Identifying Minerals

By Cindy Grigg

[1] 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.

[2] 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.

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

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

[5] 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.

[6] 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."

[7] 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.

[8] 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.

[9] 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.

[10] 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.

[11] 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.

Name _____ Science Pd _____

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1. What is a mineral? (A) An element (B) A naturally formed solid substance with a crystal structure (C) A rock formed from something that was once living	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) Luster (B) Texture (C) Color	6. Cleavage is the way a mineral: (A) Shines (B) Breaks (C) Sparkles
7. Minerals are different from rocks because: (A) Rocks are hard and minerals are soft. (B) They have specific chemical and physical properties. (C) Rocks make up minerals.	8. Minerals are useful to make jewelry but not much else. (A) False (B) True