

**PRIMARY 5
SCIENCE CURRICULUM BRIEFING
21 January 2022**

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HGS SCIENCE DEPARTMENT VISION

To **nurture** and **develop** every **HGS girl** with an **inquiring mind for Science**



What does my child learn in science?



Themes	* Lower Block (P3-P4)	** Upper Block (P5-P6)
Diversity	<ul style="list-style-type: none"> ● Diversity of living and non-living things (General characteristics and classification) ● Diversity of materials 	
Cycles	<ul style="list-style-type: none"> ● Cycles in plants and animals (Life cycles) ● Cycles in matter and water (Matter) 	<ul style="list-style-type: none"> ● Cycles in plants and animals (Reproduction) ● Cycles in matter and water (Water)
Systems	<ul style="list-style-type: none"> ● Plant System (Plant parts and functions) ● Human System (Digestive system) 	<ul style="list-style-type: none"> ● Plant System (Respiratory and circulatory systems) ● Human System (Respiratory and circulatory systems) ● <u>Cell System</u> ● Electrical System
Interaction	<ul style="list-style-type: none"> ● Interaction of forces (Magnets) 	<ul style="list-style-type: none"> ● Interaction of forces (Frictional force, gravitational force, <u>force in springs</u>) ● Interaction within the environment
Energy	<ul style="list-style-type: none"> ● Energy Forms and Uses (Light and Heat) 	<ul style="list-style-type: none"> ● Energy Forms and Uses (Photosynthesis) ● <u>Energy Conversion</u>

Note: Topics which are underlined are **not required for the Foundation Science**.

What does my child learn in science?

2014 Science (Primary) Syllabus

For more details, visit the link:

<https://go.gov.sg/moeprimarysciencesyllabus2014>



Science
Syllabus
Primary

Implementation starting with
2014 Primary Three Cohort

Learning Outcomes		
Knowledge, Understanding and Application	Skills and Processes	Ethics and Attitudes
Human System (P5 and P6 Standard)		
<ul style="list-style-type: none">**Recognise that air is a mixture of gases such as nitrogen, carbon dioxide, oxygen and water vapour.**Identify the organs of the human respiratory and circulatory systems and describe their functions. <p><i>Note:</i></p> <ul style="list-style-type: none"><i>Detailed knowledge of respiratory system (e.g. alveoli) and circulatory system (e.g. heart chambers and valves) is not required.</i> <ul style="list-style-type: none">**Recognise the integration of the different systems (digestive, respiratory and circulatory) in carrying out life processes.	<ul style="list-style-type: none">**<u>Compare</u> how plants, fish and humans take in oxygen and give out carbon dioxide.**<u>Compare</u> the ways in which substances are transported within plants and humans.<ul style="list-style-type: none">- plants: tubes that transport food and water- humans: blood vessels that transport digested food, oxygen and carbon dioxide <p><i>Note:</i></p> <ul style="list-style-type: none"><i>The use of names of specific tubes (xylem, phloem) and blood vessels (artery, vein, capillaries) is not required.</i>	<ul style="list-style-type: none">**Show <u>objectivity</u> by seeking data and information to validate observations and explanations about their body.



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ANSWERING STRATEGIES

Annotate to organize their thoughts

RHCTC

Read everything, then Highlight Clues, then identify Topic and Concept

Topics/concepts linked to the question?

CER

Claim Evidence Reasoning

evidence can be given in question, pictures, table or graph



Gary gave 10g of leaves, 10g of fruits and 10g of meat to four different Organisms A, B, C and D. After an hour, he weighed the amount of food uneaten. The table below shows the results of Gary's investigation.

Organism	Mass of food uneaten (in g)	
	Meat	Fruits and leaves
A	10	6
B	10	5
C	5	2
D	5	4

Which of the organisms in Gary's investigation obtained energy from both sources of food?

- (1) B only
- (2) C and D only
- (3) A, C and D only
- (4) A, B, C and D

(2)

For plants to make food, there must be _____

- A carbon dioxide
- B nitrogen
- C sunlight
- D water

Without... plant cannot make food

- (1) A and C only
- (2) B and D only
- (3) A, C and D only
- (4) B, C and D only

(3)

✓ MCQ : Elimination

Make simple notes / working to organize their thoughts

ANSWERING STRATEGIES

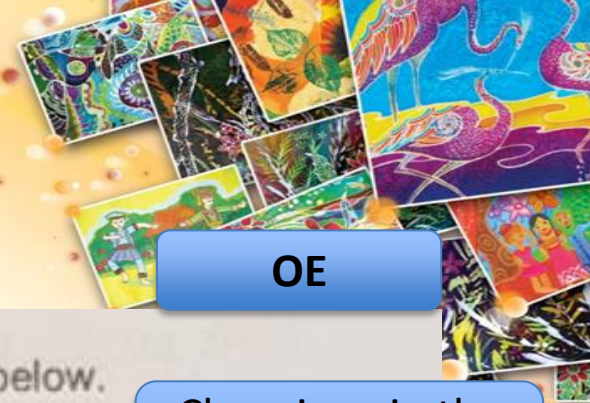
RHCTC

Read everything, then Highlight Clues, then identify Topic and Concept

CER

Claim Evidence Reasoning

evidence can be given in question, pictures, table or graph



OE

Clue given in the table

Three living things W, X and Y are classified in the table below.

Eats only plants	Eats only small animals	Makes its own food
W	X	Y

(b) Which one of the living things, W, X or Y, is a plant? Explain your answer.

Y is a plant. Only plants can make their own food.

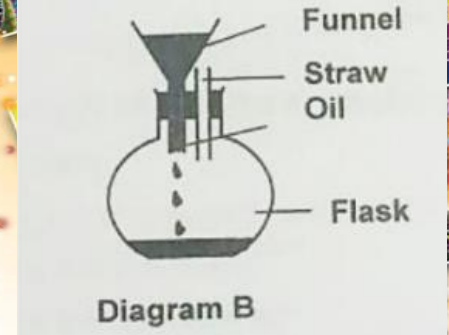
✓ OEQ : CER

Use CER to structure the answers

Provide evidence to support answer.

Conceptual understanding and application of concepts and skills

- ✓ Marks will be awarded to answers that apply the science concepts to the context of the questions.
- ✓ Students can explain their understanding of concepts in their own words.
- ✓ **Peer critique** sessions to improve OEQ answers using pupils' exemplars



(b) His friend, Ted, suggests that he uses a straw as shown in Diagram B. How does the straw help the oil to flow into the flask? [2]

The air can go out of the straw. Therefore, there is now space for the oil to flow in.

(b) His friend, Ted, suggests that he uses a straw as shown in Diagram B. How does the straw help the oil to flow into the flask? [2]

The straw allows the air to escape. The oil can take up the space that was occupied by the air.



How is my child assessed in science?

Formative Assessment (Ongoing monitoring)

- Science Activity Book
- Hands-on activities with use of scientific skills
- Mastery worksheets
- Science Journal
- Student Learning Space (SLS)
- Exit Cards



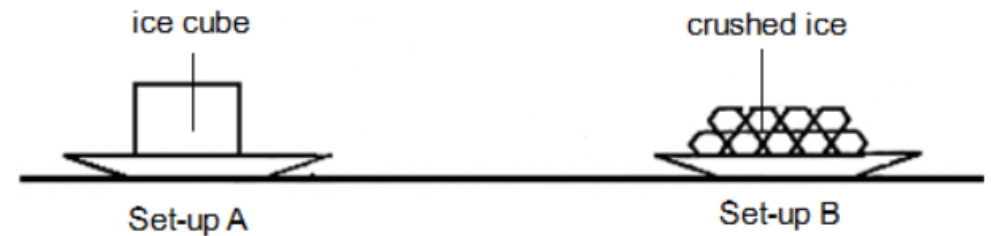
EXIT CARD

➤ Example of Exit Card

Name: _____ () Date: _____

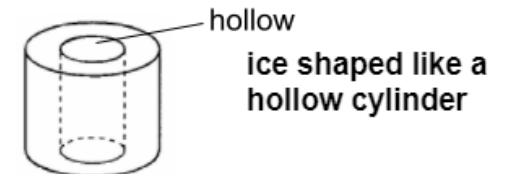
Class: 5

Vivian took out two similar ice-cubes from the freezer and put them on two similar plates. She crushed one of the ice-cubes. Using a stopwatch, she measured the time taken for the ice in each set-up to melt completely into water.



Which will melt faster, the ice cube or the crushed ice? Give a reason.

Mr Tan, a drink stall holder, uses ice shaped like a hollow cylinder instead of ice cubes.



Explain why Mr Tan used the ice shaped like a hollow cylinder instead of ice cubes to cool his drinks.



How is my child assessed in science?

2022 Holistic Assessment Overview (Standard)

Assessment of Learning

	Term 1	Term 2	Term 3	Term 4
	Non-weighted Assessment	Weighted Assessment 1	Weighted Assessment 2 (Practical)	End of Year Examination
Total marks	30 marks	45 marks	20 marks	100 marks
Duration	40 min	50 min	Approx 40 min	1h 45 min
Weighting	0%	15%	15%	70%



How is my child assessed in science?

**Format of EOY Paper (Standard) – 1 hour 45 min
for Booklets A and B**

Booklet	Item Type	No. of questions	No. of marks per question	Marks	Suggested time spent
A	Multiple-choice	28	2	56 m	45 - 50 min
B	Open-Ended	12-13	2 / 3 / 4 / 5	44 m	55 - 60 min

Tips for students for good time management :

- Good to have more time for booklet B to analyse and structure their answers.
- Extra time for revisiting difficult question(s) that were skipped earlier.



How is my child assessed in science?

2022 Holistic Assessment Overview (**Foundation**)

Assessment of Learning				
	Term 1	Term 2	Term 3	Term 4
	Non-weighted Assessment	Weighted Assessment 1	Weighted Assessment 2 (Practical)	End of Year Examination
Total marks	20 marks	35 marks	20 marks	70 marks
Duration	30 min	40 min	Approx 40 min	1h 15 min
Weighting	0%	15%	15%	70%



How is my child assessed in science?

Format of EOY Paper (**Foundation**) – 1 hour 15 min for Booklets A and B

Booklet	Item Type	No. of questions	No. of marks per question	Marks	Suggested time spent
A	Multiple-choice	18	2	36 m	30 - 36 min
B	Structured	6 - 7	2 / 3	14 m	39 - 45 min
	Open-Ended	5 - 6	2 / 3 / 4	20 m	

Structured questions
(e.g Fill in the blanks,
Matching, etc)

- A word list (not exhaustive) is provided during the examination.

Tips for students for good time management :

- Good to have more time for booklet B to analyse and structure their answers.
- Extra time for revisiting difficult question(s) that were skipped earlier.



How can I support my child in learning science?

Reinforce strategies used in school when going through questions with your child

Encourage your child to try her best and attempt all questions. Don't leave blanks if possible!

Have you read and understood the question?

What do you think the topics/concepts the question must be linked to?

ANSWERING STRATEGIES

RHCTC

Read everything, then Highlight Clues, then identify Topic and Concept

CER

Claim Evidence Reasoning

evidence can be given in question, pictures, table or graph



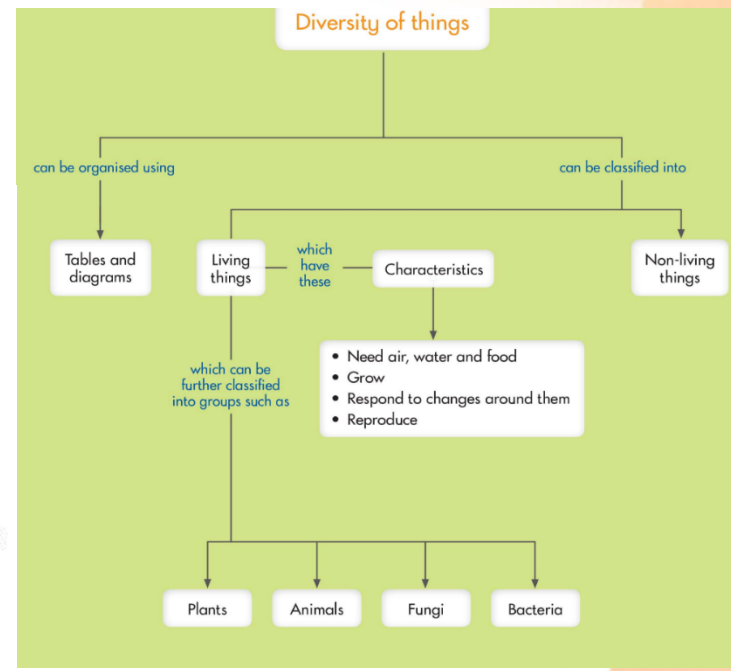
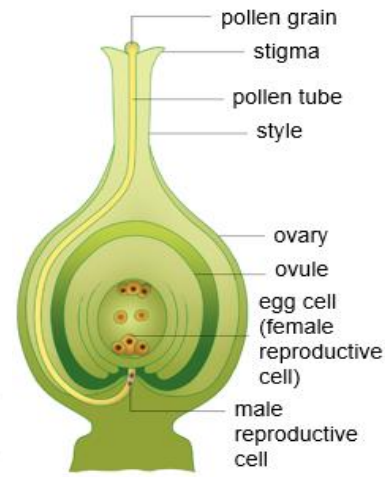
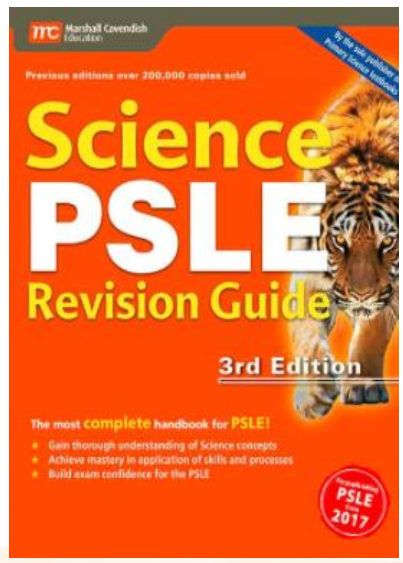
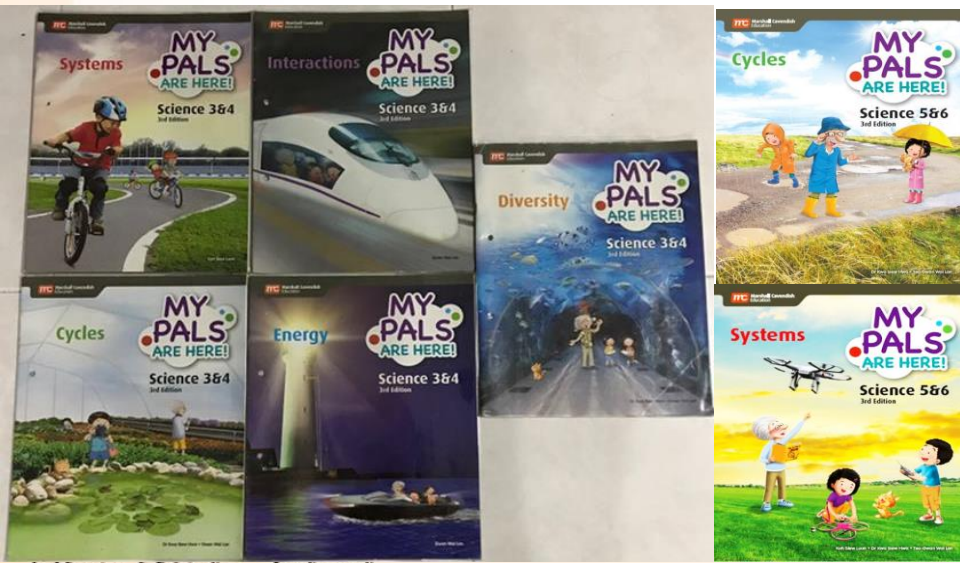
How can I support my child in learning science?

Help your child revise and retain her science concepts

- ✓ Document learning through drawing concept maps, taking notes or drawing labelled diagrams in the Science journal.
- ✓ Work with your child in planning her revision schedule (revisit P3, P4, and current P5 topics).



➤ Science textbooks (Lower & Upper)



How can I support my child in learning science?

Stimulate your child's interest in incorporating Science in her daily life

- ✓ Going outdoors (e.g. Zoo, Gardens by the Bay etc)
- ✓ Watching Science-related programmes on TV and Youtube
- ✓ Reading Science-related books and magazines
- ✓ Asking questions instead of giving answers to encourage her to think deeper



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How do you make kids love Science? You don't

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School's Support in our Pupils' Learning

- ✓ Science laboratories with rich resources and science kits
- ✓ *Environment as the 3rd teacher* - Eco-pond, science garden, solar-powered hydroponics garden
- ✓ D3T2 Science (P4, 5 and 6) - *Talent Development Programme (by selection only)*
- ✓ Zoom Remedial / 1-to-1 consultation - *Help pupils bridge learning gaps*
- ✓ Science magazines and books available for browsing in class and school libraries

