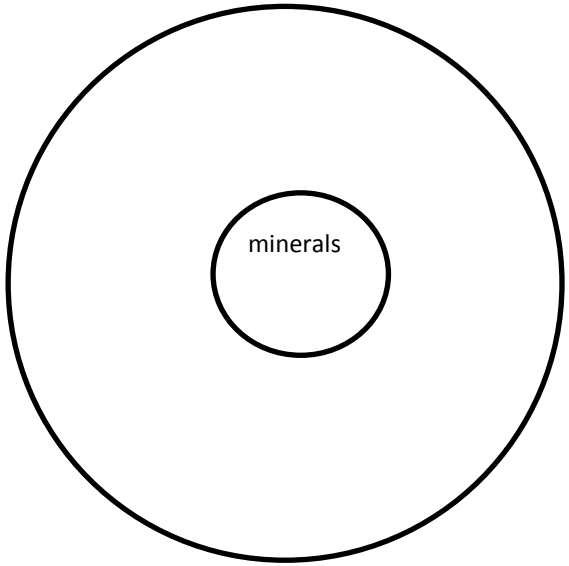
Name:_____ Class:_____ Date:_____

Minerals

By Meg Leonard

Minerals are found in nature. They are not formed by living things. They are solids. They have a pattern of crystals that repeats. There are seven different groups of minerals. They are grouped by the way they form. Minerals have many different uses. Some minerals are made from elements. Elements are the pure form of something. Silver is a mineral. Gold and copper are minerals. They are elements, too. They can be used for jewelry. Platinum is a mineral. It is an element, too. It is also used for jewelry. Sulfur is a mineral. It is an element as well. It is used to make chemicals. Diamonds are minerals. They are a form of the element carbon. Diamonds are often made into jewelry. Graphite is another form of carbon. It is used for the lead in pencils. It is a good conductor of electricity. There are many different minerals with many uses.

1. After reading the article, fill in the circle map with the characteristics of minerals. You should have at least 10.



2. List all of the minerals found in the article:

3. What are some common uses for minerals?

Minerals - Building Blocks of Rocks

By Brenda B. Covert

Minerals occur naturally - they are not man-made. They grow, but they do not have life. Each kind of mineral has a special color, crystal shape, luster, hardness, and even its own way of splitting or breaking apart. A geologist - a scientist who studies the Earth and its rocks - will study all those things to determine what type of mineral they have found.

People do not make minerals. They are formed within the Earth's mantle, within the Earth's crust, or on the surface of the Earth. Strong heat and pressure form minerals in much the same way as rocks are formed.

Minerals make up rocks. Some rocks have only one mineral in them. Marble, from which statues are carved, has only one mineral called calcite [CAL-site]. Other rocks are made up of several different minerals.

You do not have to go into a cave or dig in the ground to find minerals. Your home is full of them! Your toothpaste contains a mineral called fluorite. Your bath powder contains talc. Your clock radio contains the minerals copper, gold, quartz, and cassiterite [kuh-SIT-uh-right] - the ore of tin. Your pencils contain graphite. The salt you use to season your food is a mineral!

Minerals - Building Blocks of Rocks

1. A mixture of minerals is called a _____.
2. What do you call a mixture of minerals? _____.
3. A rock is _____.

_____ 1. Which of the following statements about minerals are not true?
- A. Minerals grow.
- B. Minerals are formed by heat and pressure.
- C. Minerals are alive.
- D. Minerals are not man-made.

_____ 2. A person who studies the Earth and its rocks is called:
- A. Geologist
- B. Scientist
- C. Mineralogist
- D. Rockologist

_____ 3. Minerals can be identified by their:
- A. Color
- B. Crystal shape
- C. Luster
- D. All of the above

_____ 4. All rocks are made up of one mineral.
- A. True
- B. False

Name _____ Date _____

Tuesday, September 1

Identifying Minerals

By Cindy Grigg

All minerals are natural resources. They are found in nature. They are not man-made. Minerals have a crystal structure. Rocks are different because they can be combinations of different minerals. They can be mixtures of different chemicals. But minerals have specific chemical and physical properties.

Minerals can be identified by their physical properties. A physical property is something you can see, feel, taste, or smell. You can learn to identify many common minerals. Some minerals are usually one color, but some can be different colors.

Some minerals have easy to see physical properties. For example, some have a crystal shape like quartz crystals. Some have grainy fibers like asbestos.

Some minerals are very hard. Some are soft. Talc is a mineral that is so soft you can scratch it with your fingernail.

The way light is reflected from the mineral is called luster. Some minerals have a shiny, metallic luster. Some look like glass. Some look dull (the opposite of shiny), and some gleam like pearls.

You can scrape a mineral across a porcelain tile to see what color of streak it leaves behind. Different minerals make streaks of different colors. The streak may be a different color from the mineral itself. For example, the mineral pyrite is called "fool's gold." It has a golden color, but it leaves a streak of greenish-black. This is an easy way to tell if you have found real gold or just "fool's gold."

Some minerals break into cubes when hit with a hammer. The way a mineral breaks is called cleavage. Some minerals break or cleave along flat, smooth planes. Other minerals leave rough, jagged lines where they break. Minerals can be identified by their cleavage.

Some minerals have special characteristics by which they can be identified. The mineral calcite reacts with a mild acid and will bubble. The mineral halite has a salty taste.

Hardness is another way to identify minerals. Diamonds are the hardest minerals found on earth. They can cut glass. A harder mineral can scratch a softer one. Your fingernail can scratch talc and gypsum but not calcite. Calcite can be scratched by a penny. Quartz can scratch steel. These are ways to test the hardness of a mineral.

Gemstones are minerals that are rare and beautiful. Color, luster, and hardness are properties that make a mineral valuable as a gemstone. Diamonds, rubies, opals, emeralds, and sapphires are all gemstones.

We use many minerals in our everyday lives. Toothpaste, salt, and baking powder used in cooking all come from minerals. Many materials used in building computers, cars, furniture, appliances, and buildings all come from minerals. In fact, the average person uses over 40,000 pounds of different minerals each year.

Questions

_____ 1. What is a mineral?

A. a rock formed from something that was once living
B. a naturally formed solid substance with a crystal structure
C. an element

_____ 2. What is a gemstone?

A. a mineral that is rare and beautiful
B. a rock or mineral that is used to make jewelry
C. a rock or mineral that is valuable
D. all of the above

_____ 3. Diamonds, rubies, opals, emeralds, and sapphires are all examples of:

A. minerals
B. gemstones
C. both a and b are correct
D. none of the above

_____ 4. How can minerals be identified?

A. by their physical properties
B. by their color, luster, and hardness
C. by their form, streak, and cleavage
D. all of the above

_____ 5. The way light is reflected from a mineral is called:

A. color
B. luster
C. texture

_____ 6. Cleavage is the way a mineral:

A. sparkles
B. shines
C. breaks

_____ 7. Minerals are different from rocks because:

A. Rocks make up minerals.
B. They have specific chemical and physical properties.
C. Rocks are hard and minerals are soft.

_____ 8. Minerals are useful to make jewelry but not much else.

A. False
B. True

Natural Resources

1. Where does the air we breathe, paper you are writing on, and water you drink come from?

   _____

   _____

2. Any natural material used by humans is called a _____.

3. Which of the following is NOT an example of a natural resource?

   A. Minerals B. Petroleum C. Forests D. Plastics

4. What is a renewable natural resource? _____

   _____ What are two examples of renewable natural resources?

5. What is a nonrenewable resource? _____

   _____What is an example of a nonrenewable resource? _____

6. What does it mean to CONSERVE natural resources? _____

   _____

Conservation, or Nah?

Write a "C" if it is conservation, an "N" if it is not.

___ Cutting down trees to build a house.

___ Pushing in your chair at the end of each class.

___ Turning off lights when you are not using them.

___ Using paper plates for every meal.

___ Walking or riding your bike to work instead of driving a car.

___ Making sure you keep your Air Conditioner on VERY cold.

___ Avoid burning fossil fuels if possible.

___ Keep your bedroom clean.

___ Recycle as much as possible.hich

___ Throw metal in the trash can.

___ Help your brother with his homework.

___ Don't leave the water running unnecessarily.

___ Use collected rainwater to water plants.

Every DROP Counts

WHAT? The Most Commonly Missed Questions:

1. Which of the following is not an example of a mineral or rock that is used by humans?

   A. coal B. halite C. quartz D. plastic

2. Which of the following is a **nonrenewable** natural resource?

   A. trees B. petroleum oil C. beef D. solar energy

3. What is one way we can conserve NONRENEWABLE natural resources?

   A. Don't go to McDonald's so we can save hamburgers.

   B. Don't use mechanical pencils in order to save plastic.

   C. Carpool to school in order to conserve petroleum oil (gasoline).

   D. Turn off the faucet in order to save water.

4. Which question is LEAST useful when trying to identify minerals?

   A. What color is the mineral?

   B. What is the streak of the mineral?

   C. What is the density of the mineral?

   D. What are the mineral's special properties?

5. Which of the following properties does Mohs scale measure?

   A. density

   B. Luster

   C. Hardness

   D. Streak

6. A mixture of minerals is called a(n)

   A. element

   B. Compound

   C. Rock

   D. Crystal

Across
3. Trying to save energy and resources by using them smartly.
4. A nonrenewable natural resource.
10. A resources that can not be replaced within 100 years.
11. A resource formed from the remains of plants and animals that lived long ago
12. A mixture of minerals is called a _____.

Down
1. The property measured on Mohs scale.
2. A disadvantage of burning fossil fuels.
5. A mineral breaks in smooth, flat planes.
6. The mineral's color in powdered form.
7. The least useful question to identify a mineral is "What is the _____?
8. Not a mineral or rock that is used by humans.
9. Solid fossil fuel.