1. Minerals:

* What page is the mineral chart found in your reference table? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Mineral properties depend on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* What is the difference between mafic and felsic minerals?

2. Igneous Rocks:

* What page is the igneous chart found in your reference table? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* How does an igneous rock form?
* Determine the characteristics of an igneous rock?
* What are the two categories for igneous rocks?
* Define vesicular:

3. Sedimentary Rocks:

* What page is the sedimentary chart found in your reference table?
* What are the three main categories for sedimentary rocks?
* How does a clastic sedimentary rock form?
* How does a crystalline sedimentary rock form?
* How does a bioclastic sedimentary rock form?

4. Metamorphic Rocks:

* What page is the metamorphic chart found in your reference table?
* How does a metamorphic rock form?

5. Rock Cycle

* What page is the rock cycle chart found in your reference table?
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ type of rock changes into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ type of rock

1. Equal masses of basalt, granite, iron, and copper received the same amount of solar energy during the day. At night, which of these materials cooled down at the fastest rate?

|  |  |  |  |
| --- | --- | --- | --- |
| (1) basalt  | (2) granite  | (3) iron  | (4) copper |

2. Which rock is composed of a mineral that can be used for the production of cement?

|  |  |  |  |
| --- | --- | --- | --- |
| (1) basalt  | (2) limestone  | (3) rock salt  | (4) rock gypsum |

Base your answers to questions 3 through 6 on this information. A scientist out in the field found these eight minerals: Biotite Mica, Potassium Feldspar, Olivine, Quartz, Plagioclase feldspar, Amphibole, Pyroxene and Muscovite Mica. They were brought back to the lab to answer these questions…

3. Identify the mineral shown that can scratch all of the other minerals shown.

4. In the table below, place an X in the appropriate box to indicate whether each mineral is found mainly in felsic or mafic igneous rock.

|  |  |  |
| --- | --- | --- |
| Mineral Name | Felsic | Mafic |
| Potassium feldspar |  |  |
| Olivine |  |  |
| Quartz |  |  |
| Pyroxene |  |  |

5. Identify the two most abundant elements, by mass, in Earth’s crust that are part of the composition of all eight of these minerals.

6. Identify the two minerals shown that exhibit fracture as a dominant form of breakage.

7. An igneous rock with mineral crystals ranging in size from 2 to 6 millimeters. The rock is composed of 58% plagioclase feldspar, 26% amphibole, and 16% biotite. What is the name of this rock?

8. Which rock would be the best source of the mineral garnet?

|  |  |  |  |
| --- | --- | --- | --- |
| (1) basalt  | (2) limestone  | (3) schist  | (4) slate |

9. What are the rock name and map symbol used to represent the sedimentary rock that has a grain size of 0.006 to 0.2 centimeters?



10. Which rock was subjected to intense heat and pressure but did not solidify from magma?

|  |  |  |  |
| --- | --- | --- | --- |
| (1) sandstone | (2) schist | (3) gabbro | (4) rhyolite |

11. The igneous rock gabbro is sometimes sold as “black granite.” Compared to the density and composition of granite, describe how the density and composition of gabbro are different.