The Ambassadors College, Ota

PRE – SS1

First Term Holiday Assignment

HOLIDAY ASSIGNMENT

2025/2026 Academic Session

Name: _____

MATHEMATICS

1. A composite shape consists of a rectangle and a semicircle on one of its longer sides. The rectangle is 14 cm long and 7 cm wide. Taking $\pi = \frac{22}{7}$, calculate:
   a. the perimeter, and
   b. the total area of the composite shape.

2. Simplify the following:
   a. $\frac{1}{4} + \frac{1}{1-\frac{1}{\left(1-\frac{1}{2}\right)}}$ b. $\frac{\left(\frac{3}{4}-\frac{2}{5}\right)-\frac{1}{3} \text{ of } \frac{3}{10}}{2-\left(\frac{1}{1\frac{3}{7}}\right)}$

ENGLISH LANGUAGE

ESSAY WRITING

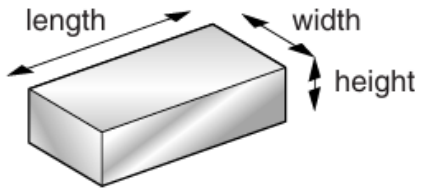
Answer ONE question only in this section

1. Your brother is about to enter secondary school. Write a letter to him stating at least three problems he is likely to face in school and suggesting ways of solving them.
2. Write a story ending with "He reaped what he sowed". The tory should be suitable for publication in a school magazine.

BASIC SCIENCE

PHYSICS

1. (a) A student is asked to find the density of a small block of metal, as shown in Fig. 1



Use words from the list below to complete the following sentences.

balance	***beaker***	***graduated***	***cylinder***	***protractor***	***rule***	***thermometer***

(i) The student should use a ..... to measure the length, width and height of the metal block.
(ii) The student should use a ..... to find the mass of the metal block.

(b) A jeweller has a small block of metal. The block has a mass of 15.2 g and a volume of 1.36 cm3.

(i) Calculate the density of the metal

(ii) The jeweller looks up the values for the density of various metals and produces a table, part of which is shown below.

metal	density / g/cm^3
gold	19.3
lead	11.3
platinum	21.5
silver	10.5

Using your answer to (b)(i) and the information in the table, state which metal the block is most likely to be made from

2. Different types of power station use different sources of energy.

(a) Draw one straight line from each energy source to the type of power station that uses it.

energy source	type of power station
	hydroelectric
fossil fuel	
	nuclear
hot rocks underground	
	geothermal
	coal-fired
uranium fuel rods	
	wind farm

(b) Fig. 6.1 shows part of a solar power station

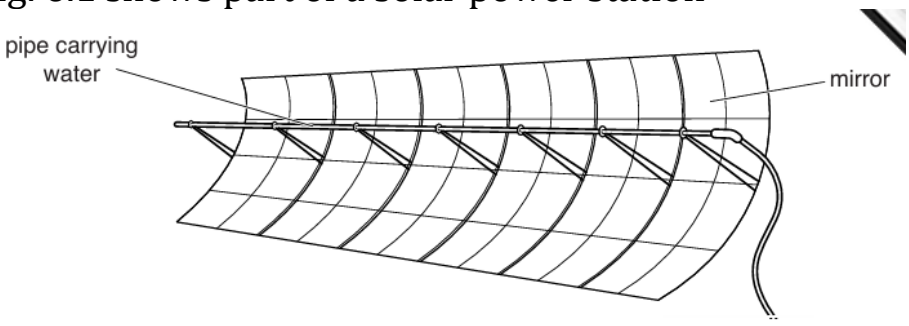


Fig. 6.1

These are some of the stages explaining how the power station works. They are not in the correct order.

A. Electricity is generated. B. The turbine turns the generator.

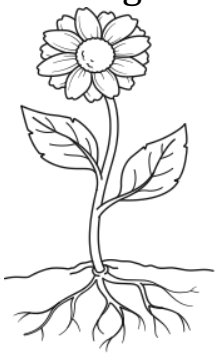
C Steam drives the turbine. D, Water in the pipe absorbs energy.

CHEMISTRY

1. Define atom and molecule.
2. State four properties each for the three states of matter.
3. Explain the following separation methods:
   i. Filtration ii. Fractional distillation iii. Crystallization.

BIOLOGY

1. The diagram shows a flowering plant.

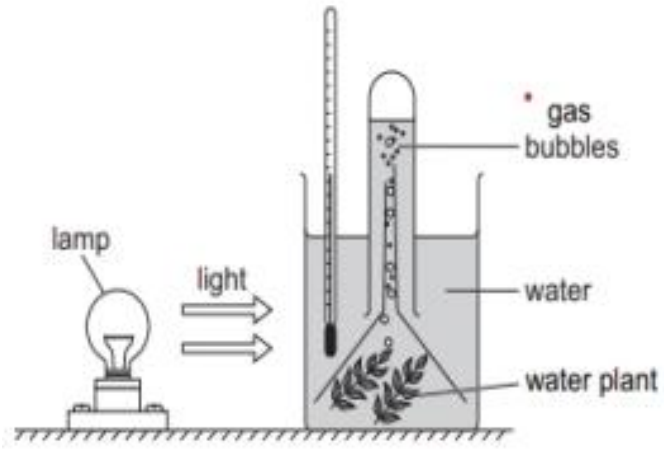


Plants need to absorb water and transport it to all of their living parts.

(i) Name the process that plants use to **absorb** water through the roots.
(ii) Name the tissue that **transports** water to different parts of the plant.
(iii) Name the part of the plant that loses water by transpiration.

[1mark each]

2. a. Safia and Jamila investigate photosynthesis. They use water plants. Here is the apparatus they use.



In their first experiment they measure the number of gas bubbles made in one minute.

i. What is the name of the gas made in photosynthesis? [1]
ii. What equipment does Safia use to measure one minute? [1]
iii. State two variables that Safia needs to control in her investigation. [2]

b. Write briefly on how **water moves through a leaf.** [3]