Curriculum Briefing
Primary 3 Science
7 Jan 2025

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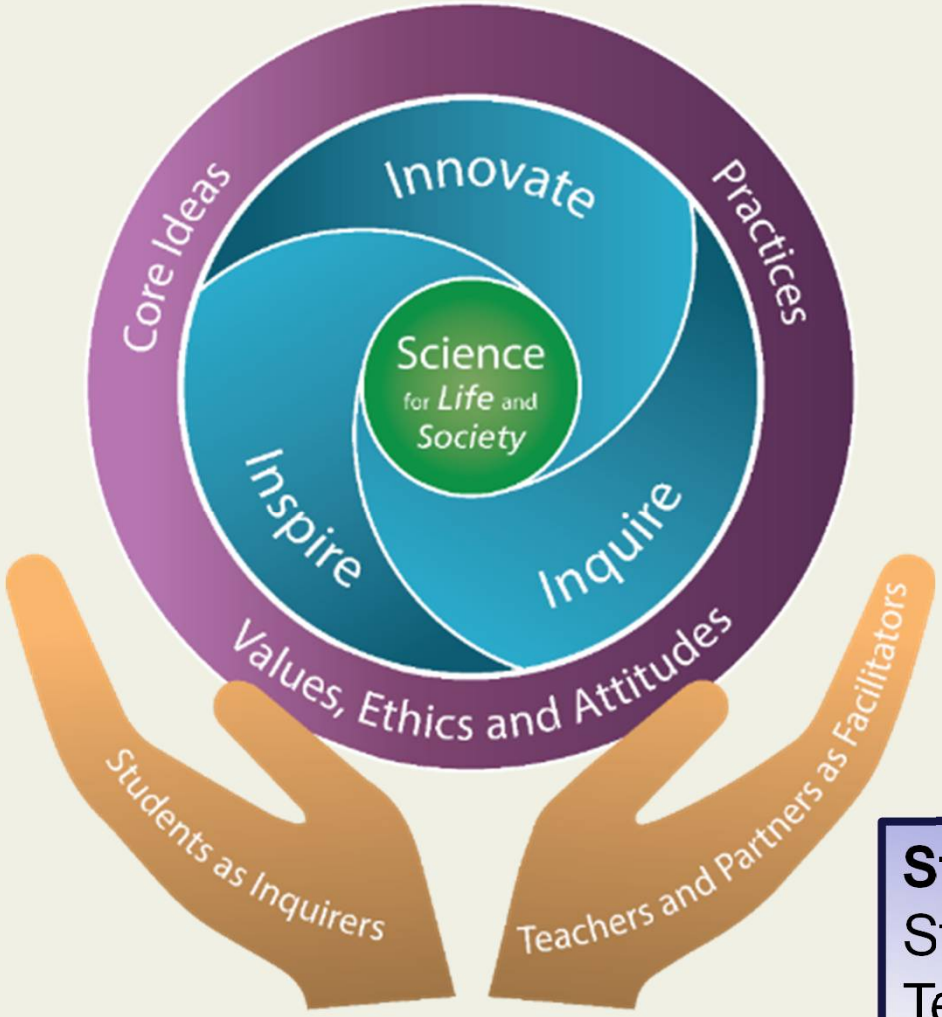
HOD, Science

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

21st Century Competencies Framework

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Primary Science Syllabus

It aims to :

- build on their interest in and stimulate their curiosity about their themselves and their environment

- provide students with basic scientific terms and concepts to help them understand themselves and the world around them

- provide students with opportunities to develop skills, dispositions and attitude and attitudes for scientific inquiry

- prepare students towards using scientific knowledge and methods in making responsible decisions

- help students appreciate how science influences people and the environment

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P3 Science

Science as an Inquiry

1. **Question** - Learner engages in scientific questions

2. **Evidence** - Learner collects data in response to questions

3. **Explanation** - Learner formulates explanations from evidence

4. **Connection** - Learner connects explanations to scientific knowledge

5. **Communication** - Learner communicates and justifies explanations

P3 Science

What is central to science inquiry?

Helping students use evidence to create explanations for natural phenomena.

P3 Science

SCIENTIFIC ARGUMENTATION

How do you know that?
(Data in graphical,
tabular or pictorial form)

CLAIM + EVIDENCE + REASONING = EXPLANATION

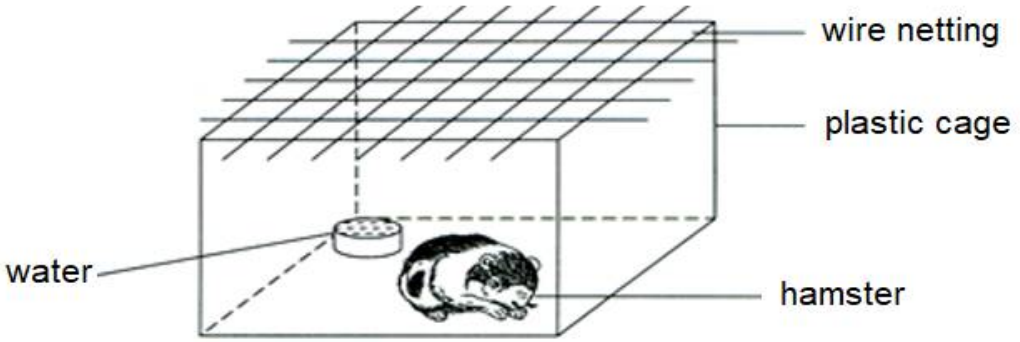
What do you know?
(The answer to the question)

Why does your evidence support your claim?

(Connects evidence to claim which involves the use of a scientific concept to describe why the evidence support the claim)

P3 Science (feature in topical worksheet)

Sally put a hamster that was alive in a plastic cage containing a bowl of water. Next, she put a wire netting across the cage as shown below.



After one week, Sally observed that the hamster had died.

Based on the information above, answer the following questions:

(a) Explain why the hamster died.

Thought box:

When crafting your answer, remember to use the CER approach.

Checklist:

- ❑ **CLAIM:** Your answer to the question.
- ❑ **EVIDENCE:** Scientific data/information (e.e. table, graphical, pictorial, text provided in the question) that supports the claim.
- ❑ **REASONING:** Explanation(s) using scientific concepts that supports the evidence.

There are 5 characteristics of a living thing.
Which of the characteristic is this question focused on?

Living things need _____, _____ and _____ to stay alive.

Make use of **Claim** for the reason for the death of the hamster.
What do you see from the diagram?
What **Evidence** supports your claim?

The thought box after each part question is meant for the pupils to make their thinking visible by organising and sequence random thoughts that the pupils pen down before they craft their responses as well as guiding the pupils to use CER to frame sound scientific explanations.

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

P3 Science

Attitude Coverage
1) Curiosity
2) Creativity
3) Integrity
4) Objectivity
5) Open-mindedness
6) Perseverance
7) Responsibility

P3 Science

Skills and Processes at P3 Level

- Observing
- Comparing
- Classifying
- Using apparatus and equipment
- Inferring
- Predicting
- Analysing
- Evaluating
- Generating possibilities
- Communicating

P3 Science

Skills and Processes
Processes • **Creative Problem Solving** • **Decision Making** • **Investigation** ***At the level appropriate to P3**

SKILL : *OBSERVING*

- **Using the 5 senses (sight, hearing, touch, smell, taste) to find out about objects and events: their characteristics, properties, differences, similarities, and changes.**

- **Using instruments to *extend the range of the senses and accuracy of the observation* (*eg. the use of magnifying glass, magnets)***

- **Identifying observations that are relevant to a particular investigation**

SKILL :*COMPARING*

•**Identifying factors/criteria for the purpose of comparison, eg, when comparing a bus and a car, the factors could be function, capacity or cost.**

•**Identifying the similarities and differences**

Similarities : recognise any commonality that exists between seemingly different object, events or outcome

Differences : finding subtle differences between otherwise similar object, events or outcome

•**Draw a conclusion about the significance of similarities or differences**

SKILL : *CLASSIFYING*

•Grouping or ordering objects or events according to similarities or differences in properties :

- Grouping a set of objects into two groups based on any one common property

- Grouping a set of objects into two or more groups according to one or more common property

- Identifying the basis of classification

- Identifying a common pattern in events or a behaviour pattern in organisms

- Generating criteria for grouping

- Use simple classification schemes: (Lists, tables, or charts are generated)

P3 Science

Components of Lessons

1) Theory – Concept teaching

2) Hands-on : Practical Sessions in the Science Laboratory

3) Topical notes

4) Topical Supplementary Worksheets :

   Worksheet 1 : Misconception
   Worksheet 2 : MCQ
   Worksheet 3 : Open-ended

5) Learning Log: Topical reflections by pupil for each unit; concept-map (last reflection)

6) Learning Log: Pupil's self-evaluation of their own learning(checklist)

7) Topical Review (at the end of each unit)

P3 Science

Written Assignments

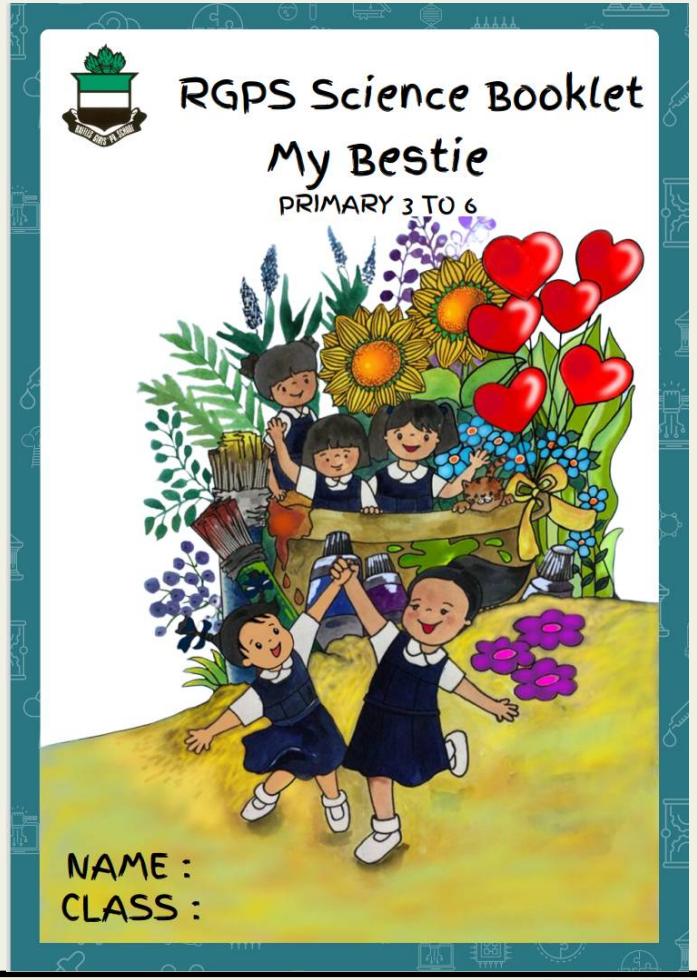
1) Inspiring Science Activity Worksheets
2) Topical unit Supplementary Worksheets
3) Topical Reflections (on Learning Log)

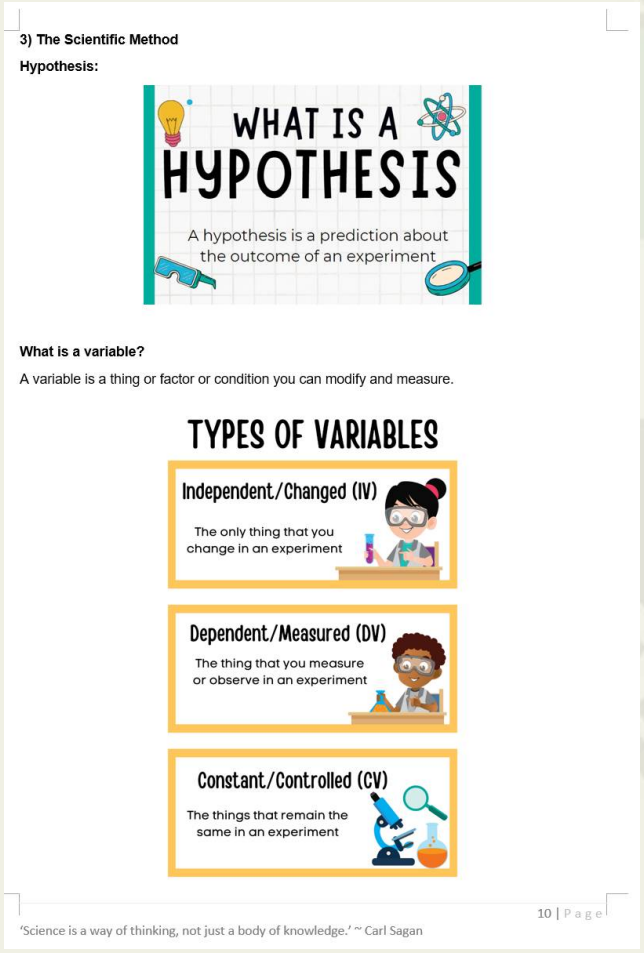
NOTE : Worksheets and activity books will be returned for parents' checking and signature upon completion of each topic.

Worksheets are to be filed in the Science File

P3 Science

RGPS Student Science Resource Book





P3 Science

Programme

- **Zoo-Mazing (Term 2)**
  [Science & Maths interdisciplinary learning journey to the Zoo)

- **Veridis Programme**

- **STEM**

P3 Science

Enrichment

Science Supplementary Reading Material (Optional):

The Young Scientists (Level 2)

Online Subscription via:

https://youngscientistsreader.com.sg/product-category/subscriptions/

ASSESSMENT MODES

- **FORMATIVE ASSESSMENT**
- **SUMMATIVE ASSESSMENT**

ASSESSMENT MODES : FORMATIVE ASSESSMENT

Purpose:

- ❖Provides pupils continual feedback during the instructional and learning process to help pupils actively manage and adjust their own learning.
- ❖Non-graded.
- ❖Helps the pupils to answer these questions:
  - *"Where am I going?"*
  - *"Where am I now?*
  - *"How can I close the gap?"*

Through:

- ✓Teacher/ Self and peer assessment on identified performance tasks using rubric indicators
- ✓Teacher's feedback on identified qualities of pupil's learning on topical unit content page
- ✓ Pupils' self evaluation of own learning for each topic
- ✓Pupils' reflection of own learning for each topic

Feedback From the Science Teacher:

ASSIGNMENT	Needs improvement	Sometimes	Most of the time
▪ **Completed** assignments and **submitted on time.**			
▪ **Took initiative** to **clarify doubts by asking questions** in class.			
▪ Able to provide scientific explanation by making an **accurate and complete claim** which is **supported with appropriate and sufficient evidence; provides accurate and complete reasoning** that **links evidence to claim** which includes **appropriate and sufficient scientific concepts/principles**			
▪ Made concerted effort to **do timely corrections.**			
▪ **Updated** the content page			
▪ **Organised** the **complete** set of unit worksheets for filing.			

Feedback on the pupil's performance.

After the completion of the topic:

Parent's Signature: _____ **Date :** _____

TIME FOR REFLECTION!

Before the start of unit lesson

- What do I already know about the diversity of living and non-living things?
- What are the questions that I have about the diversity of living and non-living things?

Assigned as homework before the introduction of the unit

For Self-Evaluation (by pupil) – After the topic

How well have I understood the science ideas/concepts? Put a (✓) in the box.

1 - Science ideas I understood the **least** 4 - Science ideas I understood the **most**

	Science Ideas/ concepts	1 (least)	2	3	4 (most)
1	I know the difference between living things and non-living things.				
2	I am able to classify living things into groups.				
3	I am able to classify non-living things into groups.				
4	I am able to list the major groups of living thing.				
5	I am able to **apply** 'CER' technique to craft my scientific explanation [CER: C – Claim, E – Evidence, R – Reasoning]				

Provide opportunity for the pupil to take charge of her own learning.

Post-lesson REFLECTIONS

- What are the scientific concept(s) I have learnt about the diversity of living and non-living things?
- How can the scientific concept(s) that I have learnt about the diversity of living and non-living things that can be applied in daily life? Explain in detail.
- What is/are the previous wrong science concept(s) that I had which had been corrected?

Assigned as homework upon the completion of the unit : concept mapping

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Rubrics related to the activity

Raffles Girls Primary School
Science
Rubics : **Classifying Objects or Processes**

Name : _____ Class:

Topic : _____ Date : _____

Assessment *
*(*put a tick if criteria is observed)*

	Performance Criteria	Self	Teacher
1	I **classify** the organisms **based on the characteristics** that can be **observed directly.**		
2	The **chosen characteristics** are **important** and **clearly tell the difference** among the organisms being classified.		
3.	The classification system is **clear** and **logical.**		
4	The characteristic of the chosen organisms **starts with the most general** (inclusive) and **proceed to the most specific** (discrete)		
5.	The language chosen to describe the characteristics is **scientifically accurate, descriptive and useful.**		

Assessment Modes :Summative

Type	Weighted Assessment 1 (WA 1) Term 2	Weighted Assessment 2 (WA2) (Science Practical Test) Term 3	End of Year Exam (EYE) Term 4
Format	Structured Questions 3 Questions on • Living & Non-Living Thing • Diversity of Plants • Diversity of Animals	Science Practical Test 3 Questions on • Life Science • Physical Science	Section A (MCQ): 25 Questions Section B (OE) 11 Questions
Duration	30 mins	30 mins	1h 30 mins
Overall Weightage	15 %	15 %	70 %

P3 Science Teachers:

3A - Mdm Aishah Aris
3B - Ms Tan Mei Fang
3C - Ms Teng Mui Noi
3D - Ms Thivya Gopalkrishnan(Mr Teng Seng Eng –Sem1)
3E - Ms Tan Mei Fang
3F - Mdm Aishah Aris
3G - Ms Thivya Gopalkrishnan(Mr Teng Seng Eng –Sem1)

Thank You