Name **Period** **Date**

UNIT 2 | HANDOUT _____ *Intro to Properties & Color and Streak Notes*

Objective: Know the properties of minerals and how they are used to identify a mineral.

A mineral has properties that identify it.

How do you tell the difference between two minerals that are clear and have the same crystal shape? You look at its properties. Properties are characteristic features that _____ a mineral. A mineral has several properties. When identifying a mineral, the more properties you know, the better the chance you have of identifying it. There are six properties we will examine in class:

1. _____ and _____
2. _____
3. _____ and _____
4. _____
5. _____
6. Special properties, such as _____ and _____.

Color and streak are two distinct properties

Minerals come in a variety of colors. Some minerals only have one color. For example, _____ is always blue. Other minerals, like _____ can be clear, purple, yellow, white, and so on. Why does this happen? Three reasons:

1. A mineral's color is based on its _____. If an _____ that is not part of that composition becomes trapped in the mineral, it can change its color. Example: iron in quartz makes it purple.
2. A mineral's color can change when it is at or near the earth's surface and is in contact with the _____ or _____. Chemical reactions can affect the mineral's color.
3. There is a defect in the _____ that causes a change in color.

Color is not a good way to identify a mineral because the color can change. A better way to identify a mineral is to use its streak. A mineral's streak is the _____ of the _____ of the mineral. To find a mineral's streak, you scratch the mineral across a _____. The streak of a mineral is always the same, regardless of what color the mineral is!

Why can the streak be different than the color of the mineral?

1. **Trace elements**. Many minerals have small amounts of an element in them that is not part of their chemical makeup. This can change the _____ of the mineral. However, it will not change the mineral's streak. This is because in powdered form, there will not be enough of the trace element in each tiny piece of the mineral to affect its color.
2. **Structure and coating**. The surface of a mineral can become _____ which affects its color, but not its streak. The crystal structure of a mineral can also affect its color.

As we can see, the color of a mineral can _____, but its streak always stays the same. This makes streak a very helpful property in identifying an unknown mineral.

Try it Out

Answer each of the following questions in full and complete sentences.

1. What is the difference between color and streak? _____
   _____
   _____
   _____
   _____
2. Which is consistent (stays the same) for a mineral: its color or streak?
   _____
3. Which is better to identify a mineral: color or streak? Why?
   _____
   _____
   _____
   _____