

# SCIENCE @ RMPS

## 2022



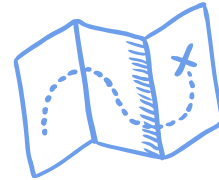
# Vision

---

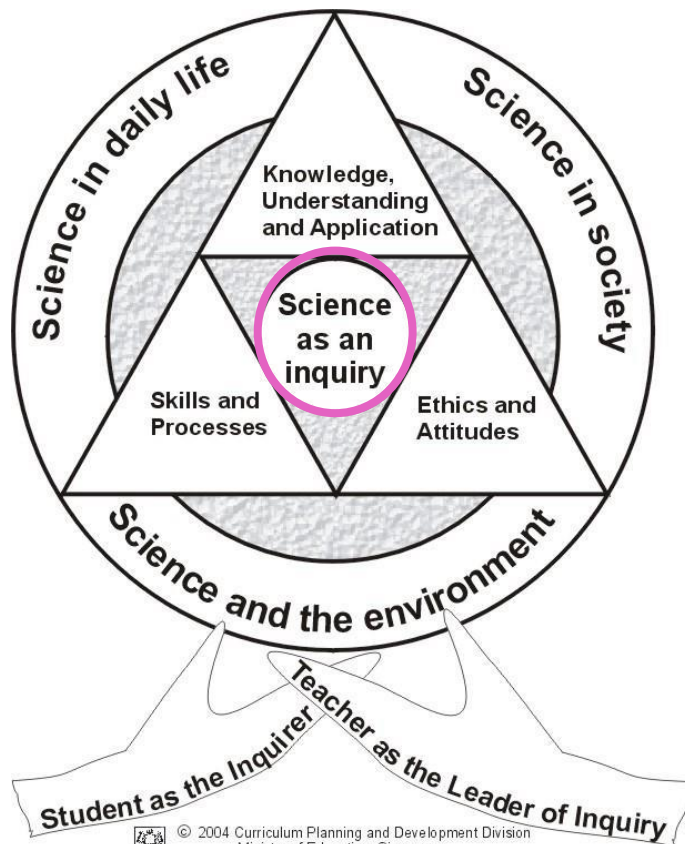
**An inquirer with a passion for Science.**

## Mission

- To develop students with an inquiring mind.
- To equip students with scientific knowledge and skills.
- To make the learning of Science fun, meaningful and relevant.



# Science Curriculum Framework



**Inquiry-based learning** starts by posing questions, problems or scenarios rather than simply presenting established facts or portraying a smooth path to knowledge. The process is facilitated by the teacher.

## **Content**

- Scientific phenomena, facts, concepts and principles
- Scientific vocabulary, terminology and conventions
- Scientific instruments and apparatus including techniques and aspects of safety
- Scientific and technological applications

## **Ethics & Attitudes**

Curiosity, Creativity, Integrity, Objectivity, Open-mindedness, Perseverance, Responsibility

## **Skills & Processes**

Observing, Comparing, Classifying, Using Apparatus & Equipment, Communicating, Inferring, Formulating hypothesis, Predicting, Analysing, Generating possibilities, Evaluating

+

+

**Application** and articulation of  
**concepts into authentic situations**

A vertical collage of 30 hand-drawn icons representing various scientific fields. The icons include: a beaker with bubbles, a calculator, an atom, a question mark, a cell, a microorganism, a graph with a bell curve, a globe, a molecule, a globe on a stand, a test tube with a plant, a fish, a light bulb, a plug, the equation  $E=mc^2$ , a book, a light bulb, a pi symbol, a heartbeat line, a abacus, a star, a DNA helix, a microscope, a planet with a ring, a brain, a molecule, and the chemical formula  $H_2O$ .

- 
- A vertical collage of 30 hand-drawn icons representing various scientific fields. The icons include: a beaker with bubbles, a calculator, an atom, a question mark, a cell, a microorganism, a graph with a bell curve, a globe, a molecule, a globe on a stand, a test tube with a plant, a fish, a light bulb, a plug, the equation
- $E=mc^2$
- , a book, a light bulb, a pi symbol, a heartbeat line, a abacus, a star, a DNA helix, a microscope, a planet with a ring, a brain, a molecule, and the chemical formula
- $H_2O$
- .

A vertical collage of 30 hand-drawn icons representing various scientific fields. The icons include: a beaker with bubbles, a calculator, an atom, a question mark, a cell, a microorganism, a graph with a bell curve, a globe, a molecule, a globe on a stand, a test tube with a plant, a fish, a light bulb, a plug, the equation  $E=mc^2$ , a book, a light bulb, a pi symbol, a heartbeat line, a abacus, a star, a DNA helix, a microscope, a planet with a ring, a brain, a molecule, and the chemical formula  $H_2O$ .

- 
- A collection of blue line-art icons representing various scientific fields, including chemistry (flasks, molecules), physics (atom, lightbulb,
- $E=mc^2$
- ), biology (cell, microorganism), and general science (telescope, microscope, globe,
- $\pi$
- ,
- $\sqrt{2}$
- ,
- $\Gamma_2$
- ).
- While there are certain scientific terms and concepts taught, pupils can demonstrate their understanding by using their own words.
  - The focus of learning science is **not** on giving “standard answers” or keywords, but on **developing students’ ability to inquire, understand and explain scientific phenomena.**

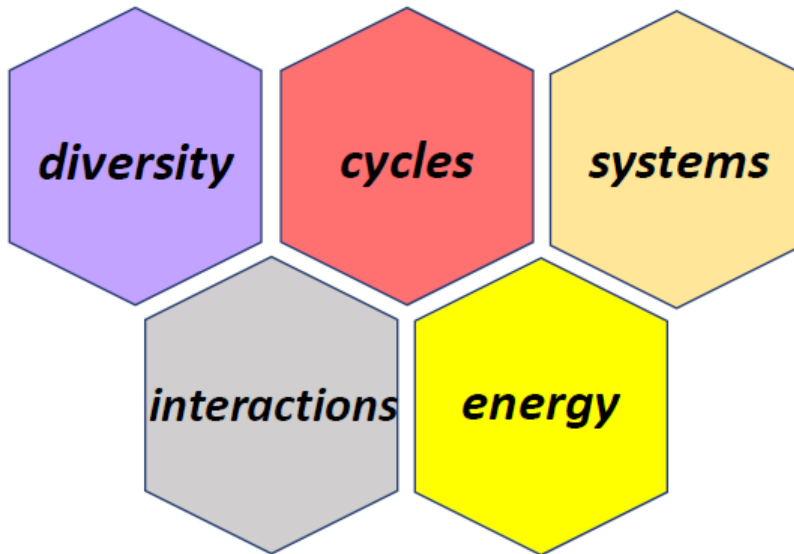
- The learning of science **does require a certain level of clarity though**, in the way concepts are explained, given the **context of the question**.
- Otherwise, **we may end up endorsing misconceptions** in students or rewarding them for ambiguous responses.

- **Read** the questions **carefully**. Look for clues (evidence) in the question.
- Identify the topic and related **concept** tested.
- Identify **aim and variables**.
- Observe and **study the data** given (graph/table/diagram)
- **Annotate and plan** key points before phrasing the final answer; check final answer

- Model answering techniques
  - Concept-Apply-Link**
  - Concept-Evidence-Reasoning**
- Answers should show use of correct **scientific language** expressed in a **coherent and complete, yet concise** way.

# Themes in Primary Science

---



# Primary Science Syllabus Overview (P3)

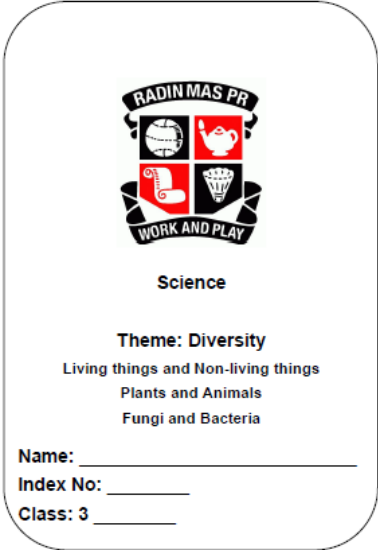
| Themes    | Lower Block (P3)                                                                                                                     |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------|
| Diversity | <ul style="list-style-type: none"><li>• Diversity of living and non-living things</li><li>• Diversity of materials</li></ul>         |
| Cycles    | <ul style="list-style-type: none"><li>• Cycles of plants and animals (Life cycles)</li></ul>                                         |
| Systems   | <ul style="list-style-type: none"><li>• Plant system (Plant parts and functions)</li><li>• Human system (Digestive system)</li></ul> |

# Assignments

---

- P3 Package
- Worksheets (filed in the Science file)

*\*Please keep the P3-P6 work for revision!*



The worksheet cover features a central logo for Radin Mas PR, which is a shield divided into four quadrants: top-left (globe), top-right (teapot), bottom-left (red square with white symbol), and bottom-right (diamond). Above the shield is a banner reading 'RADIN MAS PR' and below it is a banner reading 'WORK AND PLAY'. Below the logo, the word 'Science' is printed. Further down, the theme 'Theme: Diversity' is listed, followed by 'Living things and Non-living things', 'Plants and Animals', and 'Fungi and Bacteria'. At the bottom, there are three fields for student information: 'Name: \_\_\_\_\_', 'Index No: \_\_\_\_\_', and 'Class: 3 \_\_\_\_\_'.

**RADIN MAS PR**

**WORK AND PLAY**

**Science**

**Theme: Diversity**

Living things and Non-living things

Plants and Animals

Fungi and Bacteria

Name: \_\_\_\_\_

Index No: \_\_\_\_\_

Class: 3 \_\_\_\_\_

# Assessment

| <b>Weighted Assessments<br/>Terms 1 to 3 (35%)</b>                                                                     | <b>Semestral Assessment<br/>Term 4 (65%)</b>                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>In the form of<br/>Performance Tasks /<br/>Topical Review</p> <p>Term 1 (10%)<br/>Term 2 (15%)<br/>Term 3 (10%)</p> | <p>1 hour 30 minutes<br/>80 marks</p> <p>Booklet A:<br/>24 questions</p> <p>Booklet B:<br/>10-12 questions</p> <p>All topics covered in P3<br/>will be tested.</p> |

- ✓ Speaking
- ✓ Doing
- ✓ Visiting
- ✓ Reading

- It can fly.



- **Concept:** Characteristics of bird
- It has feathers, a beak and a pair of wings.

- Green beans
- Chilli seeds
- Peanuts
- Mould on food (bread)
- Mushroom kits

- Mealworms
- Fish
- Caterpillars

**\*\*Bear in mind – responsibilities involved in pet ownership**

# Doing – E.g. growing green beans

---

## Science Concepts:

- Characteristics of living things:
  - Living things can grow.
- Conditions needed for germination
  - Air, warmth, Water

**Observing, Comparing, Classifying, Using apparatus and equipment, Communicating, Predicting, Formulating Hypothesis**



# Doing – Scientific investigations

---

## Science experiments:

Hypothesis: Seeds do not need sunlight to germinate.

- Variables to keep the same
- Fair test

**Observing, Comparing, Classifying, Using apparatus and equipment, Communicating, Predicting, Formulating Hypothesis**



# Visiting

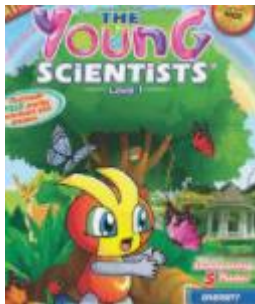
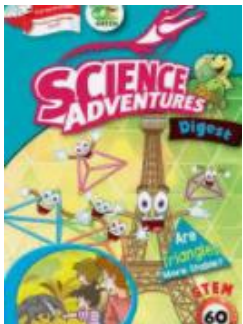
---

- Singapore Zoo / Night Safari / River Safari
- Jurong Bird Park
- S.E.A. Aquarium, Sentosa
- Marina Barrage
- Kranji Farms
- Parks (E.g. Hortpark)
- Gardens by the Bay / Botanics
- Sungei Buloh Wetland Reserve / Nature parks
- Singapore Science Centre
- **Everywhere and Anywhere!**



# Reading

- Science Books
- Newspapers
- Magazines (National Geographic)
- THINK Science
- Science Adventures
- Young Scientists



# STEAM



**Integration** between various disciplines in real world contexts and **problem solving skills**.

Learning opportunities to develop **Growth Mindset** and reinforce values.

**Future-ready students** equipped with 21<sup>st</sup> Century Competencies such as critical and inventive thinking, communication, collaboration and information skills.

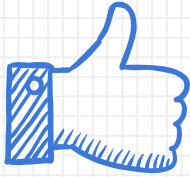
## **Our Contacts**

**Mrs Goh Hean Mei**

chan\_hean\_mei@schools.gov.sg

**Mrs Cindy Ten**

han\_qiuyan\_cindy@schools.gov.sg



**Thank you.**