Name Date Class

Chapter Review

Forces and Fluids

Part A. Vocabulary Review

Directions: *Write the correct term in the spaces beside each definition. Unscramble the boxed letters to find the answer to question 13.*

1. When a force is applied to a fluid in a closed container, the pressure increases everywhere by the same amount. ___ ☐ ___ ___ ___ ___, ___ ___ ___ ___ ___ ___ ___ ___ ___
2. the mass of an object divided by the volume it occupies
   ___ ___ ___ ___ ___ ☐ ___
3. the force per unit area applied on the surface of an object
   ___ ___ ___ ___ ☐ ___ ___ ___
4. an upward force exerted by a fluid on any object in the fluid
   ___ ___ ☐ ___ ___ ___ ___ ___ ___ ___ ___ ___
5. The buoyant force on an object is equal to the weight it displaces.
   ___ ___ ___ ___ ___ ☐ ___ ___ ___ ___, ___ ___ ___ ___ ___ ___ ___ ___ ___
6. any substance that has no definite shape and has the ability to flow
   ___ ___ ___ ☐ ___
7. uses a fluid to increase an applied force
   ___ ___ ___ ___ ___ ___ ___ ___ ☐ ___ ___ ___ ___ ___ ___
8. unit of pressure in the SI system
   ☐ ___ ___ ___ ___ ___
9. used to measure atmospheric pressure
   ___ ___ ___ ___ ___ ☐ ___ ___ ___
10. mass × acceleration due to gravity
    ___ ___ ___ ___ ☐ ___
11. When the speed of a fluid increases, the pressure exerted by the fluid decreases.
    ___ ___ ___ ___ ___ ___ ___ ___ ___, ___ ___ ☐ ___ ___ ___ ___ ___ ___ ___
12. the upward force produced by an airplace
    ___ ___ ___ ___
13. The pressure that is all around us is called _____.

Assessment

Chapter Review (continued)

Part B. Concept Review

Directions: *For each example, write the name of the principle that explains it.*

1. You can squeeze the bottom of a bottle of glue and the glue will come out the opening at the top.

2. A piece of paper lays on a table. If you blow over the top of it, the paper will rise.

3. When a small child jumps into a full plastic pool, water equal in weight to the child, runs over the sides.

Directions: *Complete the following sentences using the correct terms.*

more/less

4. 50 mL of water in a 100-mL beaker will exert _____ pressure on the beaker than 50 mL of water in a 350-mL beaker.

5. As an object sinks deeper into a fluid, the buoyant force _____.

6. 7.5 g of mercury has a volume of 0.55 cm^3. The density of mercury is _____.

parallel / perpendicular

7. The force exerted on an object by a fluid is always _____ to the surface of the fluid.

8. If an object sinks in a fluid, its density is _____ than the density of the fluid.

Directions: *Answer the following questions on the lines provided.*

9. 10 N of force are exerted on the small piston of a hydraulic system. The cross-sectional area of the small piston is 2 cm^2. The large piston has an area of 12 cm^2. What is the force exerted by the large piston? If the small piston were pushed down, would the large piston move up more, less, or the same distance as the small piston moved down?

10. A woman wearing high heels exerts more pressure on the ground than an elephant. How do you explain this?

Assessment