Regional Science Consortium

Rocks and Minerals – Teacher Guide

Activity Student Worksheet Answer Key

Table 1: Characteristics of unknown mineral samples #1-10.

Mineral No.	Color	Luster	Hardness (will it scratch glass?)	Special Properties	Mineral Name
1	Light		Will scratch	Cleavage	Feldspar
2	Light		Will scratch	No cleavage	Quartz
3	Light		Will not scratch	Cleavage	Muscovite Mica
4	Dark	Metallic		Magnetic	Magnetite
5	Dark	Metallic		Not magnetic, smudges	Graphite
6	Dark	Non-metallic		One perfect cleavage plane	Biotite Mica
7	Light	Pearly luster	Will not scratch	No cleavage, soapy	Talc
8	Dark	Non-metallic		Not magnetic, cubic crystals	Pyrite

*Not all columns of the table will be utilized for all minerals. Only fill in the columns relevant to identifying your mineral.

1. Samples 4 and 5 both contain special properties that have utility in everyday life. What are they, and how might they be used?

    Sample 4, Magnetite, is magnetic and can be used like any other magnet.
    Sample 5, Graphite, smudges easily and is used in pencils for writing.

2. Some minerals have varying forms and classifications but are still the same mineral structurally. Which of the samples you identified appear to have the most similar characteristics?

    Samples 3 and 6, Muscovite Mica and Biotite Mica, share all the same characteristics other than their color. These are both forms of Mica.

Lesson Tips and Tricks

PowerPoint Presentation

*   This lesson contains a large number of vocabulary terms that may be unfamiliar to students. We recommend providing the vocabulary list to students before beginning the recorded lesson to promote understanding and retention of information.

Activity

*   It is a good idea to have students only work with one sample at a time to avoid confusion between minerals as well as to reduce loss of samples.
*   Students only need to examine the properties discussed in the flow chart to identify each mineral; however, the flow chart does not address all properties of each mineral.
    *   Encourage students to identify properties for each that are not included as part of the flow chart.