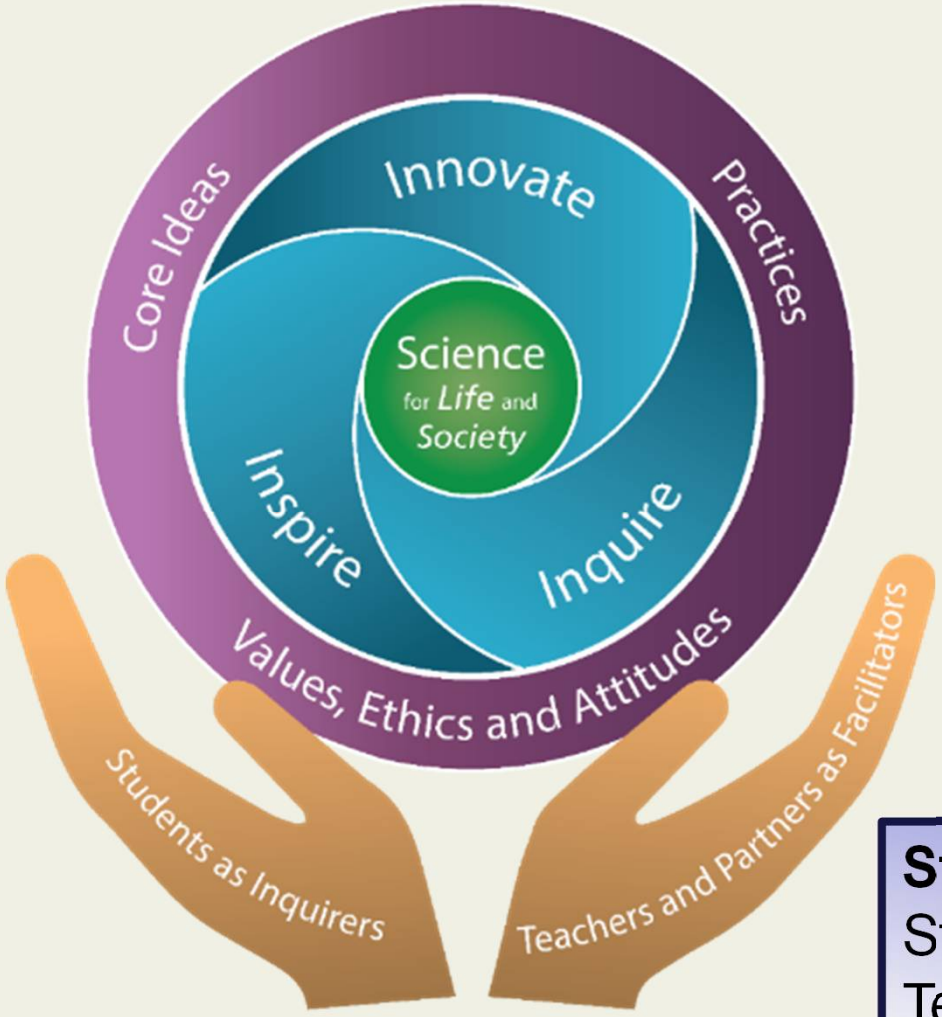
Curriculum Briefing
Primary 3 Science
9 Jan 2023

By HOD, Ms Loo Ching Yee

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

.

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

.

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

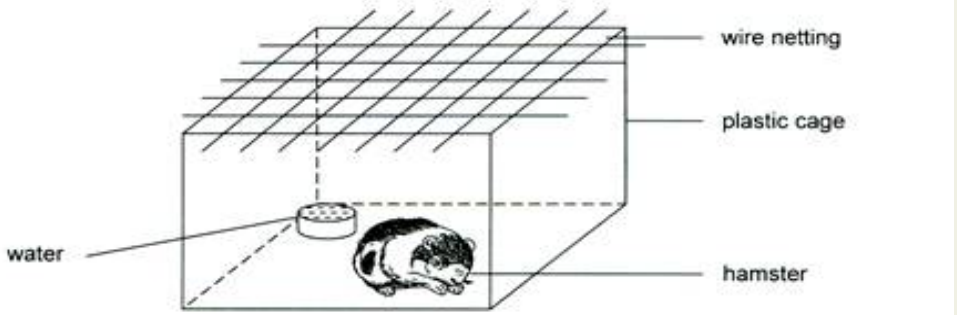
What do you know?
(The answer to the question)

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



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

Based on the information above, answer the following questions:

(a) Give a reason for the death of the hamster.

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

Checklist:
- ❑ CLAIM: Your answer to the question
- ❑ EVIDENCE: Scientific data/information (eg. 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 :
5) Worksheet 1 : Misconception
   Worksheet 2 : MCQ
   Worksheet 3 : Open-ended
6) Learning Log: Topical reflections by pupil for each unit; concept-map (last reflection)
7) Learning Log: Pupil's self-evaluation of their own learning(checklist)

P3 Science

Written Assignments

1) Science Activity book (Inspiring Science)
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

Enrichment

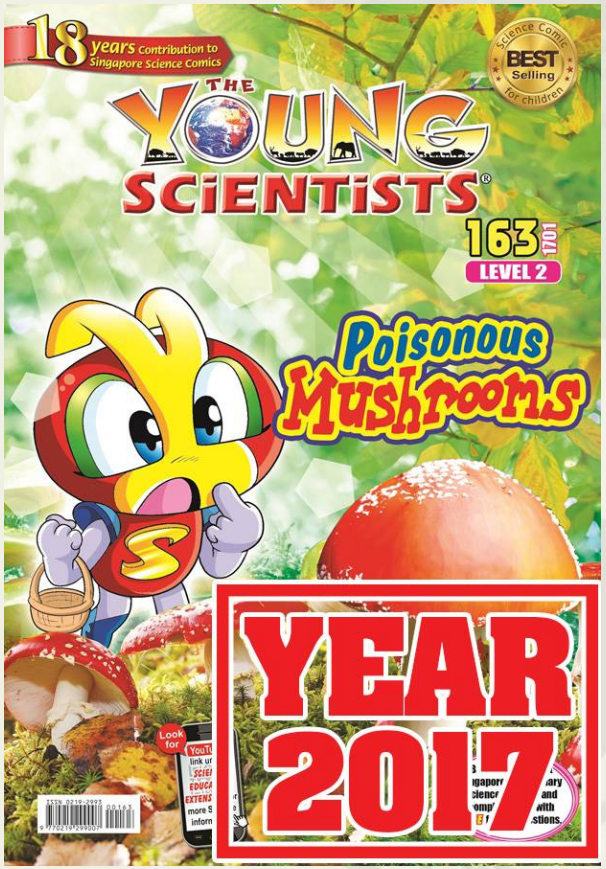
- **Learning Journey @ Science Centre Singapore (Term 1)**
  -Insect Mysteries

P3 Science

Enrichment

Science Supplementary Reading Material (Optional):

The Young Scientists (Level 2)



Online Subscription via:

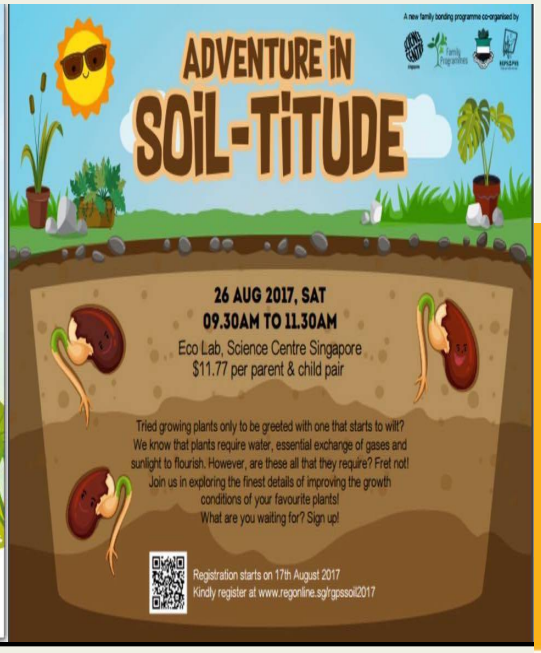
https://youngscientistsreader.com.sg/product-category/subscriptions/

P3 Science

RGPS Family Science Programme

- **RGPS Family Science Club**

  https://www.facebook.com/**rgpsfamilysciencecl ub/**



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

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.			
▪ 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.

For Self-Evaluation (By pupil)

How well have I understood the science ideas/concepts?

1- Science ideas I understood the least

4 - Science ideas I understood the most

Put a (✓) in the box.

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

	Science Ideas/ concepts	1	2	3	4
1	I am able to identify the organ systems and state their functions in human (digestive, respiratory, circulatory, skeletal and muscular).				
2	I am able to identify the organs in the human digestive system (mouth, gullet, stomach, small intestine and large intestine).				
3	I am able describe the functions of the main organs in the human digestive system.				

TIME FOR REFLECTION!

When you reflect, spend time and think deep to make sense of
What you have learnt,
Why you learnt,
How you learnt,
How you apply the knowledge and skills learnt in real life.

My reflection on learning: *Before the start of unit lesson*
-What do I already know about this topic?
-What do I want to find out?
-What are the questions that I have for this unit?

Assigned as homework before the introduction of the unit

My reflection on learning: After the unit lesson
- What are the scientific concept(s) that I have learnt in this topic?
- How can the scientific concepts that I have learnt in this topic be applied in daily life? Explain in detail.
- What is/are the previous wrong science concepts(s) that I had which have been corrected?

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

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

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 (WA 2) Term 3	End of Year Exam (EYE) Term 4
Format	Structured Questions	Science Practical Test 3 Questions on • Life Science • Physical Science	Section A (MCQ): 24 Questions Section B (OE) 13 Questions
Duration	40 mins	30 mins	1h 30 mins
Overall Weightage	15 %	15 %	70 %

Science Teachers:

3A – Ms Loo Ching Yee
3B – Ms Shaheena Kandoth
3C – Mr Ronald Lee
3D – Mr Yeo Siah Ong
3E – Ms Santha Selva Raju
3F – Loo Ching Yee
3G – Ms Santha Selva Raju

Thank You