SANGAM S.K.M COLLEGE-NADI

YEAR 9 BASIC SCIENCE

WORKSHEET SOLUTION

WEEK 2

1. 1. When heating or mixing substance _____

A. Look inside the flask and beaker

B. Point the open end of the test tubes towards your friend

C. Never look inside the flask or beaker

D. Hold the beaker or test tube with your hand while heating

2. State two General Safety lab rules.

1. Do not enter the science room unless you are with your teacher. Always wear a lab coat and proper footwear (closed shoes flat shoes) in the laboratory.

2. No running or pushing. The floor is slippery and hard.

3. Keep your notebook neat and tidy, and away from where you are doing your experiment.

4. Never eat food or lollies or chew gum in the laboratory, or drink from laboratory glassware.

5. Do not taste or inhale any chemicals or lick anything in the laboratory. Always wash your hands after working in the laboratory, and especially before eating food.

6. Pour waste liquids into sinks or waste bottles. Place waste solids into rubbish bins. Broken glass should be placed in special bins.

7. Clean all equipment after use and put it back where you got it from. Clean your work bench after doing experiments.

3. . Write the correct name for the symbol given below.

 i. **Corrosive**	 ii. **Flammable**	 iii. **Combustible**

4. Name three types of microscopes used in the laboratory.

Simple, compound and stereo/ dissecting microscope.

5. Differentiate between monocular and binocular microscope.

Monocular has one eyepiece and binocular has two eye piece.

6. Why do you use microscope in laboratory?

A microscope is an instrument that magnifies very small objects that cannot be readily studied using the naked eye.

7. State the procedure for carrying a microscope?

Carry the microscope with two hands: one hand under it (base) and one hand holding it using the arm.

8. Using the word list given below, select a word and fill in the blanks to make each sentences correct.

Word list: heating, blue, hotter, open, safety, air, collar, gas, closed, yellow

The **collar** can be rotated, which changes the size of the **air** hole. When the air hole is **open**, air gets in and mixes with the **gas**. This makes the gas burn **hotter**, and the color of the flame is pale **blue**. When the air hole is **closed**, no **air** gets in, and the color of the flame is bright **yellow.** This flame is called the **safety** flame. It is not as hot as the **blue** flame, and it is very sooty. This means that it is not good for **heating**. But it can still burn you.

9. State the uses of given laboratory equipment's.

a. Thermometer

measure temperature of the solid, liquid and gas.

b. Bunsen Burner

it produces a single open gas flame, and is used for heating

c. Beaker

Used for holding and heating large volumes of water. Multipurpose and useful in the lab.

d. Hand lens

Used to magnify an object or make things appear closer

e. Watch glass

It is a circular concave glass used generally for evaporating liquids or for holding small samples.

10. Define the following terms and give an example:

i. Observation

is something that you notice using your senses.

ii. Hypothesis

is a guessed explanation.

11. Complete the following:

A **control** is the part of a science experiment that acts as a standard by which to compare experimental observations.

Worksheet (Week 2) - Measurement (Solutions)

1. State the SI **unit name** of the following quantities:
   (i) Length ***Meters***
   (ii) Mass ***Kilograms***

2. State the number of significant figures in the following measurements.
   (i) 0.109 m ***3 SF***

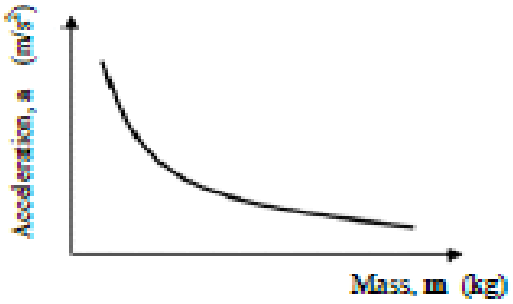
   (ii) 5003 cm ***4SF***

3. The measurements given below were taken during an experiment.
   X = 18.7 cm
   Y = 26.51 cm

   Calculate the following, expressing the answer to correct number of decimal places or significant figures.
   (i) X + Y
   (18.7 cm + 26.51 cm) = 45.21cm, considering least number of significant figures we will accept 45.2cm

   (ii) X Y
   (18.7 cm × 26.51 cm) = 495.737cm^2, considering least number of significant figures we will accept 496cm^2

4. The graph below shows the relationship between acceleration and mass.



   i) State the relationship shown by the graph of acceleration versus mass.
   Mass and acceleration are inversely proportional to each other.

   (ii) On a separate axes, sketch the graph of **a** versus $\frac{1}{m}$.