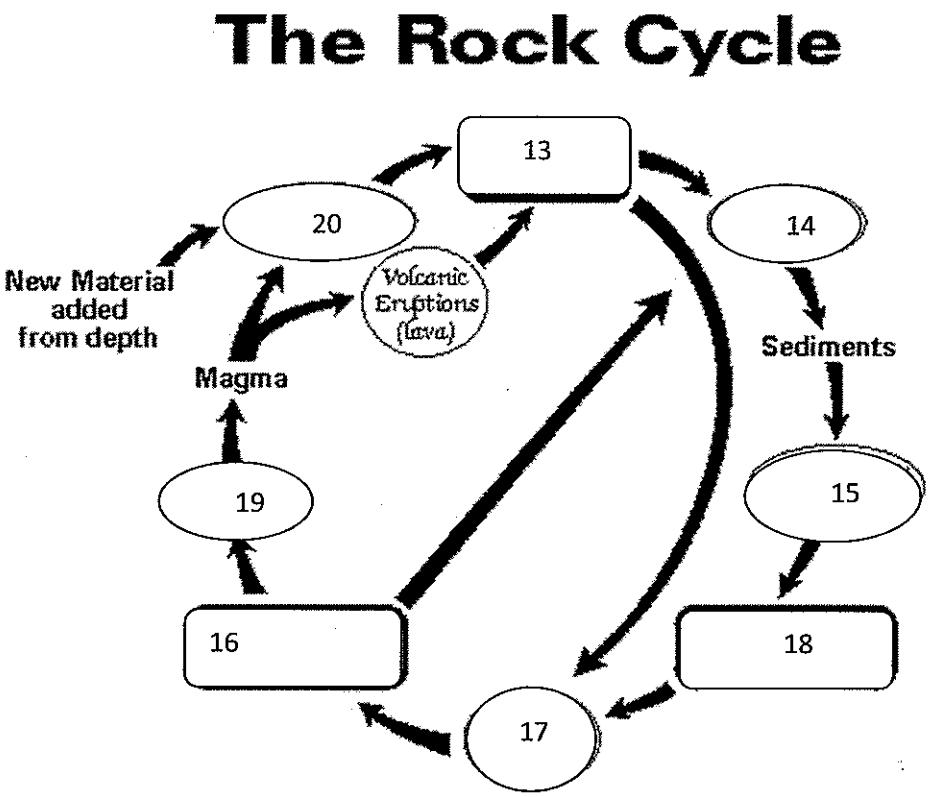
Station 3

Complete the following diagram of The Rock Cycle.



Station 5

Answer the questions below.

26. What is the most abundant element in earth's crust?

27. What is the most abundant group of rock forming minerals on Earth's crust?

28. Why is obsidian not considered a mineral?

29. What 5 properties must a substance have in order to be classified as a mineral?

Station 13

Fill in the correct response to the multiple choice questions on your answer sheet.

67. Rocks classified as sedimentary, igneous, and metamorphic are grouped on the basis of

    a. composition.

    b. texture.

    c. hardness.

    d. origin.

68. Which characteristic of rocks tends to increase as the rocks are metamorphosed?

    a. volume

    b. porosity (% of pore space)

    c. density

    d. number of fossils present

69. Changes in rocks by metamorphism are the result of

    a. heat.

    b. pressure.

    c. chemically active fluids.

    d. all or any of the above

    e. a and b only

70. Which characteristic of an igneous rock would provide the most information about the environment in which the rock solidified?

a. color

b. texture

c. hardness

d. streak

71. To change a metamorphic rock to a sedimentary rock, the rock must

a. be subjected to heat and pressure.

b. be eroded, deposited and lithified.

c. melt and solidify at depth.

d. melt and solidify at the surface.

72. The rock cycle indicates that

a. rocks remain the same over time.

b. rocks can change from one type to another over time.

c. only sedimentary rocks change to igneous rocks.

d. only metamorphic rocks change to sedimentary rocks.

73 Sedimentary rocks may form from the erosion, transport and deposition of

a. igneous rocks.

b. sedimentary rocks.

c. metamorphic rocks.

d. igneous and metamorphic rocks.

e. igneous, sedimentary and metamorphic rocks.

74. Fossils are most likely to be found in rocks that are

a. volcanic.

b. plutonic.

c. sedimentary.

d. metamorphic.

75. Which is a similarity between igneous, sedimentary, and metamorphic rocks?

a. fossils are common in them

b. they are made of minerals

c. they all have layers

d. they are only composed of silicate minerals

76. The greatest volume of metamorphic rock is produced during

a. contact metamorphism.

b. lithification.

c. crystallization.

d. regional metamorphism.

e. weathering.

Station 14

Fill in the correct response to the multiple choice questions on your answer sheet.

77. Igneous rocks that contain the first minerals to crystallize from magma are said to have a _____ composition.

a. felsic

b. gneissic

c. mafic

d. andesitic

78. Metamorphism by chemically active fluids is most likely to cause

a. a reduction of pore space in the rock.

b. formation of fossils in the rock.

c. a glassy texture in the rock.

d. new minerals to form in the rock.

79. Most of the exposures (outcrops) of rock on Earth's surface are what type of rock?

a. igneous

b. sedimentary

c. metamorphic

80. Accumulation of the sediment that eventually forms the rock shale most likely occurs in which one of the following environments?

a. a swiftly flowing river

b. an ocean

c. a glaciated area

d. a beach

81. Which would not result in the formation of a sedimentary rock?

a. the cementation of sand grains

b. the solidification of molten rock

c. the evaporation of a shallow sea

d. the compaction of clay particles

82. As magma moves toward Earth's surface it metamorphoses the nearby rock. This type of metamorphism is best described as

a. high grade metamorphism.

b. regional metamorphism.

c. contact metamorphism.

d. hydrothermal metamorphism.

83. An igneous rock is observed to consist of large black crystals surrounded by a matrix of light gray material in which no crystals are evident. What is the texture of this rock?

a. coarse-grained

b. fine-grained

c. vesicular

d. porphyritic

84. Sedimentary rocks are subdivided (classified) according to

a. the presence or lack of foliation.

b. color and texture.

c. the source of the accumulating sediment.

d. the presence or lack of fossils.

85. Which of the following is <u>not</u> correct?

a. Metamorphic rocks always eventually melt and become magma.

b. Igneous rock can be changed into sedimentary rocks.

c. Sedimentary rocks can be metamorphosed.

d. When molten rock solidifies, it forms an igneous rock.

86. Igneous rocks are subdivided (classified) on the basis of

a. their mineral composition and texture.

b. the presence or lack of foliation.

c. the source of the accumulating sediment.

d. their crystal form, color, hardness, cleavage and luster.

Station 15

Fill in the correct response to the multiple choice questions on your answer sheet.

87. The correct relationship between sediment and the energy of the environment in which it was deposited is:

a. the greater the energy, the smaller the grain that is deposited.

b. the lesser the energy, the smaller the grain that is deposited.

c. the greater the energy, the more sediment that is deposited.

d. the lesser the energy, the more sediment that remains suspended.

88. The most likely depositional environment of the rock limestone would be

a. an ocean.

b. a river bed.

c. a lake.

d. a desert.

89. Which rock type would most likely be the best aquifer?

a. limestone

b. shale

c. sandstone

d. granite

90. Your teacher gives you and three of your classmates each a blow torch (which has the ability to heat an object to 1500°C), some protective gear, and a choice of four rocks. The task is to melt the rock that you choose. First one to melt their rock completely gets an A. Which rock should you choose if you want to get that A?

a. basalt

b. granite

c. gabbro

d. andesite

91. When dilute hydrochloric acid is placed on the sedimentary rock limestone and the metamorphic rock marble, a bubbling reaction occurs with both. What would this indicate?

a. The minerals of these two rocks have a similar chemical composition.

b. The atomic structures of these rocks have been changed by heat and pressure.

c. The hardness of the minerals is the same.

d. The two minerals formed in the same environment.

92. In the carbon cycle, which sedimentary rock is an important long-term reservoir (depository) of carbon?

a. sandstone

b. limestone

c. shale

d. rock salt

93. You are not allowed to taste the minerals. Which test/observation can be used to distinguish between halite (NaCl) and calcite ($CaCO_3$) ?

a. color

b. streak

c. hardness

d. acid test

94. Which of the following is not a characteristic of minerals?

a. possess an atomic structure

b. formed by organic processes

c. have a definite chemical composition

d. are in a solid state

e. All of the above characterize a mineral.

95. Diamonds and graphite are two minerals made solely of carbon. Why then are these minerals so different?

a. Graphite forms naturally and diamonds don't.

b. The individual atoms of carbon in each mineral are different.

c. The arrangement of the carbon atoms is different in each mineral.

d. Graphite is sedimentary and diamonds are metamorphic.

96. Which of the mineral properties listed includes the descriptions glassy, dull, earthy, pearly, and vitreous?

a. fluorescence

b. streak

c. fracture

d. luster