Lesson 6
Minerals and Rocks Test: Lessons 4 - 5

Student Assignment: Today's Lesson is a test on Lessons 4-5 which were a review of Minerals and Rocks from 7th Grade Science. You will complete each test item without the use of notes. Good Luck!

Lesson Finisher How do you think you did?

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NAME: _____

DATE: _____

Directions: Complete the following questions.

Part 1: Vocabulary / Write a sentence describing the relationship between the two vocabulary terms.

1. Mineral, crystal

2. Cleavage, fracture

3. Magma, lava

4. Element, density

5. Mineral, ore

6. Element, magma

Complete the chart below.

Rock Type	Forms From	Example Identifying Characteristic
Intrusive igneous rock	Magma	7. Large mineral crystals
Extrusive igneous rock	8.	Basalt 9.
Sedimentary rock	10.	Conglomerate Contains large pieces of earlier rocks
Sedimentary rock	Ancient plant remains	11. May contain plant fossils
Sedimentary rock	12.	Limestone 13.
Foliated metamorphic rock	Parent rocks that have several types of minerals	14. Minerals are lined up
Nonfoliated metamorphic rock	15.	16. 17.

Part 2: Key Concepts

Choose the letter of the best answer. Use your digital tools.

18. A mineral is a substance that forms

    a. from rocks
    b. in nature
    c. from one element
    d. in liquid

19. A crystal structure is characteristic of

    a. an element
    b. a rock
    c. magma
    d. a mineral

20. A mineral is made up of one or more

    a. ores
    b. rocks
    c. compounds
    d. elements

21. How is it possible for two different minerals to have the same chemical composition?

    a. They have different crystal structures.
    b. One is formed only by organisms.
    c. Only one is a rock-forming mineral.
    d. They have different appearances.

22. Most minerals in Earth's crust belong to the silicate mineral group because it contains:

    a. the rarest elements on Earth.
    b. the most common elements on Earth.
    c. the most valuable metals on Earth.
    d. the largest crystals on Earth.

23. Which of the following is the least reliable clue to a mineral's identity?

    a. color
    b. density
    c. hardness
    d. luster

24. Many properties of a mineral are related to the

    a. number of elements of which it is made.
    b. other types of minerals present as it formed.
    c. strength of bonds between its atoms.
    d. speed at which it formed.

25. What types of minerals form in an area depends in part on

    a. which elements are present.
    b. the types of rocks present.
    c. the density of rocks present.
    d. whether crystals can form.

26. Open-pit mining is used to obtain ores that lie

    a. under flat land.
    b. deep in the Earth's crust.
    c. near the surface of the Earth.
    d. in riverbeds.

27. Gemstones are used in

    a. building materials
    b. paper products
    c. automobile parts
    d. jewelry making

28. The three groups of rock are sedimentary, metamorphic, and

    a. limestone
    b. granite
    c. igneous
    d. coal

29. The rock cycle shows how rocks continually

    a. increase in size
    b. increase in number
    c. become more complex
    d. change over time

30. Which kind of rock forms when molten rock cools?

    a. metamorphic
    b. sedimentary
    c. igneous
    d. extrusive

31. An existing rock can change into another type of rock when it is subjected to great

    a. pressure
    b. winds
    c. flooding
    d. foliation

32. Which kind of rock forms by recrystallization?

    a. intrusive igneous
    b. extrusive igneous
    c. sedimentary
    d. metamorphic

33. Geologists classify igneous rock on the basis of its crystal size and the amount of _____ its minerals contain.

a. carbon
b. silica
c. sediment
d. foliation

34. Pieces of rock can settle from water and get cemented into

a. metamorphic rock
b. sedimentary rock
c. igneous rock
d. extrusive rock

35. Rock salt is an example of a sedimentary rock that develops from dissolved minerals as

a. water evaporates
b. magma cools
c. sediments break down
d. sand settles in water

Part 3: Short Answer

Write a short answer to each question.

36. Why aren't all solids minerals? Include the term crystal structure in your answer.

37. Why is a mineral's streak more useful in identifying it than its color?

38. If you drop diluted hydrochloric acid on the mineral aragonite, it bubbles. What mineral group do you think aragonite belongs to? Why?

39. Describe how the strength of the bonds between atoms in a mineral determines whether the mineral displays cleavage or fracture.

40. What is the difference between a rock and a mineral?

41. Compare the distribution of rock types at Earth's surface to their distribution in the entire crust. How are any differences related to processes occurring in the rock cycle?

42. How is the texture of an igneous rock related to the rate at which it cooled?
Slow cooling time allows for large crystals to form. A faster cooling time does not allow large crystals to grow. Rocks with small crystals are smoother than those with large crystals.

Part 4: Mineral Properties

Properties such as hardness and density are used to identify minerals. Use the information in the chart to answer the next five questions.

Mineral	Hardness	Density (g/cm^3)
Platinum	4.5	19.0
Aragonite	4	3
Topaz	8	3.5
Quartz	7	2.7
Arsenic	3.5	5.7

43. Platinum can combine with arsenic to form the mineral sperrylite. How do you think the density of sperrylite compares with the densities of platinum and arsenic?

44. Gems made of topaz are much more valuable than those made of quartz, even though the two minerals can look similar. Describe two methods you could use to identify quartz.

45. Would a miner be more likely to find platinum or to find topaz in a riverbed? Why?

46. Aragonite forms very attractive crystals, yet this common mineral is rarely used in

47. How many times heavier than a piece of quartz would you expect a piece of platinum of the same size to be? Show your work.

48. Halite is the mineral name for table salt. Thick layers of halite are mined near Detroit, Michigan. At one time, an ocean covered the area. Write a hypothesis that explains how the halite formed there.

Part 5: Examining Rocks

Use the photograph below to answer the next four questions.

49. What are the dark markings on the rock?

50. Which of the three groups of rocks does this rock belong to? How do you know?

51. Describe the process by which this rock most likely formed.

52. If this rock were subjected to metamorphism, how might it change?

Part 6: Predict

Which of the three rock types – igneous, sedimentary, or metamorphic – would you be most likely to find in each area?

53. At the bottom of a large lake

_____

54. Older rock surrounding an igneous intrusion

_____

55. A lava flow from a volcano

_____

56. A part of the surface that was once deep within a mountain range

_____

57. The sides of a cave

_____