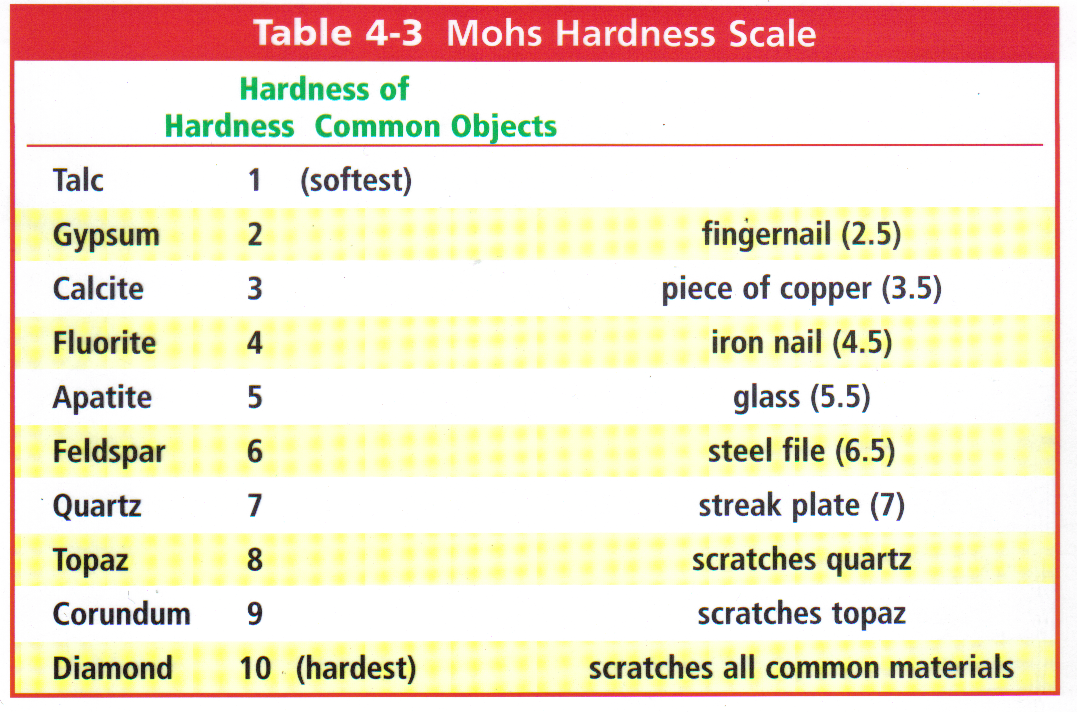
**Chapter 4 Minerals**

1. List the 5 characteristics that all minerals have. (NOTE – these are NOT tests like color, streak, etc.)
2. Define each of the following tests.
3. Color
4. Luster
5. Streak
6. Hardness
7. Cleavage
8. Fracture
9. Which of the above is the LEAST reliable test? Why?
10. What are the 2 main classifications of luster?
11. Explain how you determine hardness.
12. What is the name for molten material:
    1. Beneath earth’s surface?
    2. On earth’s surface?
13. What size of mineral crystals form if magma cools slowly?\_\_\_\_\_\_\_\_\_\_Cools quickly?\_\_\_\_\_\_\_\_\_\_
14. Which 2 elements are associated with the formation of dark silicates?



**Use the Table above to answer the next few questions:**

1. What does it tell you if a mineral scratches glass?
2. If Gypsum is rubbed against Talc:
3. Is a scratch made, or no scratch?
4. If a mineral with hardness of 3.4 is rubbed against feldspar:
   1. Is a scratch made, or no scratch?

**Chapter 5 & 6 Rocks**

Igneous Rocks

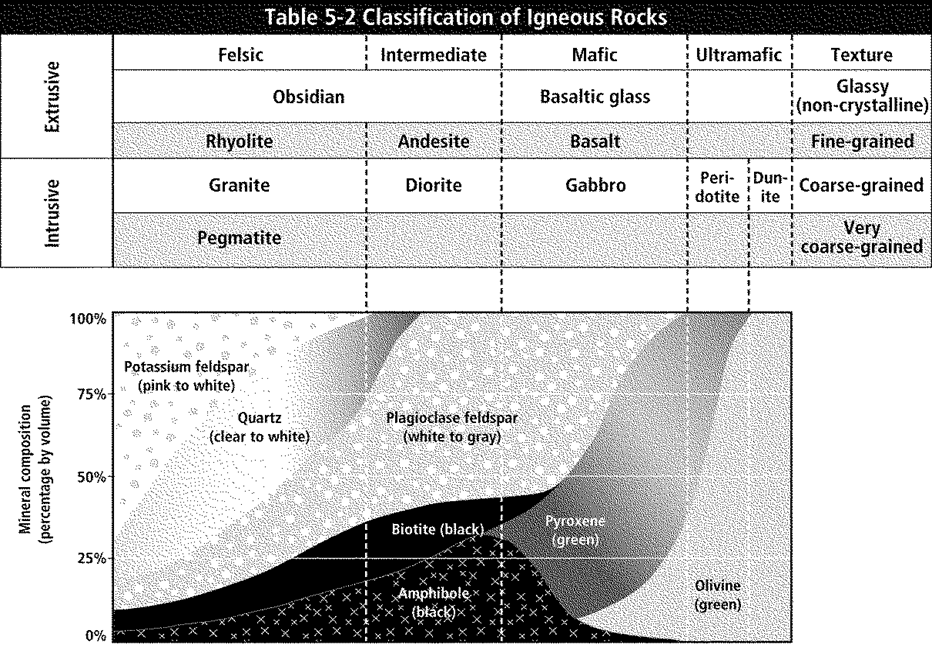
1. Fill in the Table below Regarding Extrusive and intrusive Rocks:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Where do these rocks form? | What do the rocks look like? (Describe Crystal Size) | Fine Grained or Coarse Grained |
| Extrusive |  |  |  |
| Intrusive |  |  |  |

1. Fill in the table below regarding igneous rocks and the magma they form from.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Types of Magma | Elements found in the magma | Viscosity of the magma | Rock Color | Type of Volcanic Hazard Produced |
| Light-colored |  |  |  |  |
| Dark-colored |  |  |  |  |

1. What would happen if you added water to light-colored magma?
2. What affects the color of an igneous rock?
3. What would you have to do to a sedimentary rock covered in fossils to produce an igneous rock?

****

Medium Color

Light-Colored

Dark-Colored

Really Dark

1. Using the diagram above, describe the following about Rhyolite:
   1. Color:
   2. Texture:
   3. Location where it formed:
2. List and Define two processes that must be present to form an igneous rock?

1.

2.

SEDIMENTARY ROCKS:

1. What is a “sediment”?
2. What are the 3 subtypes of sedimentary rocks?

\*\*For each type, tell how the subtype forms.

c.

1. How is weathering different from erosion?
2. Describe the 2 types of weathering that can occur in nature and provide an example of each.

\*\*Make sure you are able to explain what your example is and how it works.

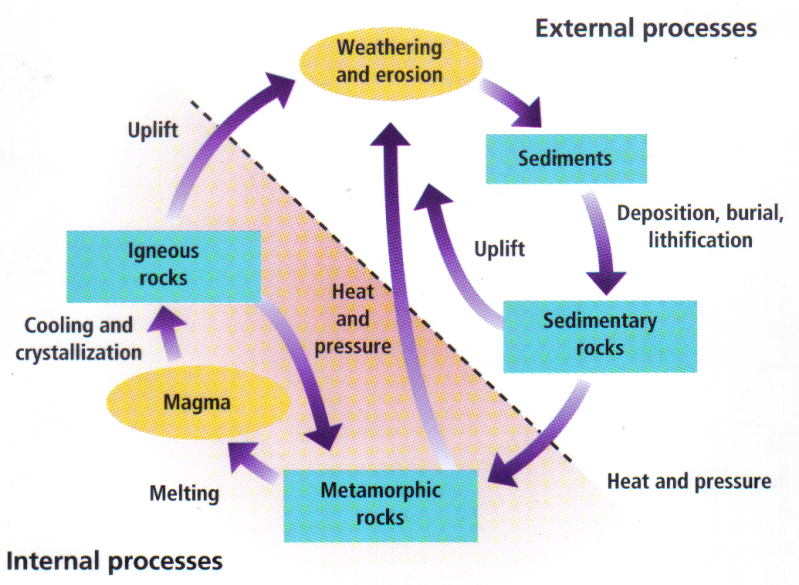
1. Physical/Mechanical
2. Chemical
3. Define deposition:
4. Lithification:
5. Define lithification:
6. How do you know when lithification has occurred?
7. List and describe the two steps that occur as a part of lithification.
8. What would need to happen to obsidian to turn it into sediments?
9. After the obsidian turns to sediments, what must happen to them to produce a sedimentary rock?

METAMORPHIC ROCKS:

1. What two factors are needed to form metamorphic rock?
2. Fill in the table below regarding Metamorphic Rocks.

|  |  |  |
| --- | --- | --- |
| Types of Metamorphic Rocks | How was the rock formed? | Describe and/or draw the appearance of the rock. |
| 1. |  |  |
| 2. |  |  |

**Rock Cycle:**



1. Marble is a metamorphic rock. Using the diagram on the previous page, list ALL the processes marble must go through to become: (On the final exam, be able to define each process)
   1. An igneous rock
   2. A new metamorphic rock
   3. A sedimentary rock
2. What types of rocks can turn into sedimentary rocks?

**Rock Cycle Comparison Matrix**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Sedimentary | Igneous | Metamorphic |
| Environmental  Controls & Rock forming processes | Erosions and deposition   1. Compaction 2. Cementation 3. Crystallization | Cooling of magma | Heat and pressure |
| Types of Rocks | 1. Clastic 2. Chemical | 1. Intrusive 2. Extrusive 3. Felsic 4. Intermediate 5. Mafic | 1. Foliated 2. Nonfoliated |
| Area of formation | 1. At the surface | 1. Below the surface  and  2. At the surface | 1. Below the surface |