ANG MO KIO
PRIMARY SCHOOL

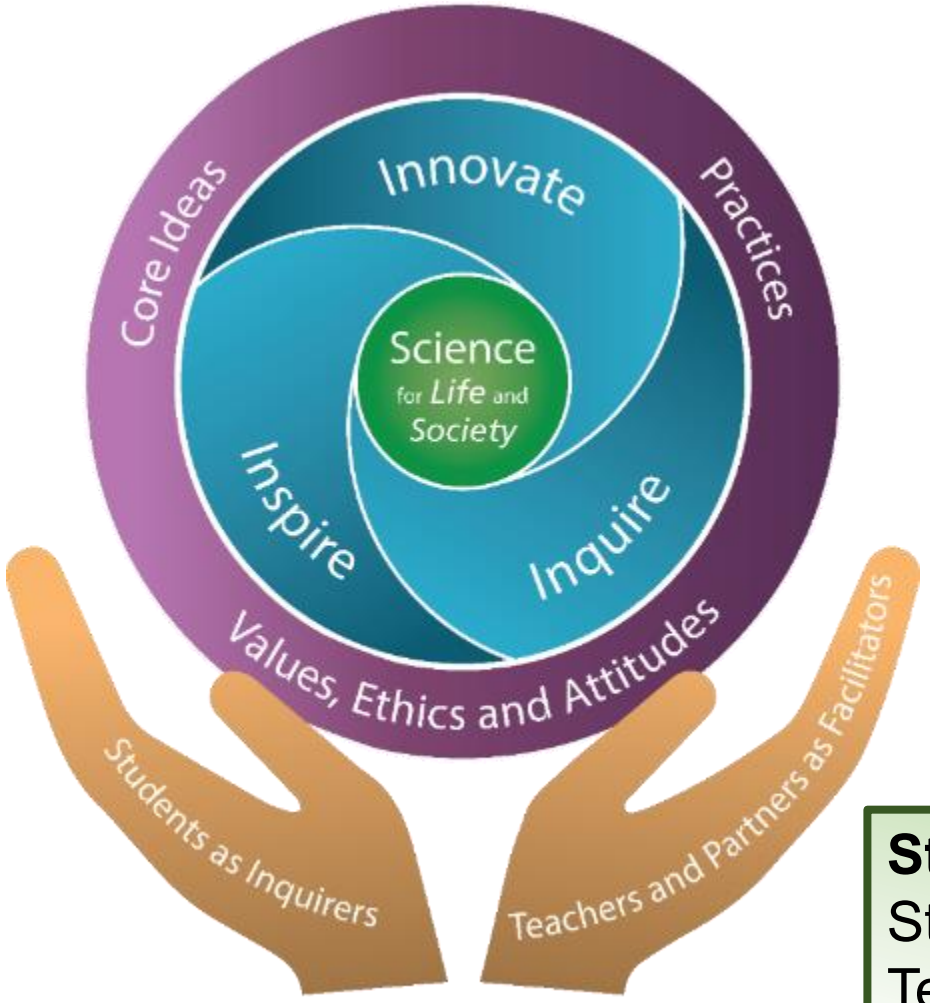
Science Curriculum Presentation
Parent Teacher Meeting
14 January 2026
Primary Four

ANG MO KIO
PRIMARY SCHOOL

Levels	Focus	Objective
Middle Primary (P3-4)	**Wonders** of Science	Enthuse children about science and sharpen their senses of science around us and in our everyday lives
Upper Primary (P5-6)	**Mastery** of Science	Live the science processes and endeavour to explain clearly and scientifically various phenomenon

Curriculum and Assessment

Science Curriculum Framework



Goals
Science for Life and Society

Vision - 3Ins
Inspire
Inquire
Innovate

Three Domains
Core Ideas
Practices
Values, Ethics and Attitudes

Stakeholders
Students as Inquirers
Teachers & Partners as Facilitators

Aims of Primary Science Syllabus

Provide students with experiences/ opportunities to:

- build on their interest and stimulate their curiosity about themselves and their environment
- acquire basic scientific concepts to help them understand themselves and the world around them
- develop skills, dispositions and attitudes for scientific inquiry
- apply scientific concepts and skills in making responsible decisions
- appreciate how science influences people and the environment

Syllabus Organisation

Diversity . Cycles . Systems . Interactions . Energy

P3	P4	P5	P6
4 topics	5 topics	5 topics	4 topics

- Core Ideas are organised as
  - 5 themes
  - 18 topics across P3 to P6 levels
- Levels of development provide greater support to learners to gradually develop and progress across levels

Syllabus Organisation

Levels	P3	P4	P5	P6
Themes	**Diversity . Cycles . Systems . Interactions . Energy**			
Topics	• Diversity of living and non-living things (General characteristics and classification) • Diversity of materials • Cycles in plants and animals (Life cycles) • Interaction of forces (Magnets)	• **Cycles in matter and water (Matter)** • **Human system (Digestive system)** • **Plant system (Plant parts and functions)** • **Energy forms and uses (Light)** • **Energy forms and uses (Heat)**	• Cycles in matter and water (Water) • Cycles in plants and animals (Reproduction) • Plant system (Respiratory and circulatory systems) • Human system (Respiratory and circulatory systems) • Electrical system	• Energy forms and uses (Photosynthesis) • Energy conversion • Interaction of forces (Frictional force, gravitational force, elastic spring force) • Interactions within the environment ***Underlined*** *topics: not in foundation science*

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P4

P4 Science

Term 1
Theme: Systems
1. **Your amazing body as a system**
2. **Plants and their parts**

Term 2
Theme: Cycles
1. **Matter**

Term 3
Theme: Energy
1. **Heat and temperature**

Term 4
Theme: Energy
1. **Light and shadows**

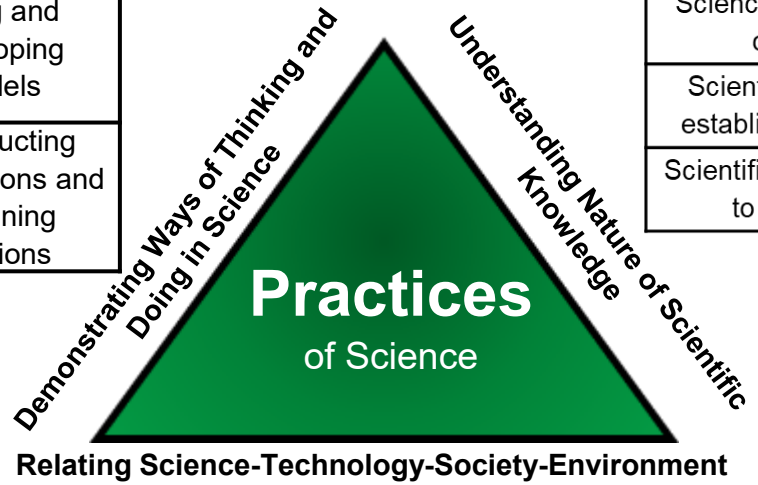
Syllabus Content (Practices)

Practices of Science

Set of established procedures and processes associated with scientific inquiry

How scientific knowledge is generated and established

Demonstrating WOTD (Science Process Skills)		
Investigating	**Evaluating and Reasoning**	**Developing Explanations and 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.

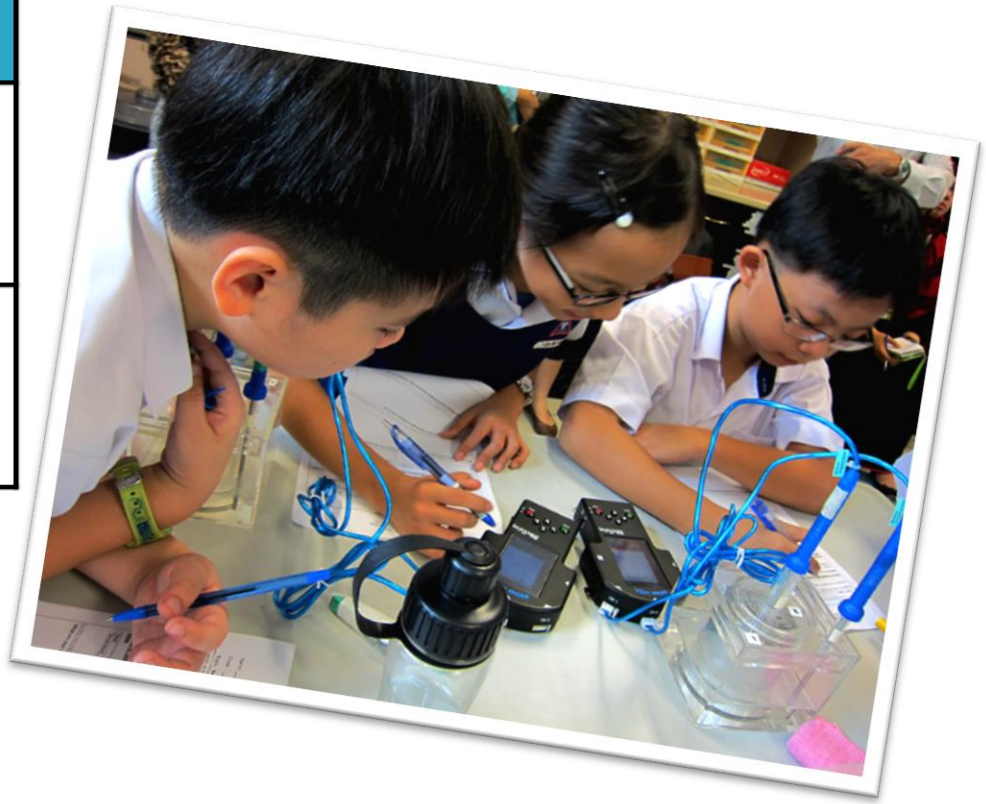
Application of Science in society

Syllabus Content (Practices)

Practices of Science

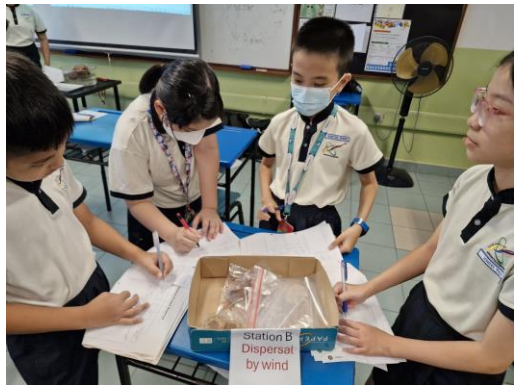
Ways of Thinking and Doing (WOTD) supports students in learning science as inquirers and involves various skills and processes.

Demonstrating WOTD (Science Process Skills)		
Investigating	**Evaluating and Reasoning**	**Developing Explanations and 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		



Ang Mo Kio Primary Science Process Skills "Syllabus"

Process Skills	P3	P4	P5	P6
•Observing	E	A	A	A
•Classifying	E	A	A	A
•Comparing	E	A	A	A
•Communicating • Written, pictorial	E	E		A
•Communicating • Graphical		E	E	A
•Generating possibilities • Suggest ideas with some details • Make predictions	E	E		A
•Draw conclusion from observations (inductive reasoning)	E	E		A
•Inferring			E	A
•Analysing •Variables that affect investigation (IV, DV, CV, fair test) • Parts of a systems, its functions and relationships • Patterns and trends		E	E	A
•Analysing • Relationships between variables			E	A
•Generating possibilities •Give reasonable explanations based on evidence **(CER)**	I	E	E	A
•Evaluating			E	A
Designing experiments	**P3**	**P4**	**P5**	**P6**
•Hypothesis •Aim •Drawing Conclusion	I	E	E	E
•Types of set-ups(Control set-up, Experimental Set-up) •Reliability, Accuracy, Validity			E	E



Learning of Science Process Skills

- **Spiral Approach**
- Gradually from Primary Three
- curricular lessons (classroom, laboratories, eco-garden),
- co-curricular lessons (eco-learning journeys, recess activities)

Legend
A: Application
E: Explicit Direct Instruction
I: Introduction of term

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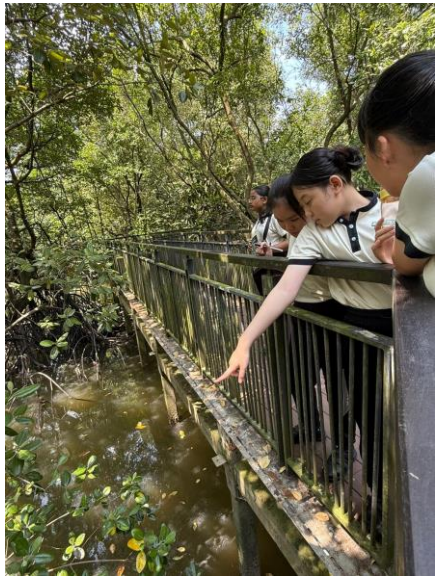
Ignite Curiosity
Nurture Scientific Thinkers

Aim	Approach
*…nurtures the joy of learning science by **sparking curiosity and critical thinking** through engaging lessons, hands-on experiments, and inquiry-based learning. We equip students for **21st-century challenges** with social-emotional skills, ICT skills, and skills for self-directed and collaborative learning…*	*…mix of **classroom learning and real-world activities** that help them **make sense of Science and understand applications to everyday life**, through visible inclusive, authentic learning experiences…*

Group work to apply problem solving skills

ICT tool to collect digital data to process and make sense

Learning sustainability practices on food scarcity through hydroponics project



Eco-Learning Journey to Sungei Buloh Wetland Reserve for authentic learning experiences

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Ignite Curiosity
Nurture Scientific Thinkers

A company uses certain materials to make diapers for babies. In colder countries, diapers are also specially made to keep babies dry and warm.

happy baby

diaper

Describe the materials the diapers must be made so babies are dry and warm.

Use. CER

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Ignite Curiosity
Nurture Scientific Thinkers

Answering Structured Questions

Thinking Routine: *CER (eg diapers context)*

Describe the materials the diapers must be made so babies are dry and warm.

C	***Claim***	A statement of a student's understanding about a phenomenon or about the results of an investigation - **Diapers keep babies dry and warm**
E	***Evidence***	Understand context and derive relevant scientific data **(science literacy)** to support the claim - **Absorbancy of material (P3 Sci – Materials)** - **Heat conductivity of material (P4 Sci – Heat and Temperature)**
R	***Reasoning***	**Link** claim and evidence → **scientific literacy** - **The material must absorb babies' urine (water) so no / little urine touches the baby [1m]. The material must be a poor conductor of heat, to reduce the heat flow from warmer baby to colder surroundings [1m].** Diapers made with such materials can keep baby dry and warm

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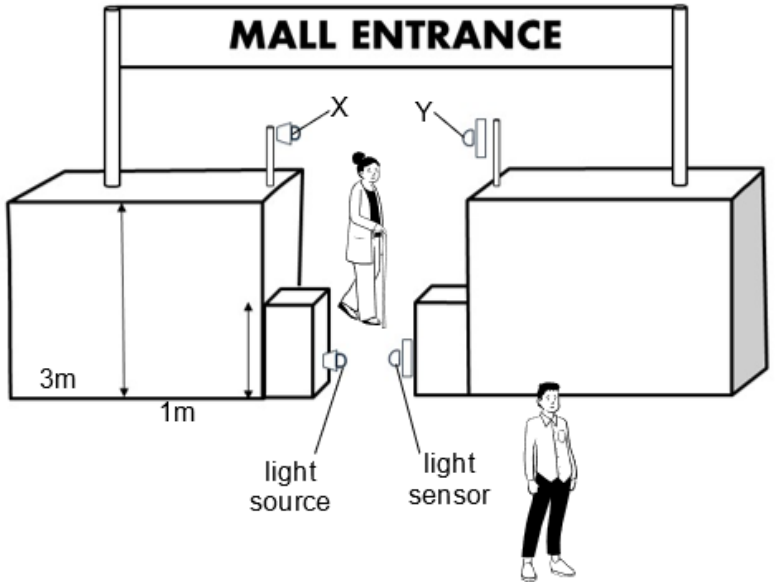
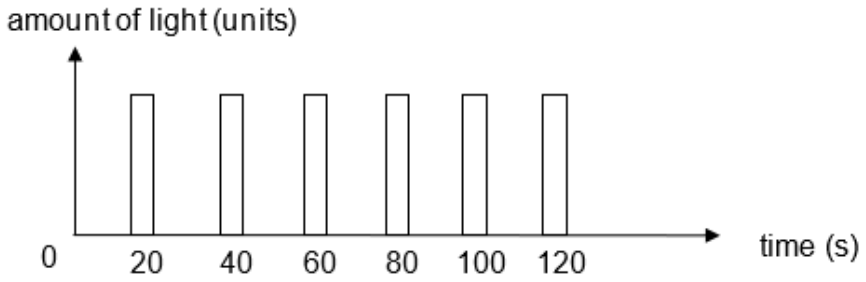
Context (Scenario)

The diagram shows a light sensor which is used to count the number of people entering a shopping mall.

The space between the light source and light sensor allows one person to enter the mall each time. When one person enters the mall, the light source is blocked. If no one enters the mall, the light source is not blocked.

The readings of the light sensor are recorded in the graph (right).





Question

If the light source and the light sensor are moved to Part X and Part Y, the light sensor will not be able to accurately measure the number of people entering the mall. Why?

Use. CER

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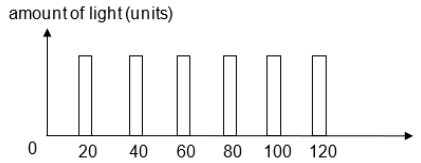
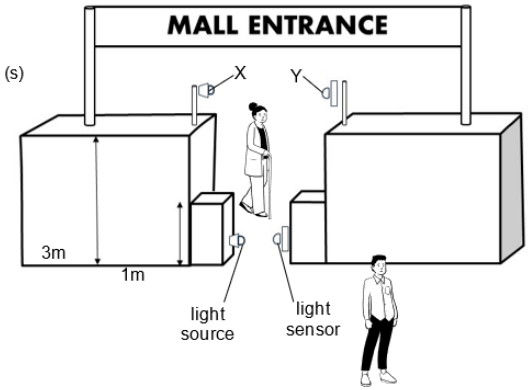
Answering Structured Questions

Thinking Routine: ***CER (eg mall context)***





Explain why the light sensor will not be able to accurately measure the number of people entering the mall, if the light source and the light sensor are moved to Part X and Part Y,

C	***Claim***	A statement of a student's understanding about a phenomenon or about the results of an investigation **- Light sensor does not accurately measure when light source and light sensor are moved**
E	***Evidence***	Understand context and derive relevant scientific data **(science literacy)** to support the claim - **Interpret data and handle information given in context** - **Light travels in straight lines, Light sensor does not detect when people is between source and sensor (P4 – Light and Shadows)**
R	***Reasoning***	**Link** claim and evidence → **scientific literacy** **Part X and Part Y are too high / no person is 3m tall [1m]. The light source will not be able to be blocked [1m] by the person entering the mall.**

Assessments

OBJECTIVES

The objectives describe the **skills and abilities** which candidates are expected to demonstrate.

For Primary Four, difficulty level is adjusted through age-appropriate language, relatable contexts (scenarios) and process skills level attained at end of the year.

I. Knowledge with Understanding

Candidates should be able to demonstrate knowledge and understanding of scientific facts, concepts and principles.

II. Application of Knowledge and Scientific Inquiry

Candidates should be able to (in words, or by using diagrams, tables and graphs):

(a) apply scientific facts, concepts and principles (science literacy – content and concepts)

(b) apply scientific inquiry which includes (scientific literacy – process skills)

- making predictions and formulating hypotheses
- interpreting and analysing information
- evaluating observations, information and methods
- communicating explanations with reasoning.

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Assessment
School Based – Primary Four

Spaced throughout the year, beginning with small weighted assessments and culminating with the end of year examination (EYE).

Subject – Based Banding:
Results for the whole year will be considered in the school's recommendation for your child' subject combination in P5. (e.g: Standard Science or Foundation Science).

	Term 1	Term 2	Term 3	Term 4
Name	Weighted Assessment 1 (WA1) [15%]	Weighted Assessment 2 (WA2) [15%]	Weighted Assessment 3 (WA3) [15%]	End of Year Examination (EYE) [55%]
Format	MCQ, SQ 20 marks 40 minutes	MCQ, SQ 25 marks 40 minutes	MCQ, SQ 25 marks 40 minutes	100 marks, 1 hour 30 minutes
Topics	Systems: You Amazing Body Plants and their Parts	Human and Plant Systems Matter	Matter Heat and Temperature	P4 (all topics) P3 (all topics)

Supporting Students with Diverse Learning Needs

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Segmenting Students for Targeted Support

Different students receive customised support and learning strategies to fulfil their learning potential

- address different learning needs
- support students with higher needs
- Stretching students with aptitude and interest

	RISE / Foundation Classes (support children with higher needs)	**Stretch Classes (deeper concepts and skills)**
Middle Primary	**RISE**	P4 Science E2K*
Upper Primary	**RISE and Foundation**	P5 Science E2K* P5 Science Olympiad P5 IvP (Innovation Program)* *HQ-supported programmes

making connections through graphic organisers

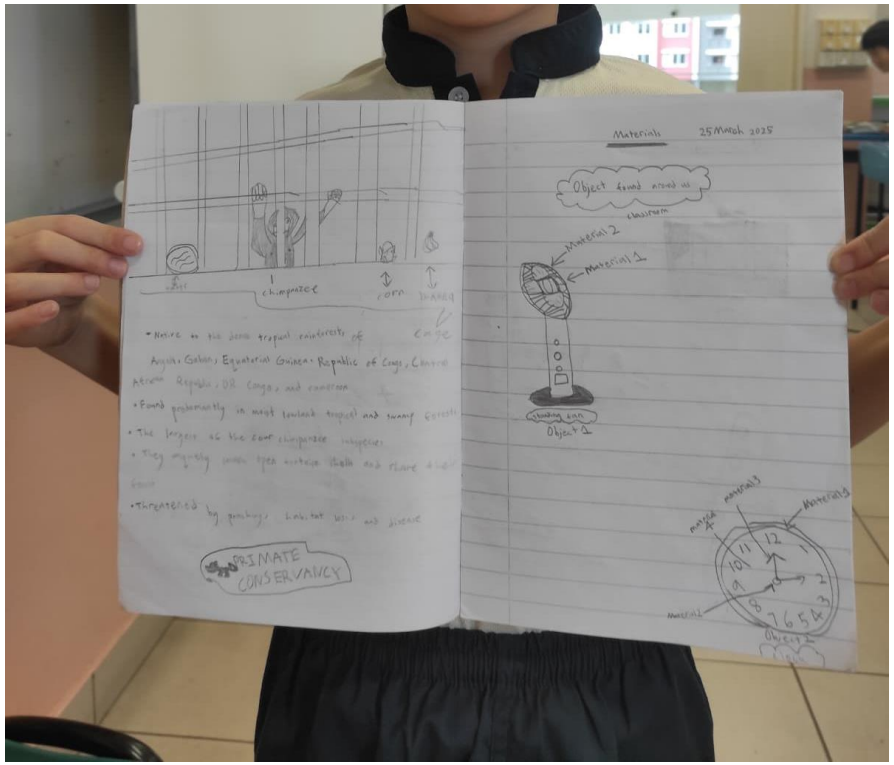
making sense of experiment design through teaching aids

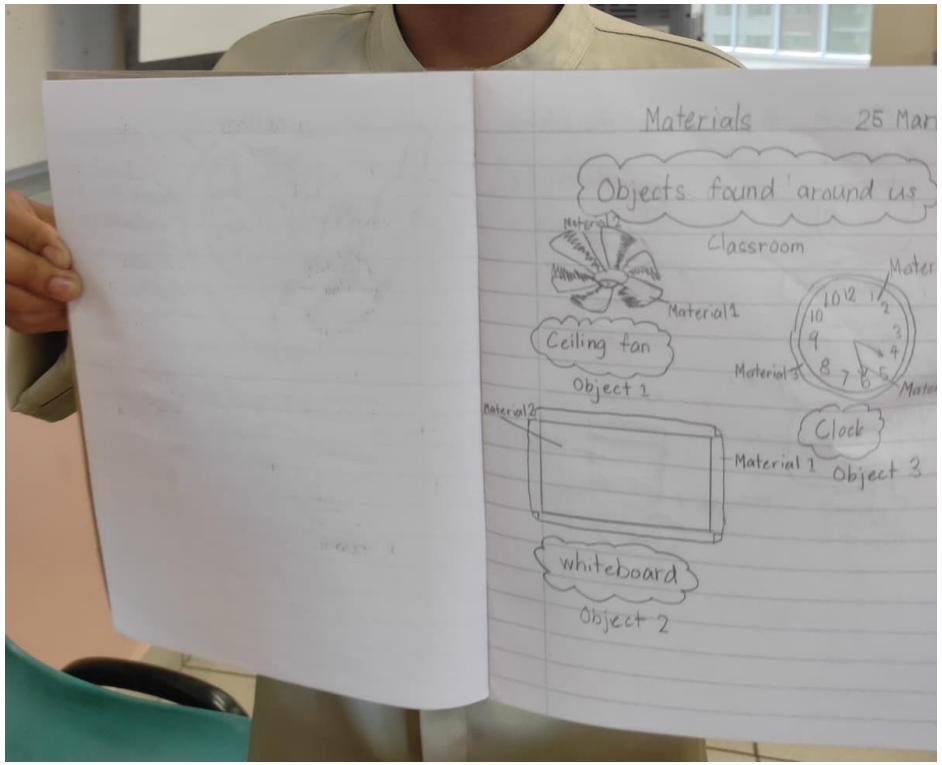
understanding new concepts (beyond primary syllabus) through exploration and discovery

Notebooking

Students document observations, experiments and reflections in journals, developing critical thinking and scientific communication skills.

It's an interim step to develop language confidence (spoken and written) gradually in our children from Primary Three





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Hands-On Purposeful Play

Students explore through using various teaching aids customised to support their learning styles

Partnership with Stakeholders

Routine teaching and learning – as steady support

Role of parents:

1. Being open to questions – ask children, “what did you learn about science today?”
2. Discuss concept(s) / key ideas
3. Monitor homework (eg handbook book, class dojo / comms channel)
4. Plan and structure revision early – starts from Pri 3 content (to prepare for P4 EYE)

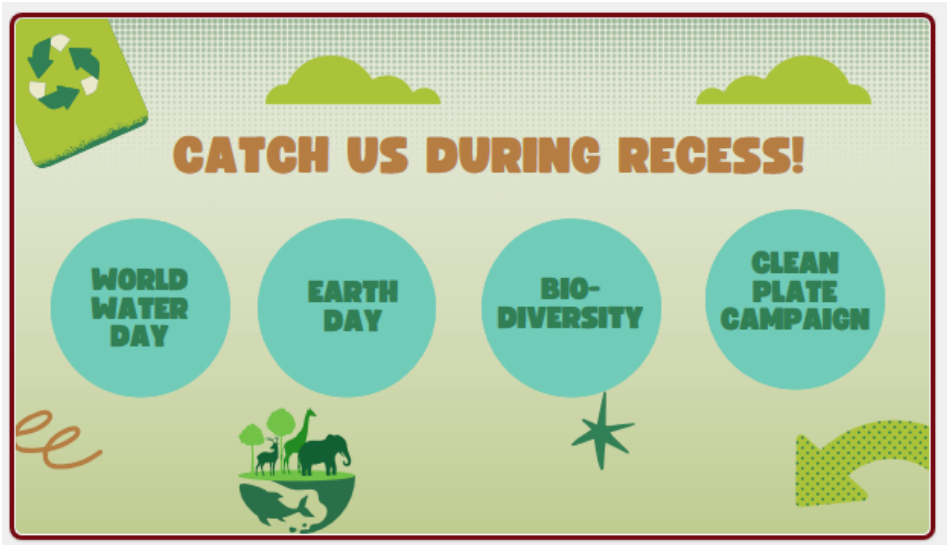
Eco-Learning Journeys – as Parent Volunteers

Children learning through observation and comparison about properties of materials to make an enclosure during a visit to a animal habitat at the Singapore Zoo

Children learning through touch about animals' outer covering during a workshop at the Singapore Zoo

Science Carnival – as Station Masters

Green Education Advocacy – as Station ICs



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THANK YOU

Annex