



SCIENCE PRIMARY SIX (2025)

SCIENCE DEPARTMENT VISION AND MISSION

Vision: Every Shuqunite a creative and effective thinker

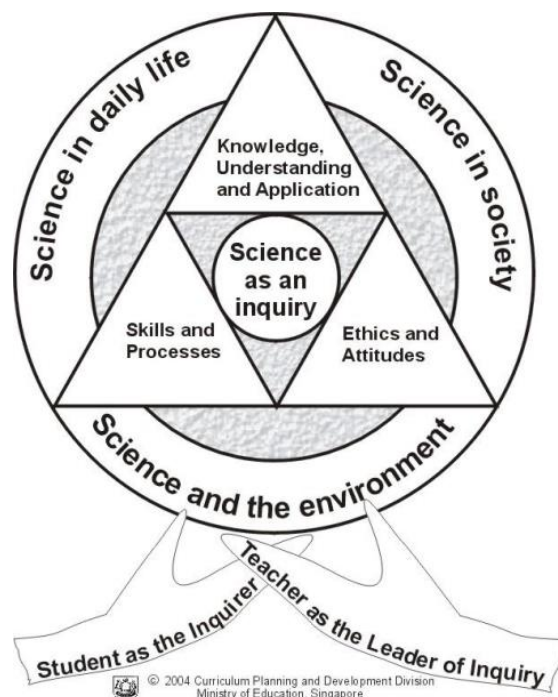
Mission: To nurture effective and creative thinkers with a sense of inquiry and passion for the learning of science

OVERVIEW OF THE SCIENCE CURRICULUM

The Primary Science Syllabus is based on the **Science Curriculum Framework** which focus on three key areas namely acquisition of science knowledge, process and attitudes. Fundamental concepts in life and physical sciences are broadly covered to adequately prepare our students for scientific studies at higher levels of education.

Central to the curriculum framework is the inculcation of scientific inquiry. The three integral domains of inquiry are:

- (a) Knowledge, Understanding and Application,
- (b) Skills and Processes and
- (c) Ethics and Attitudes.



The science curriculum seeks to develop students' sense of inquiry and the inquiry is thus grounded in knowledge, issues and questions that students are able to relate to in their daily life, society and environment.

SYLLABUS FRAMEWORK

The approach in the syllabus towards acquisition of science knowledge is based on five main themes: Diversity, Cycles, Systems, Energy and Interactions. These themes encompass fundamental concepts in both life and physical sciences to provide our students with a broad understanding of the environment. A key feature of the syllabus is the spiral approach. Scientific concepts and process skills are revisited at different levels and with increasing depth to allow students to integrate newly acquired knowledge and skills with their existing schemas.

SKILLS AND PROCESSES

A strong foundation in scientific knowledge includes the development of core process skills which are important for responding to different contexts and inquiring things and phenomena around us.

The table below lists the skills set aligned to the essential features of inquiry.

Skills	Processes
Observing Comparing Classifying Using apparatus and equipment Communicating Inferring Formulating hypothesis Predicting Analysing Generating possibilities Evaluating	Creative problem-solving Decision-making Investigation

The skills and processes as stated above are part of the total process of scientific inquiry. In Shuqun Primary, these skills are processes are explicitly taught through appropriate learning activities starting from Primary Three.

SYLLABUS LEARNING OUTCOMES FOR PRIMARY 6

The Primary Science Syllabus (2014) is available online at

<https://www.moe.gov.sg/-/media/files/primary/science-primary-2014.pdf>

Energy Conversion		
Learning outcomes		
Core Ideas	Practices	Values, Ethics and Attitudes
<p>Recognise that energy from most of our energy resources is derived in some ways from the Sun.</p> <p>Recognise and give examples of the various forms of energy.</p> <ul style="list-style-type: none"> - Kinetic energy - Potential energy - Light energy - Electrical energy - Sound energy - Heat energy 	<ul style="list-style-type: none"> Investigate energy conversion from one form to another. 	<ul style="list-style-type: none"> Show care and concern by being responsible in conserving energy in our everyday life.

Interaction of Forces (Frictional force, gravitational force, elastic spring force)		
Learning outcomes		
Core Ideas	Practices	Values, Ethics and Attitudes
<ul style="list-style-type: none"> Identify a force as a push or a pull. Show an understanding of the effects of a force. <ul style="list-style-type: none"> - A force can move a stationary object. - A force can speed up, slow down or change the direction of motion. - A force can stop a moving object. - A force may change the shape of an object. Recognise and give examples of the different types of forces. 	<ul style="list-style-type: none"> Investigate the effect of frictional force on the motion of objects. Investigate the effects of elastic spring force. 	<ul style="list-style-type: none"> Show objectivity by using data and information to validate observations and explanations about forces.

<ul style="list-style-type: none"> - Magnetic force - Gravitational force - Elastic spring force - Frictional force <p><i>Note:</i></p> <ul style="list-style-type: none"> - <i>Direction of frictional force for “rolling objects” such as wheels and balls is not required.</i> - <i>The use of specific terms such as ‘air resistance’ and ‘water resistance’ is not required.</i> <p>• <i>Recognise that objects have weight because of the gravitational force acting on the object.</i></p>		
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Interactions within the Environment		
Learning outcomes		
Core Ideas	Practices	Values, Ethics and Attitudes
<ul style="list-style-type: none"> • Identify the factors that affect the survival of an organism. <ul style="list-style-type: none"> - Physical characteristics of the environment (temperature, light, water) - Availability of food - Types of other organisms present (producers, consumers, decomposers) • Show an understanding of the effect on organisms when the environment becomes unfavourable (organisms adapt and survive; move to other places or die). • Show an understanding of the energy pathway from the Sun through living things and identify the roles of various organisms (producers, consumers, predators, prey) in a food chain and a food web. 	<ul style="list-style-type: none"> • Observe, collect and record information regarding the interacting factors within an environment. 	<ul style="list-style-type: none"> • Show care and concern for Man’s impact on the environment by being respectful and responsible towards the environment.

- Differentiate among organism, population and community.
 - An organism is a living thing.
 - A population is a group of organisms of the same kind, living and reproducing at a given place and time.
 - A community consists of many populations living together in a particular place.
 - Show an understanding that different habitats support different communities (garden, field, pond, seashore, tree, mangrove swamp).
 - Show an understanding that adaptations serve to enhance survival and can be structural or behavioural.
 - Cope with physical factors
 - Obtain food
 - Escape predators
 - Reproduce by finding and attracting mates or dispersing seeds/fruits
- Note:
- Students are introduced to the types of dispersal methods and physical characteristics of different fruits and seeds in the theme of Cycles. The focus in this theme is to help students recognise that physical characteristics are the “structural adaptations” which help fruits and seeds in their dispersal.
- Give examples of man’s impact (both positive and negative) on the environment.

Note:

<p>- <i>Positive impact [Conservation, Reforestation]</i></p> <p>- <i>Negative impact [Depleting natural resources, deforestation, pollution (land/water/air), global warming]</i></p>		
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TOPICS TESTED FOR PSLE

Theme	Life Sciences	Physical Sciences
Diversity	Diversity of living things (General characteristics & classification)	Diversity of non-living things (General characteristics & classification) Diversity of materials
Cycles	Cycles in plants and animals (Life Cycles, Reproduction)	Cycles in matter and water (Matter, Water)
Systems	Plant systems (Plant parts and functions, Respiratory and Circulatory systems) Human systems (Digestive system, Respiratory and Circulatory systems) Cell systems	Electrical systems
Interactions	Interactions within the environment	Interaction of forces (Magnetic force, Frictional force, Gravitational force, Force in springs)
Energy	Energy forms and uses (Photosynthesis)	Energy forms and uses (Light & Heat) Energy conversions
Total weighting	45 – 55%	45 – 55%

PSLE PAPER FORMAT (SCIENCE)

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

The duration of the paper is 1 hour 45 minutes.

Booklet	Item Type	Number of Questions	Number of marks per questions	Marks
A	Multiple-Choice	28	2	56
B	Open-Ended	12 - 13	2 - 5	44
Total: 100 marks				

QUESTION TYPES

1. Knowledge with Understanding (AOI) - 40%

- Demonstrate knowledge and understanding of scientific facts, concepts and principles

2. Application of Knowledge and Process Skills (AOII) - 60%

- Apply scientific facts, concepts and principles to new situations
- Use one or a combination of basic process skills

Below is the list of common scientific terms used in questions

No.	Key words in Questions	What you should do
1	analyse	to identify the parts of objects, information or processes, and the patterns and relationships between these parts
2	classify	to group objects or events based on common characteristics
3	communicate	to transmit and receive information which is presented in various forms – written, verbal, pictorial, tabular or graphical
4	compare	to identify similarities and differences between objects, concepts or processes
5	construct	to put a set of components together, based on a given plan
6	describe	to write (using diagrams where appropriate) the main points of a topic
7	differentiate	to identify the differences between objects, concepts or processes
8	evaluate	to assess the reasonableness, accuracy and quality of information, processes or ideas
9	formulate hypothesis	to make a general explanation for a related set of observations or events. It is an extension of inferring
10	generate possibilities	to explore all the alternatives, possibilities and choices beyond the obvious or preferred one
11	identify	to select and/or name the object, event, concept or process
12	infer	to explain or draw a conclusion based on observations, data or information
13	investigate	to find out answers to the questions or to verify the hypotheses
14	list	to give a number of points or items without elaboration
15	make decisions	to establish and apply criteria to select from among seemingly equal alternatives. The process of establishing criteria involves consideration of the consequences and values
16	measure	to obtain a reading from a suitable measuring instrument
17	observe	to obtain information through the use of the senses
18	predict	to assess the likelihood of an outcome based on prior knowledge of how things usually turn out
19	recognise	to identify facts, characteristics or concepts that are critical to the understanding of a situation, event, process or phenomenon
20	relate	to identify and explain the relationships between objects, concepts or processes
21	show an understanding	to recall information (facts, concepts, models, data), translate information from one form to another, explain information and apply information
22	state	to give a concise answer with little or no supporting argument

EXAMINATION PREPARATION AND STRATEGIES

- Develop a daily routine for revision and homework.
- Organise and link scientific concepts.
 - Make and organise notes by using any form of graphic organisers such as concept maps and mind maps.
- Use acrostics or mnemonics to remember science facts and concepts.
 - Acrostics involve the formation of a sentence or a story using the first letters of key words.

Example: Factors required for seed germination

Water
Oxygen
Warmth

- Encourage your child to ask questions and observe things, phenomena or changes around us. Observation is an important step leading to scientific explanations.
- Learn spelling of key words.
- Practise by attempting questions in topical worksheets and practice papers. Correct mistakes and re-learn the erroneous concepts.

R.I.S.E Strategy to Answering Science Questions

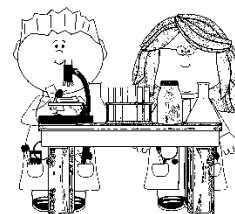
Multiple-Choice Questions:

R – Read the question carefully. Study given diagrams, tables or graphs. Make comparisons if there is more than one diagram, tables of graphs.

I – Identify key words and topic(s)/concept(s) tested.

S – Study all options carefully.

E – Eliminate distractors to arrive at the best possible answer.



Open-ended Questions:

R – Read the question carefully. Study given diagrams, tables or graphs. Make comparisons if there is more than one diagram, tables of graphs.

I – Identify key words and topic(s)/concept(s) tested.

S – Select relevant concepts to answer the question. Check the mark allocation and answer to the point.

E – Express and explain answers clearly. Avoid adding unnecessary and unrelated information in your answer.

SUGGESTED SCIENCE WEBSITES

Student Learning Space: <https://vle.learning.moe.edu.sg/home>

Young Scientist Badges Portal: <https://youngscientist.sscglobal.com.sg/>

National Geographic Kids: <https://kids.nationalgeographic.com/>