

Name _____ Date _____

Rocks and the Reference Tables

Use the rock identification charts on pages 6-7 of the *Earth Science Reference Tables* to answer the following questions.

Scheme for Igneous Rock Identification

1. What are some textures of extrusive igneous rocks?

2. Explain the difference in grain size between Intrusive and extrusive rocks?

3. Describe how scoria is different from basalt? _____

4. Name of the composition of a rock that is high in iron and magnesium?

5. Describe the texture and environment of formation of granite.

6. List the minerals in basalt with their approximate percent composition.

7. Which minerals are only present in felsic rocks? _____

8. Which minerals are only present in mafic rocks? _____

9. Describe the mineral composition of andesite? _____

10. Compare the rate of cooling between obsidian and pegmatite.

11. Compare the density of mafic and felsic igneous rocks.

12. Give the range in mineral composition (in percent) of granite. Include 3 examples, from the most potassium feldspar to the least.

| Mineral | Potassium feldspar | Quartz | Plagioclase feldspar | Biotite | Amphibole |
|-----------|--------------------|--------|----------------------|---------|-----------|
| Granite A | 75% | | | | |
| Granite B | | | | | |
| Granite C | | | | | |

13. What does the mineral composition of granite tell you about the composition of rocks?

14. Give the average mineral composition of diorite, gabbro, and peridotite.

MINERAL COMPOSITION

| Rock | Plagioclase feldspar | | | | Olivine |
|------------|----------------------|--|--|--|---------|
| Diorite | | | | | |
| Gabbro | | | | | |
| Peridotite | | | | | |

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Scheme for Sedimentary Rock Identification

15. Name the three major groups of sedimentary rocks (refer to their textures).

16. Describe the differences in how these groups of rocks formed.

17. Explain the term clastic. _____

18. What is the particle size range for sand? _____

19. What mineral is Rock Salt made of? _____

20. Which two rocks are composed of the remains of living things?

21. Compare the mineral composition of clastic rocks with crystalline or bioclastic rocks? _____

22. Explain a difference between conglomerate and breccia? _____

23. Explain how the grain size of clastic rocks indicates the water velocity or the energy of the depositional environment?

Scheme for Metamorphic Rock Identification

24. Explain the difference between foliated and nonfoliated textures.

25. What mineral can be found in Slate and Schist, but not in Gneiss?

26. What rock does slate form from? _____

27. If slate is subjected to continued heat and pressure, what rocks will form?

28. What sedimentary rocks do marble and quartzite originate from?

29. Which metamorphic rocks form from regional or contact metamorphism?

30. What two minerals are common in both Gneiss and Granite?

31. Which mineral is found in both Marble and Limestone?

Rock Cycle In Earth's Crust

32. Describe the process how sediment becomes sedimentary rock.

33. Explain how a sedimentary rock can become an igneous rock.

34. Explain how Granite can become a Sandstone which turns into Quartzite.
