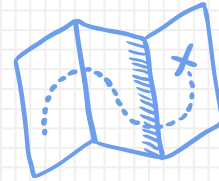


Vision

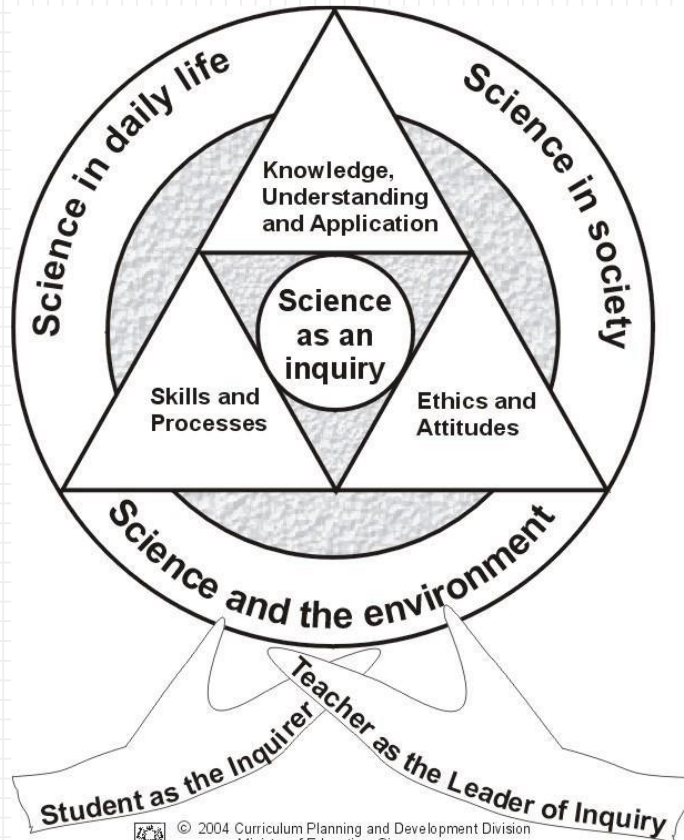
An inquirer with a passion for Science.

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

Good content knowledge is not enough...

Content Knowledge
+
Skills and Processes
(Scientific Method and
Experimental Design)
+

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



What is Conceptual Understanding?

- Conceptual understanding requires students to **organise facts and ideas** into a meaningful concept and making connections in science.
- Moving beyond rote memorisation of facts. Therefore, students can **apply their understanding of concepts to multiple contexts.**

(Kang, N. G., & Howren, C., 2004)



- 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.**
- Identify key phrases and words in the question stem before attempting to answer.
- **Identify the concept** tested.
- **Model** answering techniques.
- Reinforce use of **Concept – Apply – Link (CAL)** answering technique.

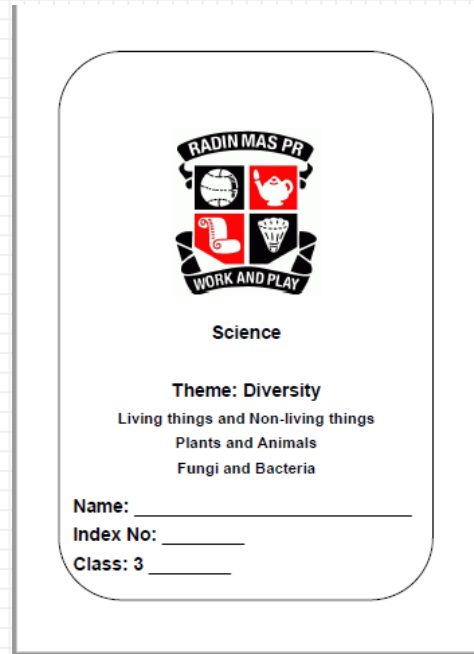
Primary Science Syllabus Overview

Themes	Lower Block (P3 & P4)
Diversity	<ul style="list-style-type: none">• Diversity of living and non-living things• Diversity of materials
Cycles	<ul style="list-style-type: none">• Cycles of plants and animals (Life cycles)
Systems	<ul style="list-style-type: none">• Plant system (Plant parts and functions)• Human system (Digestive system)

Assignments

- P3 Package
- Worksheets (filed in the Science file)
- Practice papers before SA1 / SA2

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



The image shows a sample assignment cover for a Science class at RADIN MAS PR. The cover features a central crest with a globe, a teapot, a book, and a diamond, with the motto 'WORK AND PLAY' below it. The text on the cover includes the school name, the subject 'Science', the theme 'Diversity', and a list of topics: 'Living things and Non-living things', 'Plants and Animals', and 'Fungi and Bacteria'. At the bottom, there are fields for '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

- Paper format

SA1	SA2
1 hour 50 marks Booklet A: 15 questions Booklet B: 6-8 questions	1 hour 30 minutes 80 marks Booklet A: 24 questions Booklet B: 10-12 questions

- Practical Test 10 marks, 5% of SA2

<u>SA1 Topics</u>	<u>SA2 Topics</u>
<ul style="list-style-type: none"> • Diversity of Living things and Non-living things • Diversity of Materials 	<ul style="list-style-type: none"> • All SA1 Topics • Plant and Animal Cycles • Plant and Animal Systems

Parents as Facilitators

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



A collection of 30 hand-drawn icons representing various scientific fields. The icons include: a beaker with bubbles, a calculator, an atom, a cell, a microorganism, a graph with a bell curve, a globe, a molecular structure, a lightbulb, a test tube with a plant, a rocket, a clock, a plug, an apple, a book, a pi symbol, a heart rate line, a lightbulb, a star, a pill, a microscope, a U-shaped magnet, a hexagonal molecule, a planet with a ring, a brain, a DNA helix, a molecular structure, and the chemical formula H2O.

Why X is a bird?

- 
- A close-up photograph of a blue nuthatch perched on a dark, textured branch. The bird has a blue head and back, a white throat, and a reddish-brown breast. It is surrounded by green leaves and small pink blossoms, with a soft, out-of-focus background.

X

Speaking

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



A collection of 30 hand-drawn icons representing various scientific fields. The icons include: a beaker with bubbles, a calculator, an atom, a cell, a microorganism, a graph with a bell curve, a globe, a molecular structure, a lightbulb, a test tube with a plant, a rocket, a clock, a plug, an apple, a book, a pi symbol, a heart rate line, a lightbulb, a star, a pill, a microscope, a U-shaped magnet, a hexagonal molecule, a planet with a ring, a brain, a DNA helix, a molecular structure, and the chemical formula H2O.

- Green beans
- Chili seeds
- Peanuts
- Bread mould
- Mould on oranges

- Green beans
- Chili seeds
- Peanuts
- Bread mould
- Mould on oranges

- Mealworms
- Fish
- Crayfish
- Snails
- Bear in mind – responsibilities involved in pet ownership

- Mealworms
- Fish
- Crayfish
- Snails
- Bear in mind – responsibilities involved in pet ownership

- Living things need food, air and water.
- What are the conditions needed for germination?
- How can I prevent my green bean from germinating?
- When does the developing seed need sunlight?

Doing – E.g. growing green beans

- Plants need sunlight to make their own food.
- Plants can reproduce from seeds.
- How to conduct a fair test?
- And more ...

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

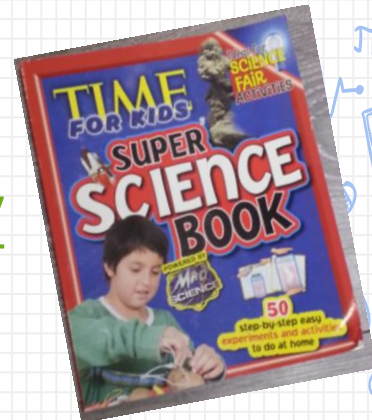


[illegible]

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

Reading

- Science Books
- Newspapers
- Magazines
- Youtube channel:
- <https://www.youtube.com/user/1veritasium>
- MythBusters:
<http://dsc.discovery.com/tv-shows/mythbusters>



Our Contacts

HOD Science

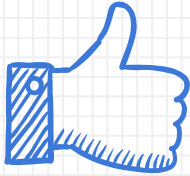
Mrs Goh Hean Mei

chan_hean_mei@schools.gov.sg

LH (Science)

Mdm Soh Xinyi

soh_xinyi@schools.gov.sg



Thank you.