Guided Notes: Minerals

**Definition of a Mineral**

1. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** occurring

2. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** substance

3. Orderly **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** structure

4. Definite **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** composition

5. Generally considered **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**How Minerals Form**

1. Crystallization from **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

2. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

3. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** and temperature

4. Hydrothermal solutions

**Mineral Groups**

**-**  Can be classified based on their **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **Silicates**

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** and **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** combine to form a structure called the **silicon-oxygen tetrahedron.** This silicon-oxygen tetrahedron provides the framework of everysilicate mineral.

2. **Carbonates**

* Minerals that contain the elements **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**, oxygen, and one or more other metallic elements

3. **Oxides**

* Minerals that contain **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** and one or more other elements, which are usually metals

4. **Sulfates and Sulfides**

* Minerals that contain the element **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

5. **Halides**

* Minerals that contain a **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** ion plus one or more other elements

6. **Native elements**

* Minerals that exist in relatively **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** form

**Color**

* Small amounts of different **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** can give the same mineral different colors.

**Streak**

* **Streak** is the color of a mineral in its **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** form.

**Luster**

* **Luster** is used to describe how **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** is reflected from the surface of a mineral.

**Crystal Form**

* **Crystal form** is the visible expression of a mineral’s internal **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** of **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.

**Hardness**

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** is a measure of the resistance of a mineral to being **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.
* **Mohs scale** consists of 10 minerals arranged from 10 (hardest) to 1 (softest).

**Cleavage**

* **Cleavage** is the tendency of a mineral to cleave, or **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**, along **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**, even surfaces.

**Fracture**

* Minerals that do not show cleavage when broken are said to fracture.
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ —**the uneven breakage of a mineral

**Density**

* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** is a property of all matter that is the ratio of an object’s mass to its volume.