Primary 5
Science
Curriculum and Assessment Briefing

(Standard & Foundation)

17 January 2023

Content

A. Coverage of Topics and Concepts

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

C. Strategies to Support our Pupils

A. Themes and Topics

Syllabus Requirement		
Themes	*** Lower Block (Primary 3 and 4)**	****Upper Block (Primary 5 and 6)**
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)	• Cycles in plants and animals (Reproduction) • Cycles in matter and water (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	• Interaction of forces (Magnets)	• Interaction of forces (Frictional force, gravitational force, force in springs) • Interaction within the environment
Energy	• Energy forms and uses (Light and heat)	• Energy forms and uses (Photosynthesis) • Energy conversion

Topics which are underlined are not required for students taking Foundation Science.

Reference: https://www.moe.gov.sg/docs/default-source/document/education/syllabuses/sciences/files/science-primary-2014.pdf

A. Topics (Termly)

Term 1	Term 2	Term 3	Term 4
• Cells • Reproduction (Animals and Plants)	• Water and Changes of State • Water Cycle	• Plant Transport System • Respiratory System • Circulatory System	• Electrical Systems
• Reproduction (Animals and Plants) • Plant Transport System • Respiratory System	• Circulatory System • Water and Changes of State • Water Cycle	• Electrical Systems	Electrical Systems

A. 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.

Science Skills and Processes

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

2014 Science (Primary) Syllabus

For more details, visit the link : *https://moe.gov.sg/education/syllabuses/sciences*

Science

Syllabus

Primary

Implementation starting with

2014 Primary Three Cohort

Ministry of Education
SINGAPORE

Assessment

Purpose?

- Understanding of core concepts
- Readiness of child
- Close learning gap

How?

Weighted Assessments

WA1: Performance Task
Application of Skills

WA2: Pen and Paper
Booklet A: MCQ
Booklet B: Open-ended / & Structured Question*

End of Year Assessment

Pen and Paper
Booklet A: MCQ
Booklet B: Open-ended / & Structured Question*

Some Useful Words*

1		amphibian	39		magnet
2		attract	40		magnetic material
3		battery	41		mammal
4		blood	42		mass
5		boil	43		melting
6		breathe	44		metal
7		bulb	45		muscles
8		carbon dioxide	46		nitrogen
9		circulation	47		nymph
10		condense / condensation	48		oxygen
11		conductor	49		overcrowding
12		contract / contraction	50		photosynthesis
13		deforestation	51		poles
14		digestion	52		pollinate / pollination
15		earth	53		pollute / pollution
16		electricity / electrical circuit	54		predator
17		energy	55		prey
18		evaporate / evaporation	56		producer
19		expand / expansion	57		reflect
20		fertilise / fertilisation	58		repel
21		flexible	59		reproduce
22		float	60		reptile
23		food (chain)	61		seed (dispersal)
24		force	62		shadow
25		freeze	63		shape
26		friction	64		sink
27		fungi	65		skeleton
28		germinate / germination	66		space
29		global warming	67		spore
30		gravity	68		steam
31		gullet	69		steel
32		heart	70		stomach
33		heat	71		switch
34		insect	72		temperature
35		insulator	73		thermometer
36		intestine	74		volume
37		light	75		water (vapour)

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

B. Assessment

- 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	
ETC	ETC3ER (ETCCCER)
	CER

ETC Strategy in Answering Science Questions

Extract Information

Circle key information in diagrams / text

Topic Identification

Use key information in the diagrams or stem as clues to identify topic tested

Concept Identification

Identify concept within topic

ETC3ER Strategy

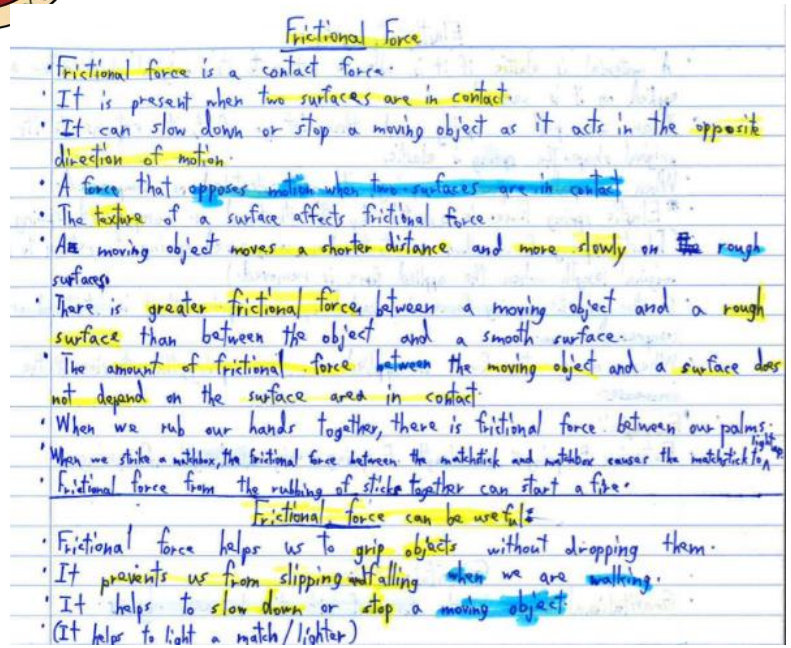
Extract	Topic	Concept	Compare	Claim	Evidence	Reason
Circle / highlight key information from text and diagrams	Use the key information to identify topic(s) related to question	Identify relevant concepts from the topic(s) identified	Check if answer requires a comparison. If yes, use comparatives (involve 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 practise the array of thinking skills (e.g. creative problem solving, decision making & investigation skills) that support scientific inquiry



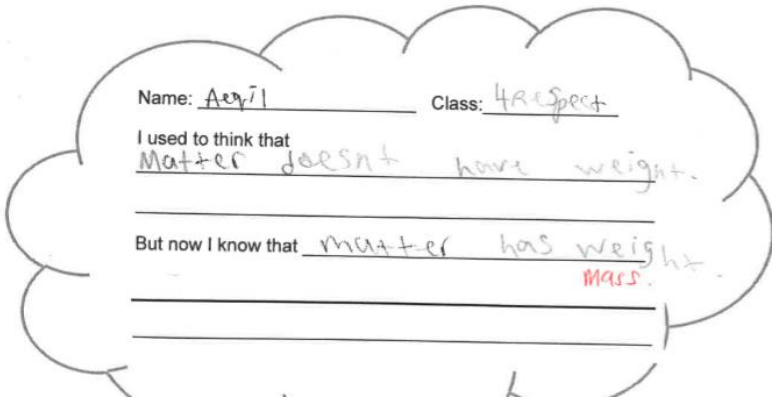
Frictional Force

- 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

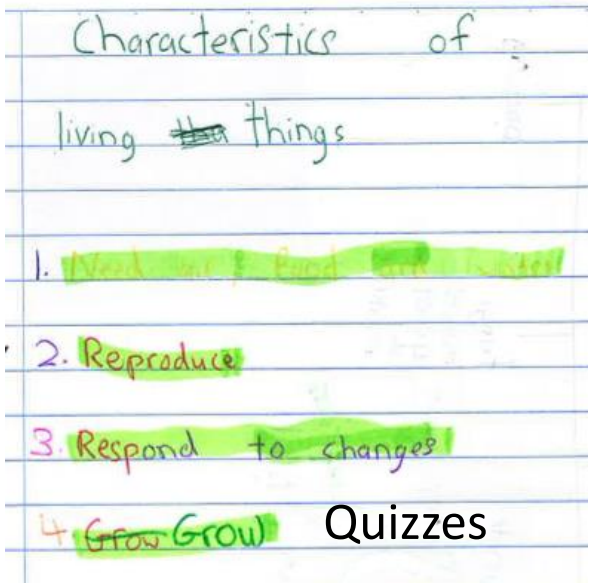


Name: Aeril Class: 4Respect

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

But now I know that matter has weight mass.

VTR



Characteristics of living things

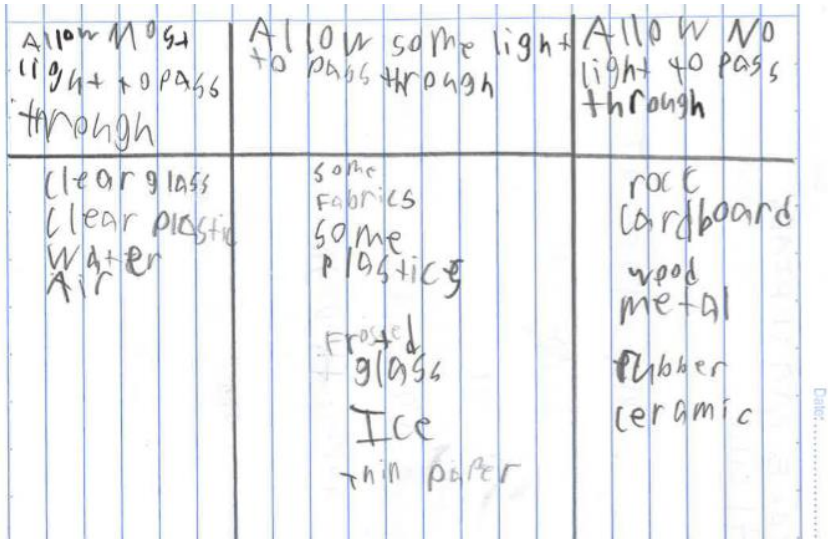
1. Need food & water
2. Reproduce
3. Respond to changes
4. ~~Grow~~ Grow

Quizzes

Our Class Chart

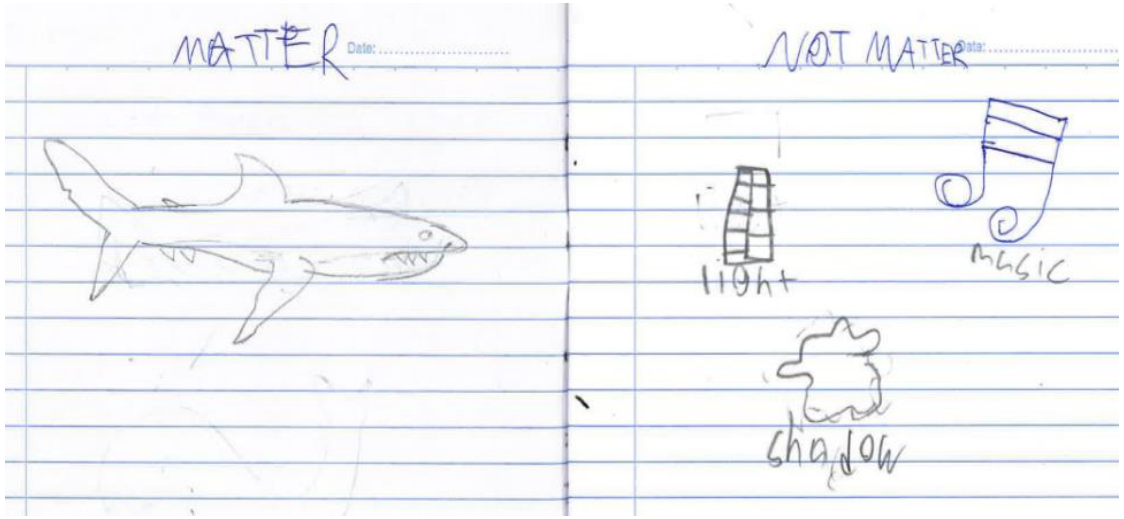
Matter	Not matter
pencil	music
fire extinguisher	thunder
blood	shadow
air	heat
table	light
boy	
water	
air freshener	
door	
shark	

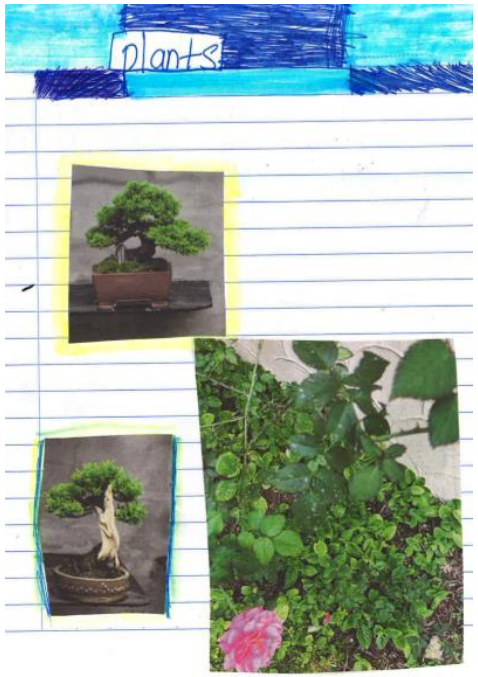
Consolidated post-lesson discussion print-out

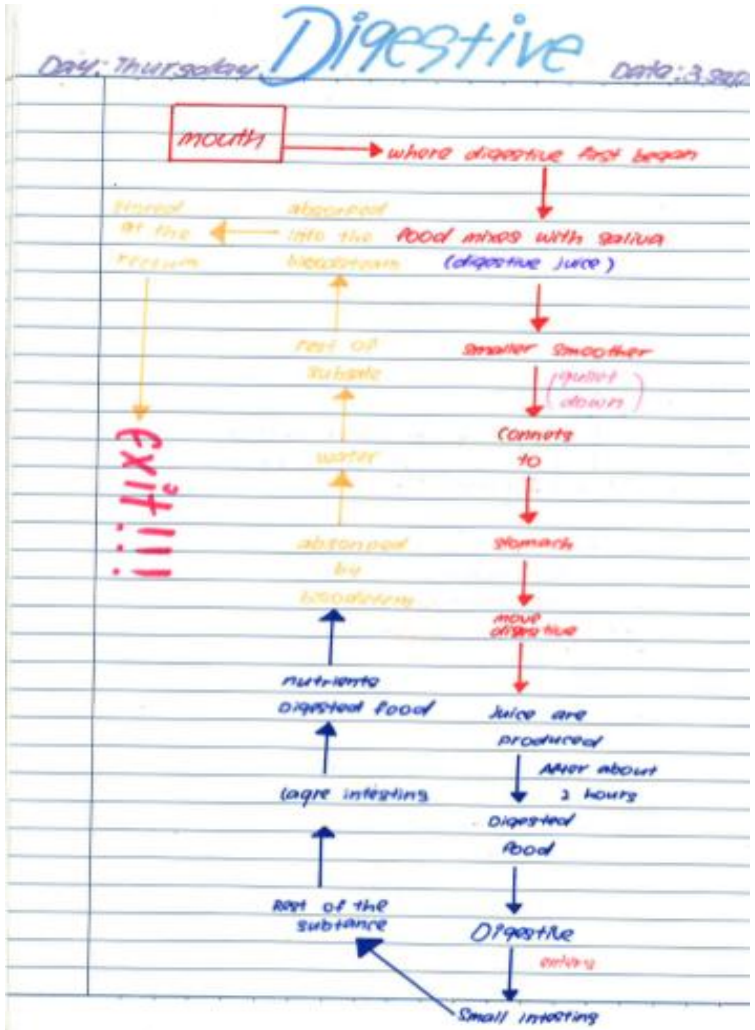


Allow most light to pass through	Allow some light to pass through	Allow No light to pass through
clear glass clear plastic Water Air	some Fabrics some plastics Frosted glass Ice thin paper	rock cardboard wood metal Rubber ceramic

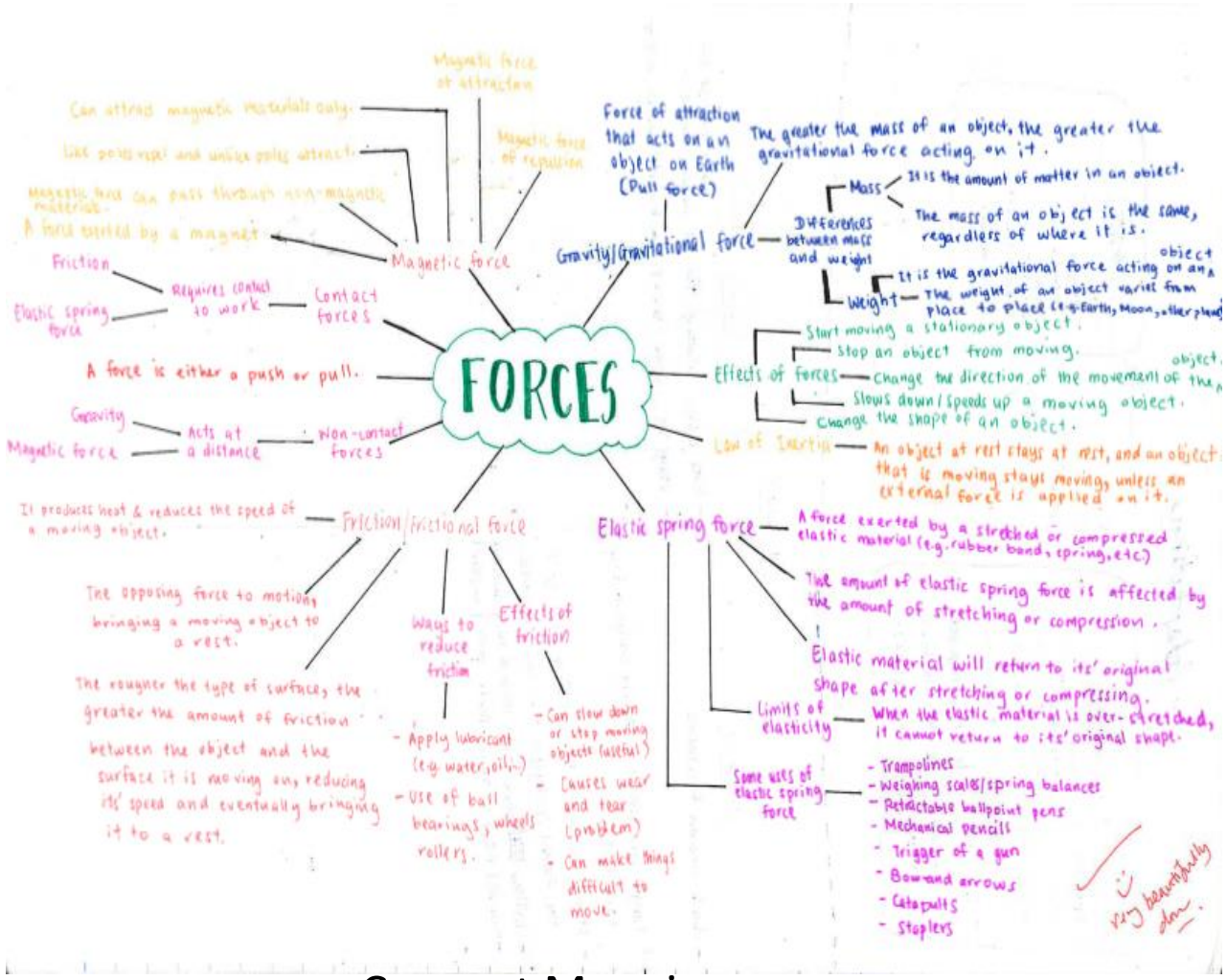
Classification table



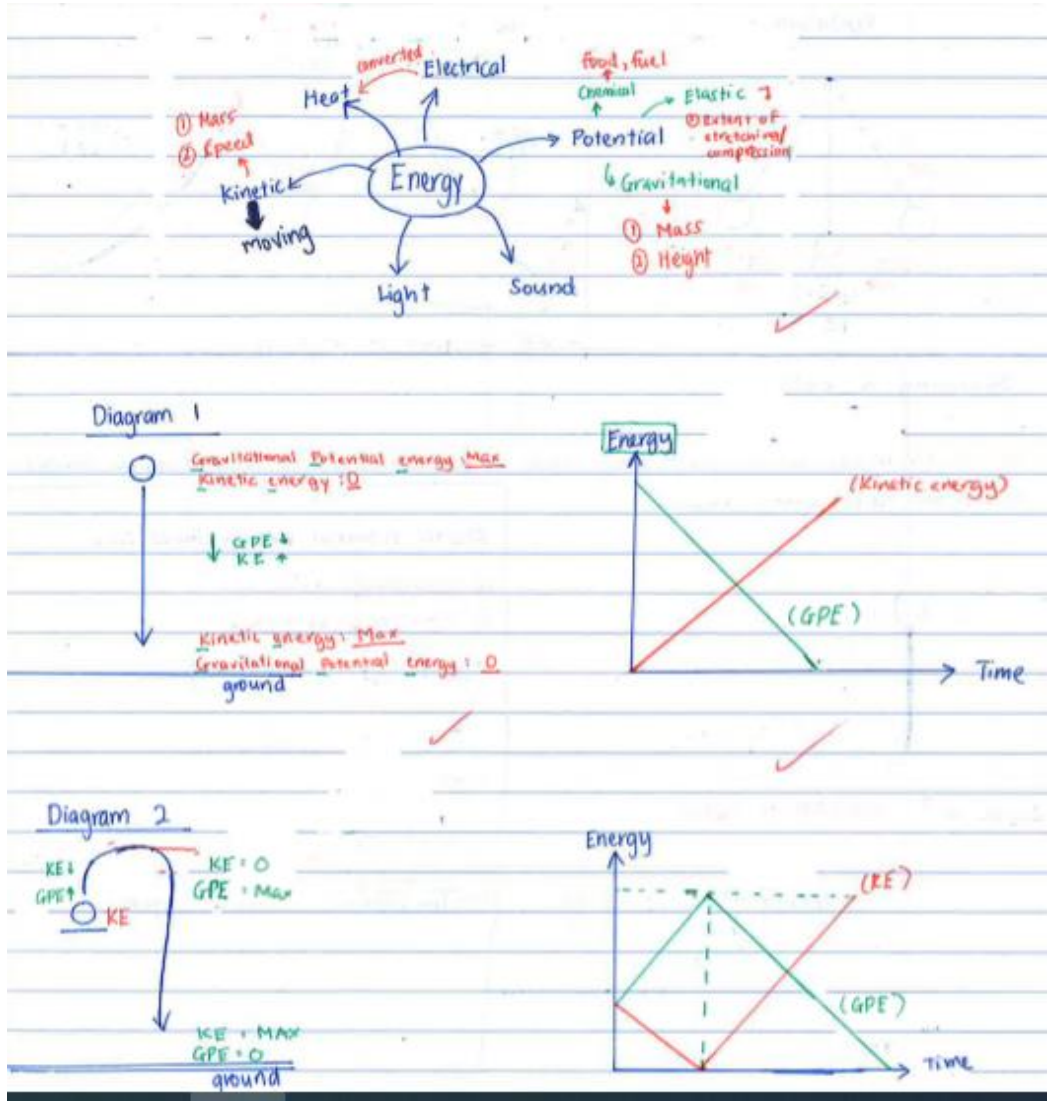




Students using different styles that they consolidate/validate their own learning



Concept Mapping

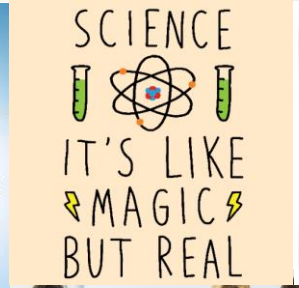


Graph/Diagram

C. Supporting our Pupils

Repository for revision

Support if child is keen on investigative work



Interest building – Some apps online/mobile apps

Daily happenings around us

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

Read up

Parents' Workshop

https://go.gov.sg/parentswkshop2023

Thank You