Shuqun Primary

Science Requirements for Primary 6

SCIENCE

&

FOUNDATION SCIENCE

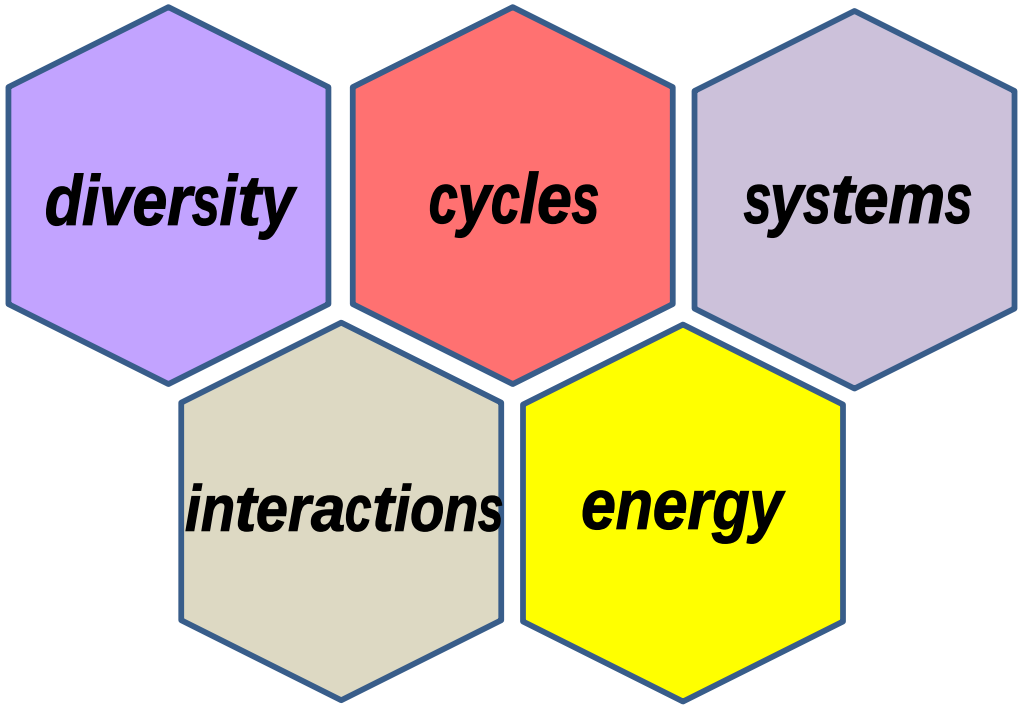
OUTLINE

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

PRIMARY SCIENCE SYLLABUS

Shuqun Primary 树群小学

Themes in Primary Science



Life Science

Physical Science

https://www.moe.gov.sg/-/media/files/primary/syllabus/2023-primary-science.pdf

SYLLABUS COVERAGE (STANDARD SCIENCE)

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Theme	Life Sciences	Physical Sciences
Diversity	Diversity of living things	Diversity of non-living things Diversity of materials
Cycles	Cycles in plants and animals (Life Cycles, Reproduction)	Cycles in matter and water
Systems	• Plant system (Plant parts and functions) • Human system (Digestive system) • Plant system (Respiratory and circulatory systems) • Human system (Respiratory and circulatory systems) • Cell system	Electrical system
Interactions	Interactions within the environment	Interaction of forces (Magnets, Frictional force, gravitational force, force in springs)
Energy	Energy forms and uses (Photosynthesis)	Energy forms and uses (light and heat) Energy conversion
Weighting	**45 – 55%**	**45 – 55%**

ASSESSMENT OBJECTIVES (STANDARD SCIENCE)

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Assessment Objectives	Weighting
I. Knowledge with Understanding o Demonstrate knowledge and understanding of scientific concepts and principles	**40%**
II. Application of Knowledge and Process Skills o Apply concepts and principles to new authentic situations o Interpret information and investigate using one or more process skills • Inferring • Predicting • Analysing • Generating possibilities • Evaluating • Formulating hypothesis • Communicating	**60%**

PSLE PAPER FORMAT (STANDARD SCIENCE)

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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 *(4 options provided)*	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

Standard Science
Exemplar 1: Multiple-Choice Question (Life Science)

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Assessment Objective:
Knowledge with Understanding

Study the following structures.

Structures R and S help the seeds to _____.

(1) obtain sunlight

(2) obtain water

(3) germinate

(4) disperse

Source: SEAB

Standard Science
Exemplar 2: Multiple-Choice Question (Physical Science)

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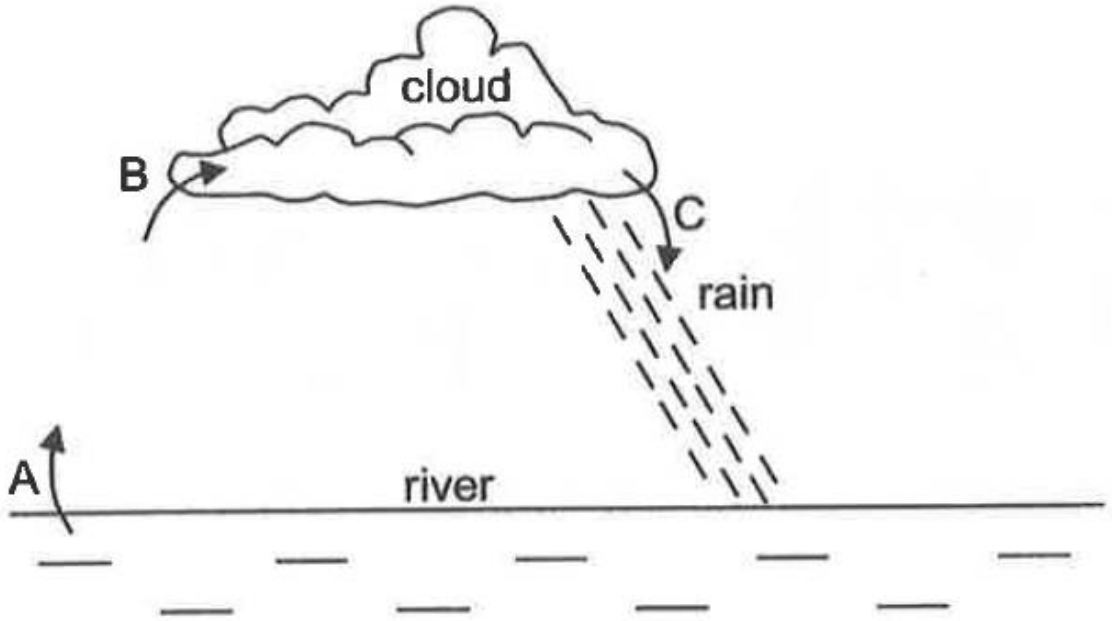
The diagram shows a water cycle.



Assessment Objective:
Knowledge with Understanding

Which process(es) represent(s) condensation?

(1) A only

(2) B only

(3) C only

(4) B and C only

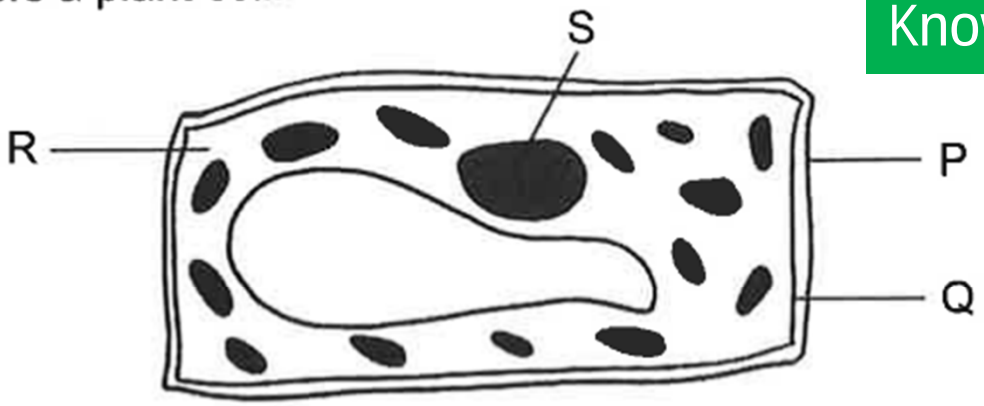
Source: SEAB

Standard Science
Exemplar 3: Open-Ended Question (Life Science)

Shuqun Primary

Assessment Objective:
Knowledge with Understanding

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 _____

Source: SEAB

Standard Science
Exemplar 4: Open-Ended Question (Physical Science)

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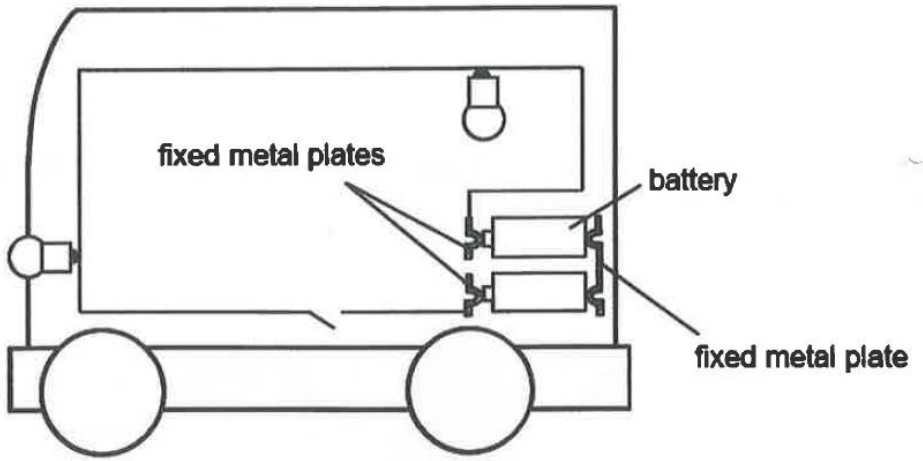
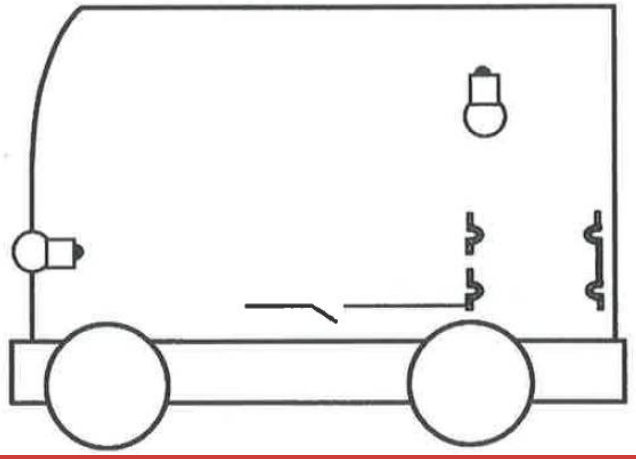
Kenneth sets up an electric circuit in a toy using identical bulbs and batteries as shown. All the circuit components are working.



When he closed the switch, the bulbs did not light up.

Use a pencil to complete the circuit below.

- Correct the mistake(s)
- Connect the bulbs such that
  - if one blows, the other will still be lit and
  - the bulbs will light up only when the switch is closed. [3]



Assessment Objective:
Application of knowledge with Process Skills

Source: SEAB

SYLLABUS COVERAGE (Foundation Science)

Theme	Life Sciences	Physical Sciences
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Systems	• Plant system (Plant parts and functions) • Human system (Digestive system) • Plant system (Respiratory and circulatory systems) • Human system (Respiratory and circulatory systems)	Electrical system
Interactions	Interactions within the environment	Interaction of forces (Magnets, Frictional force, gravitational force)
Energy	Energy forms and uses (Photosynthesis)	Energy forms and uses (light and heat)
Weighting	**45 – 55%**	**45 – 55%**

ASSESSMENT OBJECTIVES (Foundation Science)

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Assessment Objectives	Weighting
I. Knowledge with Understanding o Demonstrate knowledge and understanding of scientific concepts and principles	**50%**
II. Application of Knowledge and Process Skills o Apply concepts and principles to new authentic situations o Interpret information and investigate using one or more process skills • Inferring • Predicting • Analysing • Generating possibilities • Evaluating • Formulating hypothesis • Communicating	**50%**

PSLE PAPER FORMAT (Foundation Science)

Shuqun Primary 树群小学

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 *(3 options provided)*	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

Foundation Science
Exemplar 1: Multiple-Choice Question (Physical Science)

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A clothes hanger made from a straight metal wire is shown.

Assessment Objective:
Knowledge with Understanding

The metal wire can be formed into the shape of the hanger without breaking because the wire is _____.

(1) flexible

(2) strong

(3) waterproof

Source: SEAB

Foundation Science
Exemplar 2: Structured Question

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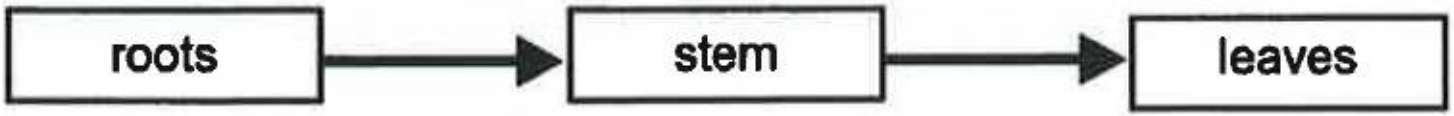
Assessment Objective:
Knowledge with Understanding

(a) Name the process in which plants make food. [1]

_____

(b) Three parts of a plant are shown.



Circle the correct answer. [1]

The arrows (→) show the direction of movement of (food / water / air).

Source: SEAB

Foundation Science
Exemplar 3: Open-Ended Question (Life Science)

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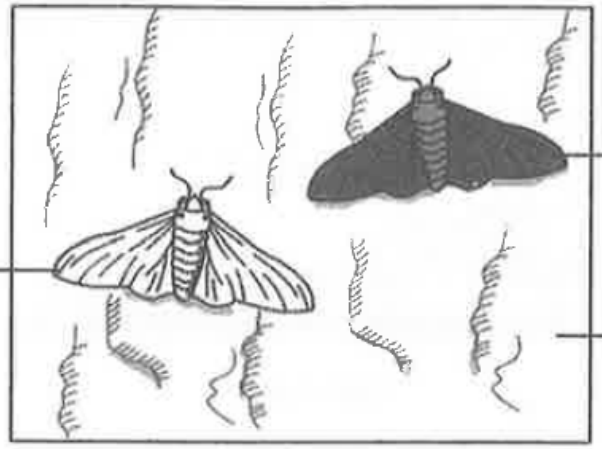
Scientists conducted an experiment on two types of moth, F and G. Moth F has black wings while moth G has light coloured wings.



They released both types of moths into a small forest with trees that have light coloured barks. The number of moths left in the forest after two weeks are shown below.

Moth	Number released	Number left after two weeks
F	100	34
G	100	85

(a) Based on the physical characteristics of the moths, explain why there was a smaller number of moth F left compared to moth G after two weeks. [1]

Assessment Objective:
Application of knowledge and Process Skills

Source: SEAB

RISE Strategy for answering Multiple-Choice Questions

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- **R**ead the question carefully. Study the given diagrams, tables or graphs.
- **I**dentify the topic(s) and concept(s) tested.
- **S**tudy all the options carefully.
- **E**liminate distractors to arrive at the best possible answer.

RISE Strategy for answering Open-Ended Questions

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- **R**ead the question carefully. Study the given diagrams, tables or graphs.
- **I**dentify the topic(s) and concept(s) tested.
- **S**elect the relevant concept to answer the question. Check mark allocation and answer to the point.
- **E**xpress and **explain** your answer clearly.

Common Scientific Terms

- Questions with the following terms:

  State

  Identify

  List

  Name

  Give an example

Requires short and direct answer. No explanation is needed.

Common Scientific Terms

- 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.

Answering Technique for Open-Ended Questions (CER)

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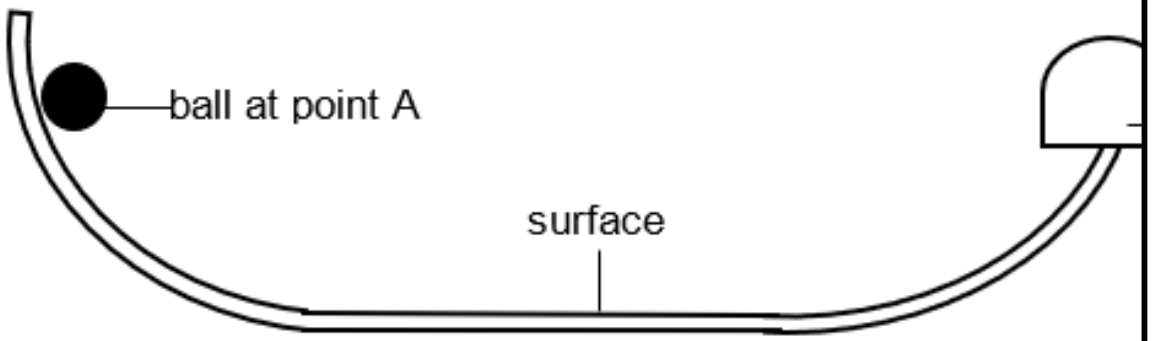
CLAIM	• A statement or a choice that answers the question.
EVIDENCE	• The scientific data (tables, graphs) or observations (diagrams) that supports the claim.
REASONING	• The scientific concepts that connects evidence to the claim. Explains how the evidence supports the claim.

Danial conducted an experiment as shown below. He released a ball at point A and measured the distance moved by the ball. The distance between the ball and the bell is 20 cm.



He applied different types of lubricant on the surface and measure
moved by the ball each time. The results are shown in the table b

lubricant	distance moved by the ball (cm)
no lubricant	5
X	15
Y	10
C Z	E 20

Based on his results, which lubricant, X, Y or Z, should he use so that the ball will hit the bell? Explain your answer in terms of forces. [2]

C: lubricant Z

E: The ball moved the furthest distance.

R: Lubricant Z reduced the most amount of frictional force between the ball and the surface. (concept)

Common Observations

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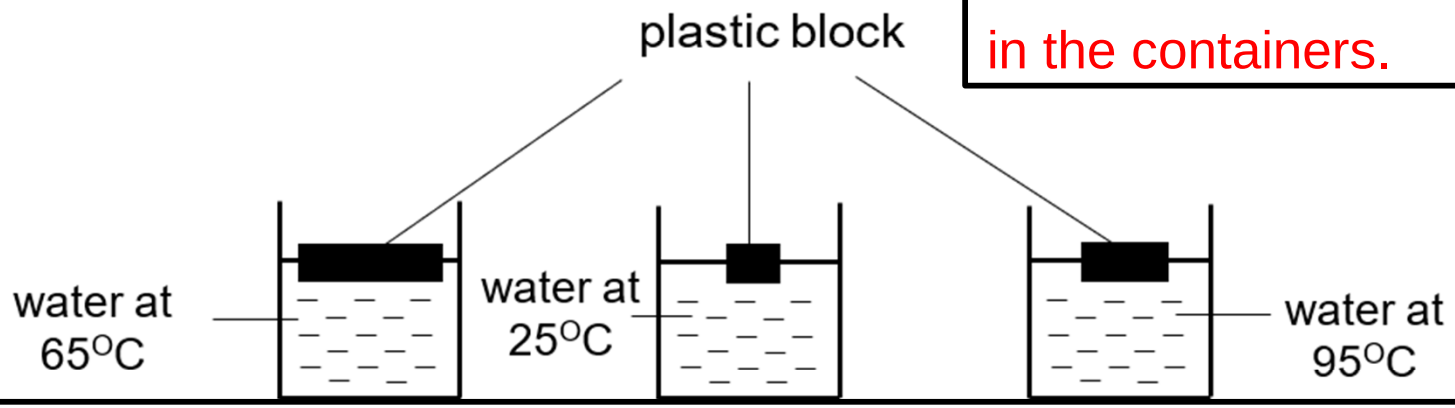
Answers lack precision, accuracy and are not comprehensive.

Jerome wanted to find out if exposed surface area of water affects the rate of evaporation. He placed three plastic blocks of different sizes in three identical containers, X, Y and Z, each filled with 500ml of water at different temperatures. He left the containers in the same room for two days.

Change the temperature of the water in the containers.



Change the temperature of the water in the containers to be the same at first.

Change the temperature of the water in Y and Z to 65°C.

Common Observations

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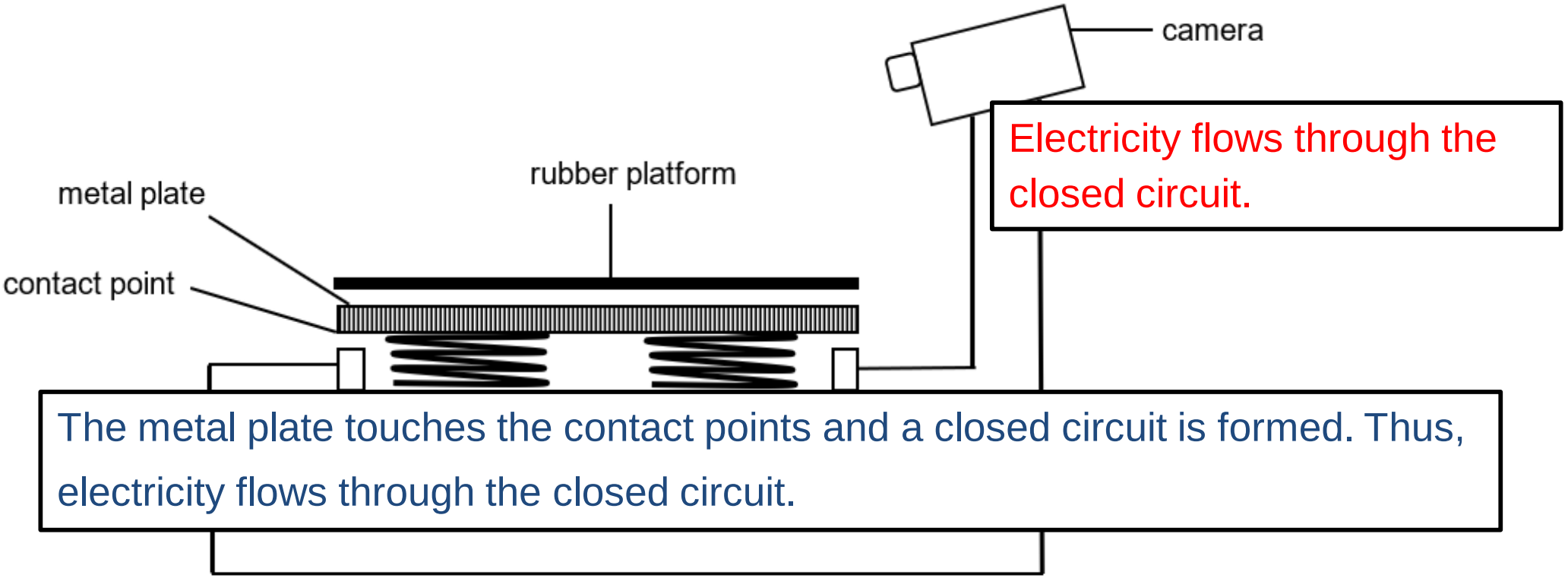
Not answering to the given context in the question.

The camera is installed at the entrance of the school to monitor the people who enter and leave the school as shown below.



Electricity flows through the closed circuit.

The metal plate touches the contact points and a closed circuit is formed. Thus, electricity flows through the closed circuit.

The camera takes a photo when a person steps on the rubber platform.

(b) Explain how the camera works when a person steps on the rubber platform. [2]

Common Observations

Answers do not show the correct comparison or missing the comparison.

After making the correct changes, she repeated the experiment. The table below shows her results.

insect repellent	Number of mosquitoes that landed on her hand in one minute
No insect repellent	E 28
C L	5
M	20

C: Insect repellent L

E: 5 mosquitoes landed on her hand in one minute.

C: Insect repellent L

E: The number of mosquitoes which landed on her hand in one minute was the least.

avoid being bitten by mosquitoes? Give a reason for your answer.

PSLE PREPARATION & STRATEGIES

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- Develop a daily routine for revision and homework.
- Revise Primary 3 to 6 topics. Read and take notes as your child revises Science textbooks, activity books, topical worksheets and exam practice papers.
- Use mindmaps/concept maps to organise notes. Use acrostics/mnemonics to remember science facts or concepts.

  Example: Factors required for seed germination

  Water

  Oxygen

  Warmth

PSLE PREPARATION & STRATEGIES

Shuqun Primary

- Practise by attempting Science questions, correct mistakes and relearn concepts.
- Attempt practice papers within the stipulated time.
- 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.

PSLE PREPARATION & STRATEGIES

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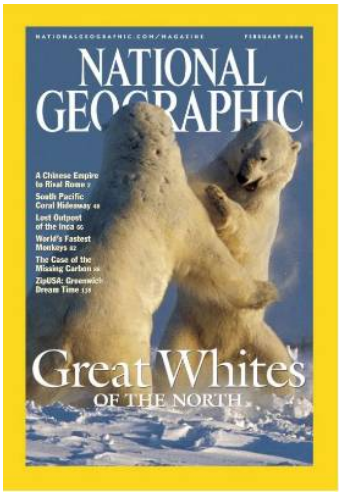
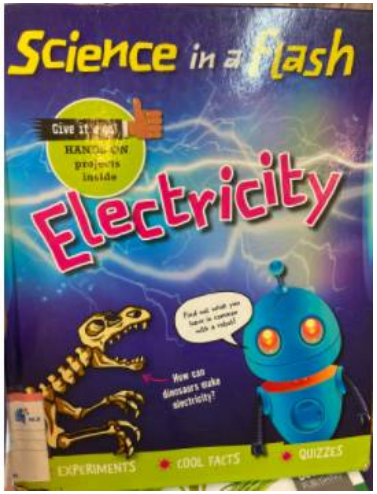
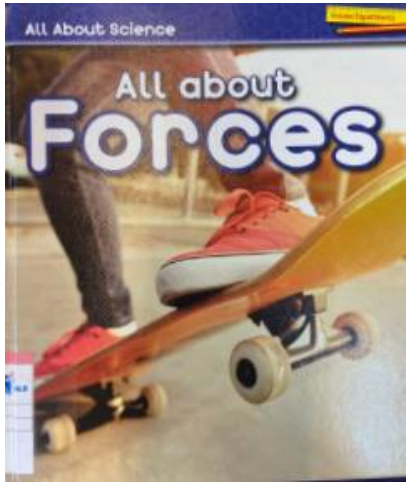
- Encourage your child to read widely beyond the textbooks! Read science related news articles, books and magazines.







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Thank You!

For further queries, you may consult your child's  teacher!