InterActions Unit 6 Chapter 1 Sample Quiz

See the Scientists' Consensus Sheets for assistance.

1. Which of the following statements is TRUE in the Small Particle Theory?

    a. Air fills the space between particles.

    b. There is nothing between particles.

    c. Something fills the space between particles, but it is not air.

    d. There is nothing between gas particles. Liquids and Solids don't have any space between their particles.

2. An atom is about _____ wide.

    a. 0.001 m

    b. 0.000,001 m

    c. 0.000,000,000,1 m

    d. 0.000,000,000,000,000,1 m

3. When a drop of liquid food dye is placed in a dish of water, it spreads out. This is called

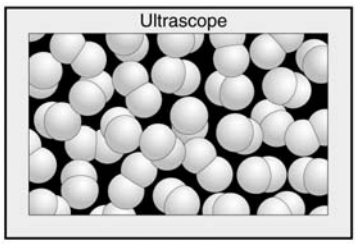
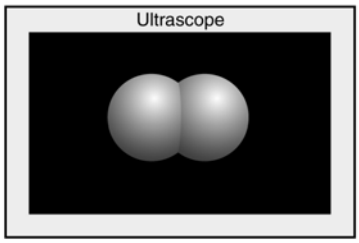
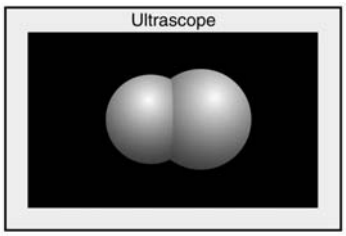
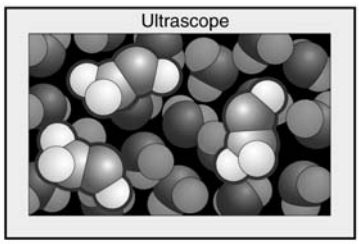
    a. compression

    b. diffusion

    c. collision

    d. cohesion

Images for Questions 4 and 5

A. 	B. 
C. 	D. 

4. Which of the Ultrascope images above represents a compound?

    a. A and B

    b. C & D

    c. C only

    d. D only

5. Which of the images above represents an element?

    a. A and B

    b. C and D

    c. A only

    d. C only

6. Atoms/Molecules of a substance

    a. are constantly moving.

    b. only move when they collide with another atom/molecule.

    c. move in gases and in liquids, but not in solids.

    d. only move in the direction that the substance is moved.

7. Gases are

    a. difficult to compress and have no definite volume.

    b. are easy to compress and have a definite shape.

    c. are easy to compress and have no definite volume.

    d. Are difficult to compress and have no definite shape.

8. Liquids are

    a. difficult to compress and have no definite volume.

    b. are easy to compress and have a definite shape.

    c. are easy to compress and have no definite volume.

    d. are difficult to compress and have no definite shape.

9. During a collision interaction between two identical gas particles

    a. they bounce apart in different directions.

    b. they stick together and move in a different direction.

    c. they stick together and stop.

    d. they bounce apart and move in the same direction.

10. A cohesion interaction is

    a. an attractive interaction between particles of an element or compound.

    b. a repulsive interaction between particles of an element or compound.

    c. an attractive interaction between particles within an element

    d. a repulsive interaction between particles within an element.

11. A cohesion interaction between particles of a substance is related to

    a. a gravitational interaction between the particles.

    b. a chemical interaction between the particles.

    c. an electric-charge interaction between the particles.

    d. a magnetic interaction between the particles.

12. Which of the following correctly lists the cohesion interaction in order of increasing strength (weakest to strongest) for substances at room temperature:

    a. gas, solid, liquid.

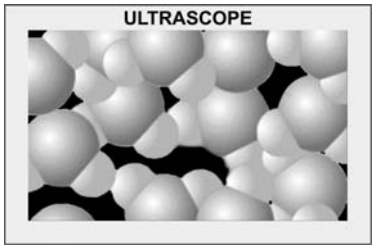
    b. solid, liquid, gas.

    c. solid, gas, liquid

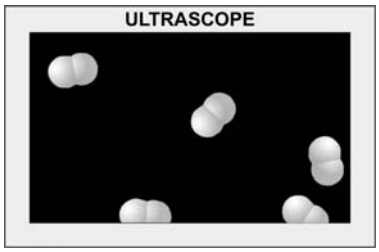
    d. gas, liquid, solid

13. Which of the images is a liquid compound?

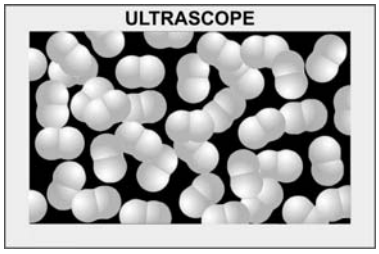
A.



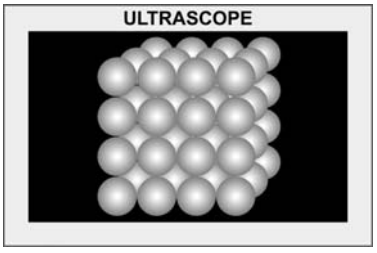
B.



C.



D.



14. If the temperature of a substance is increasing then

    a. the stored cohesive bond energy is decreasing.

    b. the stored phase energy is constantly decreasing.

    c. the average motion energy of the particles is increasing.

    d. the stored volume energy is decreasing.

15. When the temperature of a solid increases it

    a. contracts because the particles don't move as fast and move closer together because of the cohesive attraction between particles.

    b. doesn't change its size because the particles are in fixed positions.

    c. doesn't change its size because even though the particles move more, they are more attracted to each other.

    d. expands because the particles move faster and the average spacing between particles increases.

16. Air pressure is caused by

    a. the force of the air pushing on each unit area of an object.

    b. the suction of empty space (vacuum) pulling on each unit area of an object.

    c. the gravitational interaction between particles.

    d. the force exerted on each air particle by other particles.

17. The bubbles that form on the bottom of a pan of boiling water are

    a. air particles that have formed during heating.

    b. air particles that have formed during a chemical interaction between the water and the metal of the pot.

    c. made of water vapor as the water molecules move further apart during heating.

    d. made of hydrogen and oxygen gas as the water breaks down to its elements.

18. Electrons are

    a. negatively charged particles that move around the nucleus.

    b. positively charged particles that move around the nucleus.

    c. negatively charged particles in the nucleus.

    d. positively charged objects in the nucleus.

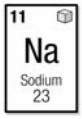
19. Essentially all the mass of an atom comes from

    a. the electrons.

    b. the neutrons.

    c. the protons.

    d. the protons and neutrons.

20. The following element 

is sodium. It has

    a. 23 electrons, 23 neutrons, and 11 protons.

    b. 12 electrons, 12 neutrons, and 11 protons.

    c. 11 electrons, 23 neutrons, and 11 protons.

    d. 11 electrons, 12 neutrons, and 11 protons.

21. A beta decay occurs when

    a. an electron is released when a proton decays into a neutron and an electron.

    b. an electron is released when a neutron decays into a proton and an electron.

    c. radiation is released when a proton and electron turn into a neutron.

    d. radiation is released when a neutron turns into a proton and an electron.

22. Our Sun produces light and heat energy when two hydrogen nuclei combine to produce one nucleus of helium. This type of nuclear interaction is called

    a. alpha decay.

    b. beta decay.

    c. fusion.

    d. fission.

    Fusion occurs when two nuclei are combined. To answer this test question you need to know what fusion is.