

MINERAL IDENTIFICATION

Title: **Mineral Identification**

Level: **K-12**

Day/Time:

[Academic Expectations](#)

[Core Content for Assessment:](#)

Objective:

The purpose of this activity is to teach the student to identify minerals from its physical properties. This is accomplished through observation and testing of the minerals involved.

Activity:

1. Set up mineral stations for each mineral the students are to identify. If necessary, some stations may have two minerals to identify.
2. Each station should be equipped with one each of the following items:
 - Eye dropper bottle of vinegar or 10% solution of HCL (Hydrochloric acid)
 - Glass plate
 - Penny
 - Streak plate (white unglazed porcelain)
 - Magnet
 - Steel blade or knife
3. Divide students into equal groups. Have the number of student groups match the number of mineral stations.
4. Distribute to each student a Mineral Worksheet and Mineral Background sheet. Have students read the Mineral Background sheet.
5. Have student groups move to the mineral stations with one group of students at each station. Have the students perform the physical property tests listed on the Mineral Background sheet. Have students record the test results on the Mineral Worksheet.
6. Rotate the student groups through each of the work stations, performing the tests at each station. Allow 3 to 5 minutes per mineral per station.
7. Handout Mineral Identification Sheets.
8. Have students compare their test results with the Mineral Identification sheet. Can the students correctly name each of the minerals using their test results? Write the name of the mineral on the Mineral Worksheet.

MINERAL IDENTIFICATION

The students learned to perform tests for physical properties of minerals, observe the test results and then identify a mineral using the test results.

MINERAL BACKGROUND SHEET

The following is a description of the Physical Properties that are used to identify minerals:

Smell

- Earthy
- Sour
- Sweet
- Rotten egg

Luster

- Glassy/vitreous - shines like glass
- Earthy/chalky - dull
- Metallic - looks like metal
- Waxy/silky/pearly - has a muted shine

Chemical

- Reacts to hydrochloric acid (fizzes)

Magnetic

- Attracted to a magnet

Color

- White, black, gray, green, yellow, blue, red, orange, brown, etc.

Streak

- Color of the mineral when its scratched across a streak plate (unglazed porcelain)

Feel - Texture of the mineral

- Gritty - Sandy
- Powdery - Earthy or chalky
- Smooth - Glassy
- Smooth and sticky - Waxy
- Sharp - Metallic

MINERAL IDENTIFICATION

Hardness - Moh's Scale

Hardness	Mineral scratched by
1	
2	Fingernail
3	
4	Penny
5	Steel (knife blade)
6	Glass
7-10	Mineral will scratch steel/glass

Weight

Specific gravity of mineral - weight goes from very light to very heavy

MINERAL WORKSHEET

SAMPLE #	COLOR	STREAK	FEEL	SMELL	LUSTER	MAGNETIC	CHEMICAL	HARDNESS	WEIGH

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Adapted from materials provided by Women In Mining