

# Requirements for Subjects Offered at PSLE (2023)

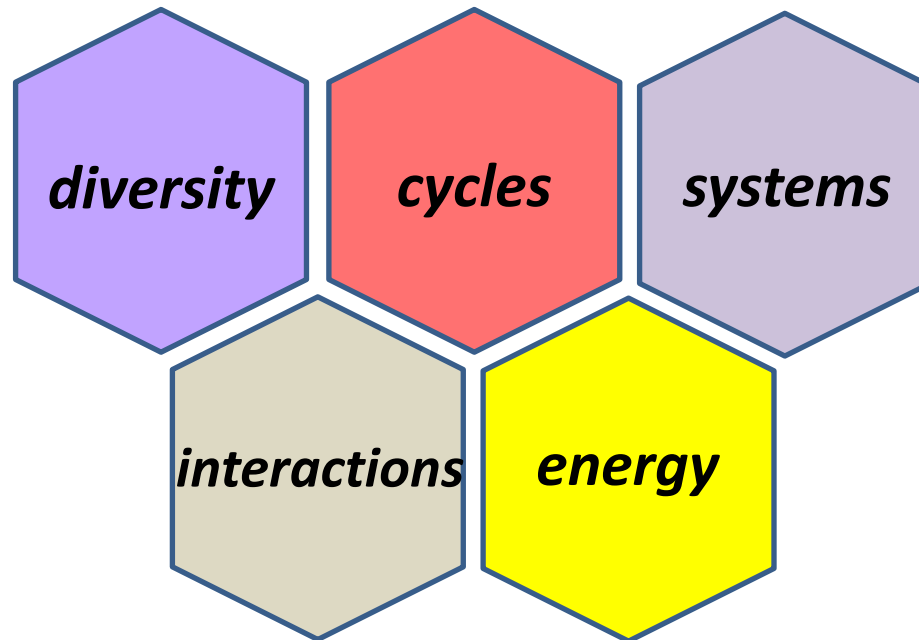
**SCIENCE**  
**&**  
**FOUNDATION SCIENCE**

# OUTLINE

- Overview of Primary Science Syllabus
- Assessment Objectives
- PSLE Paper Format (Standard and Foundation)
- Examples of PSLE Questions
- How you can support your child's learning

# PRIMARY SCIENCE SYLLABUS

## Themes in Primary Science



Life Science

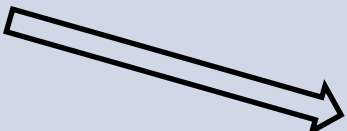
Physical Science

# SYLLABUS COVERAGE (P3-P6)

Theme	Life Sciences	Physical Sciences
<b>Diversity</b>	Diversity of living things	Diversity of non-living things Diversity of materials
<b>Cycles</b>	Cycles in plants and animals (Life Cycles, Reproduction)	Cycles in matter and water
<b>Systems</b>	<ul style="list-style-type: none"> <li>• Plant system (Plant parts and functions)</li> <li>• Human system (Digestive system)</li> <li>• Plant system (Respiratory and circulatory systems)</li> <li>• Human system (Respiratory and circulatory systems)</li> <li>• Cell system</li> </ul>	Electrical system
<b>Interactions</b>	Interactions within the environment	Interaction of forces (Magnets, Frictional force, gravitational force, force in springs)
<b>Energy</b>	Energy forms and uses (Photosynthesis)	Energy forms and uses (light and heat) Energy conversion
<b>Weighting</b>	<b>45 – 55%</b>	<b>45 – 55%</b>

# ASSESSMENT OBJECTIVES

Assessment Objectives	Weighting	
	Standard SC	Foundation SC
<b>I. Knowledge with Understanding</b> <ul style="list-style-type: none"> <li>Demonstrate knowledge and understanding of scientific concepts and principles</li> </ul>	40%	50%
<b>II. Application of Knowledge and Process Skills</b> <ul style="list-style-type: none"> <li>Apply concepts and principles to new situations</li> <li>Interpret information and investigate using one or more process skills</li> </ul>	60%	50%



- Inferring
- Predicting
- Analysing
- Generating possibilities
- Evaluating
- Formulating hypothesis
- Communicating

# PSLE PAPER FORMAT (STANDARD SCIENCE)

The examination consists of one written paper comprising two booklets: Booklet A and Booklet B.

Booklet	Item Type	Number of Questions	Number of marks per question	Marks
A	Multiple-choice <i>(4 options provided)</i>	28	2	56
B	Open-ended	12 -13	2,3,4, or 5	44

- Duration of paper: 1 hour and 45 minutes
- Candidate can attempt any of the booklets first

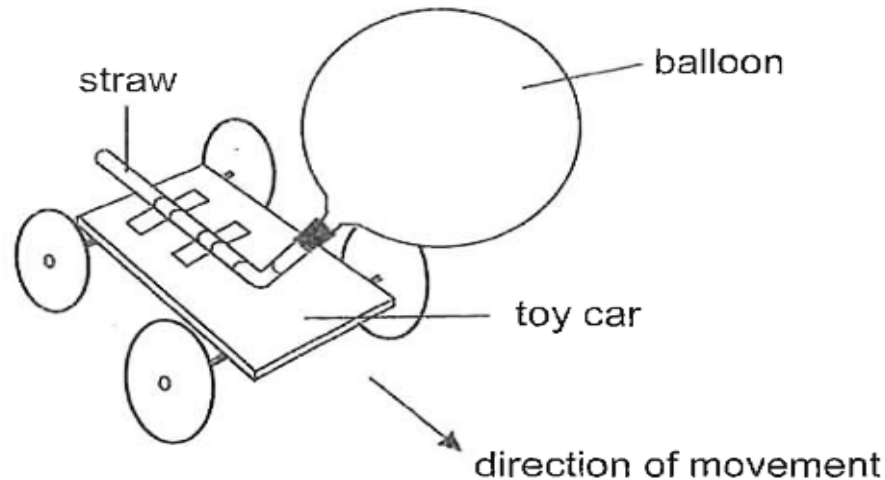
# PSLE PAPER FORMAT (FOUNDATION SCIENCE)

The examination consists of one written paper comprising two booklets: Booklet A and Booklet B.

Booklet	Item Type	Number of Questions	Number of marks per question	Marks
A	Multiple-choice <i>(3 options provided)</i>	18	2	36
B	Structured	6 - 7	2,3	14
	Open-Ended	5 - 6	2,4	20

- Duration of Paper: 1 hour and 15 minutes
- Provision of word list is provided

The diagram shows a toy car moving forward due to the air stored in the balloon.

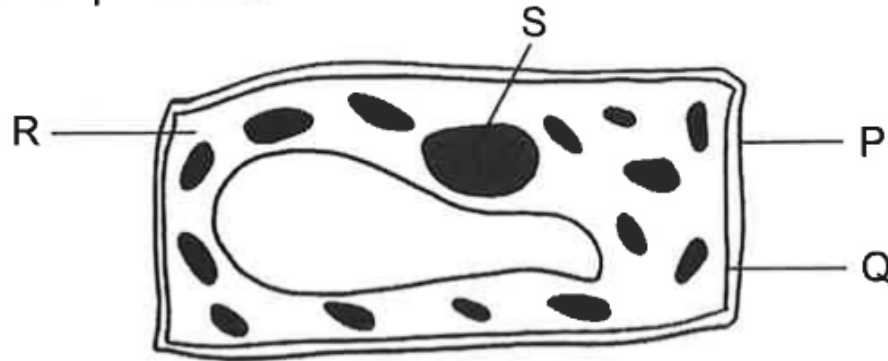


Which of the following shows how the energy changes?

- (1) kinetic energy  $\longrightarrow$  heat energy  $\longrightarrow$  sound energy
- (2) potential energy  $\longrightarrow$  heat energy + sound energy
- (3) kinetic energy  $\longrightarrow$  potential energy  $\longrightarrow$  heat energy + sound energy
- (4) potential energy  $\longrightarrow$  heat energy + kinetic energy



The diagram shows a plant cell.



(a) Name parts R and S.

[1]

R \_\_\_\_\_

S \_\_\_\_\_

(b) State the functions of P and Q.

[2]

P \_\_\_\_\_

Q \_\_\_\_\_

Knowledge with Understanding

## Foundation Science

### Example 3: Multiple-Choice Question

X is a part of the cut fruit.



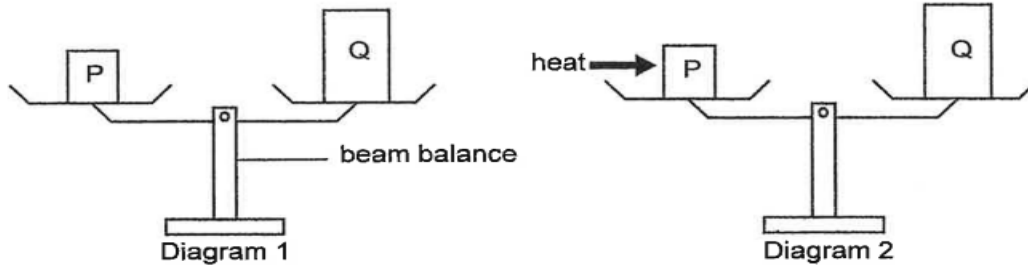
Which part of the flower did X develop from?

- (1) ovule
- (2) ovary
- (3) anther

# Foundation Science

## Example 4: Structured Question

Diagram 1 shows a beam balance with two metal blocks, P and Q. The beam is balanced. P is then heated as shown in Diagram 2.



- (a) Circle the correct answer. [1]

After heating for some time, the volume of P

( *decreases* / *remains the same* / *increases* ).

- (b) After P has been heated for some time, the beam remains balanced.

Which of the following explains why the beam remains balanced?

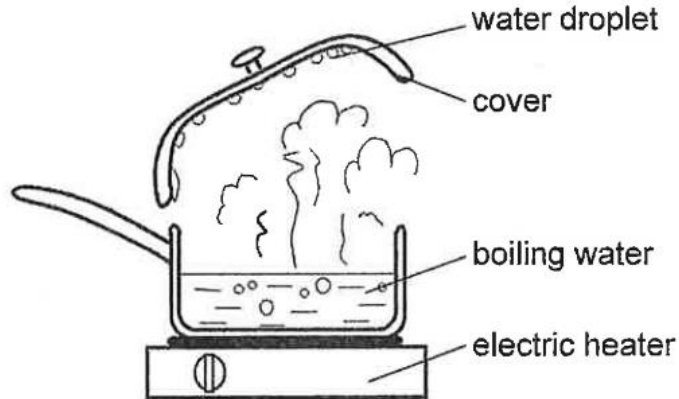
Tick (✓) the correct box.

[1]

- ☐ The mass of P is the same as the mass of Q.
- ☐ The shape of P is the same as the shape of Q.
- ☐ The volume of P is the same as the volume of Q.

**Knowledge with Understanding**

- (b) Mina boiled some water in a pot.



- (i) Water droplets formed on the cover. Name this process. [1]

\_\_\_\_\_

**Knowledge with Understanding**

- (ii) Mina noticed that there was less water in the pot after the water had boiled for a while. Give a reason for her observation. [1]

\_\_\_\_\_

\_\_\_\_\_

**Application of knowledge and process skills**

# RISE Strategy

## (Multiple-Choice Questions)

**Read** the question carefully. Study the given diagrams, tables or graphs.

**Identify** the topic and concept tested.

**Study** all the options carefully.

**Eliminate** distractors to arrive at the best possible answer.

# RISE Strategy

## (Multiple-Choice Questions)

**Read** the question carefully. Study the given diagrams, tables or graphs.

**Identify** the topic and concept tested.

**Select** the relevant concept to answer the question.  
Check mark allocation and answer to the point.

**Express** and **explain** your answer clearly.

# STRATEGIES IN ANSWERING OPEN-ENDED QUESTIONS

- Questions with the following terms:

***State***

***Identify***

***List***

***Name***

***Give an example***

**Requires short and direct answer. No explanation is needed.**

# STRATEGIES IN ANSWERING OPEN-ENDED QUESTIONS

- Questions with the following terms:

*Explain*

*Why*

*Infer*

*Describe*

*Conclude*

*Give a reason*

**Longer answers that require more details and keywords.  
Involve scientific reasoning and reference to science concepts.**

**DO NOT give one or two word answers.**



# STRATEGIES IN ANSWERING OPEN-ENDED QUESTIONS: C E R

- CLAIM
- EVIDENCE
- REASONING

# STRATEGIES IN ANSWERING OPEN-ENDED QUESTIONS: C E R

- C: Material X
- E: The temperature of water is lower after 15 minutes.
- R: Heat flows from the surroundings to the water faster (as X is a better/good conductor of heat).

- CLAIM
- EVIDENCE
- REASONING

Material of container	Temperature of water in container after 15 minutes ( $^{\circ}\text{C}$ )
X	70
Y	85

- (c) Which material, X or Y, should Ziyang pick to make the tube of the water heater to heat the water in beaker B faster? [2]

# COMMON OBSERVATIONS

# COMMON OBSERVATIONS

- Students' answers lack precision and accuracy. Answers are not comprehensive, lack key words and scientific reasoning.

After some time, the two plants produced fruits as shown below.



- (a) Peter observed that the plant with the food-carrying tubes removed produced bigger fruits compared to the other plant.  
Explain why.

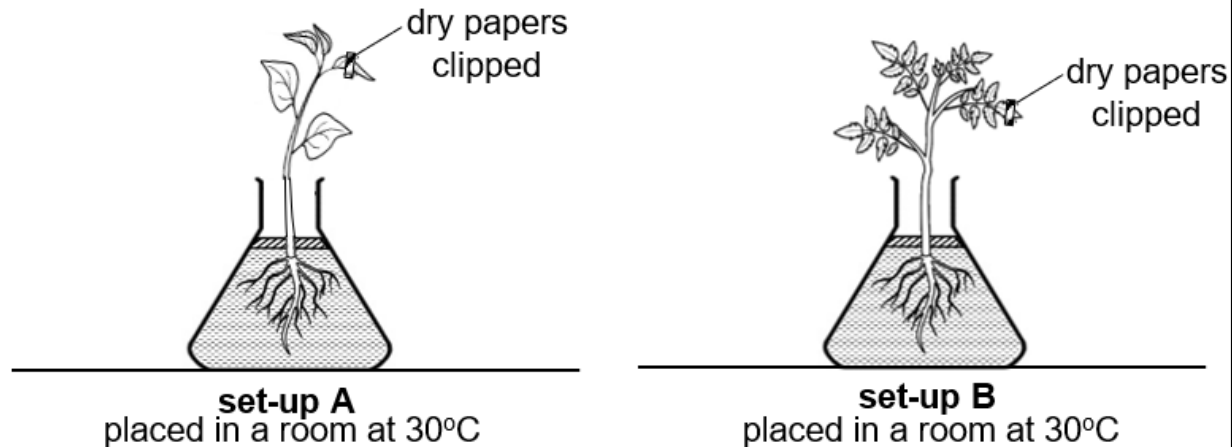
[2]

- Food made in the leaves could not be transported below the cut/ below cut Y/to the roots.
- Food was transported and stored in the fruits.

# COMMON OBSERVATIONS

- Students' answers are not relevant to the context of the question.

He wanted to conduct another experiment find out if temperature would affect the time taken for the paper to turn pink. He used set-ups A and B, as shown below.



Suggest one change Qamarul should make to each set-up.

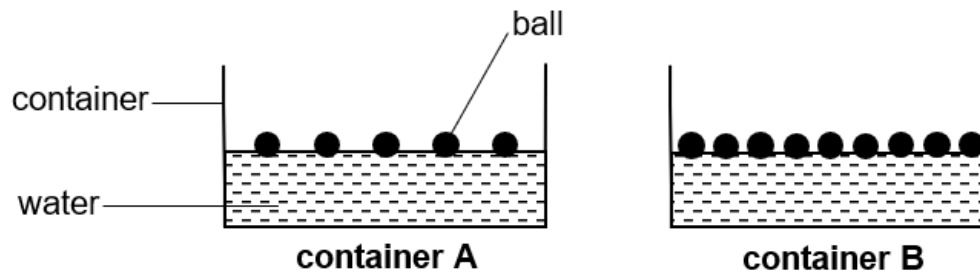
[2]

- Change the plant to a similar plant as in set-up A/B
- Place the set-up in a room with a different temperature

# COMMON OBSERVATIONS

- Students have poor comprehension of question and could not identify key concepts.

Valerie dropped small balls into two similar containers, A and B, containing the same amount of water.



She placed both containers at the school field.

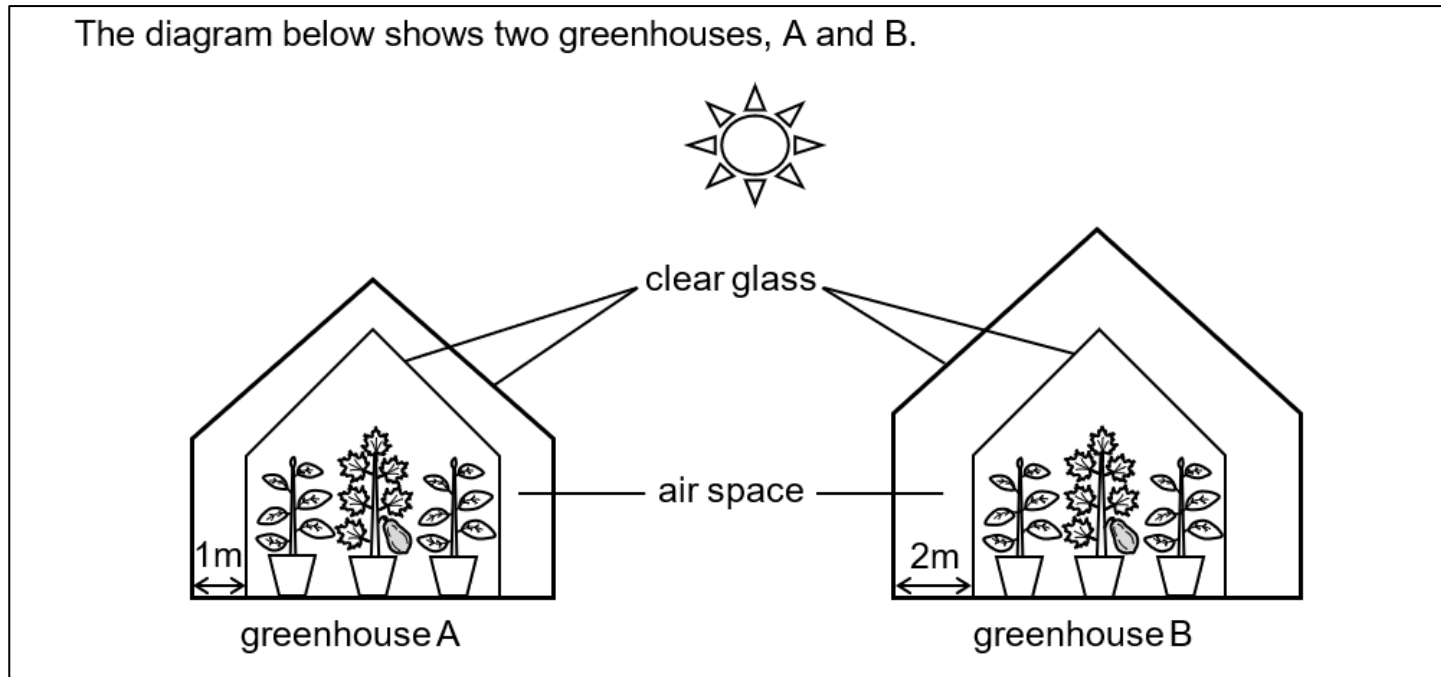
- (a) After three hours, which container, A or B, would have less water left?  
Explain your answer.

[2]

- Container A
- There is a larger exposed surface area of water
- so the rate of evaporation increases.

# COMMON OBSERVATIONS

- Students do not show comparison.

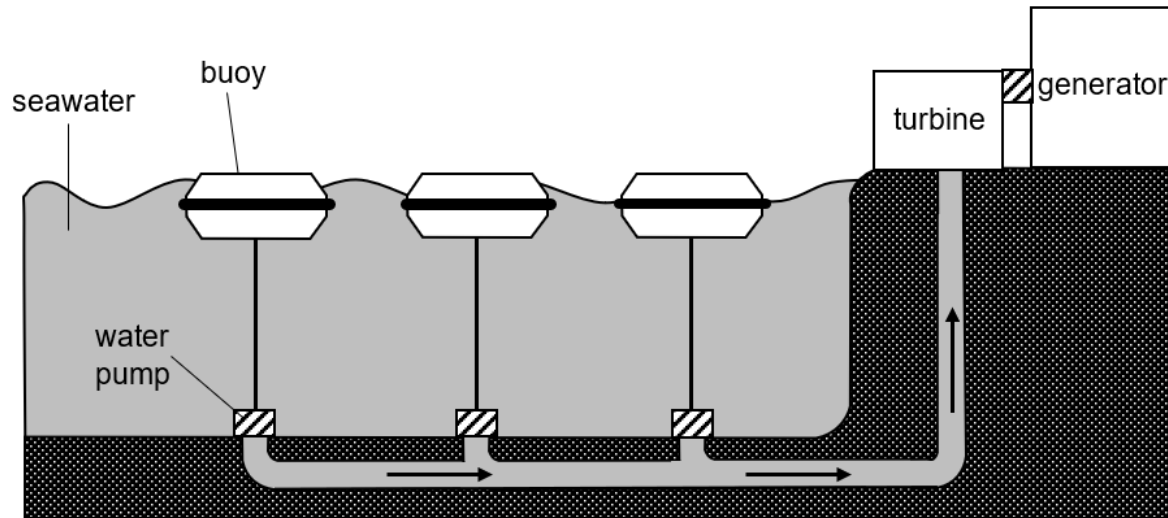


- C: Greenhouse B
- E: It has a thicker air space
- R: Less heat would flow from the surroundings into the greenhouse

# COMMON OBSERVATIONS

- Students are weak in applying concepts in unfamiliar or new situations.

The diagram below shows a wave power station. The waves push the buoys up and down. This allows the water pump to pump seawater towards the turbine. The seawater turns the blades of the turbine so that electricity is produced by the generator.



- (a) The material used to make the buoy should be able to float.  
State two other properties of this material.

[1]



# PSLE PREPARATION & STRATEGIES

- Develop a daily routine for revision and homework
- Revise Primary 3 to 6 topics. Go through topical worksheets, exam practice papers, activity books and textbooks.
- Use mindmap/concept maps to make notes
- Use acrostics/mnemonics to remember science facts or concepts

Example: Factors Affecting Rate of Evaporation

**W**ind

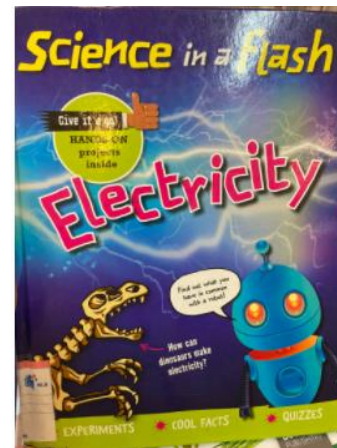
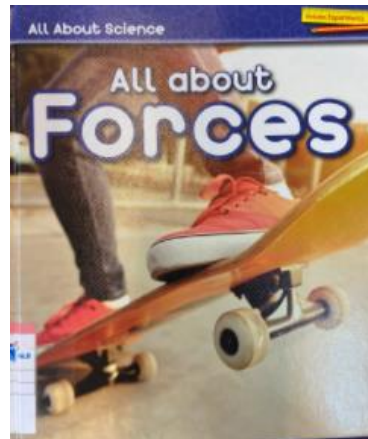
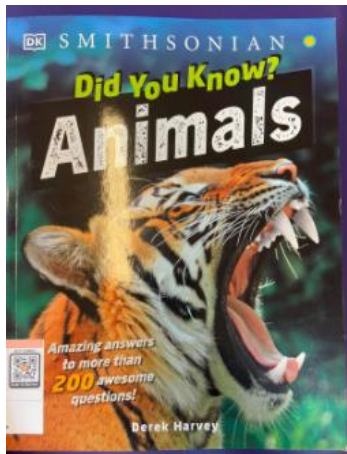
**E**xposed surface area

**T**emperature

- Attempt practice papers within the stipulated time

# PSLE PREPARATION & STRATEGIES

- Encourage your child to ask questions and observe things, phenomena or changes around us
- Explore Science together with your child and stimulate their spirit of curiosity
- Encourage your child to read Science books



# Thank You!

For further queries, you may consult  
your child's



teacher!