



SHS LEARNING ACTIVITY

CHEM1-01-02

Name: _____ Score/Mark: _____

Grade and Section: _____ Date: _____

Strand: STEM ABM HUMSS ICT (*TVL Track*)

Type of Activity: Concept Notes Skills: Exercise/Drill Illustration

Laboratory Report Essay/Task Report Other: _____

Activity Title: 01-02.Matter and substances v06

Learning Target: To demonstrate that the substances around us are made of matter, which has a mass and occupies a volume

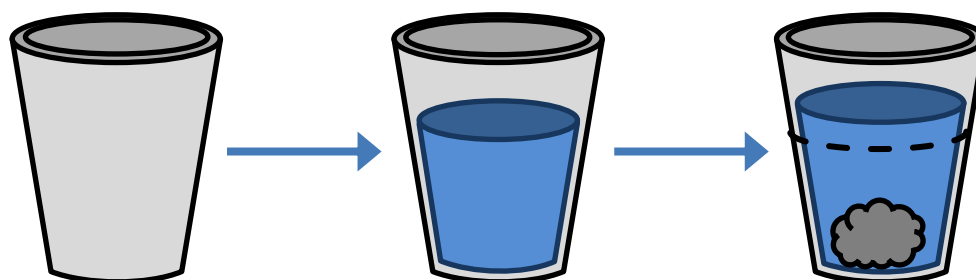
Authors/References: Victor Sojo

Substances like the water we drink, the air we breathe and the chairs on which we sit are made of **matter**.

Matter has a **mass** (m) and occupies a **space** or **volume** (V).

Laboratory experience

1. Weigh an empty glass or container to determine its mass in grams [g].
2. Fill a jug with water and then weigh it too.
3. Pour water into the glass and weigh the glass again. Weigh the jug also.
4. Draw a line on the glass with a marker, to indicate the level of the water.
5. Find a rock or a large marble and weigh it, then drop it into the glass.



6. Weigh the glass again. Also, have a look at the volume: did it change?

Object	m [g]			m_{mean} [g]
Jug with water				
Glass (empty)				
Glass with water				
Jug after pouring water				
Rock				
Glass with water and rock/marble				

Note: always measure in triplicates (weigh three times, then get the mean)

Questions

- a. Did the total mass (glass+contents) change at steps 3 and 6? How much?
- b. Can you calculate the mass of the water that you added?
- c. Was the "empty" glass really empty? Why?

