

Bell Work

- Clear off your desk for your quiz.

Quiz

1. After you finish the quiz, **get out** your flow chart.
2. **Staple** the flow chart to the back of the quiz.
3. **Turn it in** to the tray.
4. **Pick up** the *Mineral Identification Lab* worksheet by the tray.
5. **Answer** #1 and #2 under *Lab Preview*.
6. **Read** through the rest of the lab, but **do not write** anything else.
7. **View and read** the chart on p. 528 in your science book.
8. **Wait quietly** until everyone else finishes the quiz.

Mineral Identification Lab

SPI 0707.7.1 Use a table of physical properties to classify minerals.

Task

- You will examine each mineral according to number. Use the Mineral Identification Test Kit to determine the name of the mineral

Challenge

- You are specialists at a geology museum. You have been out hiking on the Nine Mile Creek Trail in the majestic Oak Grove National Forest and managed to pick up several interesting mineral samples to add to your collection. Everyone is trying to figure out as much as they can about the minerals. In your specialty team, you will be examining:

Participation

- Each group member will perform one of the specific tests so that each student has an opportunity to participate in lab and record the results. Next, share results with group and complete chart.

For Example:

Person 1 – luster

Person 2 – Hardness

Person 3 – Streak

Person 4 – Cleavage

Person 5 – Special Properties (see teacher for HCL)

Each person must rotate the task that they are completing after each mineral.

After the first mineral,

person 1 change from luster to hardness

person 2 hardness to streak

person 3 streak to cleavage

person 4 cleavage to special properties.

Person 5 special properties to luster

Keep rotating until all minerals have been tested.

Materials

mineral samples

copper penny

magnifying lens

glass plate

Mohs scale of hardness

small iron nail

streak plate (porcelain)

Learning Objective

- **Observe and record** physical properties of minerals.
- **Determine** mineral names using your observations and identification keys.

Mineral ID Lab

Lab Preview

Directions: *Answer these questions before you begin the Lab.*

1. Why is it important for you to be descriptive and broad in your observations of the unknown mineral specimens?
2. How will the penny, nail, and glass objects help you identify the mineral specimens?

Real-World Problem

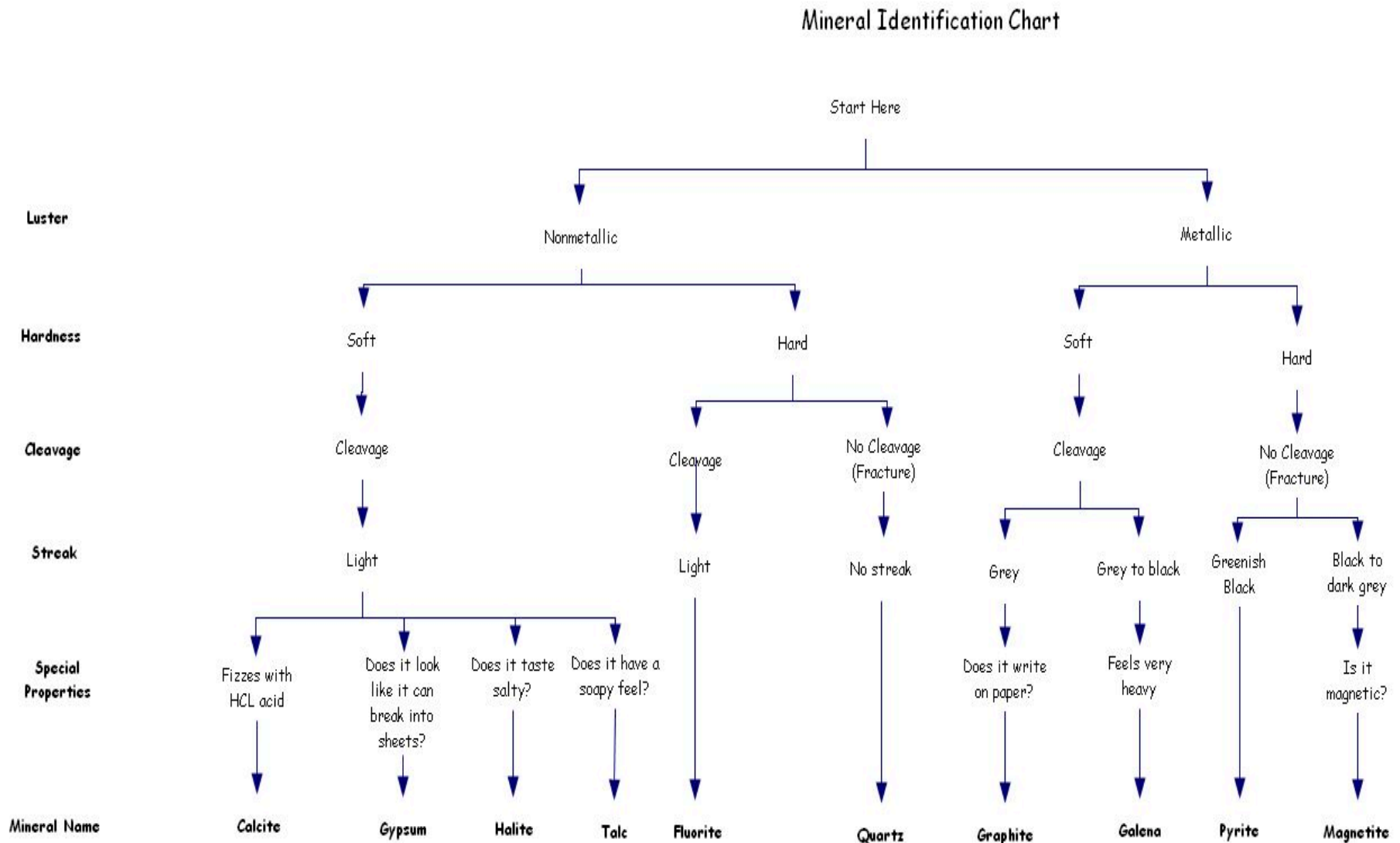
- How is it possible to distinguish similar-looking materials from each other?

Data and Observations

During Lab: complete the chart as you are test each mineral, share data with group members.

Sample #	<u>Luster</u> (<i>Metallic or Nonmetallic</i>)	<u>Hardness</u>	<u>Streak</u>	<u>Cleavage</u>	<u>Special Properties</u>	<u>Inferred Mineral Name</u>	<u>Actual Mineral Name</u>
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

- Use the flow chart to help you identify the correct mineral



Conclusion and Application

- **Which properties were most useful in identifying your sample? Which properties were the least useful? --**
- **Explain** why certain minerals seemed to be easy to identify.
- **Determine** two properties that distinguish clear, transparent quartz from clear, transparent calcite. Explain your choice of properties.
- **Which physical properties would be the easiest to determine if you found the mineral specimen in the field?**

Communicating Your Data

- **For three minerals, list physical properties that were important in their identification.**