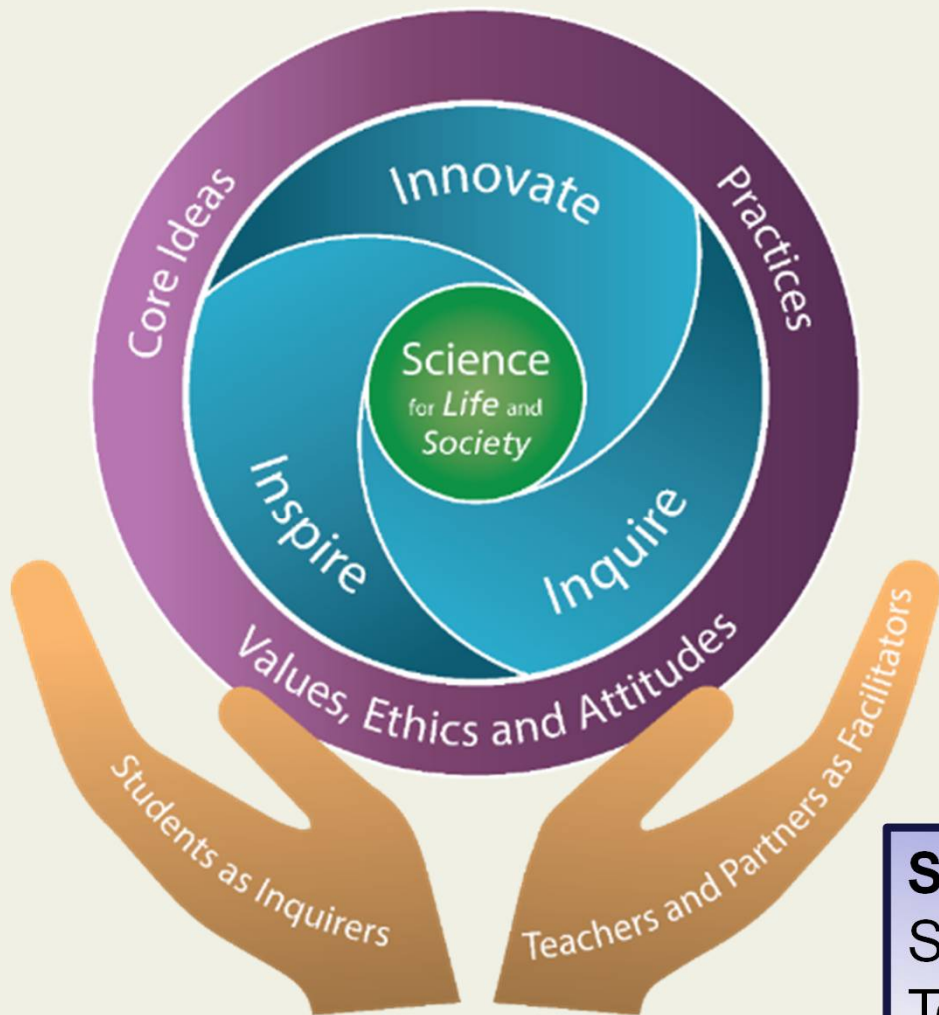


Curriculum Briefing Primary 3 Science 9 Jan 2023

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

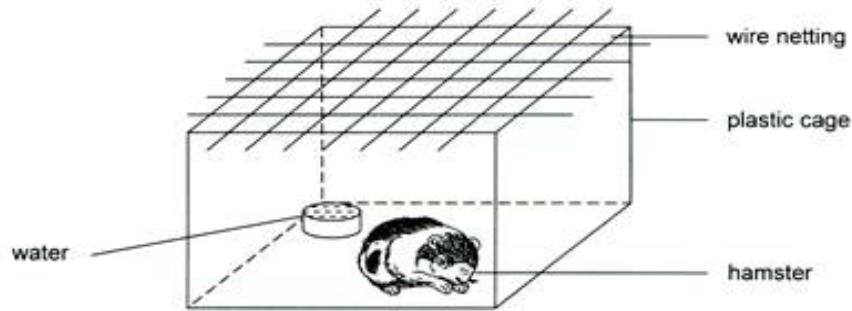
What do you know?
(The answer to the question)

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	<ul style="list-style-type: none"> • 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) 	<ul style="list-style-type: none"> • 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) 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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

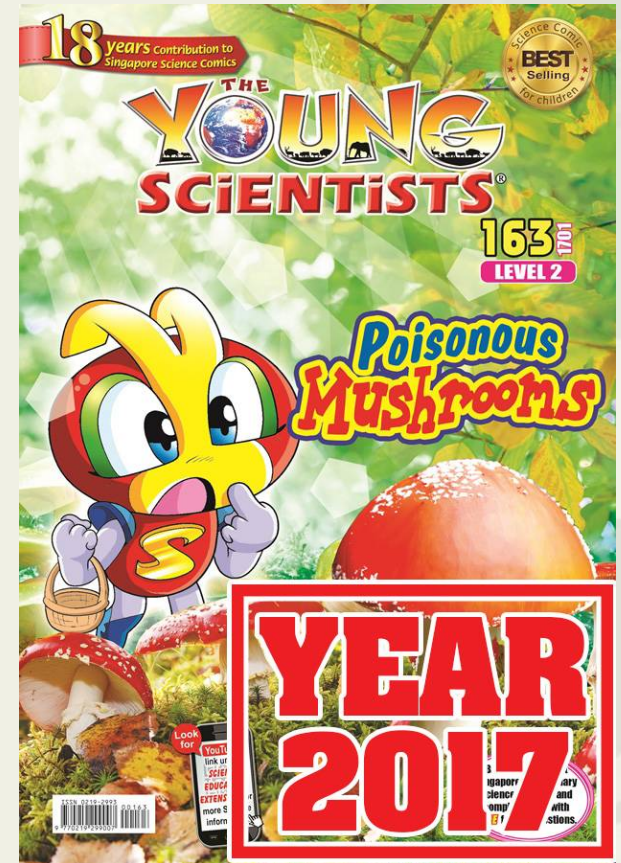


P3 Science

Enrichment

Science Supplementary Reading
Material (Optional):
The Young Scientists (Level 2)

Online Subscription via:



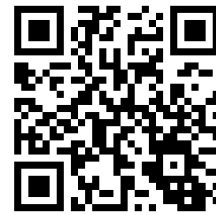
<https://youngscientistsreader.com.sg/product-category/subscriptions/>

P3 Science

RGPS Family Science Programme

- RGPS Family Science Club

<https://www.facebook.com/rgpsfamilyscienceclub/>



MICROBES GASTRONOMIC affair



26TH SEPTEMBER 2015 | 1000 - 1230

KITCHEN LAB @ SCIENCE CENTRE SINGAPORE

[\$40 PER FAMILY PAIR]

Do you know not all bacteria and fungi are disease-causing microbes that make us sick? Do you know some of them are important in helping us make many different kinds of delicious and nutritious food that we love? Discover the secrets of the more than a thousand-year-old food production method, fermentation and learn how bacteria and fungi convert sugars into other amazing products through fun experiments and bread baking! So join us for a unique family bonding workshop created specially for you, by you!



Kindly register at:
www.regonline.sg/rgpsMGA

A new family bonding programme co-organised by



Super Bubble Recipe

Bubble Science

Bubbly Bubbles Party!

Bubbles fascinate both children and adults with their beautiful shapes and rainbow colours. Such simple ingredients – soap and water – create mesmerizing examples of both geometry and chemistry. Do you know the 'secret' ingredient to strong and buoyant super bubbles? Come and join us in the Bubbly Bubbles Party where the 'secret' ingredient and the science behind these captivating bubbles shall be unveiled! Team up, brainstorm and create your team's very own bubble magic and put it to test in the Longest-lasting Bubble Challenge!

Come and experience the bubbly fun for both the young and the young at heart!

Date : 27 Aug 2016 (Saturday)
Time : 10am – 12.30pm
Venue: EcoLab, Science Centre Singapore
Cost : \$11.65 per family pair

Register now at
www.regonline.sg/RGPSBubbles2016

sciencecentresg
www.science.edu.sg
15 Science Centre Road, Singapore 609069 (open 10am–6pm Daily)

A new family bonding programme co-organised by

ADVENTURE IN SOIL-TITUDE

26 AUG 2017, SAT
09.30AM TO 11.30AM
Eco Lab, Science Centre Singapore
\$11.77 per parent & child pair

Tried growing plants only to be greeted with one that starts to wilt? We know that plants require water, essential exchange of gases and sunlight to flourish. However, are these all that they require? Fret not! Join us in exploring the finest details of improving the growth conditions of your favourite plants! What are you waiting for? Sign up!

Registration starts on 17th August 2017
Kindly register at www.regonline.sg/rgpssoil2017

WOBBLY JELLY FUN

Join us for an adventure into the world of Wobbly Jelly!

Discover the science behind how different states of matter could be combined to create something new, through easy and fun hands-on activities such as jelly and jam-making.

The sweet and colourful jelly is not just fun party food! Did you know that it is also used as an important tool for scientific research and in Forensic Science that helps to solve crimes?

Come and experience the unique family bonding workshop, Wobbly Jelly Fun, by registering online for one of the following sessions!

Date: 25 March 2017 (Saturday)
Time: Session 1 : 0930 - 1130
Session 2 : 1330 - 1530
Venue: Kitchen Lab (KidsSTOP™)
Cost: S\$11.77 per parent & child pair per session

Registration opens on 24 Feb 2017 from 7.30 a.m. onwards
Kindly register at:
<https://www.regonline.sg/rgpswobblyjelly>

A family bonding programme co-organised by

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.		Feedback on the pupil's performance.	
▪ Made concerted effort to do timely corrections.			
▪ Updated the content page			
▪ Organised the complete set of unit worksheets for filing.			

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

Rubrics : 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 <u>organisms being classified</u> .		
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 <ul style="list-style-type: none"> • 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

