Provincial Department of Education - Sabaragamuwa –Week School

Week – 4th Week- 15th -21st Nov, 2020

Subject - Science

Grade - 10

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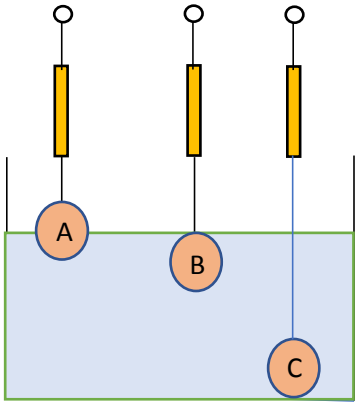
The following is an activity designed by a student.

Materials :- (A) An air filled ball (B) A water filled ball (C) A sand filled ball (D) A spring balance



(1) The table below shows some of the data obtained by the student from the above activity. Fill in the blanks.

Object	Weight of the object (N)	Apparent weight of object in water (N)	How the object appeared in water	Upthrust (N)
A	1.1	0	i	1.1
B	1.8	0	Fully submerged and floating	ii .....
C	2.4	0.5	iii	iv .....

(2. Explain the conclusions that can be drawn from the above activity based on the three cases A, B and C (page 84 in your text book may help you.)

(3). Write down the Archimedes principle introduced on the above phenomenon.

(4). The weight of an object in the air is 25N. When it is completely submerged in water the visible weight is 5N.

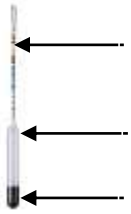
i. What is the upward thrust of water on the object?

ii. When the object is completely submerged in water, what is the weight of the water that it displaces?

The hydrometer is made by based on Archimedes' Law. When a hydrometer is immersed in a liquid, the hydrometer is partially submerged and floated in the liquid until an upward thrust which is applied by the liquid equals to hydrometer's weight.

(5) What is the physical quantity of liquids measured using the hydrometer?

(6) Name the parts of the hydrometer.



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(7) Comment on this photo by applying the concept of upward thrust.