

Figure 1: Three Phases of Matter Common to Our Everyday Life

Solids. The solid phase of matter is sometimes by sight, and sometimes by taste. common to our everyday life. We see and What are the characteristics of solids? experience it constantly; sometimes by touch,



Describe a solid substance.

1.1 Use a pencil, ice cube, or block as an example of a solid and describe it in detail. Be sure to explain how the solid is different from a liquid or gas.

You probably included in your description of the solid such things as: a solid has definite shape, size, and mass; it is not free to move around and stays put when placed down on a surface; and it will turn into a liquid if warmed up enough. Solids are usually more dense than either gases or liquids. We know from our past studies that all matter is made of tiny particles called **atoms**. (The atoms can be grouped together to form a molecule.) The atoms or

molecules in a solid are fastened together in regular spots. The particles are not free to move around very much because each is fastened tightly to its neighbor. An atom of solid can only vibrate around one position.

Liquids. We consume liquids every day when we drink water, milk or juice. Have you thought much about what liquids really are? In 1808 John Dalton published his theory of matter. He made these statements:

Erosional remnants originally came from a dissected plateau. They are separate from mountain ranges and are left after erosion has removed highland areas that once surrounded them. The Rock of Gibraltar is an erosional remnant.

Mountain ranges may be one of the types of mountains listed or may be a complex of more than one type.

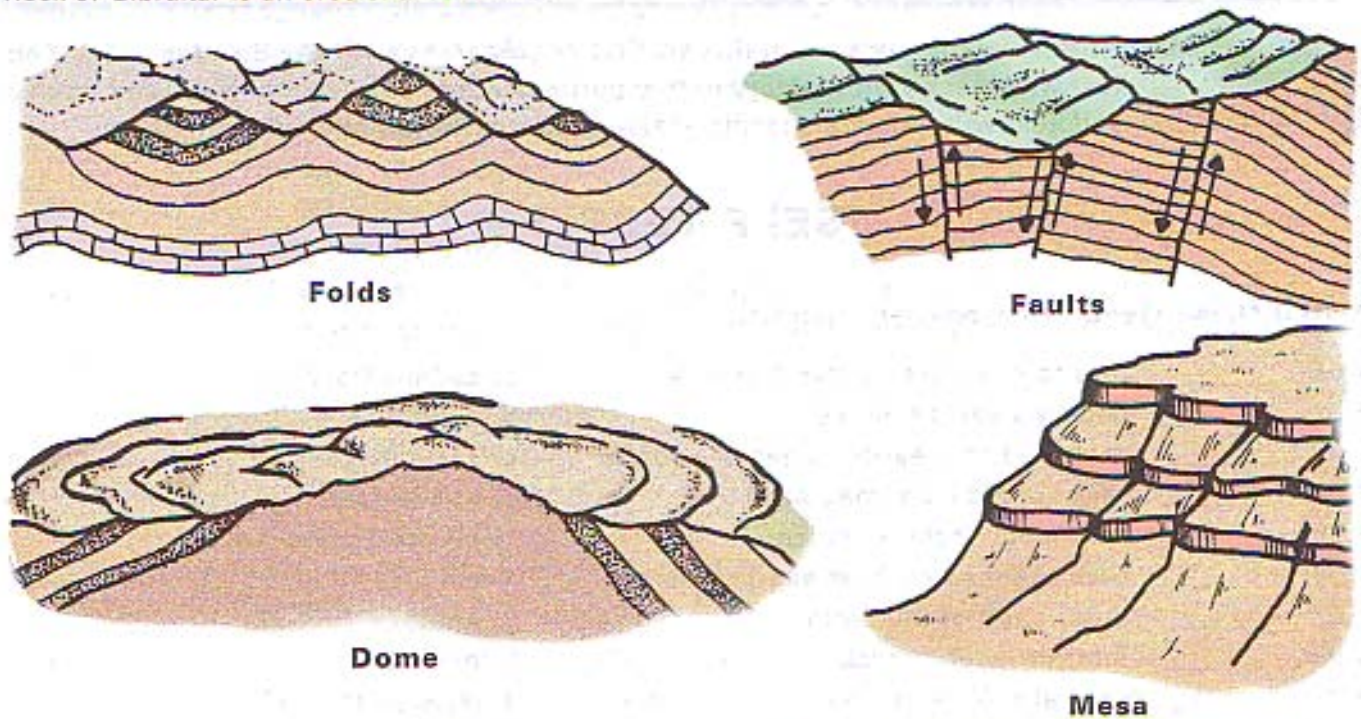


Figure 5: Folded Mountains, Fault-Block Mountains, Dome Mountains, Erosional Remnants



Write true or false.

- 1.66 _____ Volcanoes are fairly evenly distributed all over the world.
 1.67 _____ Folded mountains start from flat-lying sedimentary rock.
 1.68 _____ Dome mountains result from rock layers folded by pressure from one side.



Complete these sentences.

- 1.69 _____ Mountains that were raised without folding have an edge called a _____.
 1.70 _____ Dome mountains are pushed upward by masses of _____.
 1.71 _____ Flat-topped hills that are smaller than plateaus are called _____.
 1.72 _____ The Rock of Gibraltar is an _____.



Complete these activities.

- 1.73 _____ List the two kinds of locations that produce volcanoes.
 a. _____
 b. _____
 1.74 _____ Describe the three kinds of volcanoes.
 a. _____
 b. _____
 c. _____

SELF TEST 1

Match these items (each answer, 2 points).

- | | | |
|------|------------------------------------------------------|-------------------------------------------------|
| 1.01 | <u> </u> astronomical unit | a. asteroids |
| 1.02 | <u> </u> planetoids | b. 10^{12} |
| 1.03 | <u> </u> parsec | c. a billion |
| 1.04 | <u> </u> a million million | d. 93,000,000 miles |
| 1.05 | <u> </u> major planet farthest from the sun | e. distance a beam of light travels in one year |
| | | f. a unit of stellar distance |
| | | g. Pluto |
| | | h. Alpha-Centauri |

Complete these activities (each answer, 3 points).

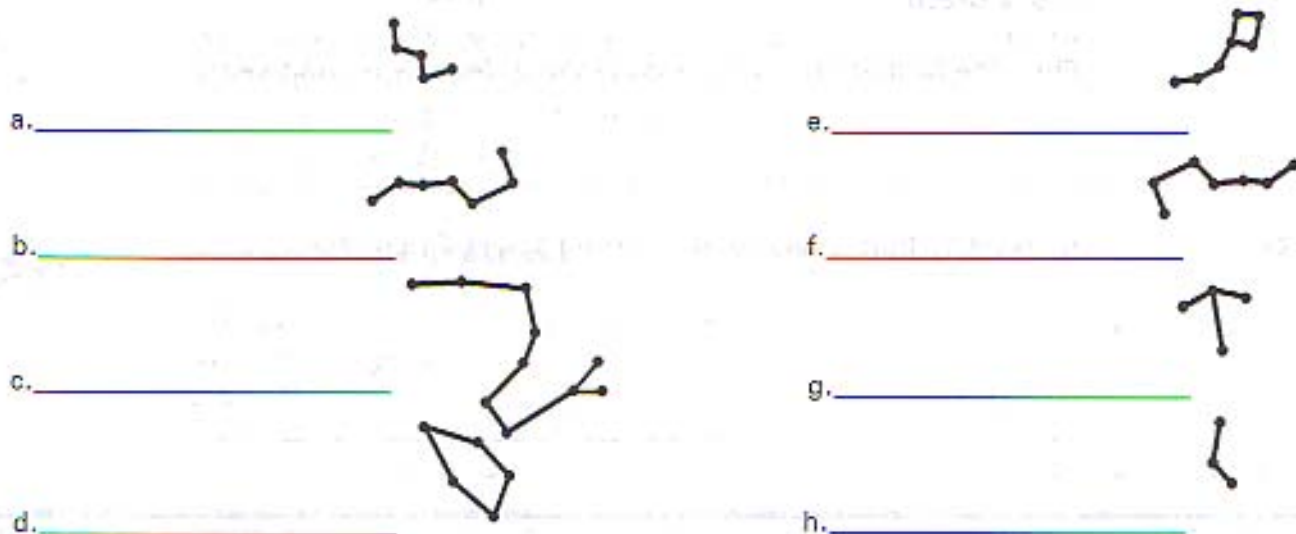
- 1.06 The three closest major planets to Earth are
a. , b. , and c. .
- 1.07 Using Bode's Law, which are the major planets that seem to be approximately correctly positioned with respect to their distances from the sun?
a. c. e.
b. d. f.

Perform the following numerical conversions (each answer, 3 points).

- 1.08 3 light-years = miles
- 1.09 307.5 million miles = A.U.
- 1.010 3×10^{-6} =
- 1.011 1 magnitude of apparent brightness = brightness ratio
- 1.012 1 parsec = degree(s)
- 1.013 6.52 LY = pc

Name these constellations (each answer, 3 points).

- 1.014 Label the north circumpolar constellations as they appear in the diagram.



SCIENCE 910: LIFE PAC TEST

Answer true or false (each answer, 1 point).

1. _____ Diarrhea can be caused by a change in diet and different minerals in the water.
2. _____ Potable water is safe to drink.
3. _____ Fusion produces less radioactivity than fission.
4. _____ The use of chemicals is causing serious environmental problems.
5. _____ Geology is an experimental science.
6. _____ Wise travelers eat only cooked vegetables in underdeveloped areas.
7. _____ Questionable water should always be boiled or treated with a water-purifying tablet.
8. _____ The kilogram is the basic unit of mass in the metric system.
9. _____ Earthquakes and volcanoes correspond to areas of trenches and midocean ridges.
10. _____ Americans are heavy users of energy.

Match these items (each answer, 2 points).

- | | | |
|-----------|-------------------------|--------------------------------------------|
| 11. _____ | ticks | a. yellow fever and malaria |
| 12. _____ | space program | b. often areas of geologic interest |
| 13. _____ | sediment | c. sun, wind, thermal |
| 14. _____ | national parks | d. receives radio waves |
| 15. _____ | alternate energy source | e. information about planets |
| 16. _____ | mosquitoes | f. dysentery |
| 17. _____ | radiotelescope | g. eroded material |
| 18. _____ | sewage treatment | h. Rocky Mountain spotted fever |
| 19. _____ | folding | i. major problem of underdeveloped nations |
| 20. _____ | ocean | j. common method of mountain formation |
| | | k. producer of oxygen |

Complete these statements (each answer, 3 points).

21. The measure of the pull of gravity on an object is its _____.
22. The material for the upbuilding of a continent must come from the _____ of existing mountains and land.
23. An injection that prevents or diminishes the possibility of getting a disease is called a _____.
24. Most cases of food poisoning are caused by _____.
25. New crust is being formed in the _____.
26. The dense center of the atom is called the _____.
27. Most mountains are formed from the folding of _____.
28. The world has been declared free from _____.