

Rocks and Minerals Review

Use these words to fill in the blanks in the paragraph below:

jewelry salt sandstone concrete graphite limestone

Rocks are all around us. In the past and today, humans have found many different uses for rocks and minerals. For example, in the far past, humans used caves for shelter, stones for hammers and axes, millstones to grind grain into flour and slate for writing on. Today, we still use rocks and minerals in our everyday lives. Our sidewalks are made out of concrete which is made from limestone. We use gemstones, semiprecious stones and crystals to make beautiful jewelry. We even write with minerals when we use pencils, which have cores of graphite. Many buildings are made with stone, and some of the oldest buildings in Calgary are made from sandstone. We even flavour our food with minerals when we say "please pass the salt"! Any metal tools (hammers, nails, pots and pans, cutlery, etc.) are also made from minerals! Rocks and minerals really are everywhere!

Use these words to fill in the blanks in the paragraph below:

streak hardness lustre metallic vinegar non-metallic

Rocks and minerals are not the same thing. Minerals are made from two or more elements, which are pure chemical substances. On the other hand, rocks are made of many pieces of minerals. These minerals are pressed together and heated until they form a rock. It can be difficult to tell the difference between rocks and minerals just by looking at them. To tell the difference, we will look at different characteristics of the sample, for example its texture, lustre and colour.

When we observe a rock or mineral's lustre, we describe how much light it reflects, or how shiny it is.

There are two types of lustre: metallic and non-metallic. Once we have observed the colour, lustre and texture, we will perform different tests on the samples.

To see if a mineral makes a mark on a piece of paper, we can scratch a sample on paper and see if it leaves a mark. We call this the streak test. Some minerals are softer than

others. To test this characteristic, we can scratch samples with our fingernails, a penny, a nail or an

emery board. We call this test the hardness test. Finally, we can test if a sample

contains any calcium carbonate, which will fizz in the presence of a weak acid like vinegar. We call this

test the vinegar test.

True or False:

F Humans only used rocks and minerals in their daily lives during the Stone Age.

T The earth is made up mostly of rock.

T Both sedimentary and metamorphic rocks can have layers.

T The inner core of the earth is actually a solid ball of metal – even though it is very, very hot, it is believed that the core cannot melt because there is so much pressure.

F Quartz is the hardest known mineral.

T Many minerals (diamonds, for example) come in different colours.

F Minerals are made up of many pieces of rock.

Write a definition for the following terms:

fossils: A core shell or part that has turned into rock or made a mark in the mud over hundreds of years.

igneous: A rock formed from molten rock - magma which has been made by fire (magma or lava). When the magma begins to solidify or harden.

rock cycle: Rocks are constantly undergoing changes that we are unable to see. These changes are referred to as the rock cycle.

rocks: A naturally occurring solid of the Earth's crust consisting of two or more minerals in various proportions.

metamorphic: A changed rock as a result of extreme heat or pressure (over a long period of time).

minerals: Any pure natural substance found in rocks. Natural occurring deposits of inorganic (non-living) substances.

mantle: Dark, hard rock and molten rock. Approximately 2900 km thick.

core: Outer core is made of liquid rock and inner core is made of iron and nickel solid center.

sedimentary: A rock formed from compressed sediments.

crust: The outer layer of the earth which is composed of soil and rock.

Use these words to fill in the blanks in the paragraph below:

wind erosion

water erosion

ice erosion

Erosion is the process that occurs when rock is worn down and carried away. There are three main kinds of erosion. Water can work its way into tiny cracks in rocks, and then freeze. When water freezes, it expands -- it gets bigger. The force of water expanding can widen the cracks in the rock. When the water thaws, it leaves a bigger crack. Then more water gets in the crack and when it freezes and thaws again, it leaves a bigger crack. We call this kind of erosion ice erosion. When strong winds blow tiny particles against a rock, they can blast away the rock over long periods of time. We call this process wind erosion. In rivers and streams, strong currents in water can carry stones and rocks along, smashing them against other rocks and sand. This wears down the stones and rocks until they are quite smooth. We call this water erosion.