PRIMARY 4
SCIENCE CURRICULUM BRIEFING
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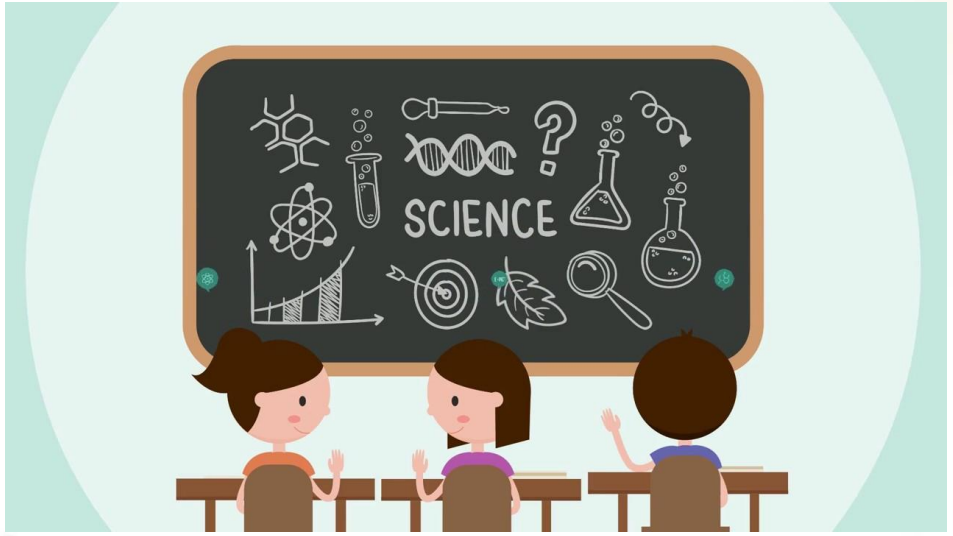
Outline

- **Department vision**
- **Why does my child learn Science?**
  - *What does my child learn in science?*
  - *How does my child learn science?*
  - *How is my child assessed in science?*
  - *How can I support my child in learning science?*
- **School's Support in our Pupils' Learning**
- **Q&A**



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HGS SCIENCE DEPARTMENT VISION

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




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What does my child learn in science?

How does my child learn science?

Why does my child learn science?

How is my child assessed in science?

How can I (as a parent) support my child in learning science?

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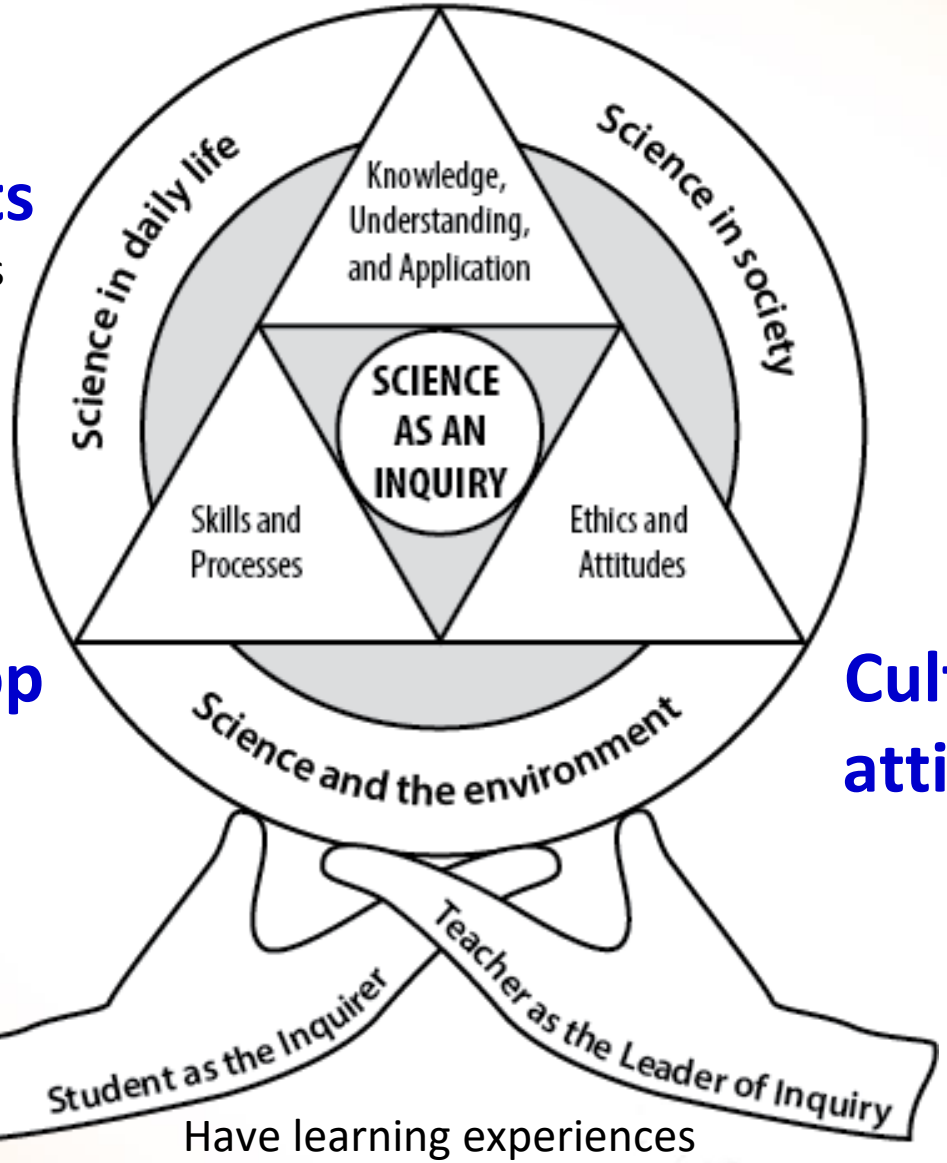
What does my child learn in science?

Learn **basic concepts**
to understand themselves
and things around them



MOE Science Curriculum Framework

Develop skills

Cultivate attitudes

Have learning experiences
which build on **interest** and stimulate **curiosity**

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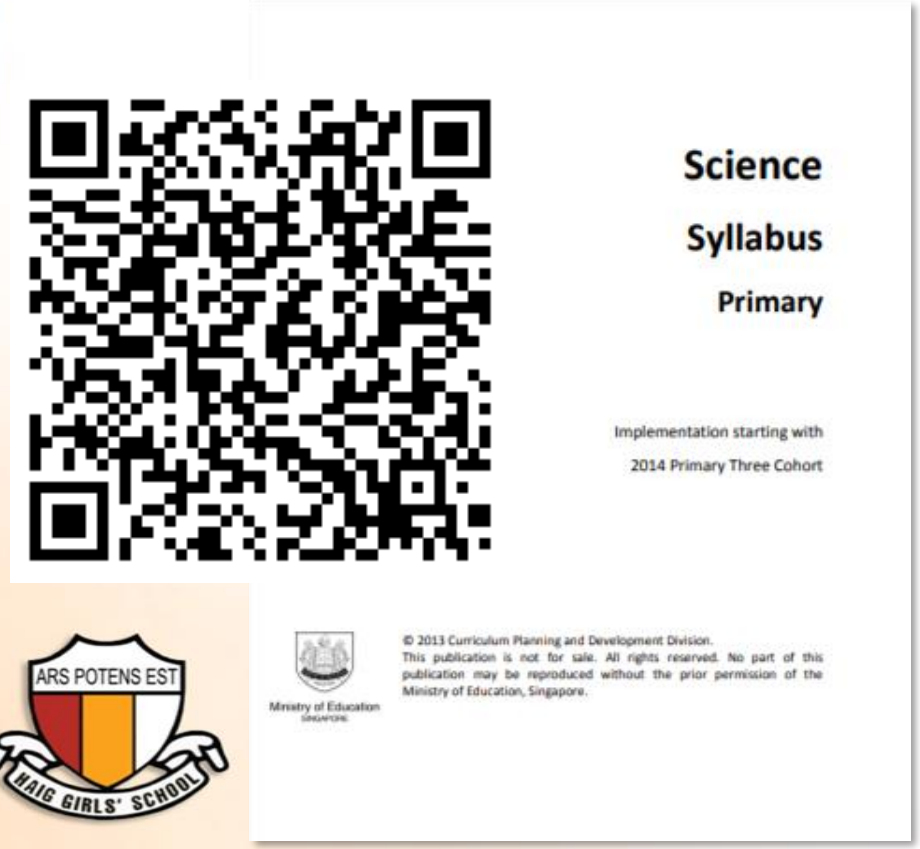
What does my child learn in science?

2014 Science (Primary) Syllabus

For more details, visit the link :

- https://go.gov.sg/moeprimarysciencesyllabus2014



Learning Outcomes		
Knowledge, Understanding and Application	**Skills and Processes**	**Ethics and Attitudes**
Energy Conversion (P5 and P6 Standard)		

• **Recognise that energy from most of our energy resources is derived in some ways from the Sun.
• **Recognise and give examples of the various forms of energy.
  - kinetic energy
  - potential energy
  - light energy
  - electrical energy
  - sound energy
  - heat energy
Note:
- *The use of specific terms ("chemical energy", "gravitational potential energy" and "elastic potential energy") is not required.*
	• **Investigate energy conversion from one form to another and communicate findings.	• **Show concern for the need to conserve energy usage in our everyday life.

What does my child learn in science?

Themes	* Lower Block (P3-P4)
Diversity	· Diversity of living and non-living things (General characteristics and classification) · Diversity of materials
Cycles	· Cycles in plants and animals (Life cycles) · Cycles in matter and water (Matter)
Systems	· Plant System (Plant parts and functions) · Human System (Digestive system)
Interaction	· Interaction of forces (Magnets)
Energy	· Energy Forms and Uses (Light and Heat)

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What does my child learn in science?

	Engaging with an event, phenomenon or problem through:	Collecting and presenting evidence through:	Reasoning, Making meaning of information and evidence through:
Skills	· Formulating hypothesis · Generating possibilities · Predicting	· Observing · Using apparatus and equipment	· Comparing · Classifying · Inferring · Analysing · Evaluating
	Communicating		
Processes	Creative problem-solving, Investigation and Decision-making		

What does my child learn in science?

To advocate mental attitudes in Scientific inquiry

- **Curiosity**
  Desire to explore the environment and question what they find.
- **Creativity**
  Suggest innovative and relevant ways to solve problems.
- **Integrity**
  Handle and communicate data and information with integrity.
- **Objectivity**
  Seek data and information to validate observations and explanations objectively.
- **Open-mindedness**
  Accept all knowledge as tentative and willing to change their view if the evidence is convincing.
- **Perseverance**
  Pursue a problem until a satisfactory solution is found.
- **Responsibility**
  Show care and concern for living things and awareness of the responsibility they have for the quality of the environment.

Inquiry-Based Learning Approach

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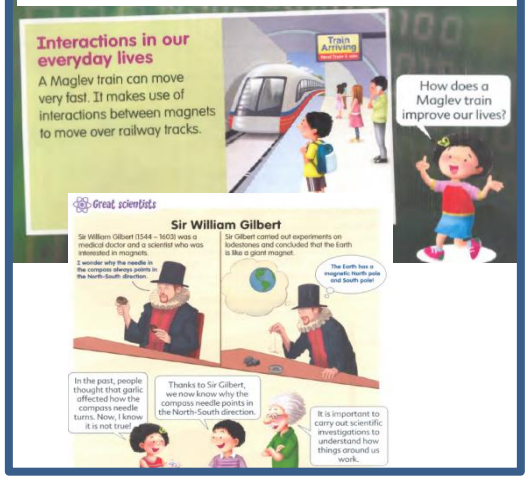
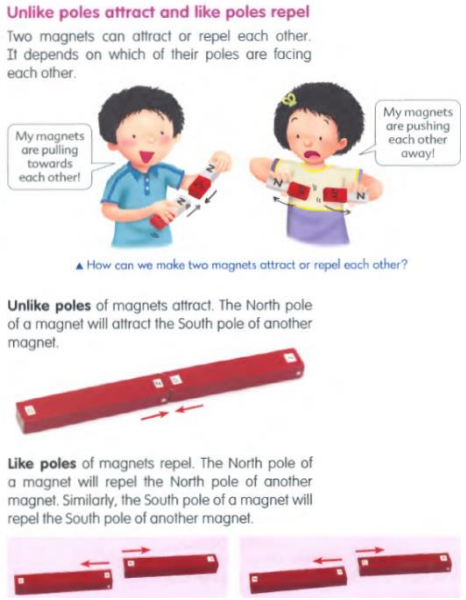
How does my child learn science?

Relating to Science In past & present

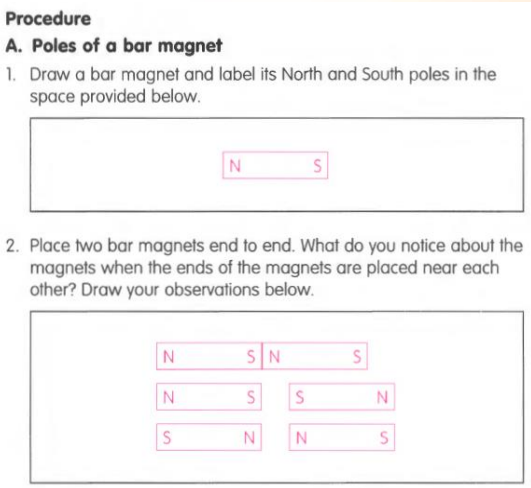


Using Textbooks and Activity Books

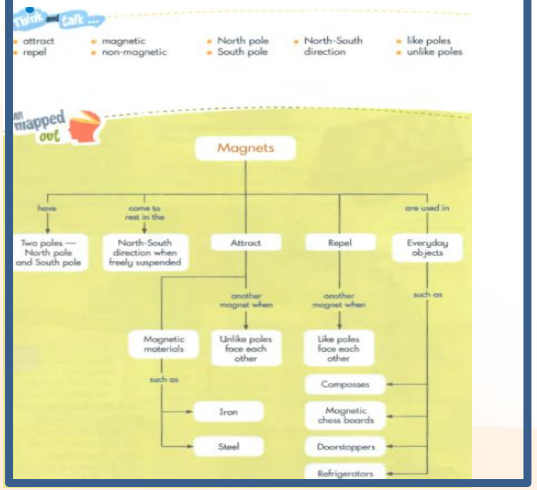
Introduction to concepts



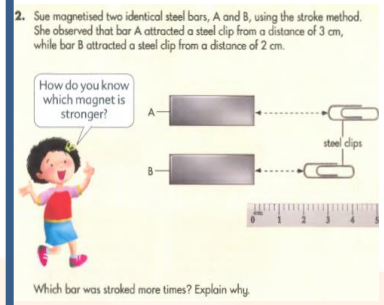
Exploring through hands-on experiences

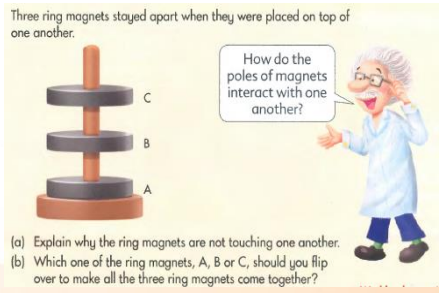


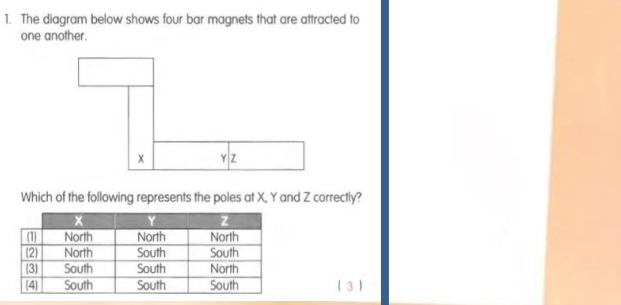
Making links between concepts



Applying concepts in various contexts







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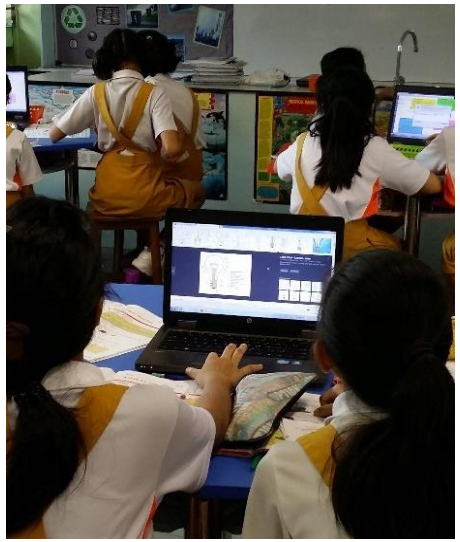
How does my child learn science?

✓ *Use of innovative pedagogies & strategies*

- **Use of ICT**



- **Cooperative Learning**

- **Role Play, Drama, Dance and Movement**

- **Investigation in Science experiments and Science kits**

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How is my child assessed in science?

- **Conceptual understanding** and **application of concepts and skills**

✓ Students can <u>explain their understanding of concepts</u> in their own words.

✓ Concepts which are <u>correct in the context of the questions</u> will be carefully evaluated and awarded marks.

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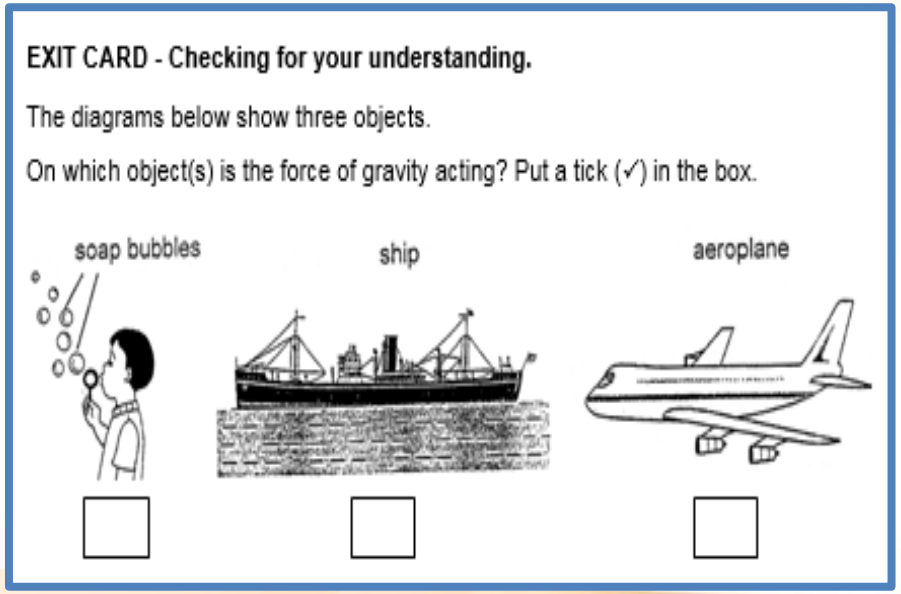
How is my child assessed in science?

Formative Assessment (Ongoing monitoring)

- Science Journal
- Science Activity Book
- Hands-on activities with use of scientific skills / process skills
- Mastery/Process worksheets
- Practice papers
- Teacher's classroom observations
- Student Learning Space (SLS)
- Exit Cards

➢ **Example of Exit Card**



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How is my child assessed in science?

2022 Holistic Assessment Overview

Assessment of Learning				
	Term 1	Term 2	Term 3	Term 4
	-	Semestral Assessment 1	Weighted Assessment (Practical)	End of Year Examination
Total marks	-	80 marks (24 MCQ, 10-11 OEQ)	20 marks	100 marks (28 MCQ, 10-13 OEQ)
Duration	-	1 h 30 min	Approx 40 min	1 h 45 min
Weighting	-	30%	10%	60%

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How is my child assessed in science?

Format of SA1 Paper – 1 hour 30 min

Booklet	Item Type	No. of questions	Number of marks per question	Marks
A	Multiple-choice	24	2	48
B	Open-Ended	10-11	2 / 3 / 4 / 5	32

- Booklet A consists of 24 multiple-choice questions with four options. Each multiple-choice question carries 2 marks.
- Booklet B consists of 10 - 11 open-ended questions.
- Students are required to answer all the questions in the two booklets.

How is my child assessed in science?

Format of EOY Paper – 1 hour 45 min

Booklet	Item Type	No. of questions	Number of marks per question	Marks
A	Multiple-choice	28	2	56
B	Open-Ended	12-13	2 / 3 / 4 / 5	44

- Booklet A consists of 28 multiple-choice questions with four options. Each multiple-choice question carries 2 marks.
- Booklet B consists of 12 - 13 open-ended questions.
- Students are required to answer all the questions in the two booklets.

How is my child assessed in science?

For P4 Science Practical (Term 3)

It consists of :

- 4 - 5 stations of hands-on tasks
- questions based on the topics learnt

Students need to :

- apply process skills (e.g. observation, comparing, analyzing) to answer the questions
- manipulate apparatus/equipment which they are familiar and exposed during science hands-on lessons

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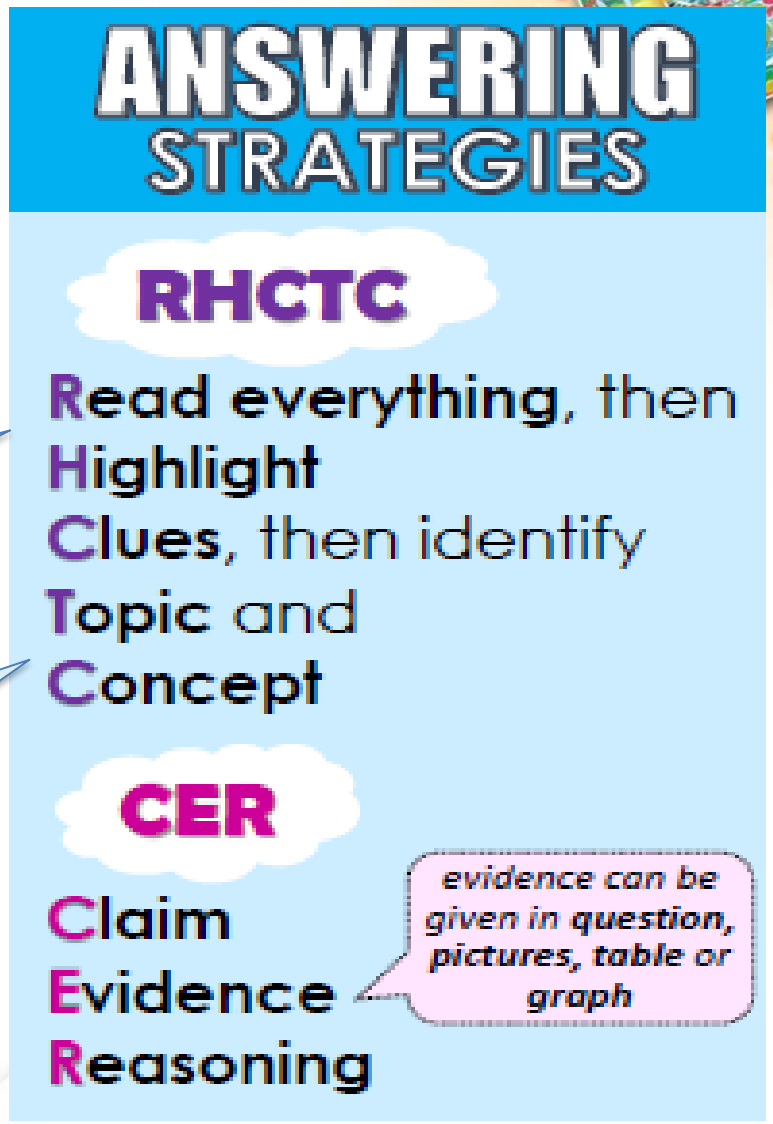
How can I support my child in learning science?

1. Reinforce strategies used in school when going through questions with your child. (Encourage your child to try her best and attempt all questions).

Have you read and understood the question?

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



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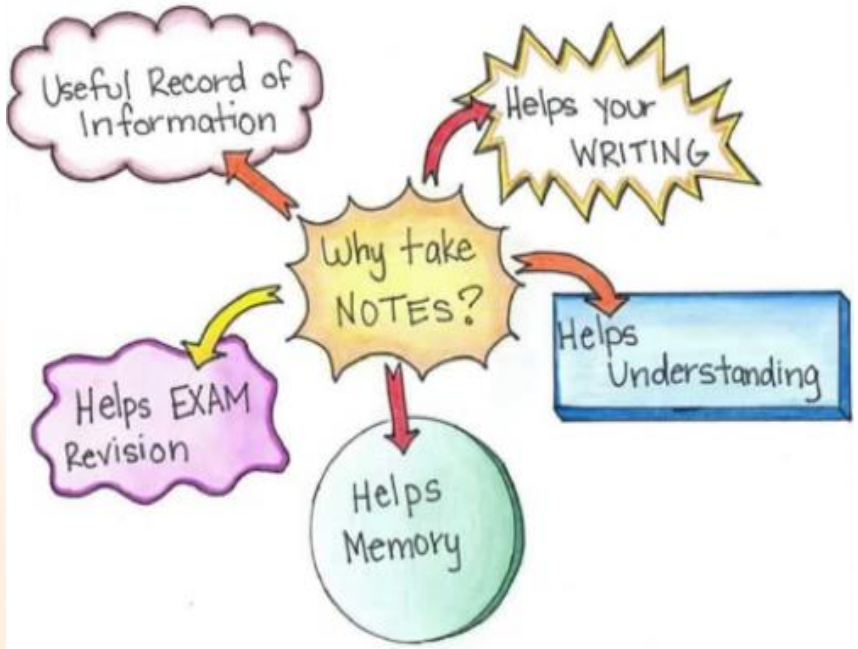
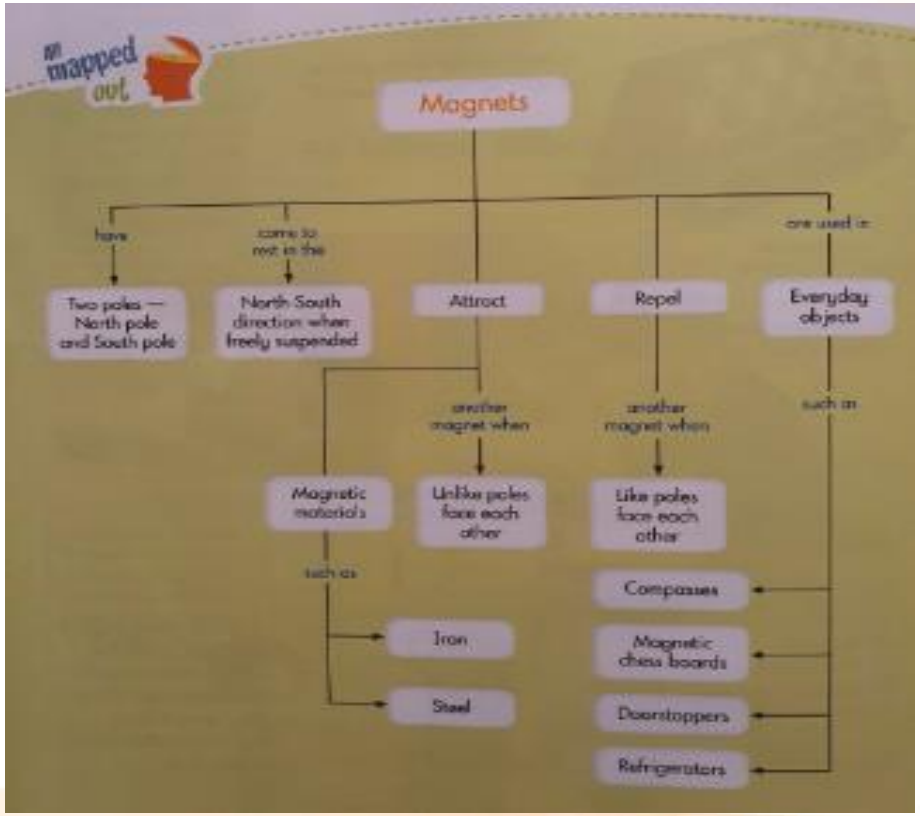
How can I support my child in learning science?

2. Help your child revise and retain her science concepts.

✓ **Document learning through drawing concept maps, taking notes or drawing pictorial representations with labels.**





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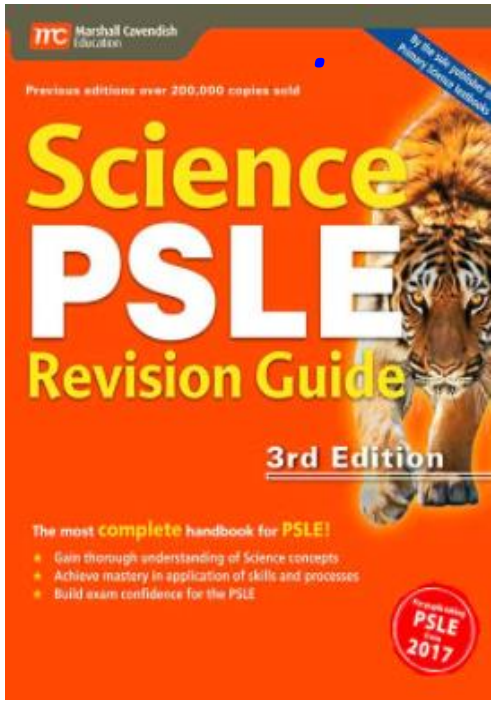
How can I support my child in learning science?

2. Help your child revise and retain her science concepts.

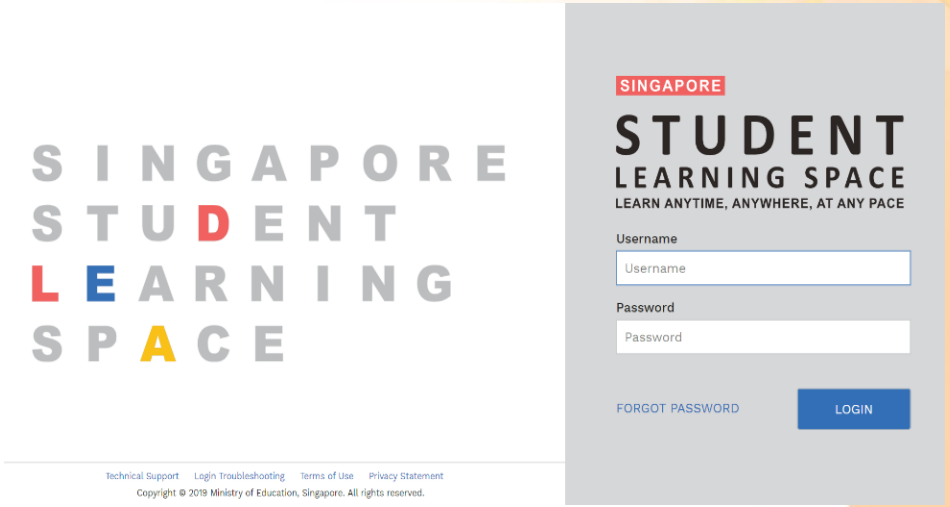
- **Keep all P3 and P4 Science textbooks/materials for P6 revision.**

➢ **Science Textbooks**

➢ **PSLE Revision Guide**



➢ **SLS**



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How can I support my child in learning science?

3. Help your child track her learning.

- Work with and guide your child in planning her revision schedule (revisit P3 and current P4 topics).
- Take time to track and monitor your child's work and revision schedule.
- Balance work & play.

REVISION TIMETABLE

	MON	TUE	WED	THU	FRI	SAT	SUN
	9AM - 11AM REVISE SUBJECT 1	9AM - 11AM REVISE SUBJECT 1	9AM - 11AM REVISE SUBJECT 1	9AM - 11AM REVISE SUBJECT 1	9AM - 11AM REVISE SUBJECT 1	10AM - 12PM REVISE SUBJECT 1	REST!
BREAK!	11:15AM - 1:15PM REVISE SUBJECT 2	11:15AM - 1:15PM REVISE SUBJECT 2	11:15AM - 1:15PM REVISE SUBJECT 2	11:15AM - 1:15PM REVISE SUBJECT 2	11:15AM - 1:15PM REVISE SUBJECT 2	12:45AM - 2:45PM REVISE SUBJECT 2	REST!
BREAK!	2PM - 4PM REVISE SUBJECT 3	2PM - 4PM REVISE SUBJECT 3	2PM - 4PM REVISE SUBJECT 3	2PM - 4PM REVISE SUBJECT 3	2PM - 4PM REVISE SUBJECT 3	3PM - 5PM REVISE SUBJECT 3	REST!
BREAK!	4:15PM - 6:15PM REVISE	4:15PM - 6:15PM REVISE	4:15PM - 6:15PM REVISE	4:15PM - 6:15PM REVISE	4:15PM - 6:15PM REVISE	GO HAVE FUN	REST!

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How can I support my child in learning science?

4. Other forms of support you can provide.

- Check her handbook to monitor her homework and corrections.
- Support and monitor your child's online learning (with supervision, if necessary) e.g SLS assignments, online research
- Stimulate your child's interest in Science by going Science Centre or outdoors (e.g. Zoo, Gardens by the Bay etc), exploring relevant YouTube videos, reading Science related magazines, Science related programmes/documentaries on TV channels etc.

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NATIONAL GEOGRAPHIC

Discovery

BBC

Bitesize

How can I support my child in learning science?

5. Resource for parents

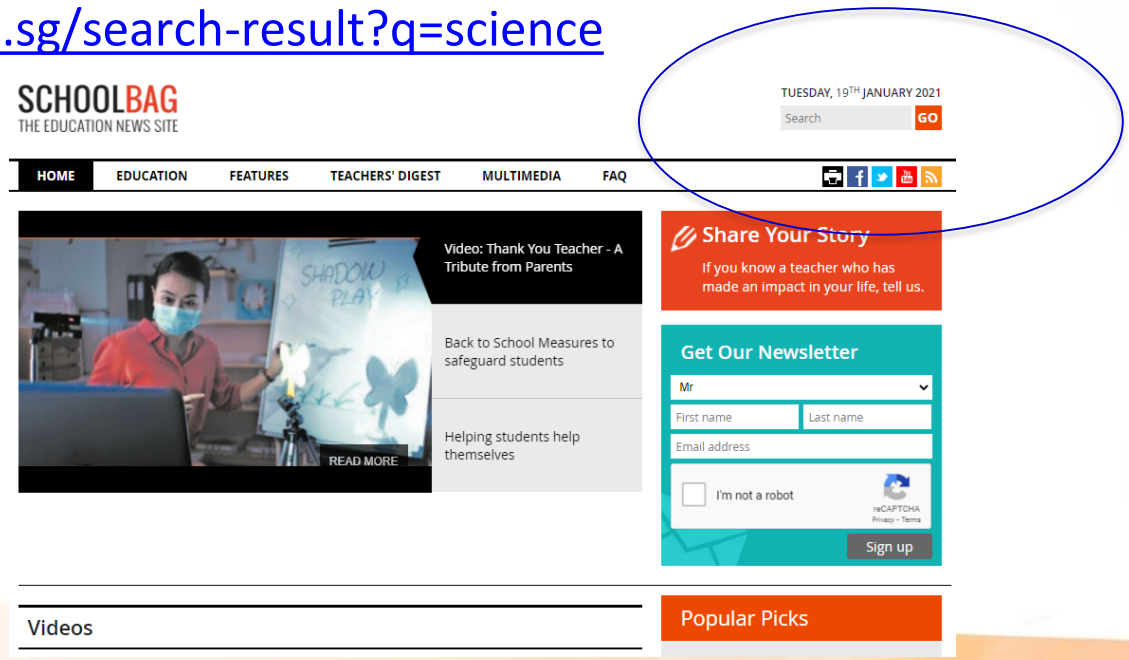
- **Useful link for parents** https://www.schoolbag.sg

Schoolbag.sg is an online publication by the Ministry of Education, Singapore. It provides parents, educators and the general public with education news, school features and tips.

Use the search function and search science:

https://www.schoolbag.edu.sg/search-result?q=science

SCHOOLBAG
THE EDUCATION NEWS SITE



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School's Support in our Pupils' Learning

ANSWERING STRATEGIES

RHCTC

Read everything, then
Highlight
Clues, link to
Topic and
Concept learnt

CER

Claim
Evidence
Reasoning

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

- ✓ **RHCTC – understand the question**
  Encourage annotations to organize their thoughts.
- ✓ **Elimination – for MCQ**
- ✓ **CER – for Open-Ended Questions**
  Answers must be supported by evidence.

Note: Students still need to know their science concepts well.

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School's Support in our Pupils' Learning

Semestral 1 Exam – 1 hour 30 min

Booklet	Item Type	Suggested time spent
A	Multiple-choice	**30 - 40 min**
B	Open-Ended	**40 - 50 min**

End of Year Exam – 1 hour 45 min

Booklet	Item Type	Suggested time spent
A	Multiple-choice	**45 - 50 min**
B	Open-Ended	**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.

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School's Support in our Pupils' Learning

- ✓ Science laboratories with rich resources and science kits, eco-pond, science garden - *Support Science learning experiences*
- ✓ D3T2 Science (P4, 5 and 6) - *Talent Development Programme*
- ✓ Remedial / 1 to 1 consultation - *Help pupils bridge learning gaps*






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Our P4 Science Teachers

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4C	**Mdm Zhang Xinwen**	zhang_xinwen@moe.edu.sg
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4H	**Mrs Chia Yanshan**	chen_yanshan@moe.edu.sg
4J	**Mr James Long (Term 1)** **Mdm Norwiyah (Term 2 onwards)**	long_soo_chiang_james@moe.edu.sg norwiyah_balkiah@moe.edu.sg
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