

What are rocks and their PROPERTIES?

A _____ is a _____ material made of one or more _____.

What do you know about rocks?	Where do you find rocks?	How are rocks used?
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In the rock spaces below, draw a sketch of the rock and list any observations. {color, texture, patterns, odor, size, shape}

Pink Granite		Basalt	
Sketch	Observations	Sketch	Observations

Rocks are made of smaller particles called _____.



classifying rocks

A _____ is any characteristic of matter that you can observe.

You brought two rocks from your neighborhood. In the spaces provided below, write down the properties of your rocks. (color, texture, odor, size, shape, etc.)

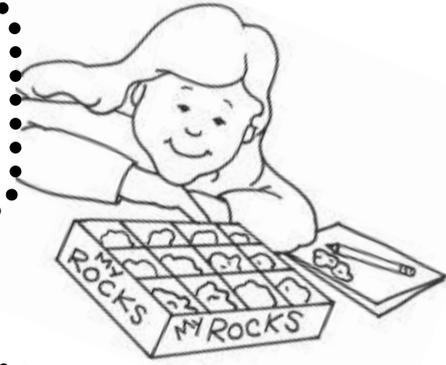
rock 1

rock 2

We can classify rocks based on their _____.

Two properties for classifying rocks are _____
and _____.

TYPES OF ROCKS



rock cycle song

sedimentary rock
has been formed in layers,
often found near water sources
with fossils from decayers

then there's igneous rock
here since earth was born
molten lava, cooled and hardened
that is how it's formed

these two types of rocks
can also be transformed
with pressure, heat, and chemicals
metamorphic they'll become

IGNEOUS ROCK

SEDIMENTARY ROCK

METAMORPHIC ROCK



What are minerals?

What do we know about minerals?

What do we want to know about minerals?

A mineral is a _____ material found in Earth's crust.

A mineral must be:

- _____
- occur in nature
- _____
- crystal structure

Minerals are identified by their _____. Those properties include: color, streak, _____, hardness, _____, _____.

What are some uses for minerals?



PROPERTIES OF MINERALS

properties of minerals

tune: row, row, row your boat

hardness, odor, color, taste,
cleavage, luster, streak
identify a mineral
by its properties

Hardness is the
ability to

another mineral.

Odor is the

of a mineral.

_____ is
the first thing
you see when you
look at a mineral.

Cleavage describes
how a mineral

along lines.

Only dissolvable
minerals have
_____ .

_____ is
how shiny or dull
a mineral is.

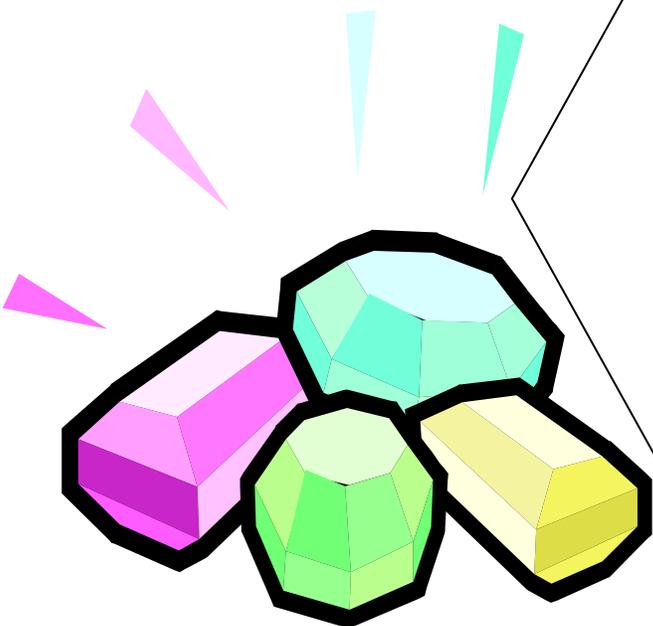
Streak is the powder a
mineral leaves behind when
_____ along a
surface.

Let's look at some minerals!

Mineral 1

1. Observe the two minerals you have.
2. Draw a sketch of your mineral.
3. List the properties of the mineral you are observing.

Mineral 2





identifying minerals

A _____ is a tool geologists use to identify minerals by their properties.

Mineral Identification Key

Streak	Color	Hardness	Luster	Special Properties	Mineral Name
Greenish Black	Brassy yellow	6 - 6.5	Metallic	Sometimes in crystal shapes, called "fools gold"	Pyrite
Light to dark red	Red, brown, or black	5 - 6	Dull or Metallic	Sometimes magnetic	Hematite
Black	Black or silver	6	Metallic or sub metallic	Strongly magnetic	Magnetite
None	Brown, dark green, or black	5 - 6	Glassy	Appears silky	Hornblende
White	Many colors	4 (scratched by a paper clip)	Glassy	Sometimes fluorescent	Fluorite
Colorless	Colorless	3 (scratched by a penny)	Glassy	Smooth surface, may fizz with acid	Calcite
Black	Black	1-2 (scratched by fingernail)	Dull or metallic	Used inside pencils, easily leaves a mark on paper	Graphite
Colorless	Black to colorless	2.5 - 3	Pearly or glassy	Splits into thin sheets, smooth texture	Muscovite
White	White or cream	2 (easily scratched by fingernail)	Glassy to pearly	powdery	Gypsum
Gray or White	White	1	Pearly to greasy	Feels greasy, ground up to make baby powder	Talc
Colorless	Brown, pink, blue	9	Nonmetallic	Sometimes has hexagonal crystals	Corundum
Colorless	Many colors	7	Glassy	Sometimes has hexagonal crystals	Quartz

Use your mineral key to identify the minerals in front of you. Write the name of the minerals in the table.

Mineral 1	Mineral 2	Mineral 3



What are FOSSILS?

1. What are fossils? _____

2. Write four places that fossils can be found.

3. List 5 tools that can be used for finding fossils.

4. Write two safety rules to follow when looking for fossils.

1 _____

2 _____

Picture	Now	Then
5. 		
6. 		



TYPES OF FOSSILS

Cast

Mold

Preserved Part

studying fossils



You can learn a lot about Earth's past from studying fossils.

Fossils of a water organism in an area that is now mountains or plains means that area was once possibly under

_____.

Fossils of trees or tree parts that are found in a desert mean that area was possibly once a _____.

Fossils of plants that are found in very cold areas of Earth means that area at one time possibly had a _____ climate.



TYPES OF SOILS

_____ is a mixture of minerals, broken down rocks, and other things.

Water, air, and _____ things can also be found in soil.

Facts about soil from video

- _____
- _____
- _____

Clay	Sand	Silt	Humus
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

_____ has large and small grains with lots of humus. This makes it dark and rich soil for plants.



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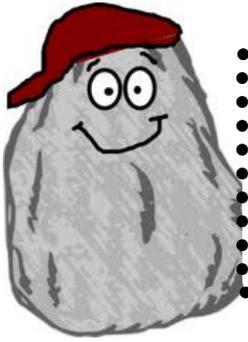
CLASSIFYING SOILS

Humus

Silt

Sand

Clay



What are rocks and their PROPERTIES?

A rock is a nonliving material made of one or more minerals.

What do you know about rocks?

Students work with their group to make a list of what they know about rocks.

Where do you find rocks?

Students work with their group to write what they know about rocks.

How are rocks used?

Students work with their group to write about how rocks can be used.

In the rock spaces below, draw a sketch of the rock and list any observations. {color, texture, patterns, odor, size, shape}

Pink Granite

Sketch

Students draw a picture of the rock.

Observations

Describe the rock using the five senses.

Basalt

Sketch

Students draw a picture of the rock.

Observations

Describe the rock using the five senses.

Rocks are made of smaller particles called minerals.



classifying rocks

A property is any characteristic of matter than you can observe.

You brought two rocks from your neighborhood. In the spaces provided below, write down the properties of your rocks. (color, texture, odor, size, shape, etc.)

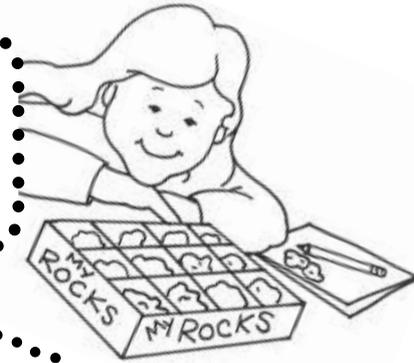
rock 1

rock 2

We can classify rocks based on their properties.

Two properties for classifying rocks are answers vary and answers vary.

TYPES OF ROCKS



rock cycle song

sedimentary rock
has been formed in layers,
often found near water sources
with fossils from decayers

then there's igneous rock
here since earth was born
molten lava, cooled and hardened
that is how it's formed

these two types of rocks
can also be transformed
with pressure, heat, and chemicals
metamorphic they'll become

METAMORPHIC ROCK

Students
write notes
here

IGNEOUS ROCK

Students
write notes
here

SEDIMENTARY ROCK

Students
write notes
here



What are minerals?

What do we know about minerals?

Students write what they know about minerals

What do we want to know about minerals?

Students write what they want to know about minerals

A mineral is a solid material found in Earth's crust.

A mineral must be:

- non-living
- occur in nature
- solid
- crystal structure

Minerals are identified by their properties. Those properties include: color, streak, luster, hardness, odor, cleavage.

What are some uses for minerals?

Students will list uses from the flipchart here.



PROPERTIES OF MINERALS

properties of minerals

tune: row, row, row your boat

hardness, odor, color, taste,
cleavage, luster, streak
identify a mineral
by its properties

Hardness is the
ability to scratch
another mineral.

Odor is the
smell of a
mineral.

Color is the first
thing you see
when you look at
a mineral.

Cleavage describes
how a mineral
breaks along lines.

Only dissolvable
minerals have
taste.

Luster is how
shiny or dull a
mineral is.

Streak is the powder a
mineral leaves behind when
rubbed along a surface.

Let's look at some minerals!

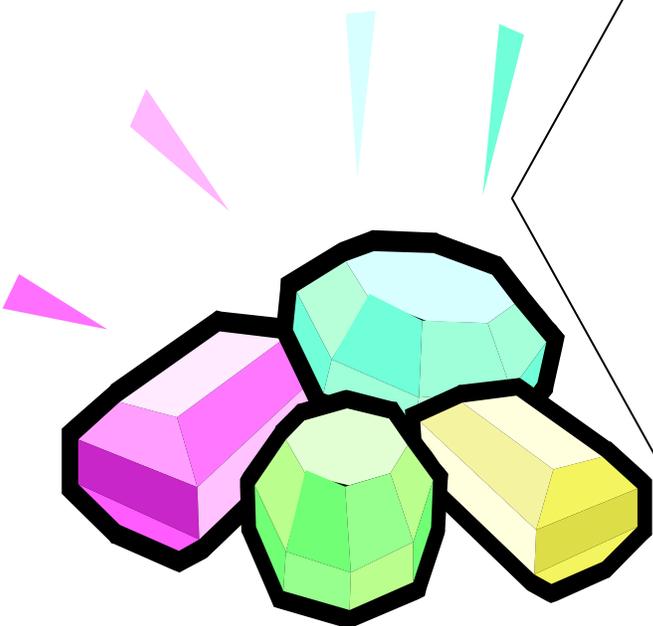
Mineral 1

Students will draw their mineral and list any properties that could be used to identify the mineral.

1. Observe the two minerals you have.
2. Draw a sketch of your mineral.
3. List the properties of the mineral you are observing.

Mineral 2

Students will draw their mineral and list any properties that could be used to identify the mineral.





identifying minerals

A **mineral identification key** is a tool geologists use to identify minerals by their properties.

Mineral Identification Key

Streak	Color	Hardness	Luster	Special Properties	Mineral Name
Greenish Black	Brassy yellow	6 - 6.5	Metallic	Sometimes in crystal shapes, called "fools gold"	Pyrite
Light to dark red	Red, brown, or black	5 - 6	Dull or Metallic	Sometimes magnetic	Hematite
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Colorless	Colorless	3 (scratched by a penny)	Glassy	Smooth surface, may fizz with acid	Calcite
Black	Black	1-2 (scratched by fingernail)	Dull or metallic	Used inside pencils, easily leaves a mark on paper	Graphite
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Colorless	Brown, pink, blue	9	Nonmetallic	Sometimes has hexagonal crystals	Corundum
Colorless	Many colors	7	Glassy	Sometimes has hexagonal crystals	Quartz

Use your mineral key to identify the minerals in front of you. Write the name of the minerals in the table.

Mineral 1	Mineral 2	Mineral 3
Students observe the mineral and use the key to make an identification.	Students observe the mineral and use the key to make an identification.	Students observe the mineral and use the key to make an identification.

1. What are fossils? _____

2. Write four places that fossils can be found.

3. List 5 tools that can be used for finding fossils.

4. Write two safety rules to follow when looking for fossils.

1 _____

2 _____

Picture	Now	Then
5. 		
6. 		



TYPES OF FOSSILS

Cast

Write the definition for cast here.

Write the definition for mold here.

Mold

Preserved Part

Write the definition for preserved part here.

studying fossils



You can learn a lot about Earth's past from studying fossils.

Fossils of a water organism in an area that is now mountains or plains means that area was once possibly under water.

Fossils of trees or tree parts that are found in a desert mean that area was possibly once a forest.

Fossils of plants that are found in very cold areas of Earth means that area at one time possibly had a warmer climate.



TYPES OF SOILS

soil is a mixture of minerals, broken down rocks, and other things.

Water, air, and living things can also be found in soil.

Facts about soil... *students write facts from video*

- 1 _____
- 2 _____
- 3 _____

Clay	Sand	Silt	Humus
<ul style="list-style-type: none"> <input type="checkbox"/> smaller grains than sand or silt <input type="checkbox"/> holds water easily <input type="checkbox"/> sticky when wet <input type="checkbox"/> clumpy when dry 	<ul style="list-style-type: none"> <input type="checkbox"/> large grains <input type="checkbox"/> doesn't hold water easily <input type="checkbox"/> feels gritty 	<ul style="list-style-type: none"> <input type="checkbox"/> smaller grains than sand <input type="checkbox"/> feels like powder 	<ul style="list-style-type: none"> <input type="checkbox"/> made of decayed parts of living things <input type="checkbox"/> dark <input type="checkbox"/> soft <input type="checkbox"/> crumbly

loam has large and small grains with lots of humus. This makes it dark and rich soil for plants.



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CLASSIFYING SOILS

Humus

Students write
observations of
humus.

Silt

Students write
observations of
silt.

Sand

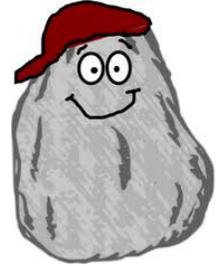
Students write
observations of
sand.

Clay

Students write
observations of
clay.

Name _____ Date _____

ROCKS QUIZ



Directions: Use the word bank to fill in the blanks.

rock

property

classify

1. a characteristic that you can observe such as color or size is a _____.
2. a _____ is a nonliving material made up of one or more minerals.
3. when you _____ you sort things or put them into groups based on similar properties.

Directions: Match the type of rock to its description.

4. _____ a rock formed from melted lava that has cooled and hardened.
5. _____ a rock that is formed by heat and pressure and was once another type of rock.
6. _____ a rock that is made of sediments that have been pressed together and forms layers.

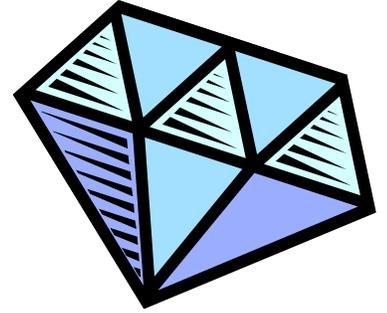
a. metamorphic rock

b. igneous rock

c. sedimentary rock

Name _____ Date _____

Minerals Quiz



Directions: Use the word bank to fill in the blanks.

properties mineral mineral key

1. a _____ is a tool geologists use to identify minerals.
2. minerals can be identified by _____ such as color, odor, hardness, and streak.
3. a _____ is a solid, non-living material found in earth's crust.

Directions: Match the type of rock to its description.

4. _____ how shiny or dull a mineral is.
5. _____ the powder a mineral leaves behind when you rub it across a surface.
6. _____ the ability to scratch another mineral.

a. streak
b. hardness
c. luster

Use the mineral key to answer the question.

Mineral	Properties			
	Hardness	Color	Luster	Special property
Calcite	3	White	Dull/glassy	Bubbles with acid
Feldspar	6	Pink or white	Dull/pearly	(none)
Mica	2	Black/gray	Shiny	Splits into thin sheets
Talc	1	White	Dull	(none)

7. which mineral is easily scratched, is dark in color, and can split into sheets?

- A talc
- B calcite
- C mica
- D feldspar

Name _____

Date _____

FOSSILS QUIZ



Directions: Circle the correct answer.

1. _____ are the remains of living things that lived long ago that have turned into rock.

a. rock

b. fossil

c. mineral

2. Circle the example of a preserved part.



3. Circle the example of a cast fossil.



4. Circle the example of a mold fossil.



5. T/F _____ You can learn about Earth's past by studying fossils.

Name _____ Date _____

Circle the best answer.

1. Which type of soil is made large grains and feels gritty.
A. loam B. sand
2. Which type of soil is a combination of different soils and is good for growing plants?
A. humus B. loam
3. Which type of soil has smaller pieces than sand and feels like powder?
A. silt B. clay
4. Which type of soil holds a lot of water and is sticky when wet?
A. humus B. clay
5. Which type of soil is made up of once-living organisms?
A. loam B. humus

Name _____ Date _____

Circle the best answer.

1. Which type of soil is made large grains and feels gritty.
A. loam B. sand
2. Which type of soil is a combination of different soils and is good for growing plants?
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