

TYPES OF ROCKS & THE ROCK CYCLE



Unit: Canada's Natural & Physical Connections

Visit <http://www.learner.org/interactives/rockcycle/index.html> to complete the following questions and activities.

TYPES OF ROCKS:

1. Click on **TYPES OF ROCKS**. Read the information on the webpage and answer the following questions:

a. What are the three main types of rocks?

_____, _____, & _____

b. What makes them different?

c. Explain how sedimentary rocks are formed.

d. Describe the texture and composition of sedimentary rocks.

e. What are two examples of sedimentary rocks?

_____ & _____

f. Explain how metamorphic rocks are formed.

g. Describe the texture and composition of metamorphic rocks.

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h. What are two examples of metamorphic rocks?

_____ & _____

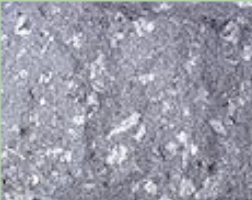





i. Explain how igneous rocks are formed.

j. Describe the texture and composition of igneous rocks.

k. What are two examples of igneous rocks?

_____ & _____

CHARACTERISTICS OF ROCKS:



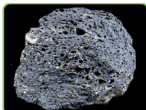



<p>Crystals Small, flat surfaces that are shiny or sparkly, like tiny mirrors.</p>	<p>Fossils Imprints of leaves, shells, insects, or other items in the rock.</p>	<p>Gas bubbles "Holes," like Swiss cheese, in the rock.</p>	<p>Glassy surface A shiny and smooth surface, like colored glass.</p>	<p>Ribbonlike layers Straight or wavy stripes of different colors in the rock.</p>	<p>Sand or pebbles Individual stones, pebbles, or sand grains visible in the rock.</p>
					

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2. Click on **START YOUR ROCK COLLECTION**. You will be taken to an interactive page. Click **BEGIN**. Click on each rock, read the description that follows and complete the following chart. After you have read each description click on **ADD ROCK TO COLLECTION**.

TYPE OF ROCK	FORMATION	APPEARANCE	LOCATION	IMAGE
GNEISS				
MARBLE				
BASALT				
LIMESTONE				
OBSIDIAN				
CONGLOMERATE				

Once you have added all of the rocks to your collection, the website will divide the rocks into the three main categories. List the rocks in your chart above in the appropriate category below.

SEDIMENTARY

METAMORPHIC

IGNEOUS

Now, click on **IDENTIFY ROCK TYPES** and test your knowledge! Once you have completed the interactive quiz, click on **MOVE ONTO NEXT CHAPTER**.

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HOW ROCKS CHANGE:

1. Fill in the blanks in the following paragraph based upon your reading:

All rocks change slowly from one type to another. These changes form a cycle called _____. The way rocks change depends upon the _____ that are taking place on or under the earth's surface.

Movement in the earth's crust can cause rocks to be pulled _____ the surface of the earth. Between 100 and 200 kilometers below the earth's surface, temperatures are hot enough to _____ most rocks. However, before the melting point is reached, a rock can undergo fundamental changes while in a solid state – morphing from one type to another without melting.

An additional factor that can transform rocks is the _____ caused by tons of other rocks pressing down on it from above; _____ and pressure usually work together to alter the rocks under the earth's surface. This kind of change, which results from both _____ temperature and pressure, is called _____, and the resulting rock is a metamorphic rock.

2. To see how a rock is altered when it is subjected to heat and pressure under the earth's surface click on **START** in the interactive box.

3. Rocks change in four main ways. View each animation. Read about and explain each process in the space below.

MELTING:

COOLING:

WEATHERING & EROSION:

COMPACTION & CEMENTING:

Now, click on **TRANSFORM THE ROCK** and test your knowledge! Once you have completed the interactive quiz, click on **MOVE ONTO NEXT CHAPTER**.

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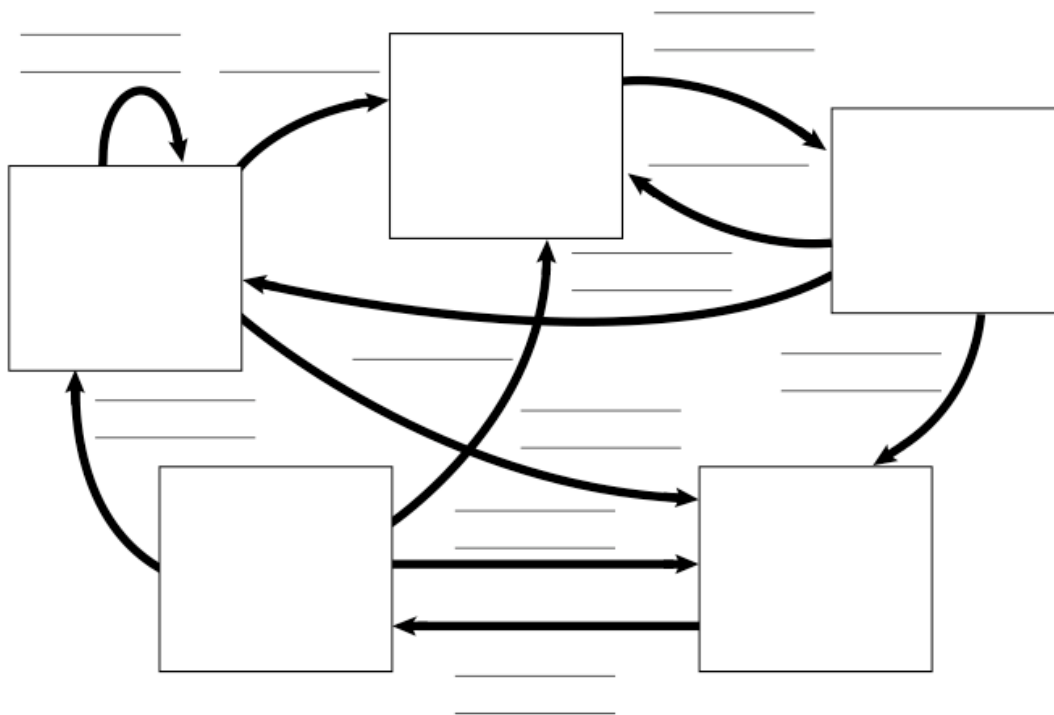
THE ROCK CYCLE

1. Fill in the blanks in the following paragraph based upon your reading:

Changes to rocks happen in a recurring sequence. This is known as the rock cycle.

The concept of the rock cycle is attributed to _____ (1726—1797), the 18th-century founder of _____. The main idea is that rocks are continually changing from one type to another and back again, as forces inside the earth bring them _____ to the surface (where they are weathered, _____, and compacted) and forces on the earth sink them back down (where they are heated, _____, and melted). So the elements that make up rocks are never created or destroyed — instead, they are constantly being _____. The rock cycle helps us to see that the earth is like a giant rock recycling machine!

Complete the following diagram:



Now, click on **COMPLETE THE CYCLE** and test your knowledge! Once you have completed the interactive quiz, click on **MOVE ONTO FINAL CHAPTER** where you will test your skills. Enter your name and see what you know!