

Name: _____

Minerals and Rocks

Date: _____ Period: _____

Earth Science

Supplemental: Igneous Rocks

Base your answers to questions 1 through 4 on the passage below and on your knowledge of Earth science.

The Mica Family

The familiar term “mica” is not the name of a specific mineral, but rather the name for a family of more than 30 minerals that share the same properties. All members of the mica family have high melting points and are similar in density, luster, hardness, streak, type of breakage, and crystal shape. As a result, telling the micas apart can be difficult. However, some common members of the family can be identified by color. For example, biotite is black to dark brown while muscovite can be light shades of several colors, or even colorless. When less common members of the mica family have any of these colors, or have similar colors, chemical tests are needed to tell them apart.

1. Identify the two chemical elements present in biotite mica that are not present in muscovite mica.
2. Name the igneous rock in which crystals of biotite mica are larger than 10 mm in diameter.
3. Identify the luster, hardness, and dominant form of breakage for members of the mica family.
4. Large crystals of mica, sometimes weighing several hundred tons, have been found in igneous rock in Canada. Identify the environment of formation and the relative rate of cooling of the magma that formed the igneous rock containing these large crystals.