2024 RX ADOBE CB-RAT ITEMS
GENERAL CHEMISTRY 1

1. The task is to identify each of the three unknown substances (A, B, and C) and figure out the best way to separate a mixture of A and B. A solubility test reveals that while Substance A does not conduct electricity, it does dissolve in water. Substance B is not electrically conductive and does not dissolve in water. Substance C conducts electricity and dissolves in water. What is the most likely identification for Substance C based on these observations?

A. Ionic Compound
B. Covalent Compound
C. Insulator
D. Metal

2. It's necessary to separate P and Q after you inadvertently mixed the two. Just think about the following details,
Observations:
• At 100°C, substance P melts into a solid state.
• Liquid Q has a boiling point of eighty degrees Celsius.
Which technique would be most useful for separating the P and Q mixture?

A. Filtration
B. Distillation
C. Chromatography
D. Evaporation

3. You come upon an article detailing a substance identification and separation experiment. Determine the procedure's possible problem to guarantee its dependability.

Method of the Experiment:
1. Combine unidentified materials in a plastic container.
2. Test for electrical conductivity and solubility.
3. Paper towels work well for filtering.
4. Heat the blend until the water evaporates.
Which step in the process makes you question the experiment's dependability?

A. Making use of a plastic bottle
B. Testing for conductivity and solubility
C. Filtering with paper towels
D. Heating the concoction to cause it to evaporate

4. In a recent chemistry experiment, you observed a reaction where a metal element combined with a non-metal element to form a compound. During the experiment, you witnessed the formation of a white, crystalline solid when a metal reacted with a non-metal. What is the likely molecular formula of the compound formed?

A. MgO
B. H_2O
C. CO_2
D. NaCl

5. You came across a forum discussing the chemical composition of a popular beverage. Before accepting the information, critically evaluate the provided details. A user claims that the beverage contains dihydrogen monoxide (DHMO). Considering this claim, what is the most accurate interpretation?

A. DHMO is a harmful chemical, and its presence raises health concerns.
B. Dihydrogen monoxide is water (H2O), a common and safe component of beverages.
C. DHMO is a synthetic additive, indicating potential harm in the beverage.
D. Dihydrogen monoxide is a complex organic compound contributing to the beverage's flavor.

6. After researching air purifiers for your home, you find two models claiming to be the best in terms of use, safety, quality, and cost. In your investigation, Model A highlights its HEPA filter technology, ensuring efficient removal of airborne particles. Model B, on the other hand, emphasizes its UV-C light technology for additional germ-killing capabilities. Considering use, safety, quality, and cost, which critical factor should be a priority when choosing an air purifier?

A. HEPA filter technology for particle removal
B. UV-C light technology for germ-killing capabilities
C. Sleek and modern design
D. Availability of different fan speed settings

7. When deciding to purchase a new refrigerator, you encounter two models with varying features. Consider your specific needs based on real-life experience to effectively solve the dilemma. In your research, Refrigerator Model A highlights advanced temperature control options, while Refrigerator Model B emphasizes energy-efficient components. Considering use, safety, quality, and cost, how would you employ problem-solving skills to choose the most suitable refrigerator for your needs?

A. Prioritize advanced temperature control for specific storage needs.
B. Emphasize energy-efficient components for reduced electricity consumption.
C. Choose based on the aesthetic design of the refrigerator
D. Opt for the refrigerator with the most bundled accessories.

8. As you embark on purchasing a new vacuum cleaner, you turn to online reviews for guidance. However, not all reviews provide reliable information. In your research, Reviewer A praises Vacuum Model X for its powerful suction, while Reviewer B criticizes it for being noisy. Reviewer C claims that Vacuum Model Y is more cost-effective, while Reviewer D warns about its durability. Considering use, safety, quality, and cost, how would you apply information literacy skills to make an informed decision?

A. Focus on the positive aspects highlighted by Reviewer A for Vacuum Model X.
B. Prioritize Reviewer B's concern about the noise level of Vacuum Model X.
C. Investigate Reviewer C's claim of cost-effectiveness for Vacuum Model Y.
D. Give weight to Reviewer D's warning about the durability of Vacuum Model Y.

9. During a home science experiment, you accidentally spill a mixture of ink and water on a paper. Considering the nature of ink and water, which separation technique would be most effective in this scenario?

A. Filtration
B. Distillation
C. Chromatography
D. Evaporation

10. In your art studio, you mistakenly mix two different colors of paint, creating an unintended hue. Determined to correct this mishap, you decided to employ a suitable simple separation technique. Considering the characteristics of mixed paint colors, which separation technique would be most effective in recovering the original colors?

A. Filtration
B. Distillation
C. Chromatography
D. Evaporation

11. As you explore an online article about separation techniques, a scenario involving the separation of ink components catches your attention. The article suggests using a technique that exploits differences in solubility to separate ink components. Which separation method is most likely being discussed?

A. Filtration
B. Distillation
C. Chromatography
D. Evaporation

12. Contemplating a recent environmental study, you recall the use of isotopes to trace pollutants in a water source. In the study, scientists sought to trace the movement of pollutants through a river system. Which isotope would likely have been employed for tracking environmental contaminants?

A. Uranium-238
B. Cesium-137
C. Hydrogen-1
D. Nitrogen-14

13. In a laboratory experiment, you encounter a challenge where you need to choose the most suitable radioactive isotope for tracing the movement of a fluid through a complex system. Apply problem-solving skills based on this real-life scenario. Given the need for precise tracking, which radioactive isotope would be the most effective choice for tracing fluid flow in this experimental setup?

A. Carbon-14
B. Technetium-99m
C. Potassium-40
D. Strontium-90

14. You come across contradictory information regarding the best isotope to use for this purpose as you read through an environmental report that discusses isotopes used to monitor water quality. While one section emphasizes the benefits of tritium-3, another contends that cesium-137 is a better choice for evaluating the quality of water.
In what way would you evaluate this data critically to identify the most trustworthy isotope for water quality monitoring?

A. Favor Tritium-3 due to its mentioned advantages.
B. Trust Cesium-137, a well-established isotope for environmental monitoring
C. Investigate additional isotopes not discussed in the conflicting sections.
D. Disregard both isotopes, as they have limited relevance to water quality assessment.

15. You consider the best illustration as you think back to a recent science fair project in which you demonstrated the structure of a compound. Showcasing the structure of a complicated molecule used in medicine was the aim of your project. For a wide range of viewers, what kind of representation would work best to accurately convey the complexities of this molecule?

A. Chemical formula
B. Structural formula
C. Ball-and-stick model
D. Lewis dot structure

16. You were tasked with 3D printing a molecular model of a compound used in the manufacture of plastics in a science and technology competition. Which representation technique for the 3D printing project would give the judges and audience the best understanding of the molecular arrangement?

A. Chemical formula
B. Structural formula
C. Ball-and-stick model
D. Space-filling model

17. You are investigating different chemistry learning platforms and come across conflicting views regarding the usefulness of ball-and-stick models for compound representation. While some argue that ball-and-stick models oversimplify complex structures, others contend that they offer a tangible understanding of molecular shapes. To guide your learning, how would you evaluate this information critically?

A. Favor ball-and-stick models for their tangible representation of molecular shapes.
B. Trust the source highlighting the oversimplification concerns.
C. Explore alternative models not discussed in the conflicting sources.
D. Disregard both opinions, as they are subjective in assessing compound representation.

18. Apply the information you learned about ionic compounds in chemistry class to this real-world situation. Given the ionic compound's chemical formula, $CaCl_2$, what is its correct IUPAC name?

A. Calcium dichloride
B. Calcium chloride

C. Chlorine calciumate
D. Calcium chlorate

19. You come across a covalent compound with an incorrect chemical formula while working on a research project. Though the formula is written as CCl3, the compound is named Carbon Tetrachloride. What is the accurate carbon tetrachloride adjusted formula?

A. CCl_4
B. C_2Cl_4
C. CCl_3F
D. CCl_2

20. One day, a covalent compound that may have a mistake in its chemical formula is mentioned in a research report. Although the formula is SCl6, the compound is known as sulfur hexachloride. What is sulfur hexachloride's correct chemical formula?

A. SCl_6
B. S_2Cl_6
C. SCl_4
D. S_2Cl_4

21. You find out 70% of the material is carbon, 10% is hydrogen, and 20% is nitrogen in an elemental analysis while looking up plant extracts. What compound was extracted from the plant and what is its empirical formula?

A. CH_2N
B. C_2H_5N
C. C_3H_7N
D. $C_4H_{10}N_2$

22. A new substance you are researching yields an elemental breakdown that indicates 53.3% oxygen, 6.7% hydrogen, and 40% carbon. What, according to the given percent composition, is the empirical formula for the substance?

A. $C_4H_6O_2$
B. C_2H_3O
C. $C_5H_8O_4$
D. $C_6H_{10}O_5$

23. If an electron has a principal quantum number (n) of 3 and an angular momentum quantum number (l) of 1, how many possible orientations for its orbital exist?

A. 1
B. 3
C. 5
D. 7

24. If an electron in an atom has a magnetic quantum number (ml) of -1, which sublevel does it belong to?

A. s
B. p
C. d
D. f

25. Which quantum number describes the energy level of an electron within an atom?

A. Principal quantum number (n)
B. Angular momentum quantum number (l)
C. Magnetic quantum number (ml)
D. Spin quantum number (ms)

26. If an atom has an electronic configuration of 1s^2 2s^2 2p^4, what is its magnetic property?

A. Paramagnetic
B. Diamagnetic
C. Ferromagnetic
D. Antiferromagnetic

27. An atom has an electronic configuration of 1s^2 2s^2 2p^6 3s^2 3p^6. What is its magnetic property?

A. Paramagnetic
B. Diamagnetic
C. Ferromagnetic
D. Antiferromagnetic

28. In which of the following scenarios would knowledge of an atom's magnetic property based on its electronic configuration be most useful?

A. Designing magnetic levitation trains for efficient transportation
B. Assessing the nutritional content of fruits and vegetables
C. Evaluating the melting points of different types of chocolate
D. Investigating the effects of temperature on plant growth

29. In which scenario would knowledge of drawing orbital diagrams be most beneficial?

A. Selecting the appropriate ingredients for baking a cake
B. Analyzing the structure of DNA in genetic engineering
C. Designing the layout of a garden for optimal plant growth
D. Estimating the energy efficiency of home appliances

30. Which of the following electronic configurations represents an atom with the maximum number of unpaired electrons?

A. 1s^2 2s^2 2p^6 3s^2 3p^6 3d^10 4s^1
B. 1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^5
C. 1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^10
D. 1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^10 4p^6

31. In what context would knowledge of drawing orbital diagrams be most valuable?

A. Selecting the appropriate soil for gardening purposes
B. Analyzing the structure of proteins in biological systems
C. Estimating the distance traveled by a vehicle in a given time
D. Designing the layout of a room for optimal furniture placement

32. In what scenario would knowledge of drawing Lewis structures of ions be most beneficial?

A. Selecting the appropriate fertilizer for plant growth
B. Analyzing the nutritional content of food labels
C. Designing the layout of a garden for optimal plant placement
D. Estimating the energy efficiency of home appliances

33. Which of the following represents the correct Lewis structure for the ammonium ion ($NH4^+$)?

A. :N::H::H::H:
B. :N::H::H::H:+
C. N::H::H::H:-
D. N::H::H::H:

34. In what context would knowledge of drawing Lewis structures of ions be most useful?

A. Analyzing the pH of acidic and basic solutions
B. Selecting appropriate materials for construction projects
C. Estimating the pressure and temperature of a gas
D. Designing chemical compounds for pharmaceutical applications

35. In what way does the octet rule influence the geometry of covalent molecules?

A. By dictating the number of atoms present in a molecule
B. By determining the arrangement of atoms around a central atom
C. By influencing the strength of covalent bonds between atoms
D. By controlling the color of the covalent compound in solution

36. Which molecule violates the octet rule?

A. Water (H_2O)
B. Methane (CH_4)
C. Ammonia (NH_3)
D. Boron trifluoride (BF_3)

37. In what context would knowledge of applying the octet rule be most beneficial?

A. Selecting the appropriate fertilizer for plant growth
B. Analyzing the nutritional content of food labels
C. Designing chemical compounds for pharmaceutical applications
D. Estimating the distance traveled by a vehicle in a given time

38. In what scenario outside of the laboratory might knowledge of molecular compound formulas be beneficial?

A. Selecting the appropriate clothing for different weather conditions
B. Planning a balanced diet based on food labels
C. Designing a workout routine for optimal fitness
D. Organizing household items for efficient storage

39. Which of the following represents the correct formula for the compound formed by sulfur and hydrogen?

A. SH
B. SH_2
C. H_2S
D. H_2S_2

40. In what real-life scenario might understanding molecular compound formulas be beneficial?

A. Planning a route for a road trip
B. Selecting the appropriate clothing for different weather conditions
C. Deciding on the ingredients for a recipe
D. Organizing household items for efficient storage

41. Why is it essential to consider the octet rule when drawing Lewis structures?

A. To determine the compound's electrical conductivity
B. To predict the compound's solubility in different solvents
C. To ensure that each atom in the compound satisfies its valence electron requirement
D. To estimate the compound's reactivity with other substances

42. Which of the following represents the correct Lewis structure for water (H_2O)?

A. H-O-H
B. H::O::H
C. ::H::O::H::
D. ::H-O-H::

43. In what scenario outside of the laboratory might knowledge of Lewis structures be beneficial?

A. Planning a road trip route
B. Selecting appropriate clothing for different weather conditions
C. Designing a workout routine for fitness goals

D. Understanding the composition of household chemicals

44. In what scenario would knowledge of describing the geometry of simple compounds be most beneficial?

A. Planning a road trip route
B. Selecting appropriate clothing for different weather conditions
C. Designing chemical compounds for pharmaceutical applications
D. Organizing household items for efficient storage

45. What is the molecular geometry of a molecule with the formula CO_2?

A. Linear
B. Trigonal
C. Tetrahedral
D. Bent

2024 RX ADOBE CB – RAT ITEMS

EARTH AND LIFE SCIENCES

46. What is the reason why every living thing on Earth has the chance of survival?

A. Earth is covered with 65% water.

B. Earth’s thick atmosphere consisted mainly of carbon dioxide

C. Earth has active volcanoes similar to those that are found on Venus.

D. Earth has an ozone layer to protect living organisms from harmful radiation.

47. Earth includes beach grasses, forms of life in the sea, on land, and even in the air. Which term best describes the statement?

A. atmosphere

B. biosphere

C. geosphere

D. hydrosphere

48. In light of recent scientific discovery, which characteristic of Earth's subsystems has been an essential criterion for finding extraterrestrial life?

A. Abundance of heavy metals

B. Presence of magnetic fields

C. Existence of diverse ecosystems

D. Discovery of liquid water on other planets

For item 49, Major human activities cause great destructions on Earth’s subsystems. Since energy and matter is cycled within the spheres and being part of the system, these harmful activities bring forth destruction to us in a boomerang effect. One example of this is the Global warming.

49. As a student, what recommendation can you give to solve this problem?

A. Report the violators to the United Nations

B. Start the change from yourself by not contributing pollution to the environment

C. Just ignore and continue your daily routines.

D. Be active in advocating change by rallying outside the government hall.

50. Ozone plays an important function in every single organism on Earth. To what sphere does the ozone layer belong?

A. atmosphere

B. biosphere

C. geosphere

D. hydrosphere

51. When nitrogen is returned to the soil when dead plants decompose is an interaction that occurs in what system?

A. biosphere and atmosphere

B. geosphere and atmosphere

C. biosphere and geosphere

D. atmosphere and geosphere

52. Which Of the choices clearly gives an example of the connection between the hydrosphere and the geosphere?

A. boats transporting goods

B. fish swimming in water

C. water evaporating to make clouds

D. waves eroding rocks on the beach

53. The relationship between the complex communities of individual organisms is seen in the different systems of the Earth. What do you call the unit in nature?

A. ecosystem

B. complexity

C. ground

D. system

54. All of Earth’s cycles and spheres are interconnected. Why is this so?

A. because they are interconnected

B. because Earth is where we live in

C. because Earth is the only living planet

D. because every organism has its own function on the Earth

Table 1. Chemical formula and property of the minerals

	Minerals	
	Olivine	**Hematite**
Chemical formula	$(Mg,Fe)_2SiO_4$	Fe_2O_3
Hardness (max)	7	6

For items 55 & 56.

55. Which of the following inferences can be made about the two minerals?

A. Olivine can scratch hematite

B. Hematite can scratch olivine

C. The two minerals can scratch each other

D. Neither of the two could scratch the other

56. Which chemical groups do these two minerals belong?

A. Olivine = oxide; hematite = sulfate

B. Olivine = silicate; hematite = oxide.

C. Olivine = sulfate; hematite = oxide

D. Olivine = oxide; hematite = silicate

57. During the 1800s, miners could identify real gold from pyrite by biting the surface of the mineral. If a bite mark is exhibited, then the said mineral is considered real gold. What property is tested in this scenario?

A. cleavage

B. luster

C. hardness

D. streak color

58. Some minerals like mica have surfaces with planes of weak bonds in the crystals. Thus, its crystals can be peeled like layers of onion. What is the property exhibited by mica?

A. Cleavage

B. Fracture

C. Hardness

D. Tenacity

59. Pyrite is a yellowish mineral that looks like gold and is commonly called fool's gold. What is the property of mineral exhibited by pyrite wherein it reflects light and a metallic look?

A. Color

B. Hardness

C. Streak

D. Luster

60. What is a carbonate mineral that occurs in a different crystal form and is less common than either calcite or dolomite?

A. aragonite

B. gypsum

C. calcite

D. silica

61. Which of these areas do most sedimentary rocks usually form?

A. Volcanoes

B. Mountains

C. Bodies of water

D. Plain lands

62. Which of the following combinations of factors can change pre-existing rocks into new forms?

A. Temperature, pressure, and chemically- active fluids

B. Texture, temperature, and chemically- active fluids

C. Minerals, color, and temperature

D. Color, shape, and texture

63. A student obtains a cup of quartz sand from a beach. A saltwater solution is poured into the sand and allowed to evaporate. The mineral residue from salt water solution cements the sand grains together, forming a material that is most likely an:

A. Extrusive igneous rock

B. intrusive igneous rock

C. sedimentary rock

D. metamorphic rock

64. Which of the following represents the correct order of the processes responsible for the formation of sedimentary rocks?

A. Erosion, weathering, compaction, cementation, deposition

B. Compaction, cementation, deposition, weathering, erosion

C. Deposition, cementation, compaction, erosion, weathering

D. Weathering, erosion, deposition, compaction, cementation

65. A student obtains a cup of quartz sand from a beach. A saltwater solution is poured into the sand and allowed to evaporate. The mineral residue from salt water solution cements the sand grains together, forming a material that is most likely an:

A. Extrusive igneous rock

B. intrusive igneous rock

C. sedimentary rock

D. metamorphic rock

66. Igneous rock is divided into two groups, extrusive and intrusive. Extrusive igneous rocks form when magma makes its way to its surface as lava and the cools forming rocks. Which of the following will be the characteristics of the crystals?

A. Crystals are coarse-grained.

B. Crystals are fine-grained.

C. Crystals are very large.

D. Crystals are phaneritic

67. Which of the following correctly describes physical weathering?

A. Rust changes the color of the rock

B. A carabao steps on and crushes a limestone

C. A year of acid rain deforms a rock monument

D. Running water transports rock to other places

68. Which of the following correctly describes physical weathering?

A. It moves glaciers down the slope.

B. It loosens the land materials.

C. In mountains, it moves down large slabs of rocks.

D. It acts as an agent of mass wasting, like landslides, falls, mudflows, and avalanches.

69. What type of weathering is exhibited when the rocks are fractured, cracked, and broken down into small pieces?

A. chemical weathering

B. oxidation

C. physical weathering

D. pressure change

70. Which diagram exhibits the most ideal arrangement for exogenic processes?

A. erosion – sediments – weathering – transport- deposition

B. sediments – erosion – weathering – transport

C. sediments – transport – erosion – weathering

D. weathering – erosion – transport-deposition

71. What is the process by which sediments settle down in a particular area?

A. deformation

B. deposition

C. transport

D. weathering

72. What type of mechanical weathering occurs when freezing of water and repeated thawing in cracks of rocks?

A. abrasion

B. frost wedging

C. oxidation

D. solution

73. Which of the following statements correctly describes the inner core and outer core?

A. The inner core is extremely dense which made up of solid iron and is intensely hot, while the outer core is the thickest layer, made mostly of magnesium and silicon.

B. The inner core is extremely dense made up of solid iron, and Is intensely hot, while the outer core is made from iron and nickel in liquid form, heated largely by radioactive decay

C. The inner core is the thickest layer, made mostly of magnesium and silicon, while the outer core is made from iron and nickel in liquid form, heated largely by radioactive decay.

D. The inner core is made from iron and nickel in liquid form, heated largely by radioactive decay, while the outer core is extremely dense which made up of solid iron and is intensely hot.

74. What process by which heat is directly transmitted through a substance when there is a difference of temperature or between adjoining regions, without movement of the material?

A. conduction

B. convection

C. insolation

D. radiation

75. What are the two factors that affect conduction on the Earth's surface?

A. earthquake

B. hurricane

C. storm surge

D. volcanic eruption

For item 76 & 77

Table 2. Difference in Composition of Granitic and Basaltic

Typical Granitic Magma	Typical Basaltic Magma
70% silica- felsic	50% silica- mafic
10-15% water	1-2%water
Intrusive	Extrusive

76. Which from the following statements below correctly conclude the movement of both basaltic and granitic magma toward the Earth's surface?

A. Basaltic magma typically solidifies within the Earth's crust, while granitic magma rises all the way to the Earth's surface to erupt from a volcano.

B. Neither basaltic magma nor granitic magma rises all the way to the Earth's surface to erupt from a volcano, causing great destruction to the environment.

C. Basaltic magma rises all the way to the Earth's surface to erupt from a volcano, while granitic magma typically solidifies within the Earth's crust.

D. Both basaltic magma and granitic magma rise all the way to the Earth's surface to erupt from a volcano and, at the same time, solidify within the Earth's crust.

77. When the magma is formed, it rises toward the Earth's surface. But not all magma behaves in the same way, just like granitic and basaltic magma. Based on the table, which of the following statements correctly differentiate granitic and basaltic magma?

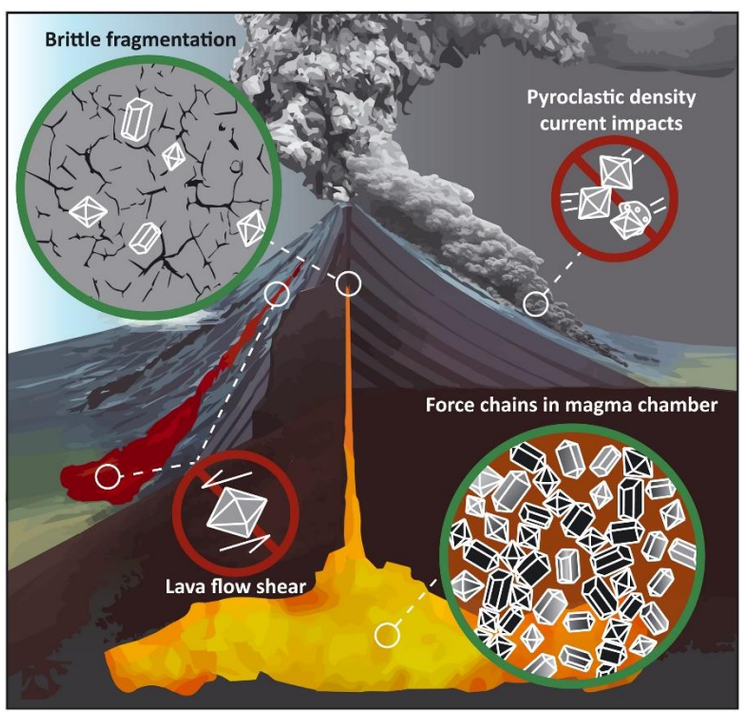
A. Granitic magma is composed of 70% silica and 10-15% water, while basaltic magma is composed of 50% silica and 1-2% water.

B. Granitic magma is composed of 50% silica and 10-15% water, while basaltic magma is composed of 70% silica and 1-2% water

C. Granitic magma is composed of 70% silica and 1-2% water, while basaltic magma is composed of 50% silica and 10-15% water.

D. Granitic magma is composed of 50% silica and 10-15% water, while basaltic magma is composed of 70% silica and 10-15% water

78. Based on the imgae shown of a lava flow, you got curious about howcrystal formation happens. You also observed that small and large crystals canbe formed from a lava flow. Based on this observation, where would you expectto find the largest crystals in a lava flow?



A. At the center of the flow

B. Near the bottom of the flow

C. Near the top surface of the flow

D. The crystals would have the same grain size throughout the flow

79. Conduction in the mantle happens when heat is transferred from hotter molten rocks to the Earth's cold crust. What process is being described?

A. decompression melting

B. flux melting

C. heat transfer

D. partial melting

80. Mantle rocks remain solid when exposed to high pressure. However, during convection, these rocks tend to go upward (shallower level), and the pressure is reduced. What process is being described?

A. decompression melting

B. flux melting

C. heat transfer

D. partial melting

81. Which of the following is NOT a factor of partial melting?

A. addition of volatiles

B. an increase in pressure

C. an increase in temperature

D. decrease in pressure

82. You were given a granite sample and tasked with describing it just by looking at and touching it. Which of the following statements below best describes granite based on its physical appearance?

A. Light-colored, fine-grained igneous rock rich in silica

B. Light-colored, fine-grained igneous rock poor in silica

C. Light-colored, coarse-grained igneous rock rich in silica

D. Light-colored, coarse-grained igneous rock poor in silica

83. You are walking along a flat rock surface. You discover that as you walk further, the age of the rocks decreases until you reach the middle of the surface, and then, for some reason, they get older again. What structure have you just passed over?

A. syncline fold

B. anticline fold

C. monocline fold

D. overturned fold

84. A geologist was interested in the age of rock layers in a specific area, as shownin Figure 1 below. Which of the following set of rock layers is correctly arranged from oldest to youngest?

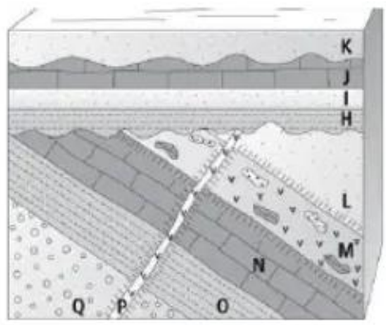


Figure 1. Sample Cross-section of Stratified Rocks
(Source: https://eastmontscience.weebly.com/uploads/1/3/3/8/13389395/2550116.jpg)

A. P – O – N – M – L – Q

B. P – Q – O – N – L – M

C. Q – O – N – M – L – P

D. Q – P – O – N – M – L

85. A geologist used relative dating methods to guess that an igneous rock sample is between 1 million and 5 million years old and was curious about its exact age. Will using carbon-14 to determine the age of the rock is helpful?

A. Yes, because the rock sample contains traces of carbon in it.

B. Yes, because carbon-14 is widely used by scientists in absolute dating.

C. No, because it is not certain whether dead bodies of organisms are present in the sample.

D. No, because the half-life of carbon-14 is too short for the age of the rock sample

86. How do temperature and pressure affect metamorphism?

A. Pressure and temperature increase as you go up to the crust.

B. The deeper the rock depth, the higher the pressure and temperature.

C. Foliation happens as there is an increase in the pressure and temperature.

D. Magma cannot bake the surrounding rocks due to the difference in temperature.

87. Samer is walking down the river when she sees an unknown metamorphic rock. Which of the following characteristics can BEST help her to immediately identify the type of metamorphism that the rock underwent using a magnifying glass?

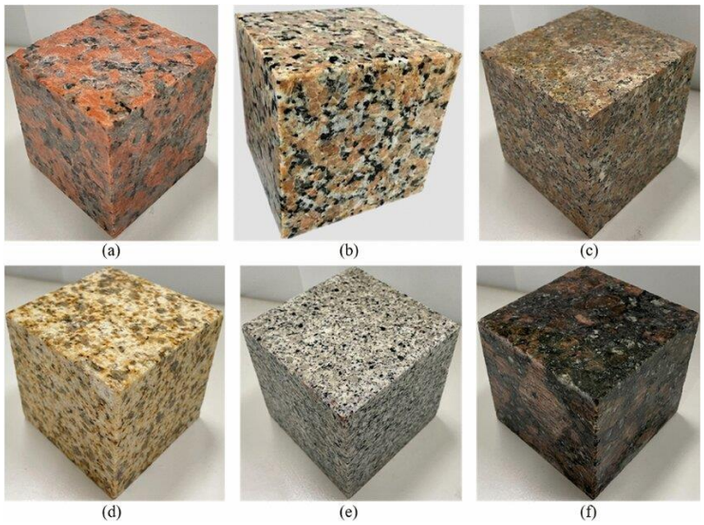
A. foliation

B. grain size

C. name of the rock

D. kind of mineral present in the rock

88. You were given a granite sample and tasked to describe it just by looking at and touching it. Which of the following statements below will best describe a granite based on its physical appearance?



A. Light-colored, fine-grained igneous rock rich in silica

B. Light-colored, fine-grained igneous rock poor in silica

C. Light-colored, coarse-grained igneous rock rich in silica

D. Light-colored, coarse-grained igneous rock poor in silica

89. Which of the following is NOT true about extrusive rocks?

A. from magma or lava

B. coarse or fine grains

C. large or small crystals

D. plutonic and volcanic

90. What happens to the molten rocks when they reach the Earth’s surface?

A. They flow continuously.

B. They cool down and solidify.

C. Their temperature remains the same.

D. They remain semi-liquid molten rocks.