

## Science 8 Unit 2

### Test Outline for Chapter 5 & 6 2023

Name: \_\_\_\_\_

#### Part A: Matching 12 Points

##### Know the definition of each of the following

Gravity	Pressure	Density	Force	Hydrometer	Hydraulics
Capacity	Mass	Buoyancy	Pneumatic	Weight	Volume

#### Part B: Short Response

Explain how buoyant force and gravitational force can cause an object to float or sink (May want to draw a picture to help explain) EX) To Float  $\rightarrow BF > GF$ , To Sink  $\rightarrow GF > BF$

Explain Archimedes principles (2 Parts) and know the story on how he reached this principle

Know what happens to the density of water as the temperature of water increases? (Use the particle theory to explain this)

Recall (The formulas will be given)  $P = F \div A$      $F = P \times A$      $A = F \div P$     answer the following:

An aquarium is filled with water that weighs 24 000 N. If the base of the Aquarium has an area of 1.4 m<sup>2</sup>, what pressure does the water exert on its base? (Show the math and you can use calculators)

The density of water is 1.00 g/ml. For each of the following indicate whether the substance would **float or sink** (In the first blank below) and if it is **more or less** dense (For each second blank)

- A substance has a density of 1.23 g/ml would \_\_\_\_\_ in water. It is \_\_\_\_\_ dense than water.
- A substance has a density of 0.53 g/ml would \_\_\_\_\_ in water. It is \_\_\_\_\_ dense than water.

If an item sinks in a liquid then what does that say about the items density?

Compressibility is the ability to squeeze into a smaller volume. Explain using the particle theory why gasses compress but solids do not.

How do big ships actually float (What characteristic do they have?)

What happens to pressure if you increase or decrease volume?

What happens to pressure if you increase or decrease temperature?