**Minerals, Rocks, and Fossils Study Guide** parent signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| Mineral | Hardness |
| Talc | 1 |
| Gypsum | 2 |
| Calcite | 3 |
| Fluorite | 4 |
| Apatite | 5 |
| Feldspar | 6 |
| Quartz | 7 |
| Topaz | 8 |
| Corundum | 9 |
| Diamond | 10 |

Part 1: Study your vocabulary words! You are responsible for all 3 weeks of vocabulary words (minerals, rocks, and fossils) for this test!!!

Part 2: Use the chart to answer the questions:

1. What is hardness? the property that allows it to resist being scratched
2. What is the softest mineral on the Mohs’ scale? talc
3. What is the hardest mineral? diamond
4. What is the hardness of calcite? 3
5. Could a piece of fluorite scratch a piece of quartz? Explain (RACER) No, a mineral with a lower number cannot scratch a mineral that has a higher number
6. What is the only mineral that can be scratched by gypsum? talc
7. What minerals can be scratched by feldspar? Apatite, fluorite, calcite, gypsum, and talc
8. A penny has a hardness of about 3. Which minerals on the Mohs’ scale can be scratched with a penny? Gypsum and talc

Part 3: Fill in the blank with the appropriate word or words:

1. A substance made up of 2 or more elements that are chemically combined is a compound.
2. A natural solid formed from elements and compounds in Earth’s crust is a mineral.
3. The color of the powder left by a mineral is its streak
4. The luster of a mineral that shines like a new coin is metallic
5. The splitting of a mineral into pieces with smooth, flat surfaces is \_cleavage.
6. The breaking of a mineral into pieces with uneven surfaces is fracture.
7. The acid test is used to determine if a mineral contains calcium carbonate\_.
8. The way a mineral reflects light is luster\_.
9. List the characteristics of minerals (SNIDC) solid, naturally occurring, inorganic, definite atomic structure, chemical compound
10. Crystals form when magma cools slowly underground.
11. How does mica split when broken? Into thin sheets
12. Acid causes a mineral containing calcium carbonate to fizz
13. Ores are mined because they contain useful metals or nonmetals
14. When lava cools quickly, it forms rock with small/no crystals and a fine/glassy texture.



Part 4: Use the diagram of the rock cycle to complete the following questions:

1. What is shown in the diagram? The rock cycle
2. What are the names of the 3 classes of rocks? Igneous, sedimentary, metamorphic
3. What 2 processes change rocks into sediments? Weathering and erosion\_\_
4. What 2 things can change sedimentary and igneous rocks into metamorphic rocks? Heat & pressure
5. What is the only kind of rock that can form directly from magma? \_igneous\_
6. What happens when the minerals in igneous, sedimentary, and metamorphic rocks melt?

\_magma forms\_\_

1. What 2 processes cause sediments to form sedimentary rocks? Compaction (pressure) and cementation
2. What kind of rock always results from the application of heat and pressure on rocks? metamorphic

Part 5: Fill in the blank with the appropriate word or words:

1. All rocks are made up of \_minerals
2. The grouping of things that are alike is the science of classification
3. Rocks formed when melted minerals cool and harden are classified as igneous
4. Magma that reaches earth’s surface is called lava
5. Molten rock is made up of melted minerals
6. The mineral crystals of a rock formed from magma are usually large
7. Rocks formed from the remains of living things are classified as sedimentary
8. Limestone and halite are examples of what kind of sedimentary rock? non-clastics
9. A rock formed when another rock is changed by heat and pressure is classified as metamorphic
10. The series of natural processes by which rocks are slowly changed from one kind to another is the rock cycle
11. A metamorphic rock that has mineral crystals arranged in bands is foliated
12. The texture of an igneous rock that does not have mineral crystals is glassy
13. Quartzite is formed from sandstone
14. Coal is a sedimentary rock formed from the remains of plants

Part 6: Use the RACER strategy to answer the following questions:

45. Why is a mineral an inorganic natural solid? A mineral is a natural solid that is formed from elements or compounds in earth’s crust. It is not formed from living things or the remains of living things.

46. In the rock cycle, why do all classes of rocks eventually lead to sedimentary rock? When any class of rock is exposed on earth’s surface, it is turned to sediment by weathering and erosion. Sediment, in turn, eventually turns into sedimentary rock.