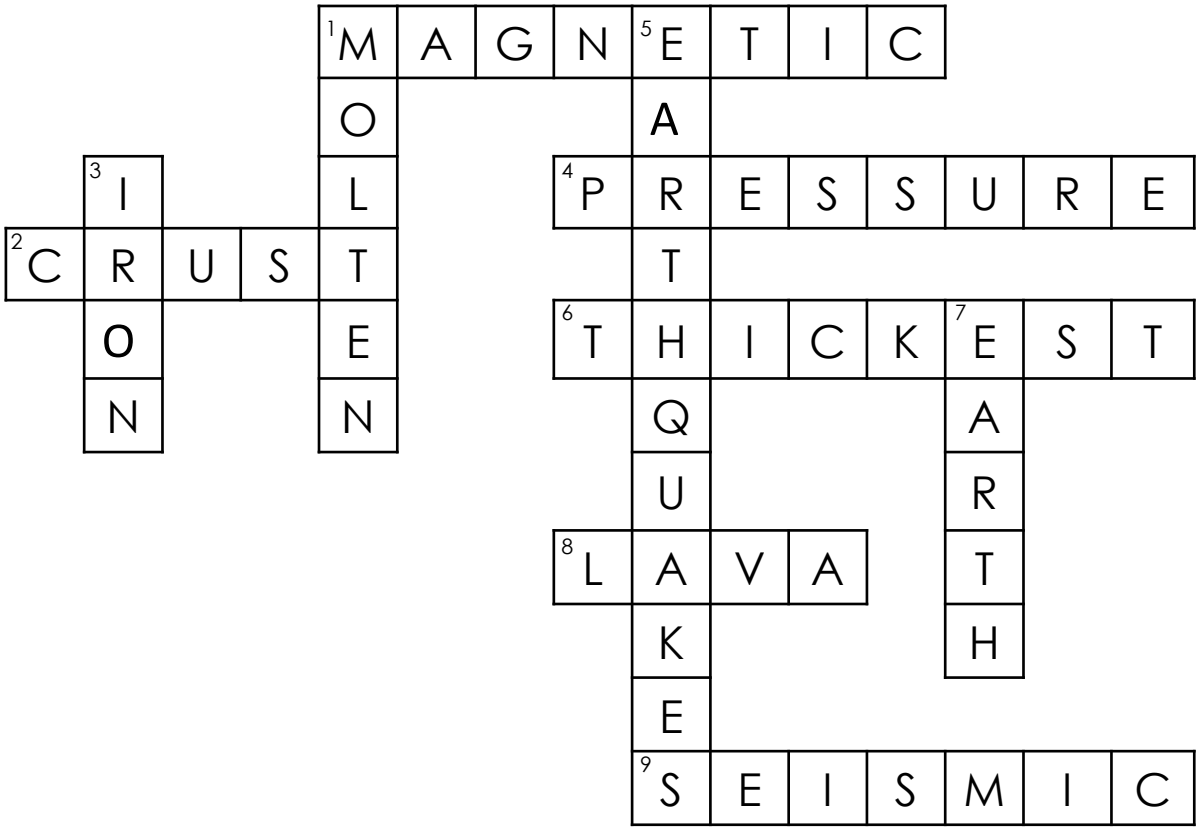
5. The mantle moves slowly and this can cause _____.

7. Scientists cannot get to the centre of the _____.

let's learn about
EARTH'S LAYERS

Name: **ANSWER KEY**

Complete the crossword puzzle using the clues below:



Across

1. The outer core of the Earth is **MAGNETIC**.

2. The outermost layer of the Earth is called the **CRUST**.

4. There is a lot of **PRESSURE** on the inner core and therefore the rocks cannot melt.

6. The mantle is the **THICKEST** layer of the Earth.

8. There is hot liquid **LAVA** in the outer core.

9. Scientists use **SEISMIC** waves to investigate the Earth's structure.

Down

1. Below the hard rock of the mantle is **MOLTEN** rock.

3. The inner and outer core is mostly made of nickel and **IRON**.

5. The mantle moves slowly and this can cause **EARTHQUAKES**.

7. Scientists cannot get to the centre of the **EARTH**.

MINERALS

Minerals are a naturally occurring substance on Earth. They are not man-made. They are formed within the Earth's mantle, on the Earth's crust, or on the surface of the Earth. Strong heat and pressure help to form minerals in the same way that rocks are formed. They can grow, but they are not a living thing. Each kind of mineral has its own properties that help identify it. Each mineral has its own special color, luster, hardness, and streak.

Minerals are not only found outside on the ground, but can be found in objects you use everyday! Toothpaste contains the mineral fluorite. Baby power contains the softest mineral, talc. Inside electronics you can find parts made out of the minerals copper, gold, and quartz. The pencil you are using today has graphite in it. You even eat the mineral salt when you season your food!

Fill in the blanks, using the words in the word bank, to complete the sentence.

minerals crust hardness graphite properties

1. Minerals can be found on Earth's mantle, _____, or surface.
2. Each mineral has its own special color, luster, _____, and streak.
3. The pencil you are using today has _____ in it.
4. _____ are a naturally occurring substance on Earth.
5. Each mineral has its own _____ that help identify it.

ANSWER KEY

MINERALS

Minerals are a naturally occurring substance on Earth. They are not man-made. They are formed within the Earth's mantle, on the Earth's crust, or on the surface of the Earth. Strong heat and pressure help to form minerals in the same way that rocks are formed. They can grow, but they are not a living thing. Each kind of mineral has its own properties that help identify it. Each mineral has its own special color, luster, hardness, and streak.

Minerals are not only found outside on the ground, but can be found in objects you use everyday! Toothpaste contains the mineral fluorite. Baby power contains the softest mineral, talc. Inside electronics you can find parts made out of the minerals copper, gold, and quartz. The pencil you are using today has graphite in it. You even eat the mineral salt when you season your food!

Fill in the blanks, using the words in the word bank, to complete the sentence.

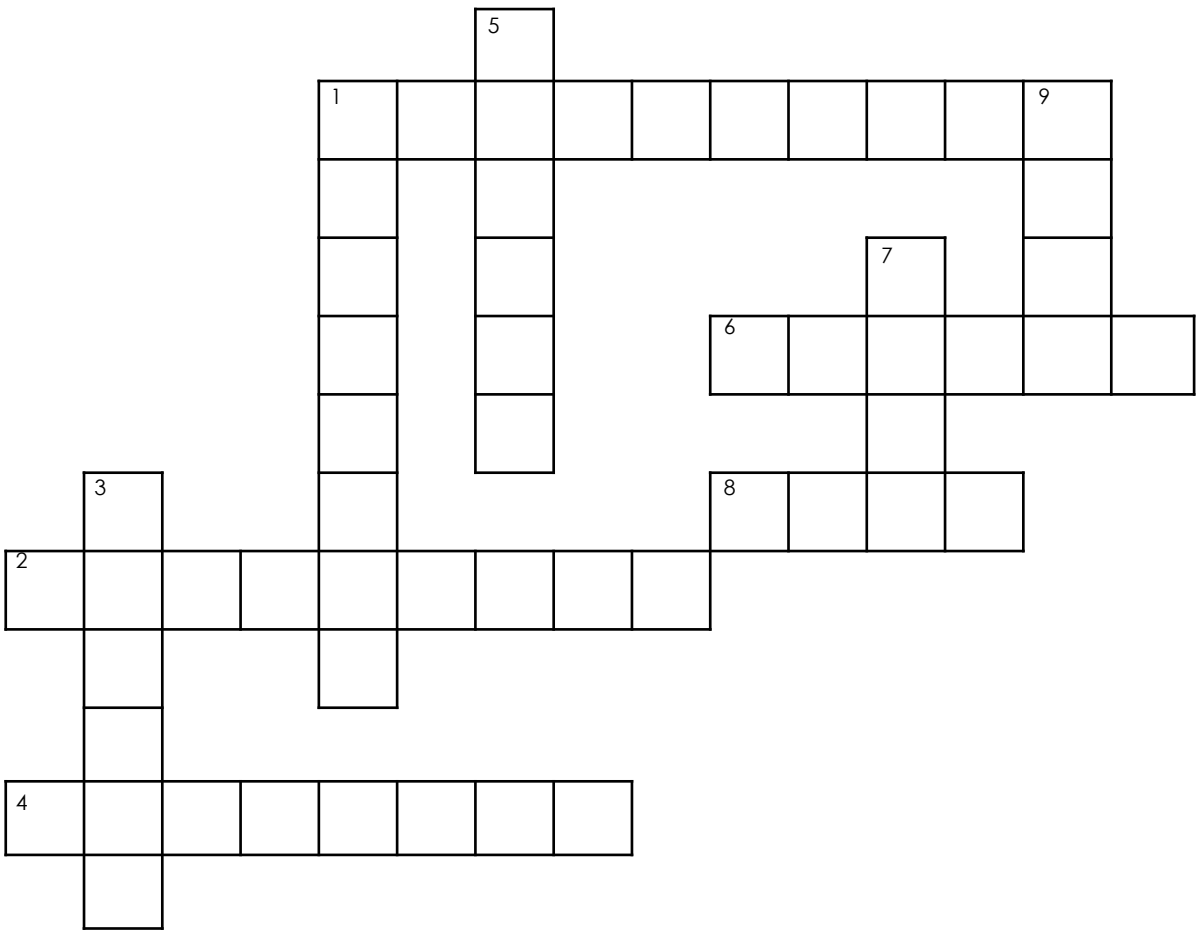
minerals crust hardness graphite properties

1. Minerals can be found on Earth's mantle, **CRUST,** or surface.
2. Each mineral has its own special color, luster, **HARDNESS,** and streak.
3. The pencil you are using today has **GRAPHITE** in it.
4. **MINERALS** are a naturally occurring substance on Earth.
5. Each mineral has its own **PROPERTIES** that help identify it.

let's learn about MINERALS

Name: _____

Complete the crossword puzzle using the clues below:



Across

1. Each kind of mineral has its own _____-.

2. Minerals occur _____ on Earth.

4. Toothpaste contains the mineral _____.

6. _____ is the most abundant mineral.

8. _____ is used for sparkles in cosmetics.

Down

1. Strong heat and _____ help to form minerals.

3. Minerals are formed within the Earth's _____.

5. _____ is used to make pots.

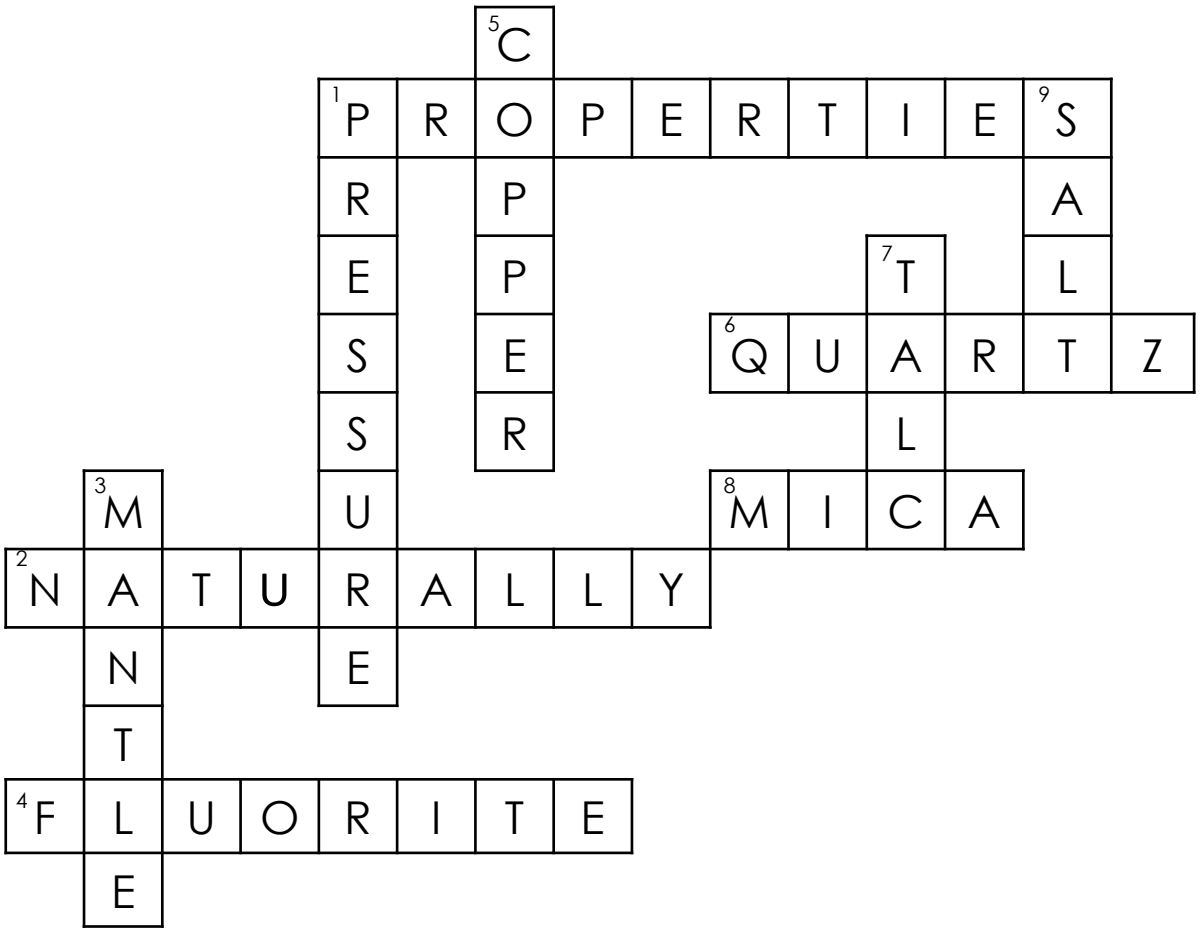
7. The softest mineral is _____.

9. You can eat the mineral _____ when you season your food.

let's learn about MINERALS

Name: **ANSWER KEY**

Complete the crossword puzzle using the clues below:



Across

1. Each kind of mineral has its own **PROPERTIES**.
2. Minerals occur **NATURALLY** on Earth.
4. Toothpaste contains the mineral **FLOURITE**.
6. **QUARTZ** is the most abundant mineral.
8. **MICA** is used for sparkles in cosmetics.

Down

1. Strong heat and **PRESSURE** help to form minerals.
3. Minerals are formed within the Earth's **MANTLE**.
5. **COPPER** is used to make pots.
7. The softest mineral is **TALC**.
9. You can eat the mineral **SALT** when you season your food.

FLUORITE

Fluorite is a soft rock which can be scratched with a common nail. It can be carved into sculptures. It comes in many different colors and is fluorescent. This means it glows under UV lights. Fluorite from two different places could glow two different colors. It is used in toothpaste and drinking water. It prevents early tooth decay.

COPPER

Copper is a natural metal. It absorbs heat easily so is often used to make pots. It is also used in electrical wires because electricity flows through it easily. There are only two colored metals, copper and gold. It is usually a reddish color. It can also be found in foods we eat, like nuts, calamari and chocolate.

PYRITE

Pyrite is also known as "Fool's Gold." Pyrite can be used to start fires. If you strike it with iron, it creates a spark. It was also polished and used as a mirror in the past. Now days, it is used in jewellery and in the manufacturing of ink and paper.

GYPSUM

Gypsum is formed deep underwater when shellfish die. The remains fall to the ocean floor. When rock is formed, it will contain gypsum from the shellfish. It is very soft and can be scratched with your fingernail. It is used in cement, fertilizer and to make medical casts.

QUARTZ

This is the most abundant mineral on the planet. It comes in many different colors. We are able to make quartz in a furnace instead of digging it out of the ground. Quartz is also found on the moon. We use quartz in watches, sandpaper and optical lenses.

CALCITE

Calcite is found in many places on Earth. We can use weak acid, such as vinegar, to test if there is calcite in a product. If calcite is present, it will bubble. Calcite is found in concrete, medicine tablets and is fed to chickens.

MAGNETITE

Magnetite is magnetic rock. It is the most magnetic mineral on Earth. It is black and shiny. You can find your own magnetite by pulling a magnet through sand. The grains of black that sticks to the magnet is magnetite. It was used in early compasses. Now it is used as pigment in paints and in fertilizers.

MICA

Mica is very flexible. If you bend it in one direction, it will return to its original shape when released. It is very soft and can be scratched with your nail. This mineral is used in toasters, sparkles in cosmetics and makes your camera flash.

let's learn about FUN MINERAL FACTS

Use the Read the Room information to sort the facts under the different Minerals.

FLUORITE

COPPER

PYRITE

GYPSUM

let's learn about FUN MINERAL FACTS

Use the Read the Room information to sort the facts under the different Minerals.

QUARTZ

CALCITE

MAGNETITE

MICA

let's learn about FUN MINERAL FACTS

Use the Read the Room information to sort the facts under the different Minerals. Cut and paste them onto the worksheet.

Used in toothpaste.	The most abundant mineral.	Used in manufacturing ink and paper.
Formed under the sea.	It was used in early compasses.	Bubbles when vinegar is added to it.
Also known as "Fool's Gold."	Natural metal.	Used in cement and medical casts.
The most magnetic mineral.	Made from shellfish remains.	Glows in UV light.
Found on the Moon.	Used in medicine tablets and concrete.	It is black and shiny.
Used to make pots.	Can be used to start fires.	People can make this mineral in a furnace.
Weak acid can be used to test for this mineral.	Very flexible.	Absorbs heat easily.
Used for sparkles in cosmetics.	Can be carved into sculptures.	Shape returns to original shape.

ANSWER KEY

let's learn about FUN MINERAL FACTS

Use the Read the Room information to sort the facts under the different Minerals.

FLUORITE
Glows in UV light
Used in toothpaste
Can be carved into sculptures.

COPPER
Natural metal.
Absorbs heat easily.
Used to make pots.

PYRITE
Can be used to start fires.
Also known as "Fool's Gold."
Used in manufacturing ink and paper.

GYPSUM
Formed under the sea.
Made from shellfish remains.
Used in cement and medical casts.

ANSWER KEY

let's learn about FUN MINERAL FACTS

Use the Read the Room information to sort the facts under the different Minerals.

QUARTZ
Most abundant mineral.
Found on the moon.
People can make this mineral in a furnace.

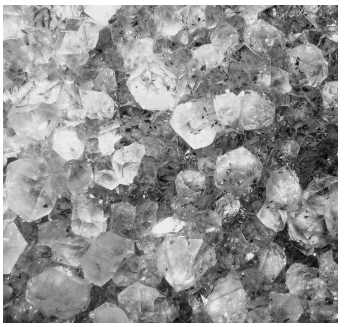
CALCITE
Weak acid can be used to test for this mineral.
Used in medicine tablets and concrete.
Bubbles when vinegar is added to it.

MAGNETITE
The most magnetic mineral.
It was used in early compasses.
IT is black and shiny.

MICA
Very flexible.
Shape returns to original shape.
Used for sparkles in cosmetics.

CRYSTALS

Crystals are non-living substances that grow into different shapes. They have atoms that are arranged in a regular pattern. Sometimes crystals are confused with gemstones that are shaped perfectly and are transparent and clear. Most crystals aren't clear or transparent.



Minerals and rocks are made of crystals, and some are snowflakes, salt, and sugar. A crystal is really just another form of a rock or mineral, except the word "crystal" tells us that the rock or mineral is of a certain shape.

Crystals grow larger as the atoms arrange themselves in layers. They can grow from a gas, liquid, or a solid. Temperature, pressure, chemical conditions, and the amount of space all affect the growth.

The shape of crystals is called their "habit." The habit of crystals is used to identify them. As crystals grow, some faces develop more than others.

Fill in the blanks to complete the sentences.

1. Name three things that crystals can grow from _____, _____, and_____.

2. What four things can affect the growth of crystals?

   _____,_____,_____, _____

3. What is a common confusion people have about crystals?

   _____

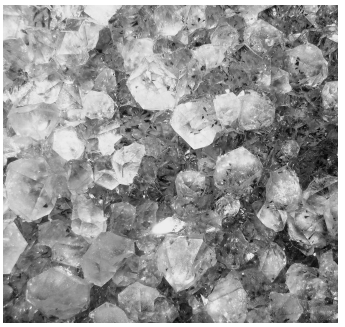
4. When someone refers to a crystal's "habit." what is he/she referring to?

   _____

ANSWER KEY

CRYSTALS

Crystals are non-living substances that grow into different shapes. They have atoms that are arranged in a regular pattern. Sometimes crystals are confused with gemstones that are shaped perfectly and are transparent and clear. Most crystals aren't clear or transparent.



Minerals and rocks are made of crystals, and some are snowflakes, salt, and sugar. A crystal is really just another form of a rock or mineral, except the word "crystal" tells us that the rock or mineral is of a certain shape.

Crystals grow larger as the atoms arrange themselves in layers. They can grow from a gas, liquid, or a solid. Temperature, pressure, chemical conditions, and the amount of space all affect the growth.

The shape of crystals is called their "habit." The habit of crystals is used to identify them. As crystals grow, some faces develop more than others.

Fill in the blanks to complete the sentences.

1. Name three things that crystals can grow from _**GAS, LIQUID** an,d **SOLID**.

2. What four things can affect the growth of crystals?

   Temperature, pressure, chemical conditions, space

3. What is a common confusion people have about crystals?

   They are confusedd with gemstones.

4. When someone refers to a crystal's "habit," what is he/she referring to?

   Referring to the shape of the crystal.

let's learn about CRYSTALS

Name: _____

True or False? If False, correct the sentence.

e.g.	Crystals are living organisms.	false
	They are non-living.	
1	Crystal atoms are arranged in an irregular pattern.	
2	Crystals are a form of rock and mineral.	
3	Crystals always stay the same size.	
4	Crystals only grow on plants.	
5	"Habit" refers to the place where the crystal grows.	
6	Temperature does not affect how a crystal grows.	
7	A snowflake is an example of a crystal.	

let's learn about CRYSTALS

Name: **ANSWER KEY**

True or False? If False, correct the sentence.

e.g.	Crystals are living organisms.	false
	They are non-living.	
1	Crystal atoms are arranged in an irregular pattern.	False
	They are arranged in a regular pattern.	
2	Crystals are a form of rock and mineral.	True
3	Crystals always stay the same size.	False
	They can grow bigger.	
4	Crystals only grow on plants.	False
	They can grow on gas, solids and liquids.	
5	"Habit" refers to the place where the crystal grows.	False
	It refers to the shape of the crystal.	
6	Temperature does not affect how a crystal grows.	False
	It does affect it.	
7	A snowflake is an example of a crystal.	True

let's learn about
CRYSTALS

Name: _____

Find 10 words in the wordsearch. Write them on the lines provided.

T	F	Y	I	S	H	A	P	E	S
E	F	F	F	P	R	G	R	C	N
M	I	N	E	R	A	L	S	R	O
P	D	S	H	E	G	A	T	Y	W
E	U	H	I	S	J	Y	S	S	F
R	O	C	K	S	K	E	Z	T	L
A	I	G	S	U	J	R	D	A	A
T	K	K	J	R	N	S	T	L	K
U	F	M	I	E	S	E	H	S	E
R	Z	U	Y	G	A	T	O	M	S
E	V	H	A	B	I	T	K	U	R

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Write a sentence using each of the words you found.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

let's learn about CRYSTALS

Name: **ANSWER KEY**

Find 10 words in the wordsearch. Write them on the lines provided.

T				S	H	A	P	E	S
E				P				C	N
M	I	N	E	R	A	L	S	R	O
P				E		A		Y	W
E				S		Y		S	F
R	O	C	K	S		E		T	L
A				U		R		A	A
T				R		S		L	K
U				E				S	E
R					A	T	O	M	S
E		H	A	B	I	T			

TEMPERATURE

PRESSURE

LAYERS

CRYSTALS

SNOWFLAKES

MINERALS

ROCKS

HABIT

SHAPES

ATOMS

Write a sentence using each of the words you found.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

PROPERTIES OF MINERALS

Minerals have many different properties that help identify it. Some of their properties are color, hardness, luster, and streak. Today, you will be finding the properties of different minerals.

MATERIALS:

5 different mineral samples
White porcelain tile
Paperclip
Penny

PROCEDURE:

In the table on the next page preform the following tasks to find the properties of the minerals your teacher provided.

COLOR: In the color section, write the color of the mineral that you observe. Be specific! Instead of saying "blue" you might say "deep blue". Some minerals can have a few variations of color in it.

STREAK: To find the streak of a mineral, rub it on the white porcelain tile. The color of the streak left by the mineral can sometimes be different than the color of the actual mineral.

LUSTER: Luster describes how a mineral reflects light. Common lusters for minerals are metallic, pearly, glassy, and dull.

HARDNESS: You will need a paperclip, penny, and your fingernail to help determine the hardness of minerals. Scratch the mineral first with your fingernail, If tiny pieces fall off, the mineral is soft. If not, try the penny next. If the penny doesn't scratch the mineral, finally use the paperclip. Record the tool (fingernail, penny, paperclip) that scratches the mineral first.

let's learn about

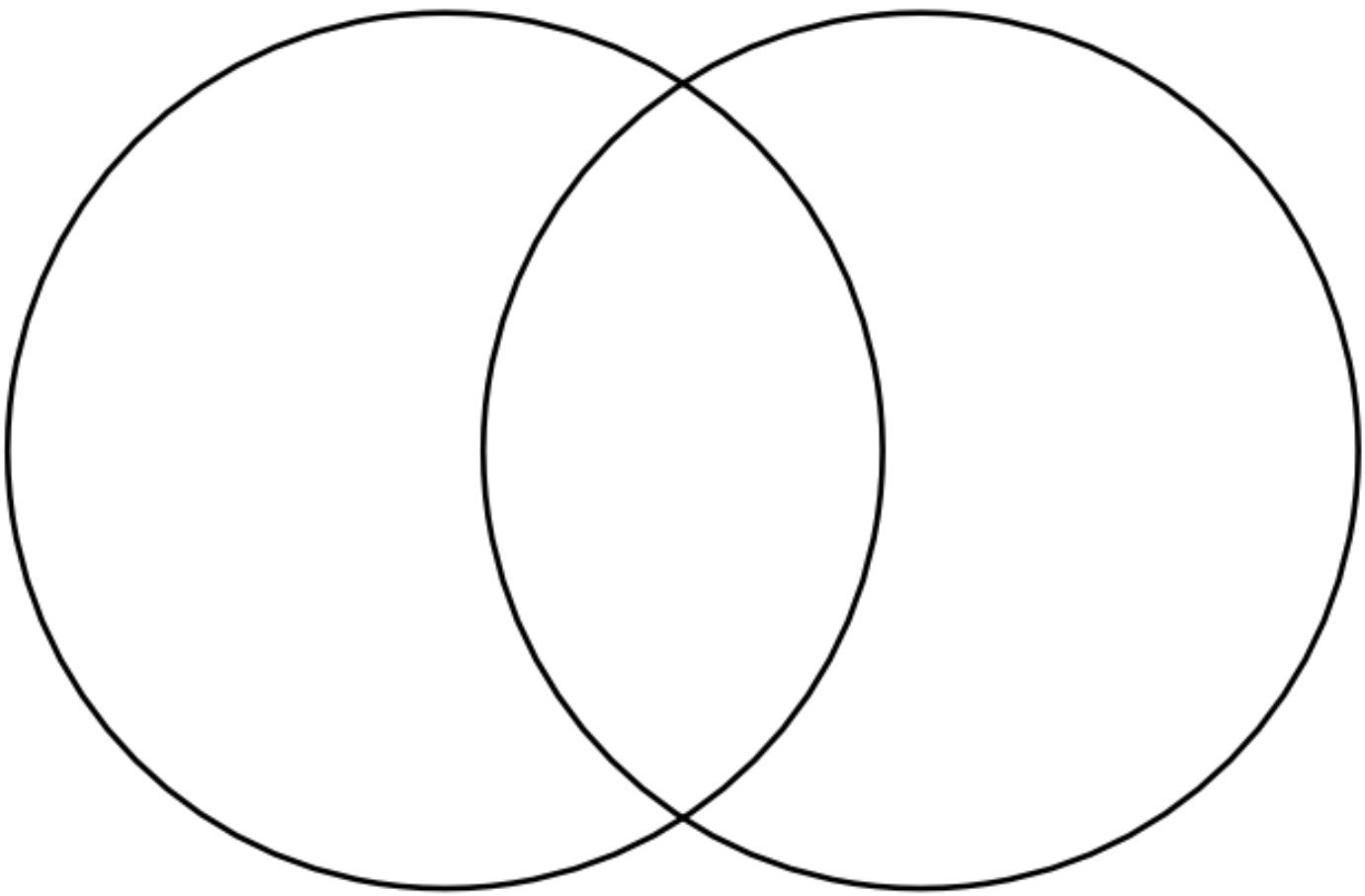
PROPERTIES OF MINERALS

MINERAL NAME	COLOR	STREAK	LUSTER	HARDNESS

let's learn about
COMPARING MINERALS

Choose two rocks from your classroom rock collection. Write down the name of the minerals and compare and contrast the characteristics.

_____ _____



Write a few sentences to describe your findings.

_____

_____

_____

_____

let's learn about
PROPERTIES OF MINERALS

Name: _____

Find words in the wordsearch. Write them on the lines provided.

P	R	O	P	E	R	T	I	E	S
F	V	T	K	E	M	H	T	P	T
H	A	R	D	N	E	S	S	O	R
Y	R	E	T	R	T	R	U	R	E
F	I	Y	F	H	A	T	S	C	A
W	A	K	W	S	L	W	O	E	K
S	T	W	I	Z	L	S	F	L	C
U	I	S	L	A	I	F	T	A	O
J	O	Z	J	W	C	Y	U	I	L
H	N	P	E	A	R	L	Y	N	O
F	S	G	W	L	U	S	T	E	R

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Use the words you found to complete the paragraph about PROPERTIES OF MATERIALS.

Minerals have many different _____. Some minerals have a few _____ of color in it. To find the streak of a mineral, rub it on a white _____ tile. Common lusters for minerals are glassy, dull, _____ and _____. If you scratch a mineral and pieces fall off, then the mineral is _____. Some of the properties of minerals are _____, _____, _____ and _____.

let's learn about
PROPERTIES OF MINERALS

Name: **ANSWER KEY**

Find words in the wordsearch. Write them on the lines provided.

P	R	O	P	E	R	T	I	E	S
	V				M			P	T
H	A	R	D	N	E	S	S	O	R
	R				T			R	E
	I				A		S	C	A
	A				L		O	E	K
	T				L		F	L	C
	I				I		T	A	O
	O				C			I	L
	N	P	E	A	R	L	Y	N	O
	S			L	U	S	T	E	R

PROPERTIES

HARDNESS

PEARLY

LUSTER

VARIATIONS

METALLIC

SOFT

PORCELAIN

STREAK

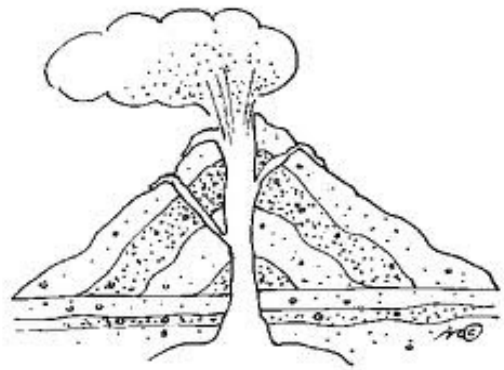
COLOR

Use the words you found to complete the paragraph about PROPERTIES OF MATERIALS.

Minerals have many different **PROPERTIES.** Some minerals have a few **VARIATIONS** of color in it. To find the streak of a mineral, rub it on a white **PORCELAIN** tile. Common lusters for minerals are glassy, dull, **METALLIC** and **PEARLY**. If you scratch a mineral and pieces fall off, then the mineral is **SOFT**. Some of the properties of minerals are **COLOR, HARDNESS, LUSTER** and **STREAK**.

IGNEOUS ROCK

All rocks can be classified into three groups. The groups are determined based on how the rocks have formed. Igneous rocks form when liquid rock cools. Because the Earth's core is very hot, it can melt rock. When liquid rock is under ground, it is called magma. Magma always rises up towards the Earth's surface. As it rises, it slowly cools as it moves farther away from the hot core. This will form an intrusive igneous rock. Other times, magma erupts from a volcano. When magma is outside the earth, it is called lava. Lava cools very quickly when it is outside a volcano. This will form an extrusive igneous rock.



Fill in the blanks, using the words in the word bank, to complete the sentences.

extrusive magma lava intrusive igneous

1. _____ rocks are formed when liquid rock cools.

2. _____ is liquid rock that is still under Earth's surface.

3. An igneous rock formed outside a volcano is an _____ igneous rock.

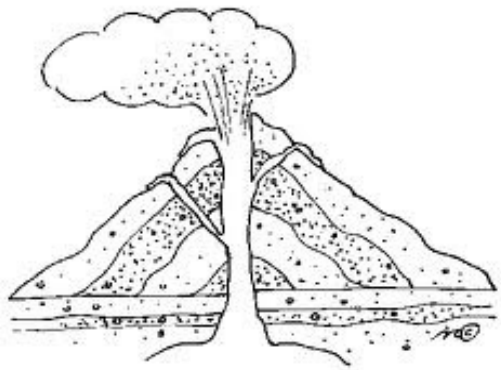
4. _____ is liquid rock that erupts from a volcano.

5. An igneous rock forms inside the Earth is an _____ igneous rock.

ANSWER KEY

IGNEOUS ROCK

All rocks can be classified into three groups. The groups are determined based on how the rocks have formed. Igneous rocks form when liquid rock cools. Because the Earth's core is very hot, it can melt rock. When liquid rock is under ground, it is called magma. Magma always rises up towards the Earth's surface. As it rises, it slowly cools as it moves farther away from the hot core. This will form an intrusive igneous rock. Other times, magma erupts from a volcano. When magma is outside the earth, it is called lava. Lava cools very quickly when it is outside a volcano. This will form an extrusive igneous rock.



Fill in the blanks, using the words in the word bank, to complete the sentences.

extrusive magma lava intrusive igneous

1. **IGNEOUS** rocks are formed when liquid rock cools.

2. **MAGMA** is liquid rock that is still under Earth's surface.

3. An igneous rock formed outside a volcano is an **EXTRUSIVE** igneous rock.

4. **LAVA** is liquid rock that erupts from a volcano.

5. An igneous rock forms inside the Earth is an **INTRUSIVE** igneous rock.

let's learn about IGNEOUS ROCKS

Name: _____

EXPLAIN HOW IGNEOUS ROCKS ARE FORMED:

THE DIFFERENCE BETWEEN MAGMA AND LAVA:

IGNEOUS ROCKS

TWO TYPES OF IGNEOUS ROCK:

NAME:

HOW IT FORMS:

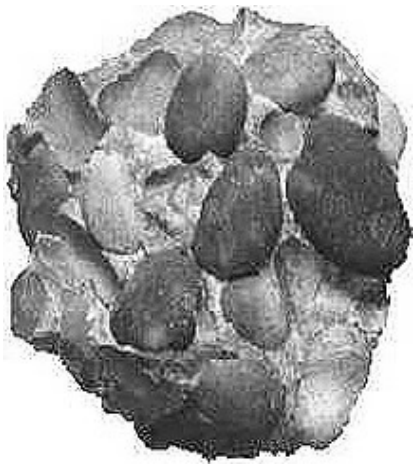
NAME:

HOW IT FORMS:

ANSWER KEY

SEDIMENTARY ROCK

Another of the three types of rock is the sedimentary rock. Sedimentary rocks are formed very slowly, over many many years. These rocks are made from small pieces of sediment (old broken down rocks, minerals, fossils, and sand). Sediments are found on the bottom of bodies of water. Over many years, sediments are layered up on top of each other. Chemicals in the water or minerals in the sediment act like glue and help the pieces of sediment stick together. This is how sedimentary rocks are formed.



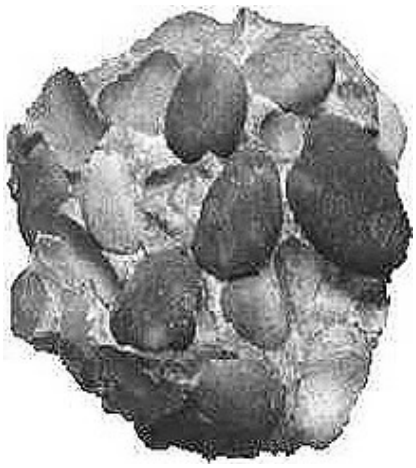
Fill in the blanks, using the words in the word bank, to complete the sentences.

sediments water chemicals sedimentary stick

1. **SEDIMENTARY** rocks are formed very slowly, over many years.
2. They are made from small pieces of **SEDIMENT.**
3. Sediments are found on the bottom of bodies of **WATER.**
4. **CHEMICALS** in the water or minerals in the sediment help the pieces **STICK** together.

SEDIMENTARY ROCK

Another of the three types of rock is the sedimentary rock. Sedimentary rocks are formed very slowly, over many many years. These rocks are made from small pieces of sediment (old broken down rocks, minerals, fossils, and sand). Sediments are found on the bottom of bodies of water. Over many years, sediments are layered up on top of each other. Chemicals in the water or minerals in the sediment act like glue and help the pieces of sediment stick together. This is how sedimentary rocks are formed.



Fill in the blanks, using the words in the word bank, to complete the sentences.

sediments water chemicals sedimentary stick

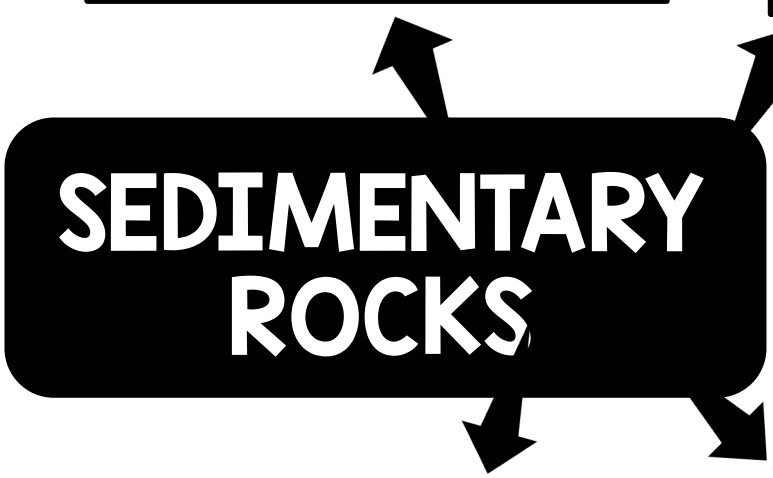
1. _____ rocks are formed very slowly, over many years.
2. They are made from small pieces of _____.
3. Sediments are found on the bottom of bodies of _____.
4. _____ in the water or minerals in the sediment help the pieces _____ together.

let's learn about SEDIMENTARY ROCKS

Name: _____

HOW IS SEDIMENTARY ROCK FORMED?

WHAT IS IT MADE OF?



HAVE YOU SEEN SEDDIMENTARY ROCK?

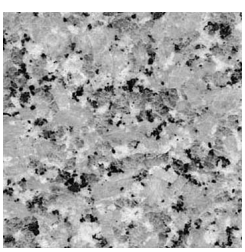
WHERE?

WHAT DID IT LOOK LIKE?

HOW DO THE SEDIMENTS STICK TOGETHER?

METAMORPHIC ROCK

Metamorphic rocks are rocks that change from extreme heat and pressure inside the Earth. The temperature inside the Earth, along with the weight of tons of land pressing down on the rock, causes it to go through a physical or chemical change. Some metamorphic rocks are made by sandstone being pressed together. Sandstone will change to quartzite, one of the hardest rocks, through this process. Another type of metamorphic rock forms when pressure rearranges the minerals inside rocks into layers, instead of grains that are found in igneous rock. In the picture, you can see that the first rock, granite, contains specks, or grains of minerals. After being pushed down from the pressure of the earth, theses specks form layers and change to the metamorphic rock, gneiss.



Fill in the blanks, using the words in the word bank, to complete the sentences.

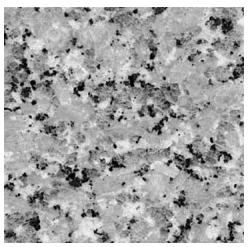
pressure layers metamorphic heat change

1. _____ rocks go through a physical or chemical change.
2. Metamorphic rocks are formed from extreme _____ and _____.
3. The pressure of the Earth can cause grains in igneous rock to change into _____ that are commonly found in metamorphic rocks.
4. Metamorphic rocks are rocks that _____ into another type of rock.

ANSWER KEY

METAMORPHIC ROCK

Metamorphic rocks are rocks that change from extreme heat and pressure inside the Earth. The temperature inside the Earth, along with the weight of tons of land pressing down on the rock, causes it to go through a physical or chemical change. Some metamorphic rocks are made by sandstone being pressed together. Sandstone will change to quartzite, one of the hardest rocks, through this process. Another type of metamorphic rock forms when pressure rearranges the minerals inside rocks into layers, instead of grains that are found in igneous rock. In the picture, you can see that the first rock, granite, contains specks, or grains of minerals. After being pushed down from the pressure of the earth, these specks form layers and change to the metamorphic rock, gneiss.



Fill in the blanks, using the words in the word bank, to complete the sentences.

pressure layers metamorphic heat change

1. **METAMORPHIC** rocks go through a physical or chemical change.
2. Metamorphic rocks are formed from extreme **HEAT** and **PRESSURE.**
3. The pressure of the Earth can cause grains in igneous rock to change into **LAYERS** that are commonly found in metamorphic rocks.
4. Metamorphic rocks are rocks that **CHANGE** into another type of rock.

let's learn about METAMORPHIC ROCKS

Name: _____

WHAT CAUSES METAPHORIC ROCKS:

EXAMPLES OF METAMORPHIC ROCKS:

METAMORPHIC ROCKS

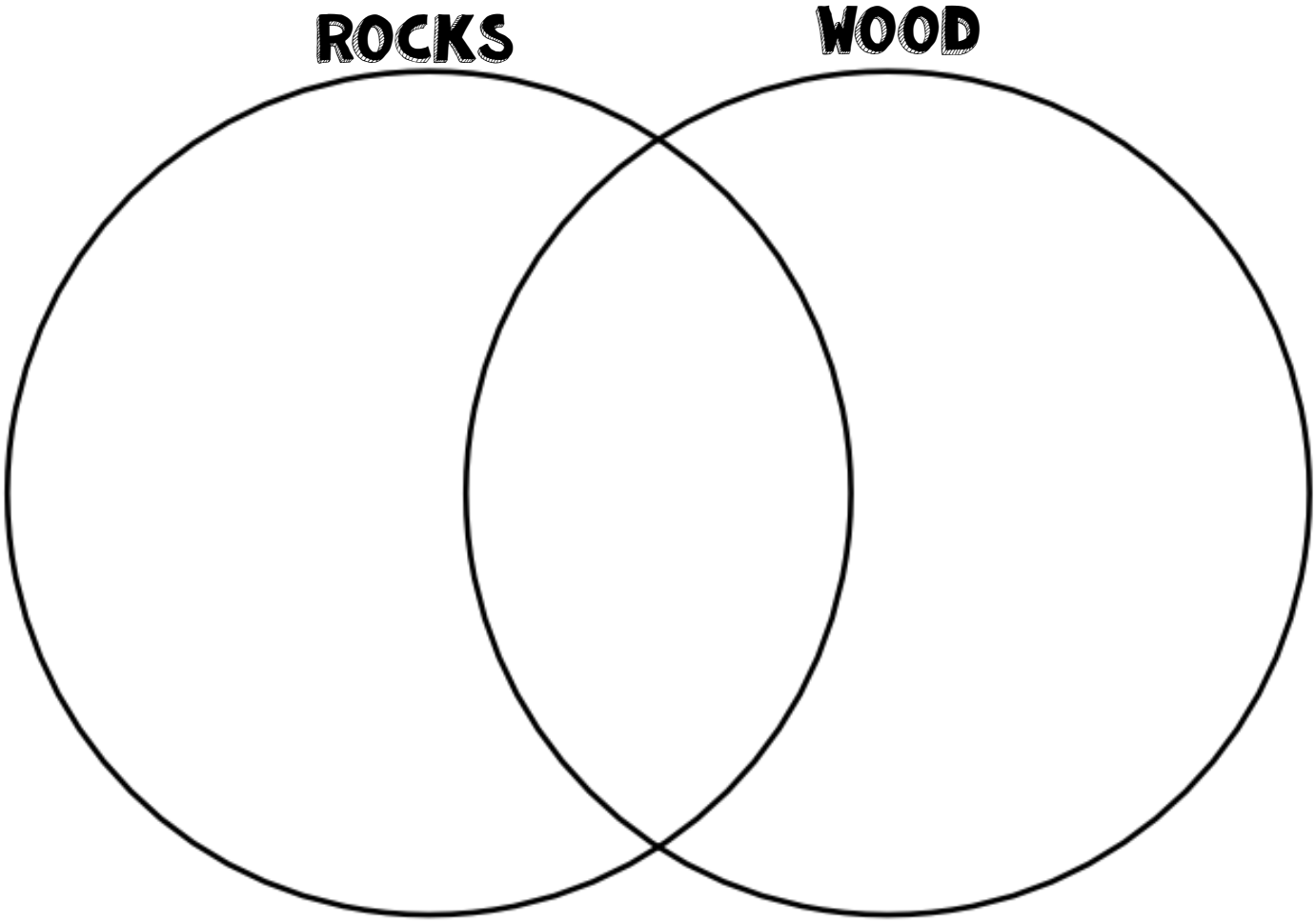
TWO TYPES OF METAMORPHIC ROCK:

HOW IT FORMS:

HOW IT FORMS:

observing characteristics of ROCK AND WOOD

Rocks and wood are two objects you can find in nature. Use your sense of sight and touch to determine the similarities and differences between a rock and a piece of wood.



Write a few sentences to describe your findings.

_____

_____

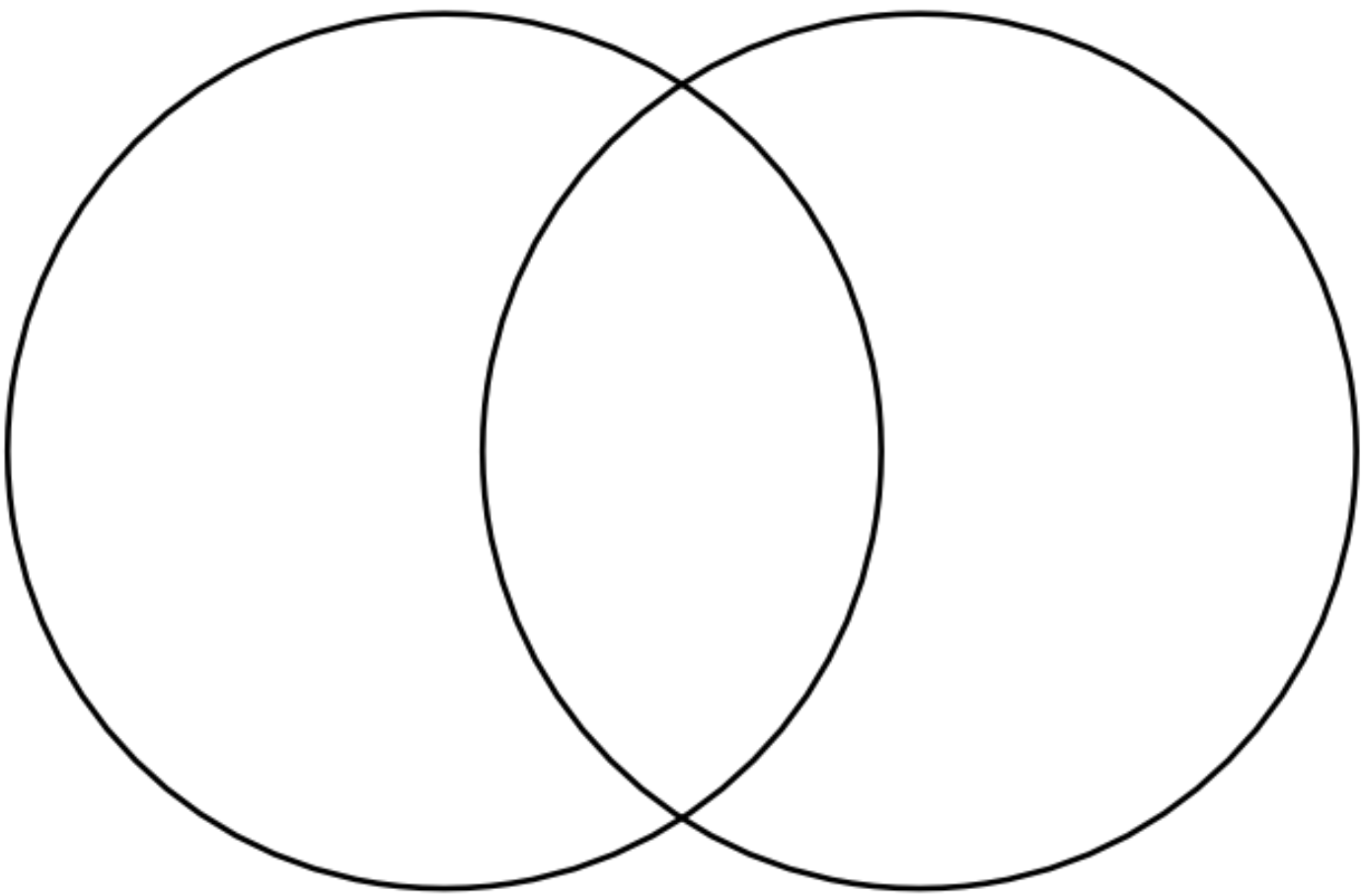
_____

_____

let's learn about
COMPARING ROCKS

Choose two rocks from your classroom rock collection. Write down what types of rocks they are (igneous, sedimentary, metamorphic) and compare and contrast the characteristics.

_____ _____



Write a few sentences to describe your findings.

_____

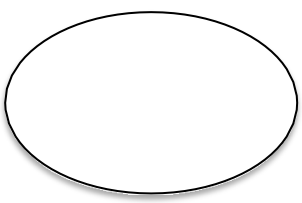
_____

_____

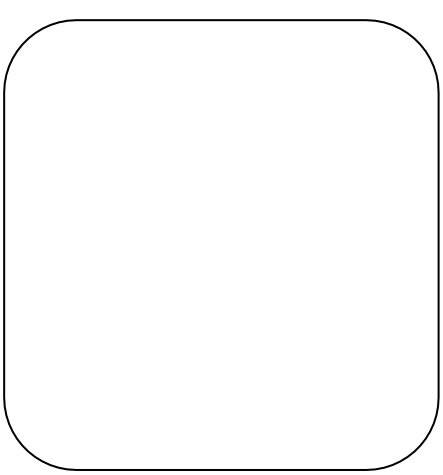
_____

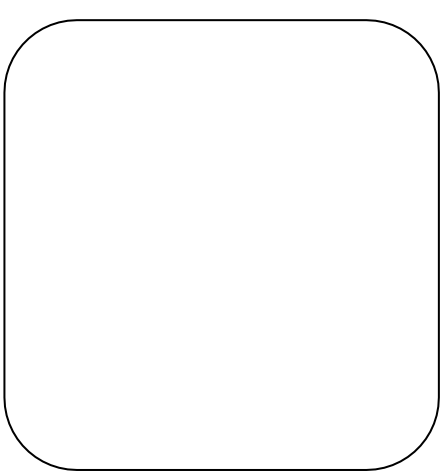
let's learn about COMPARING ROCKS

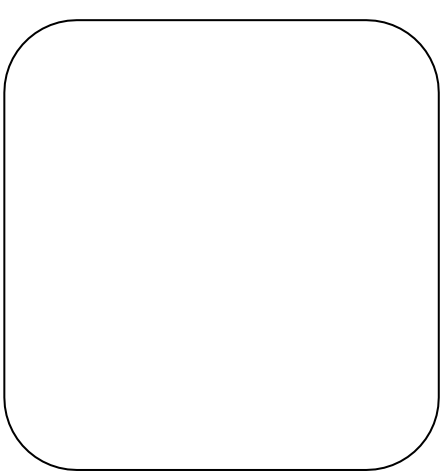
Choose a rock from your class rock collection. Think of all the different way you can use this rock. Make a web of your ideas. Put the name of your rock in the circle to begin your web.



Draw three of your ideas.







let's learn about
ROCK TYPES

Name: _____

Find words in the wordsearch. Write them on the lines provided.

C	F	D	E	H	F	R	W	E	C
D	I	G	N	E	O	U	S	Y	H
M	N	S	U	A	S	T	H	U	E
A	T	H	E	T	S	W	R	W	M
G	R	R	F	Y	I	J	K	F	I
M	U	H	A	T	L	K	R	J	C
A	S	I	K	W	S	L	A	V	A
M	I	N	E	R	A	L	S	U	L
H	V	U	O	W	T	R	E	U	S
F	E	X	T	R	U	S	I	V	E
P	R	E	S	S	U	R	E	R	J

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Use the words you found to complete the paragraph about ROCK TYPES.

_____ rocks form when liquid rock cools. When liquid rock is under ground, it is called _____. As Magma rises it slowly cools to form _____ igneous rock. When magma is outside the earth, it is called _____. It cools very quickly when it is outside the earth. This will form an _____ igneous rock. Sedimentary rock are made from broken down rocks, sand, _____ and _____. _____ in the water act like glue and stick pieces of sediment together. Metamorphic rocks change from extreme _____ and _____ inside the Earth

let's learn about
ROCK TYPES

Name: **ANSWER KEY**

Find words in the wordsearch. Write them on the lines provided.

				H	F				C
	I	G	N	E	O	U	S		H
M	N			A	S				E
A	T			T	S				M
G	R				I				I
M	U				L				C
A	S				S	L	A	V	A
M	I	N	E	R	A	L	S		L
	V								S
	E	X	T	R	U	S	I	V	E
P	R	E	S	S	U	R	E		

MAGMA

INTRUSIVE

HEAT

FOSSILS

CHEMICALS

IGNEOUS

LAVA

MINERALS

EXTRUSIVE

PRESSURE

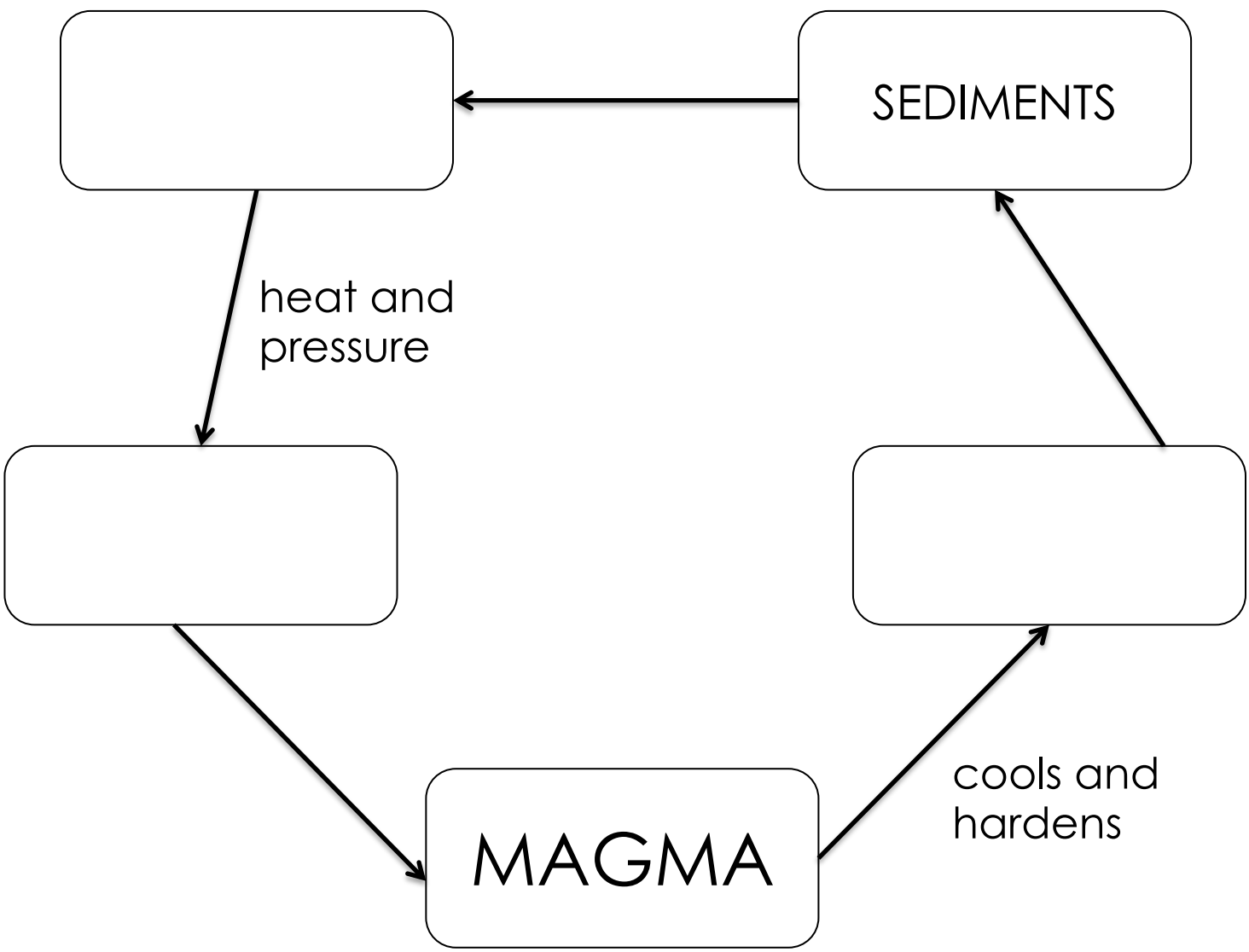
Use the words you found to complete the paragraph about ROCK TYPES.

IGNEOUS rocks form when liquid rock cools. When liquid rock is under ground, it is called **MAGMA**. As Magma rises it slowly cools to form **INTRUSIVE** igneous rock. When magma is outside the earth, it is called **LAVA**. It cools very quickly when it is outside the earth. This will form an **EXTRUSIVE** igneous rock. Sedimentary rock are made from broken down rocks, sand, **MINERALS** and **FOSSILS**. **CHEMICALS** in the water act like glue and stick pieces of sediment together. Metamorphic rocks change from extreme **HEAT** and **PRESSURE** inside the Earth

Rock Cycle

The process in which rocks change from one form to another is called the rock cycle. Complete the rock cycle diagram with the words in the word bank. Place the types of rocks in the rectangles. Write how they change from one type to another on the arrows. Some words in the word bank may not be used.

metamorphic rock	sedimentary rock	igneous rock
melting	weathering and erosion	compaction

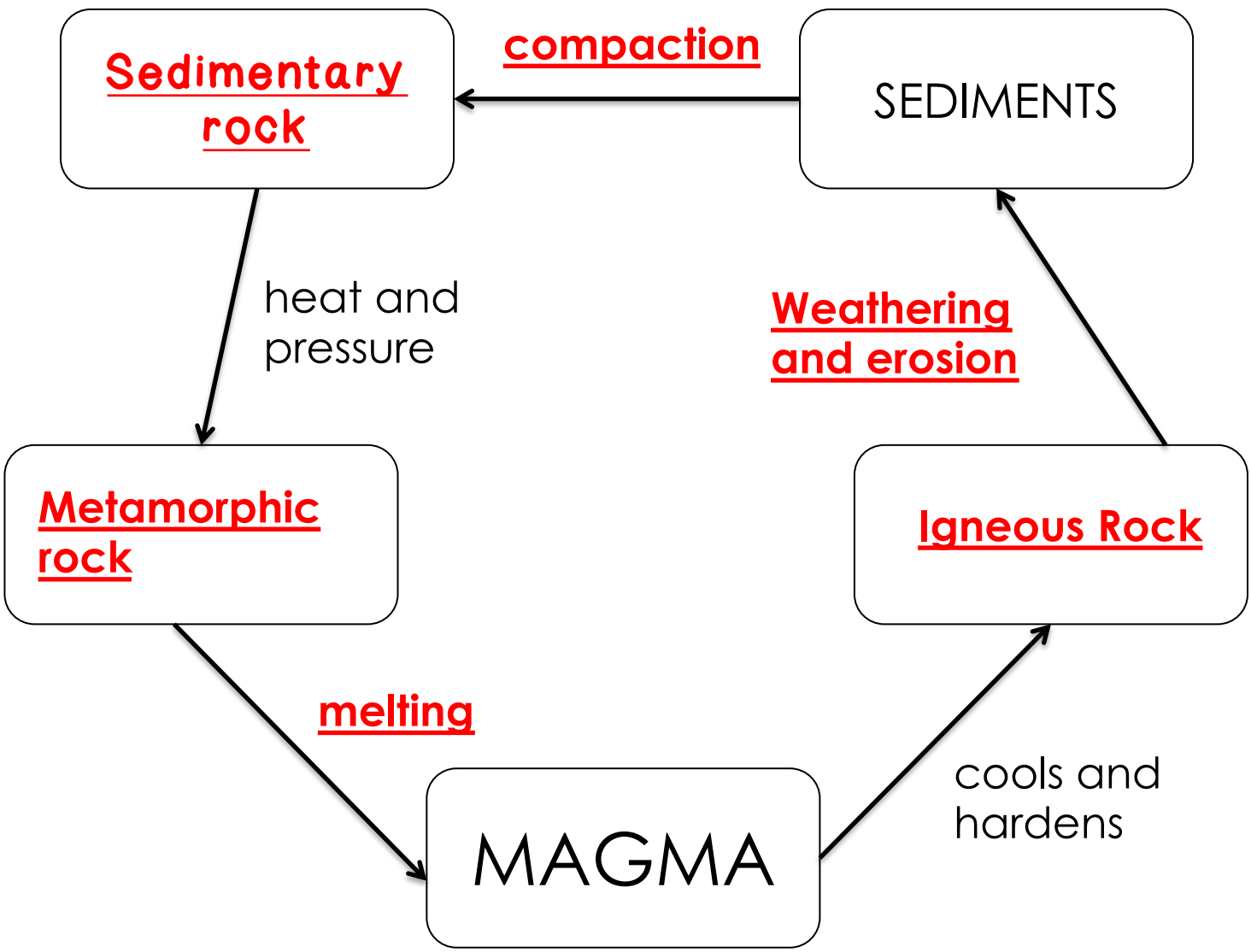


ANSWER KEY

Rock Cycle

The process in which rocks change from one form to another is called the rock cycle. Complete the rock cycle diagram with the words in the word bank. Place the types of rocks in the rectangles. Write how they change from one type to another on the arrows. Some words in the word bank may not be used.

metamorphic rock	sedimentary rock	igneous rock
melting	weathering and erosion	compaction



let's learn about

ROCK & MINERAL VOCABULARY

WORD	DEFINITION	PICTURE
Minerals		
Igneous Rock		
Metamorphic Rock		
Sedimentary Rock		
Weathering		
Erosion		

Weathering and Erosion

Weathering and erosion work together to change how our environment looks. This process breaks rocks down into smaller pieces and moves it to another location.

Weathering is what breaks down rocks into tiny pieces called sediment. Weathering can happen in many ways. Water can constantly flow over a rock, and over many years, make it smaller. Water can freeze inside a tiny crack of a rock and split it into two smaller pieces. Another way weathering can happen is from different plants or animals breaking down a rock.

Erosion is what moves the tiny pieces that have been weathered. This can happen when rocks fall down a hill or mountain into a new location. Flowing water can move pieces of rock down stream. Animals and people can also move rocks and sediments.

Fill in the blanks, using the words in the word bank, to complete the sentences.

erosion	weathering	location	sediment	change

1. _____ is the process of breaking down rocks into tiny pieces.

2. The tiny pieces of broken down rock are called _____.

3. _____ is what moves sediment from one _____ to another.

4. Weathering and erosion work together to _____ how our environment looks.

ANSWER KEY

Weathering and Erosion

Weathering and erosion work together to change how our environment looks. This process breaks rocks down into smaller pieces and moves it to another location.

Weathering is what breaks down rocks into tiny pieces called sediment. Weathering can happen in many ways. Water can constantly flow over a rock, and over many years, make it smaller. Water can freeze inside a tiny crack of a rock and split it into two smaller pieces. Another way weathering can happen is from different plants or animals breaking down a rock.

Erosion is what moves the tiny pieces that have been weathered. This can happen when rocks fall down a hill or mountain into a new location. Flowing water can move pieces of rock down stream. Animals and people can also move rocks and sediments.

Fill in the blanks, using the words in the word bank, to complete the sentences.

erosion	weathering	location	sediment	change

1. **WEATHERING** is the process of breaking down rocks into tiny pieces.

2. The tiny pieces of broken down rock are called **SEDDIMENT.**

3. **EROSION** is what moves sediment from one **LOCATION** to another.

4. Weathering and erosion work together to **CHANGE** how our environment looks.

let's learn about EROSION LAB

TEACHER NOTES

Please refer to the pictures and my blog post for more information on how to do this lab.

http://www.commoncoreandsomuchmore.com/2014/01/erosion-and-landforms-science-activity.html

Materials:
Ruler, Aluminum Tin, Sand, Books, Styrofoam Cup, Tape





let's learn about
EROSION LAB

1. Pour some sand into a pan so that it makes a layer 2 to 3 inches deep. Smooth the sand and pat it down so that it is as even as possible on the top.

2. Examine the sand closely. What does it look like?

3. Using sand, create some landforms in the middle of the pan. Draw a picture and label what you see.

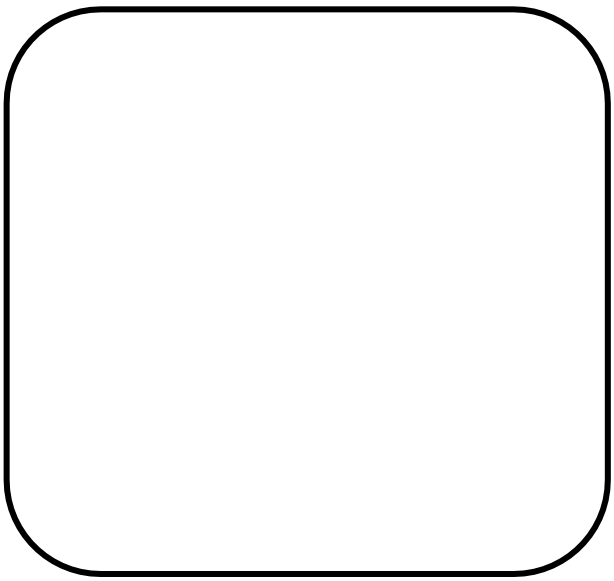
4. Slip 2 or 3 books under one end of the sand-filled pan so that it is propped up on one end.

5. Tape a ruler across the pan towards the top, leaving a few inches uncovered by the end.

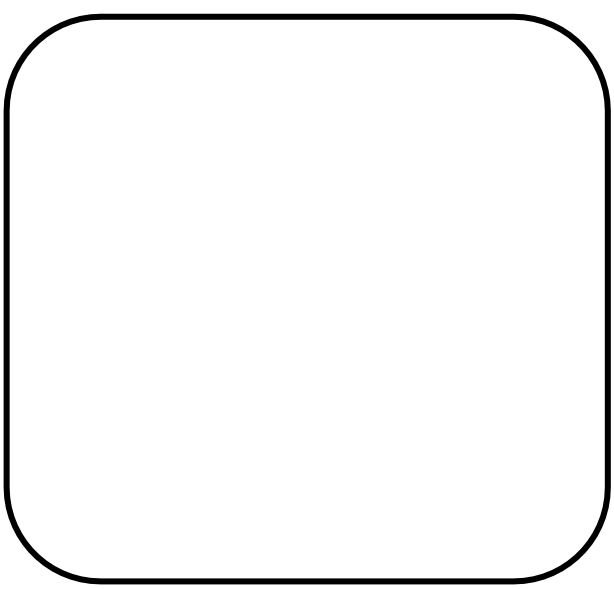
6. Take a cup and poke a hole in the bottom. Sit it on top of the ruler so the hole is directly over the sand and tape it to the ruler.

7. Draw a picture and label what your pan looks like in its current state.

8. Fill the cup up with water and wait for all the water to drip into the tray. What do you think will happen? Explain and draw a picture.



9. After the all the water drips out of the cup, what do you observe? Explain and draw a picture.



10. What might happen next time if you were to dump a whole cup of water all at once instead of letting it drip slowly?

let's learn about
ROCK SANDWICH

MATERIALS

penny
nail
pen cap
2 slices of white bread
1 slice of wheat bread
wax paper
ruler
heavy book

PROCEDURE

1. Lay a sheet of wax paper on your desk. Place a piece of white bread on top of the wax paper. Then, put a piece of wheat bread on top of the white bread.
2. On top of the wheat bread, place a penny, nail, and pen cap.
3. Stack one more piece of white bread on top of the objects.
4. Use the ruler to measure the height of the stack. Record your answer on your record sheet.
   Lay another sheet of wax paper on top of the bread. Place the book on top of the stack and press down.
6. Take off the top sheet of wax paper and use the ruler to measure the stack of bread.
7. Use your record sheet to make observations.

let's learn about ROCK SANDWICH

RECORD SHEET

Height of the bread before pressing on it_____cm.

Height of the bread after pressing on it_____cm.

Sketch pictures of the bread and record your observations

Before pressing on it	After pressing on it	With the top slice removed

What type of rock does this model represent? _____

How do you know? _____

_____

What do the objects on the wheat bread represent? _____

let's learn about ROCK CYCLE BROCHURE

TEACHER NOTES & INSTRUCTIONS

1. Give your students a piece of paper and have them fold it into thirds.

2. On one side of the paper, on top of each column, have the students write the titles – Main Attractions, Safety, Journey Through the Rock Cycle. This will be your title page and two back pages of the brochure.

3. On the other side of the paper, on top of each column, write the titles – Sedimentary Rock, Metamorphic Rock, Igneous Rock. This will be the inside of the brochure.

4. Students will pretend they are creating a brochure for someone who wants to travel through the rock cycle.
5.

   On the inside of the brochure, I had my students describe how each type of rock was formed and what they would enjoy seeing if they visited that rock. I also had them draw an example of each type of rock.

6. On the outside of the brochure, I had the students make a title page that consisted of a title, a picture, and their name.

7. In the Main Attractions, I had the students create some sort of event or show that would relate to the rock cycle.

8. The Safety section had tips to stay safe on their journey.

Please refer to my example on the next two pages for ideas.

BROCHURE EXAMPLE – BACK SIDE

MAIN ATTRACTIONS

There are many things you will look forward to seeing on your trip through the rock cycle.

The magma explosion show!
Come see the magma turn to lava as it explodes out of a real volcano! Admission is $5 per person and includes sunglasses to protect your eyes from the bright light!

Fun with Fossils!
Fun with fossils is a program where you dig through sedimentary rocks to uncover long lost remains of plants and animals. You will get a bag to bring your findings home with you. $15 per person.

Rock Collecting Tour
Join the rock collecting tour! You will be on a guided tour where you will sift for rocks and minerals in a nearby lake. Maybe one of the sediments you will find will be gold!
$10 per person

SAFETY

Please keep in mind that you should take certain precautions while journeying through the rock cycle.

1.Wear gym shoes. You will be doing a lot of walking on uneven surfaces and will need good balance so you do not fall.

2.Please do not touch the lava. The temperatures of the molten rock will burn you.

3.Stay with the group. Do not journey off on our own since the rock cycle is very large and you might get lost.

TITLE PAGE

JOURNEY THROUGH THE ROCK CYCLE!

DRAW A PICTURE HERE

By: _____

BROCHURE EXAMPLE - INSIDE

SEDIMENTARY ROCK

When you visit sedimentary rocks, you will learn that these rocks were formed when tiny pieces of sediments get squeezed together over time.

You will enjoy visiting sedimentary rocks because you might find fossils of plants and animals from long ago!

METAMORPHIC ROCK

Metamorphic rocks have morphed into other rocks. These rocks were once igneous or sedimentary. The rocks change when they are under a lot of heat and pressure.

You will enjoy seeing the stripes from the layers of rocks that have formed over time. If you look closely you can see how flat the grains have become!

IGNEOUS ROCK

Igneous rocks form either underground or on the outside of a volcano from the magma or lava. As the lava or magma cools, it becomes hard and turns into a rock.

You will enjoy seeing explosions of volcanoes and witness the lava turn into a rock. You will also see mountains made out of granite and might also find some obsidian near the volcano.

ROCK CYCLE TRAVEL BROCHURE RUBRIC

	3	2	1
Main Attractions	Student accurately describes 2 or more attractions for the rock cycle	Student accurately describes 1 attraction for the rock cycle	Student does not describe any attractions for the rock cycle
Safety Information	Student describes at least 3 ways of staying safe throughout the rock cycle	Student describes 2 ways of staying safe throughout the rock cycle	Student describes 1 way of staying safe throughout the rock cycle
Sedimentary Description	Accurate description of how the rock forms and what will be seen	Somewhat accurate description of how the rock forms and what will be seen	Vague description of how the roc k forms and what will be seen
Metamorphic Description	Accurate description of how the rock forms and what will be seen	Somewhat accurate description of how the rock forms and what will be seen	Vague description of how the roc k forms and what will be seen
Igneous Description	Accurate description of how the rock forms and what will be seen	Somewhat accurate description of how the rock forms and what will be seen	Vague description of how the roc k forms and what will be seen
Graphics	Four graphics in the appropriate sections	2-3 graphics in the appropriate sections	1 graphic in the appropriate section
Neatness	Handwriting and organization of the brochure is very neat	Handwriting and organization of the brochure is somewhat neat	Handwriting and organization of the brochure is not neat

ROCKS AND MINERALS
assessment

Name: _____ Date: _____

A: MULTIPLE CHOICE - Circle the correct answer. [6]

1. Rocks formed by cooling magma are _____ rocks.

a. Igneous b. Sedimentary c. Minerals d. Metamorphic

2. _____ rocks are layers of pieces of rocks compacted.

a. Sedimentary b. Igneous c. Metamorphic d. Minerals

3. _____ rocks are created by changing one rock into another because of heat and pressure.

a. Minerals b. Metamorphic c. Sedimentary g. Igneous

4. Liquid rock that erupts near or on the Earth's surface is _____.

a. magma b. lava c. molten rock d. crust

5. _____ and crystals grow in size but are not living.

a. extrusive b. habit c. minerals d. intrusive

6. Which is not a property of minerals:

a. color b. luster c. taste d. streak

B: DEFINITION - Write the definition for the words. [6]

1. **Extrusive** _____

2. **Intrusive** _____

3. **Habit (with regards to crystals)** _____

4. **Minerals** _____

5. **Erosion** _____

6. **Luster** _____

Name: _____ Date: _____

C: TRUE OR FALSE? - If false, correct the answer. [5]

1. Weathering is the process of sediments moving over a surface.

_____

2. Baby powder is made from the hardest mineral.

_____

3. Crystals are confused with rocks.

_____

4. People and animals moving rocks and sediments from one place to another is a form of weathering.

_____

5. Rocks need to be weathered in order for sedimentary rock to be formed.

_____

D: WHAT IS IT? Read the definition and write the word it defines. [5]

1. The breaking down of rock into smaller pieces.	
2. A person who studies the Earth and changes below the surface of the Earth.	
3. Hot melted rock found deep inside the Earth.	
4. The **process** in which one rock changes into another rock.	
5. A rock that has gone through physical and chemical changes.	

E: FILL IN THE MISSING WORD. [12 x ½ = 6]

1. The outer most layer of the Earth is the _____.

2. Meteorites contain bits of _____ and _____.

3. The _____ of the mantle causes _____ and _____.

Name: _____ Date: _____

4. The outer core is the only layer that is _____.

5. We use the mineral, _____ in pencils.

6. Crystals are able to grow from _____, _____ and _____.

7. Weathering and _____work together to change how our environment looks.

F: ANSWER THE QUESTIONS in full sentences. [6]

1. Why does the centre of the Earth not melt?

_____

_____

2. What is molten rock?

_____

3. How do scientists know about the Earth's layers? (2)

_____

_____

4. Explain two ways in which water weathers rock. (2)

_____

_____

_____

G: DISCUSSION TOPICS. [12]

1. Discuss the properties of mantle.

_____

_____

_____(2)

2. Many people use parts of the crust in their kitchens. What is an example of rock used in kitchens, what is it used for and why is it perfect for the job?

_____

_____

_____(3)

Name: _____ Date: _____

3. Discuss two types of Metamorphic rock and how they are formed.

_____

_____

_____

_____(4x ½= 2)

2. Explain the process of the rock cycle.

_____

_____

_____

_____

_____

_____

_____

_____(10x½ = 5)

H: DIAGRAMS. [4]

Draw and label a cross section of the Earths layers.

TOTAL [50]

ROCKS AND MINERALS
assessment

Name: **ANSWER KEY** Date: _____

A: MULTIPLE CHOICE - Circle the correct answer. [6]

1. Rocks formed by cooling magma are _____ rocks.

a. Igneous b. Sedimentary c. Minerals d. Metamorphic

2. _____ rocks are layers of pieces of rocks compacted.

a. Sedimentary b. Igneous c. Metamorphic d. Minerals

3. _____ rocks are created by changing one rock into another because of heat and pressure.

a. Minerals **b. Metamorphic** c. Sedimentary g. Igneous

4. Liquid rock that erupts near or on the Earth's surface is _____.

a. magma **b. lava** c. molten rock d. crust

5. _____ and crystals grow in size but are not living.

a. extrusive b. habit **c. minerals** d. intrusive

6. Which is not a property of minerals:

a. color b. luster **c. taste** d. streak

B: DEFINITION - Write the definition for the words. [6]

1. **Extrusive** — **Lava cools on the outside of the Earth's surface and forms Extrusive igneous rock.**
2. **Intrusive** — **Magma cools below the Earth's surface and forms Intrusive Igneous rock.**
3. **Habit (with regards to crystals)** — **The shape of a crystal.**
4. **Minerals** — **Naturally occurring on Earth.**
5. **Erosion** — **Moving sediments from one place to another.**
6. **Luster** — **How the mineral or crystal reflects light.**

Name: _____ Date: _____

C: TRUE OR FALSE? - If false, correct the answer. [5]

1. Weathering is the process of sediments moving over a surface.

False, erosion is the process of sediments moving over a surface.

2. Baby powder is made from the hardest mineral.

False, baby powder is made from the softest mineral.

3. Crystals are confused with rocks.

False, crystals are confused with gem stones.

4. People and animals moving rocks and sediments from one place to another is a form of weathering.

False, it is a form of erosion

5. Rocks need to be weathered in order for sedimentary rock to be formed.

True

D: WHAT IS IT? Read the definition and write the word it defines. [5]

1. The breaking down of rock into smaller pieces.	**WEATHERING**
2. A person who studies the Earth and changes below the surface of the Earth.	**GEOLOGIST**
3. Hot melted rock found deep inside the Earth.	**MAGMA**
4. The **process** in which one rock changes into another rock.	**ROCK CYCLE**
5. A rock that has gone through physical and chemical changes.	**METAMORPHIC ROCK**

E: FILL IN THE MISSING WORD. [12 x ½ = 6]

1. The outer most layer of the Earth is the **CRUST.**

2. Meteorites contain bits of **NICKLE** and **COPPER.**

3. The **MOVEMENT** of the mantle causes **VOLCANIC ERUPTIONS** and **EARTHQUAKES.**

Name: _____ Date: _____

4. The outer core is the only layer that is **MAGNETIC.**
5. We use the mineral, **GRAPHITE** in pencils.
6. Crystals are able to grow from **GAS, LIQUID** and **SOLID.**
7. Weathering and **EROSION** work together to change how our environment looks.

F: ANSWER THE QUESTIONS in full sentences. [6]

1. Why does the centre of the Earth not melt?

There is too much pressure and heat which prevents it from melting.

2. What is molten rock?

Rock that is so hot, it has melted.

3. How do scientists know about the Earth's layers? (2)

They use seismic and magnetic waves to determine what the layers of the Earth are.

4. Explain two ways in which water weathers rock. (2)

Water can constantly flow over a rock, and over many years, make it smaller. Water can freeze inside a tiny crack of a rock and split it into two smaller pieces.

G: DISCUSSION TOPICS. [12]

1. Discuss the properties of mantle.

Mantle has intense heat
It is moldable and moves at a very slow pace. (2)

2. Many people use parts of the crust in their kitchens. What is an example of rock used in kitchens, what is it used for and why is it perfect for the job?

Granite comes from the crust.
It is used as countertops, cutting boards and pot stands (only one example needed)
It is extremely hard so it doesn't get damaged from hot pots and when used as cutting boards. (3)

Name: _____ Date: _____

3. Discuss two types of Igneous rock and how they are formed.

Intrinsic Igneous Rock is formed when magma cools below the Earth's surface

Extrinsic Igneous Rock is formed when lava cools outside the Earth's surface. (4x½=2)

2. Explain the process of the rock cycle.

Magma (✔) cools and hardens (✔) forming Igneous rock (✔).

Weathering and erosion (✔) takes place and sediments (✔) are formed.

The sediments are compacted (✔) to form Sedimentary rock (✔) .

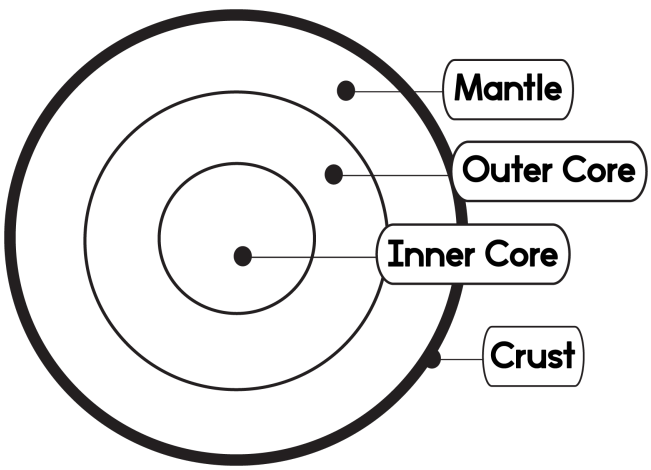
The heat and pressure (✔) is applied to sedimentary rock and metamorphic rock is formed(✔)

The metamorphic rock is melted (✔) into magma and the cycle starts again.

(10x½ = 5)

H: DIAGRAMS. [4]

Draw and label a cross section of the Earths layers.



TOTAL [50]

ROCKS AND MINERALS

WRITING AND WORD STUDY

let's write about ROCKS & MINERALS

ADVENTURE STORY

Choose a title for your story and create an exciting adventure. Try to use as many rocks and minerals words as you can.

Trapped in a Mine
The Magic Stone
Digging for Gold
The Sparkling Stone
Danger! Falling Rocks
Mineral Mountain

let's write about ROCKS & MINERALS

ACROSTIC POEM

Create an acrostic poem using the letters in the words ROCK and MINERAL. Each word should begin with the letter and be associated with what you have learned about rocks and minerals.

R

O

C

K

M

I

N

E

R

A

L

let's write about
ROCKS & MINERALS

CINQUAIN POEM

A **cinquain** poem has five lines. It has a pattern, but doesn't rhyme.

Line 1 – 1 Word

Line 2 – 2 Words

Line 3 – 3 Words

Line 4 – 4 Words

Line 5 – 1 Word

Choose a mineral that you studied and write your own cinquain poem about it. Then, illustrate your poem.

_____

_____

_____

_____

_____

let's write about
ROCKS & MINERALS

DIAMOND AUCTION

The largest diamond in the word is up for auction. You are in charge of creating an advertisement to encourage people to place a bid. Include facts you know about diamonds to help persuade your readers.

1

What type of rock is made when lava cools?

A. igneous
B. sedimentary
C. metamorphic
D. fossil

2

In what type of rock are you most likely to find a fossil?

A. igneous
B. sedimentary
C. metamorphic
D. mineral

3

What do all rocks have in common?

A. They are the same size
B. They are the same shape
C. They are made up of minerals
D. They are the same color

4

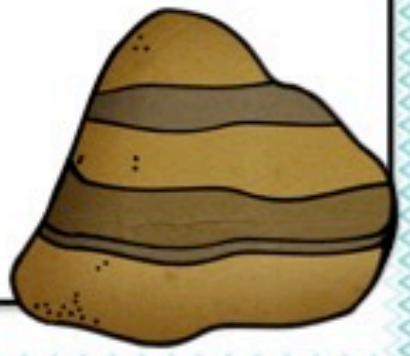
What is the difference between a rock and a mineral?

A. Rocks are harder
B. Minerals are prettier
C. Rocks are made up of minerals
D. Minerals are nonliving

5

Which of these items are not made of rocks or minerals?

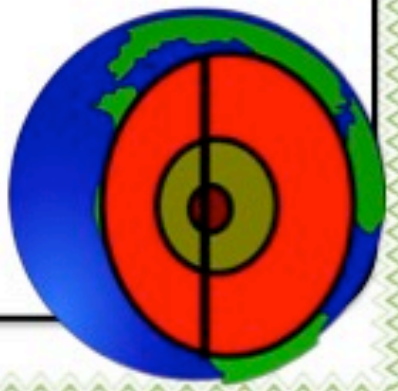
A. blanket
B. jewelry
C. pottery
D. buildings



6

Where are rocks found?

A. inner core
B. outer core
C. crust
D. mantle



7

Using the Mohs Hardness Scale, which minerals is the hardest?

A. quartz
B. diamond
C. talc
D. pyrite

8

Which of the following is not a property of a mineral?

A. luster
B. hardness
C. size
D. streak

9 Which rock is formed by heat and pressure?

A. igneous
B. sedimentary
C. metamorphic
D. fossil

10 Which of the following is not true about minerals?

A. Must be solid
B. Must be formed by nature
C. Must be shiny
D. Must be nonliving

11 What is the term for the process of the breaking down of rocks?

A. heat and pressure
B. cool and harden
C. melting and cooling
D. weathering and erosion

12 What is a type of rock that is formed when layers of sediment harden over millions of years?

A. igneous
B. sedimentary
C. metamorphic
D. fossil

13

Scientists who study the earth and process that shape it are called...

A. meteorologists

B. biologists

C. zoologists

D. geologists

14

What is the process by which water, ice, wind, or gravity move weathered rock and soil?

A. weathering

B. decomposition

C. erosion

D. fossilization

15

Rocks are grouped by how they...

A. form

B. change

C. melt

D. look

16

Fossils show the _____ of an animal that lived long ago.

A. color

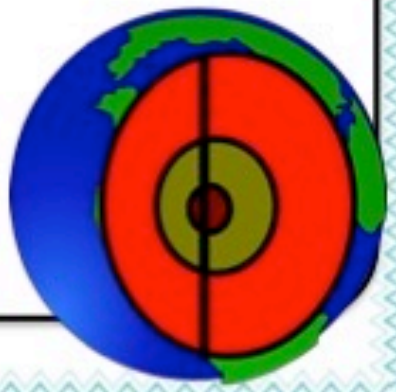
B. shape

C. skin

D. fur

17 The hottest layer of Earth is called the...

A. crust
B. inner core
C. outer core
D. mantle



18 Which of the following is not a type of fossil?

A. mold
B. cast
C. imprint
D. sediment

19 Which type of rock means "to change?"

A. igneous
B. sedimentary
C. metamorphic
D. fossil

20 How can a metamorphic rock become magma?

A. pressure
B. cooling
C. melting
D. hardening

21 Heat helps form which types of rock?

A. igneous and metamorphic

B. sedimentary and metamorphic

C. igneous

D. sedimentary

22 Fossils often last in sedimentary rocks because the rocks...

A. are very hot

B. are often near animals

C. have layers that protect the fossil

D. don't ever change

23 A _____ mineral will scratch a _____ mineral.

A. small, big

B. soft, hard

C. hard, soft

D. big, small

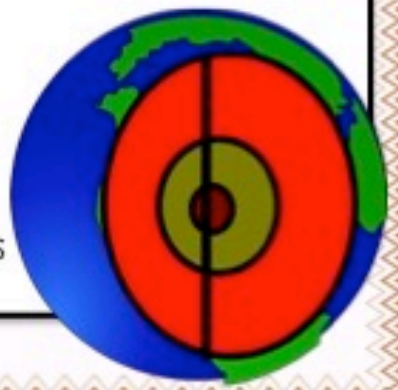
24 As you go deeper into the Earth...

A. it gets hotter

B. it gets cooler

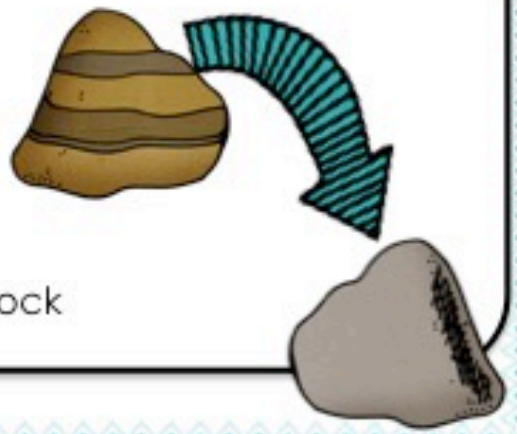
C. rocks get smaller

D. the pressure decreases



25 The process of one type of rock turning into another is called…

A. water cycle
B. igneous rock
C. rock cycle
D. metamorphic rock



26 Which is not a type of igneous rock?

A. obsidian
B. sandstone
C. pumice
D. granite

27 Which is not a type of sedimentary rock?

A. limestone
B. sandstone
C. granite
D. coal

28 Which is not a type of metamorphic rock?

A. gneiss
B. marble
C. slate
D. conglomerate

ROCKS AND MINERALS

answer key

1. A
2. B
3. C
4. C
5. A
6. C
7. B
8. C
9. C
10. C
11. D
12. B
13. D
14. C
15. A
16. B
17. B
18. D
19. C
20. C
21. A
22. C
23. C
24. A
25 C
26. B
27. C
28. D