Primary 5
Science
Curriculum and Assessment Briefing

(Standard & Foundation)

23 January 2025

Content

A. Revised Science Curriculum Framework (wef 2023)

B. Coverage of Topics and Concepts

C. Assessment
   - Knowledge-type and Application-type Questions

D. Strategies to Support our Pupils

A. Revised Science Curriculum

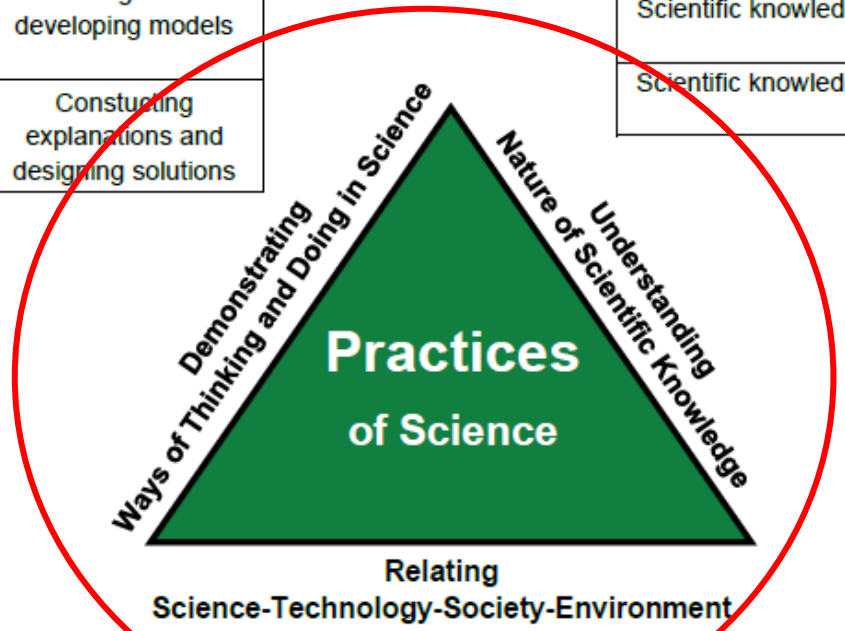
Science education in Singapore provides students with a strong foundation in Science for life, learning, citizenry, and work.

Science for Life and Society in the centre circle captures the essence of the goals of Science education.

Figure 1: The Science Curriculum Framework

Demonstrating WOTD		
Investigating	**Evaluating and Reasoning**	**Developing and Evaluating Solutions**
Posing questions and defining problems	Communicating, evaluating and defending ideas with evidence	Using and developing models
Designing investigations	Making informed decisions and taking responsible actions	Constructing explanations and designing solutions
Conducting experiments and testing solutions		
Analysing and interpreting data		

Understanding NOS
Science is an evidence-based, model-building enterprise to understand the real world.
Science assumes natural causes, order and consistency in natural systems.
Scientific knowledge is generated through established procedures and critical debate.
Scientific knowledge is reliable, durable, open to change in light of new evidence.



Relating STSE
There are risks and benefits associated with the applications of Science in society.
Applications of Science often have ethical, social, economic and environmental implications.
Application of new scientific discoveries often drive technological advancement while advances in technology enable scientists to make new or deeper inquiry.

Figure 2: The Practices of Science

B. Topics and Concepts

Thematic Approach (Upper Block)

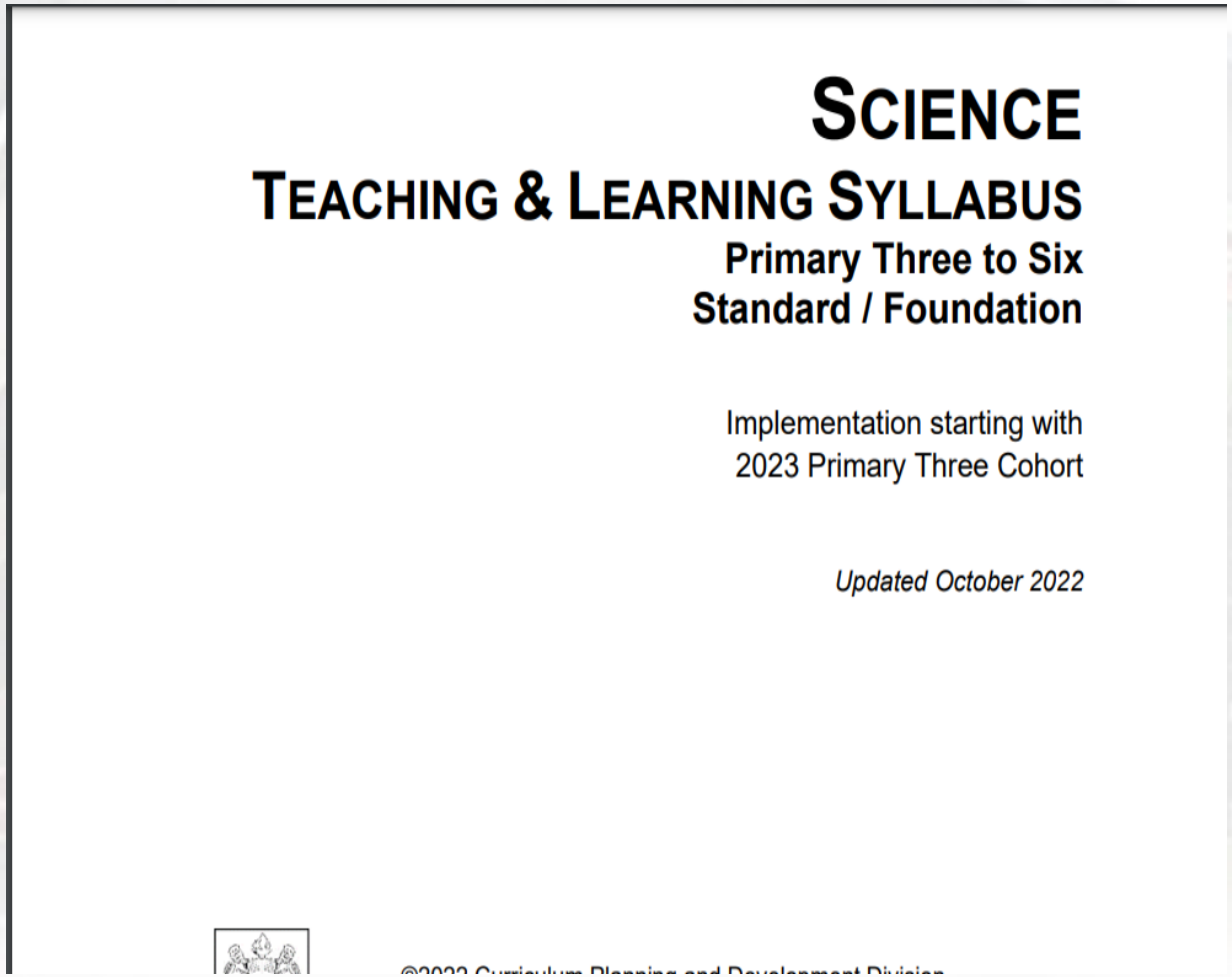
- 4 themes: Cycles, Systems, Energy and Interactions (over the span of 2 years)
- Appreciate the links between different themes / topics to allow the integration of scientific ideas.
- More advanced concepts and skills are built on basic ones learnt at the lower block.

Syllabus Organisation

Levels	P3	P4	P5	P6
Themes	Diversity . Cycles . Systems . Interactions . Energy			
Topics	• Diversity of living and non-living things • Classification of Living Things • Diversity of materials • Life Cycle of Plants and Animals • Interactions – Properties of Magnets, Making and Using Magnets	• Plant System (Plant parts and functions) • Human System (Digestive system) • Cycles - Matter • Energy – Light and Shadows • Energy – Heat and Effects of Heat	• Cycles in plants & animals (Reproduction) • Cycles in matter & water (Water) • Human System (Respiratory and circulatory systems) • Electrical Systems	• Energy forms and uses (Photosynthesis) • <u>Energy conversion</u> • Interaction of Forces (Frictional force, gravitational force, <u>elastic spring force</u> • Interactions within the environment • *TBC in 2026*

2023 Revised Science (Primary) Syllabus

For more details, visit the link : *https://www.moe.gov.sg/-/media/files/primary/syllabus/2023-primary-science.ashx*



SCIENCE

TEACHING & LEARNING SYLLABUS

Primary Three to Six
Standard / Foundation

Implementation starting with
2023 Primary Three Cohort

Updated October 2022

C. Assessment

Purpose?

- Understanding of core concepts/key ideas
- Readiness of child
- Close learning gap

How?

Weighted Assessments

WA1: Performance Task (30 marks)
Application of Skills, Understanding of Concepts

WA2: Pen and Paper (30 marks)
Booklet A: MCQ
Booklet B: Structured Question

End of Year Assessment

Standard Science
Booklet A: 30 MCQ (60 marks)
Booklet B: Structured Questions (40 marks)

Foundation Science
Booklet A: 20 MCQ (40 marks)
Booklet B: Short Response and Structured Questions (30 marks)

Some Useful Words*

1	amphibian			39
2	attract			40
3	battery			41
4	blood			42
5	boil			43
6	breathe			44
7	bulb			45
8	carbon dioxide			46
9	circulation			47
10	condense / condensation			48
11	conductor			49
12	contract / contraction			50
13	deforestation			51
14	digestion			52
15	earth			53
16	electricity / electrical circuit			54
17	energy			55
18	evaporate / evaporation			56
19	expand / expansion			57
20	fertilise / fertilisation			58
21	flexible			59
22	float			60
23	food (chain)			61
24	force			62
25	freeze			63
26	friction			64
27	fungi			65
28	germinate / germination			66
29	global warming			67
30	gravity			68
31	gullet			69
32	heart			70
33	heat			71
34	insect			72
35	insulator			73
36	intestine			74
37	light			75

Som

1		amphibian
2		attract
3		battery
4		blood
5		boil
6		breathe
7		bulb
8		carbon dioxide
9		circulation
10		condense / condensation
11		conductor
12		contract / contraction
13		deforestation
14		digestion
15		earth
16		electricity / electrical circuit

- There are different question types:

  <u>Knowledge and Application Type Questions</u>

  Pupils will be able to **apply facts / concepts to new situations** and **use one or a combination of basic process skills.**

  Familiarity with the terms used in the question stems will benefit pupils:

  Spend less time writing unnecessary information (correct facts but not answering to the point, marks are not awarded)

Good practices to meet demand for the assessment

Apply strategies taught when answering

This benefits pupils as they approach the question systematically.

MCQ	Open-Ended (OE)
Elimination method	**ETC3ER**
ETC	**(ETCCCER)**
	CER

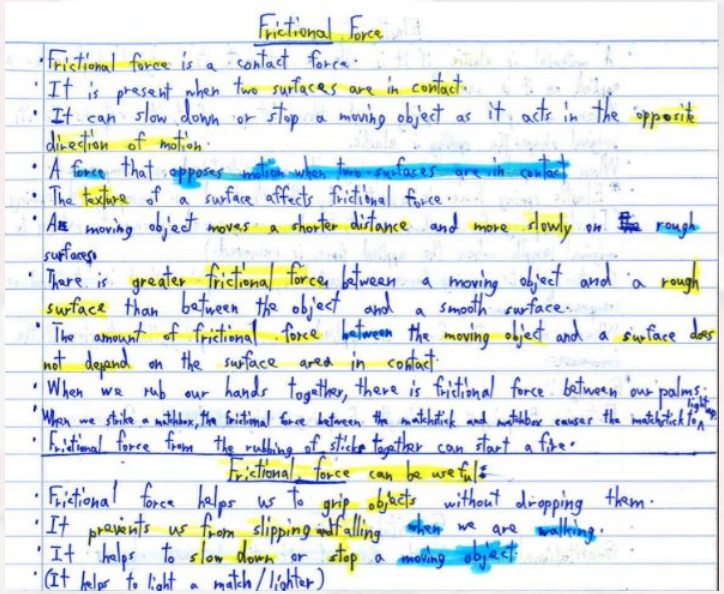
ETC3ER Strategy

Extract	Topic	Concept	Compare	Claim	Evidence	Reason
Circle / highlight key information from text and diagrams	Use the key information to identify topic(s) related to question	Identify relevant concepts from the topic(s) identified	Check if answer requires a comparison. If yes, use comparatives (involve 2 objects) or superlatives (more than 2 objects)	State the choice to the question	State data or results from the question to support the claim	Use concepts to explain how the evidence supports the claim

C. Supporting our Pupils

- Accurate understanding of concepts is important
  - MAKE CONNECTIONS between concepts learnt
  - APPLY concept(s) in new situations
  - EXPLAIN clearly, completely and accurately referencing to science concepts/ facts
- Revision of concepts learnt from P3 to P6. Home support from parents/ guardians is important.

  To keep all the Science materials till child sits for PSLE. (SKIA, Science Journal Book)
- Practice
  - Important to practice an array of thinking skills (e.g. creative problem solving, decision making & investigation skills) that support scientific inquiry



Frictional Force

- Frictional force is a contact force.
- It is present when two surfaces are in contact.
- It can slow down or stop a moving object as it acts in the opposite direction of motion.
- A force that opposes motion when two surfaces are in contact
- The texture of a surface affects frictional force.
- A moving object moves a shorter distance and more slowly on rough surfaces
- There is greater frictional force between a moving object and a rough surface than between the object and a smooth surface.
- The amount of frictional force between the moving object and a surface does not depend on the surface area in contact
- When we rub our hands together, there is frictional force between our palms.
- When we strike a matchbox, the frictional force between the matchstick and matchbox causes the matchstick to light up
- Frictional force from the rubbing of sticks together can start a fire.

Frictional force can be useful

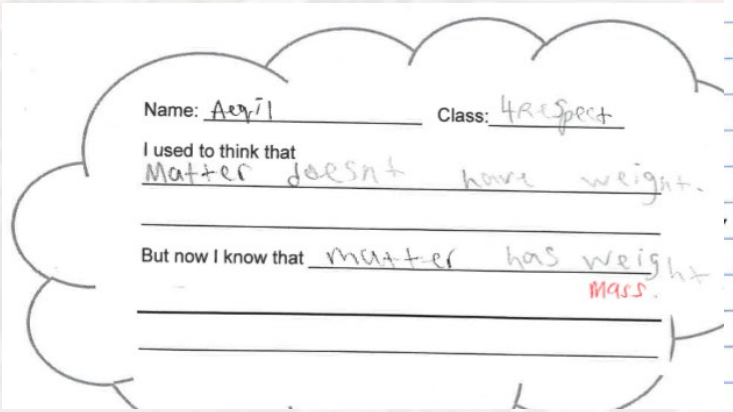
- Frictional force helps us to grip objects without dropping them.
- It prevents us from slipping and falling when we are walking.
- It helps to slow down or stop a moving object
- (It helps to light a match/lighter)

notes taking

Our Class Chart

Matter	Not matter
pencil	music
fire extinguisher	thunder
blood	shadow
air	heat
table	light
boy	
water	
air freshener	
door	
shark	

Consolidated post-lesson discussion print-out

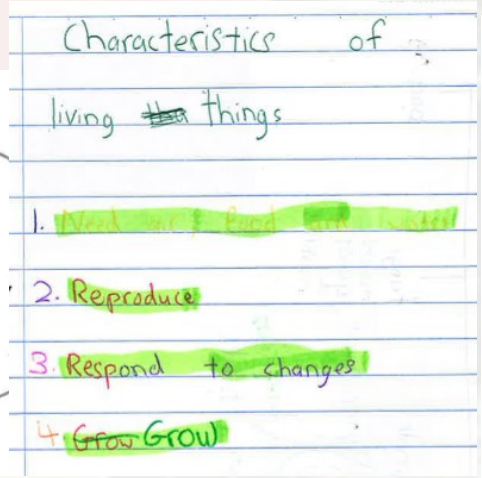


Name: Aeril Class: 4Respect

I used to think that Matter doesn't have weight.

But now I know that matter has weight Mass.

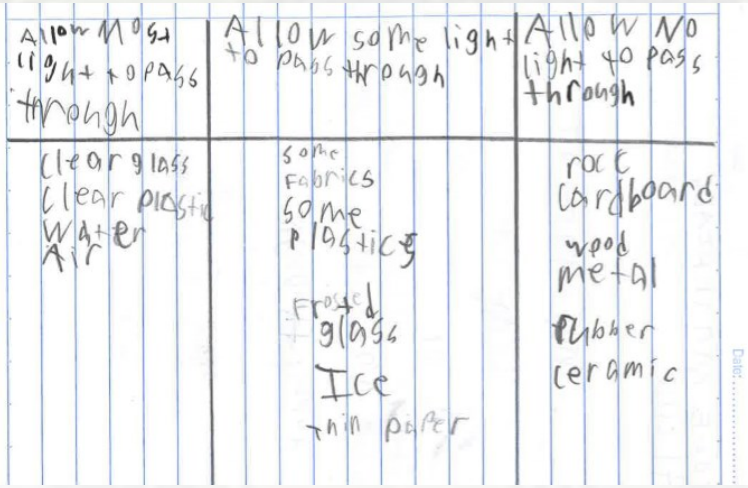
VTR



Characteristics of living things

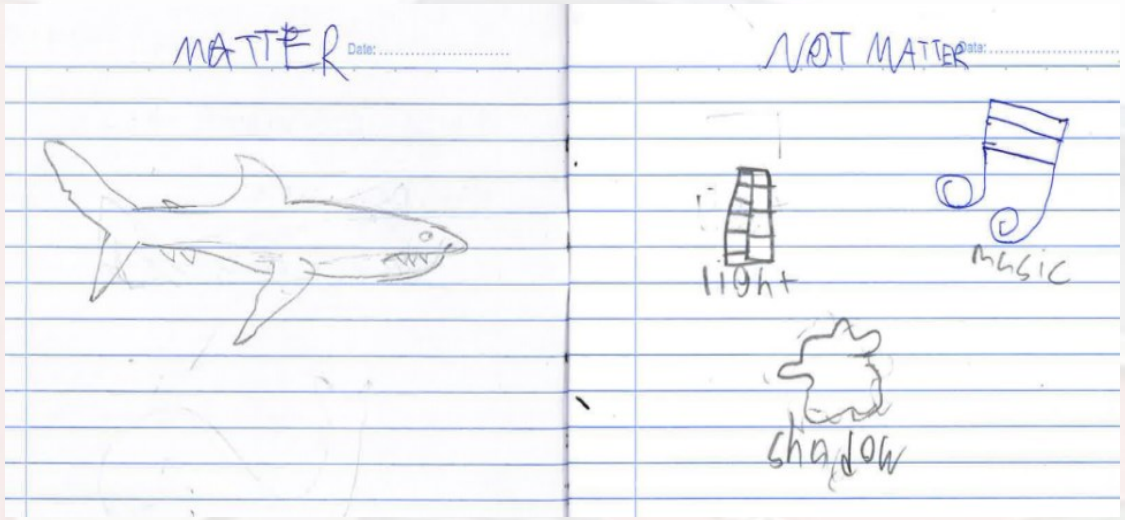
1. Need air, food, water
2. Reproduce
3. Respond to changes
4. Grow Grow

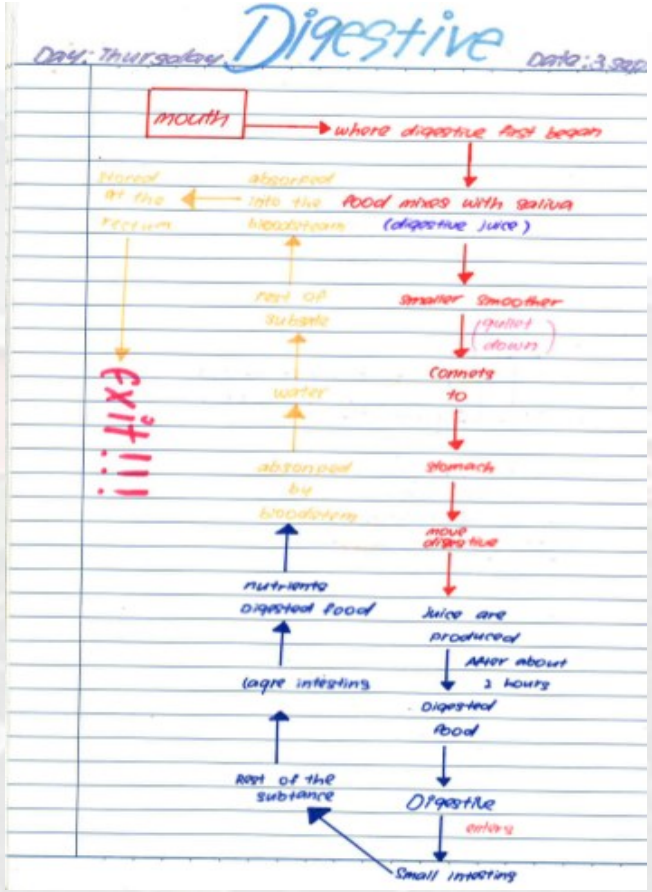
Quizzes

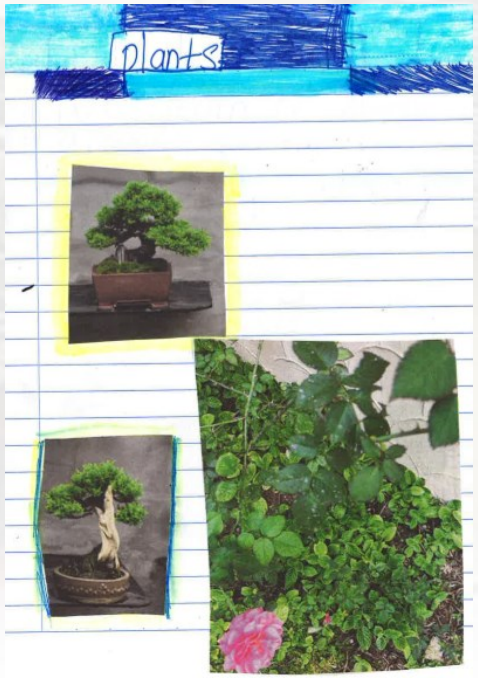


Allow most light to pass through	Allow some light to pass through	Allow No light to pass through
clear glass clear plastic Water Air	some Fabrics some plastics Frosted glass Ice thin paper	rock cardboard wood metal Rubber ceramic

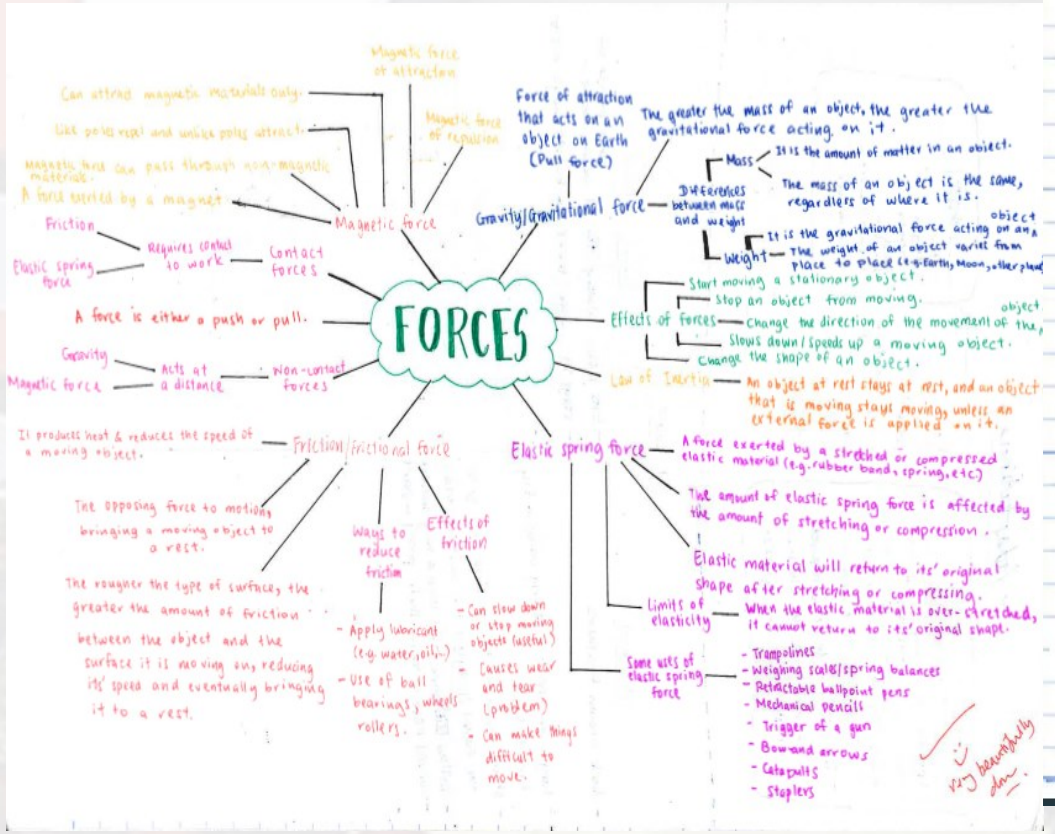
Classification table



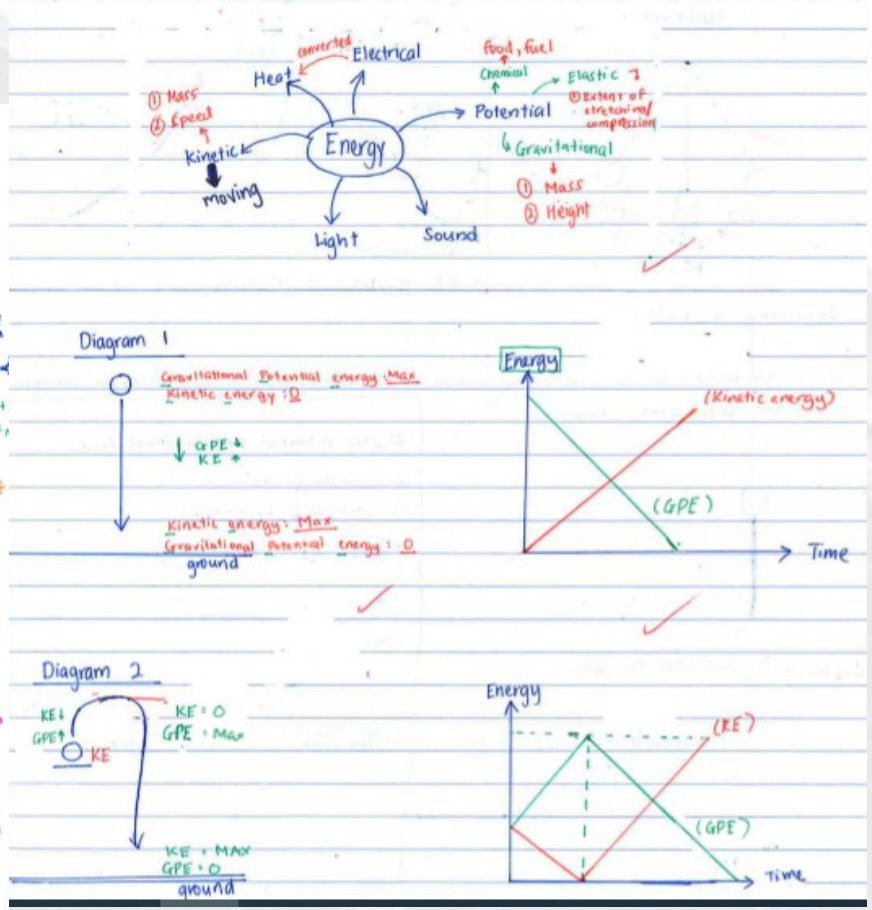




Students using different styles that they consolidate/validate their own learning



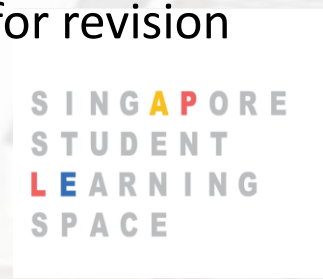
Concept Mapping



Graph/Diagram

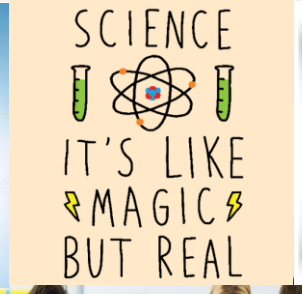
C. Supporting our Pupils

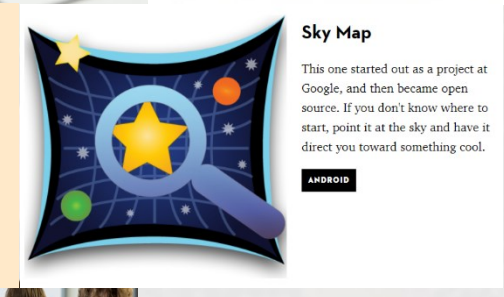
Repository for revision



Support if child is keen on investigative work

Actively engaging the mind





Daily happenings around us

- Weather patterns
- Fungi growing along roadside
- Technology/research

Interest building – Some apps online/mobile apps

Reading

Q&A

Q1	**Will there be E2K Science programme for P5? If yes, where could I obtain the schedules?**
A	The E2K P5 is starting next week (T1W5). The selected students had been invited to participate in the programme. The notice and schedule had been sent out by the teachers-in-charge.

Thank You