Physical Geology
South Sevier High School
Lecture Notes – Chapter 21

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Name _____
Due Date _____
Per _____

1. Geologic _____ are valuable materials of geologic origin that can be extracted from the Earth.

2. A common saying in regards to Earth's resource is "If it can't be _____, it must be _____!

3. Geologic resources are grouped into three major categories. Name these three categories, and give at least one example of each (6pts).

Geologic Resource Category	**Examples**
_____	_____
_____	_____
_____	_____

4. Name the 13 most common mined metals and their mineral sources (24pts).

Metal	**Mineral Source**
Aluminum	Bauxite

5. _____ are the total amount of a valuable geologic material in all deposits, discovered and undiscovered.

6. _____ are discovered deposits of geologic resources that can be extracted economically and legally under present conditions.

7. Name the three fossil fuels (3pts).

_____ _____ _____

8. Of the three fossil fuels you named in number 7, which one is the most widely used? _____.

9. Name the four grades of coal, starting with the softest (4pts).

   _____ → _____ → _____ → _____

10. Where in Utah is the largest supply and reserve of coal?

11. What is the biggest problem associated with the burning of high-sulfur coals?

12. Petroleum includes _____ and _____, and they occur in underground pools.

13. Occasionally, oil seeps to the surface forming a _____.

14. Oil _____ are regions underlain by one or more oil pools.

15. The two largest oil fields in the United States are in _____ and _____.

16. Negative environmental effects resulting from oil recovery and transport include oil _____, _____ contamination of surface water, and ground _____.

17. Where in Utah is the largest supply and reserve of oil?

18. Current worldwide oil reserves will probably last about _____ years, based on current consumption.

19. As petroleum prices rise, alternate petroleum sources, such as _____ crude, oil _____ and oil _____, will be increasingly exploited.

20. The metal _____ is used to power nuclear power generators, and is typically found in association with organic matter in sedimentary rocks. It accounts for 10% of U.S. energy production, and leaves radioactive waste as by-product.

21. _____ power (or water power) provides about 4% of U.S. energy needs, is renewable, and is essentially non-polluting.

22. _____ power (Earth's internal heat) provides about 0.2% of U.S. energy needs.

23. Name four other renewable energy sources (4pts).

    _____ _____

    _____ _____

24. Metal _____ are naturally occurring materials that can be profitably mined.

25. Whether or not a mineral deposit is an ore depends on its chemical _____, the percentage of _____ metal, and current _____ value of the metal.

26. Metallic ore deposits originate from crystal settling in igneous _____, hydrothermal fluids cooling in _____ and _____, chemical _____ in water, or _____ in rivers (placers).

27. Name the four types of mining (4pts).

    _____ _____

    _____ _____

28. Name five uses for non-metallic resources and give an example of each.

Uses	**Examples**
Construction materials	Sand, gravel, limestone, gypsum

29. Why will recycling never replace the need for new materials (5pts)?

30. Will population growth ultimately exceed resource availability on the Earth? Why or why not (5pts).

31. Why has nuclear-powered electrical generation never caught on in the United States (5pts)?

32. Why is most electricity in the United States generated by burning coal (5pts)?

33. Without proper disposal, why is uranium so potentially hazardous for the environment (5pts)?

34. Which energy sources show the most potential for replacing non-renewable fossil fuels? Which source is most environmentally friendly? Which source is most economically viable (10pts)?

Congratulations. You have just completed the final lecture notes assignment!