

# P3 Curriculum Briefing

---

SCIENCE



# Outline

- Aims of Primary Science
- Learning & Teaching of science
  - Teaching of Science
  - Learning of Science
- Assessment Matters



# Science

- A core academic subject starting at P3
- 4 periods per week for P3 and P4
- 5 periods per week for P5 and P6 (both Standard Sci and Foundation Sci)



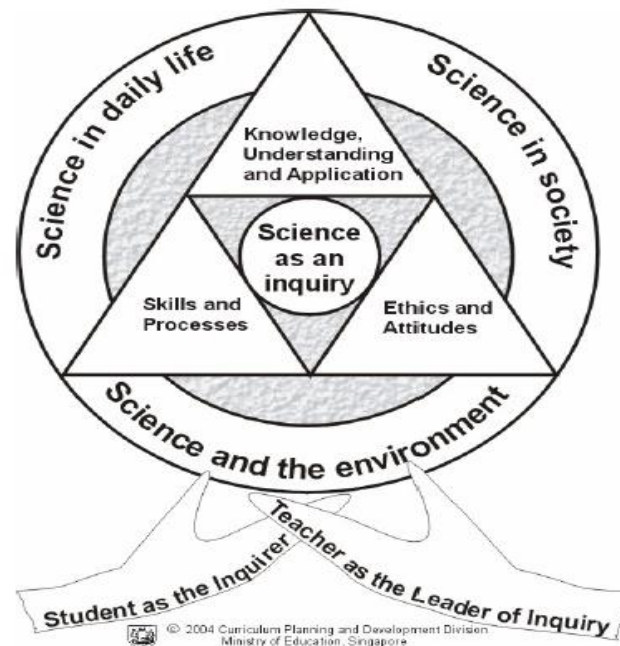
# Aims of Primary Science

---

- To provide primary students with experiences which build on their interest in and stimulate their curiosity about their environment
- To provide primary students with basic scientific terms and concepts to help them understand themselves and the world around them
- To provide primary students with opportunities to develop skills, habits of mind and attitudes necessary for scientific inquiry

# Science Framework

---



# Curricular Goal

---

Reflective scientific inquirers



# **Learning and Teaching of Science @ Punggol View Primary School**

---

# Teaching of Primary Science @ Punggol View

---





# Primary Science Themes

---

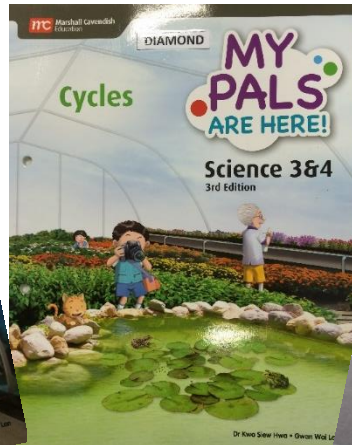
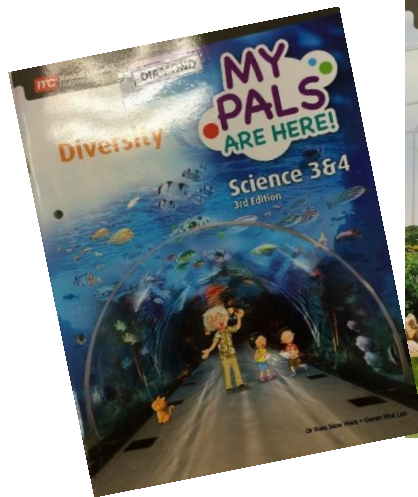
5 themes : Diversity, Cycles, Systems, Energy and Interactions



# Science Themes for P3

---

3 themes : Diversity, Cycles and Systems



# Organisation of science topics (Lower Block)

Syllabus Requirement		
Themes	Lower Block (Primary 3)	Lower Block (Primary 4)
Diversity	<ul style="list-style-type: none"> <li>Diversity of living and non-living things (General characteristics and classification)</li> </ul>	<ul style="list-style-type: none"> <li>Diversity of materials</li> </ul>
Cycles	<ul style="list-style-type: none"> <li>Cycles in plants and animals (Life cycles)</li> </ul>	<ul style="list-style-type: none"> <li>Cycles in matter and water (Matter)</li> </ul>
Systems	<ul style="list-style-type: none"> <li>Plant system (Plant parts and functions)</li> <li>Human system (Digestive system)</li> </ul>	
Interactions		<ul style="list-style-type: none"> <li>Interaction of forces (Magnets)</li> </ul>
Energy		<ul style="list-style-type: none"> <li>Energy forms and uses (Light and heat)</li> </ul>

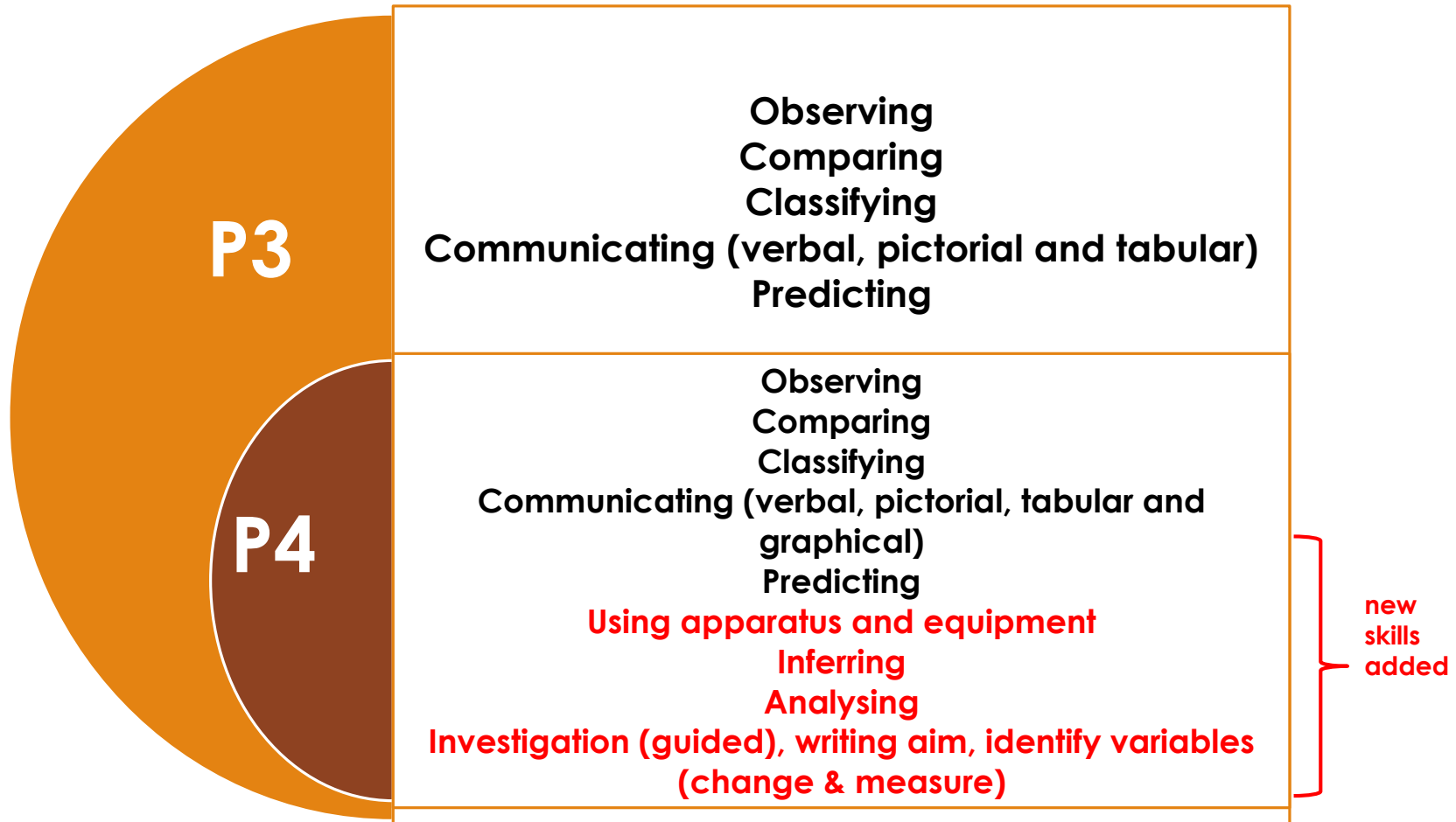
# Teaching of Process Skills

---

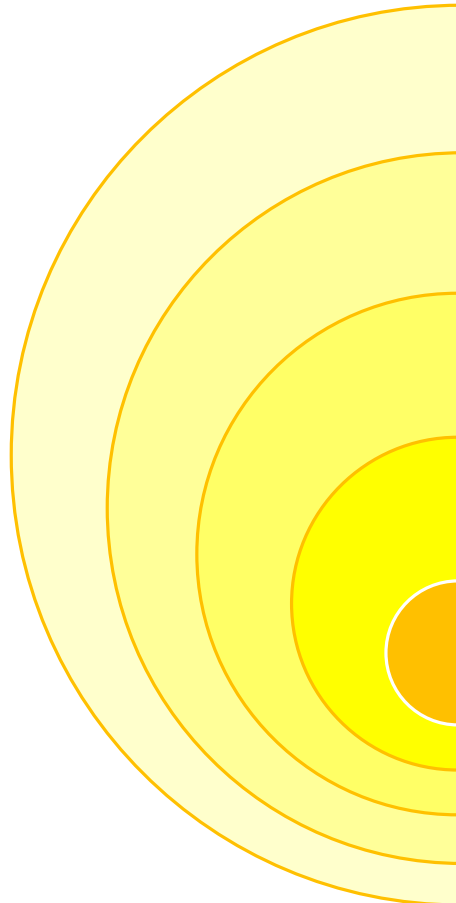
# Process Skills

<b>Skills Coverage</b>	<b>Lower Block (P3 and P4)</b>	<b>Upper Block (P5 and P6)</b>
Observation	✓	✓
Comparing	✓	✓
Classifying	✓	✓
Using apparatus and equipment (Refined)	✓	✓
Communicating (verbal, pictorial)	✓	✓
Communicating (tabular)	✓	✓
Communicating (graphical)	✓	✓
Inferring	✓	✓
Predicting	✓	✓
Analysing	✓	✓
Generating possibilities	✓	✓
Evaluating	✓	✓
Formulating Hypothesis	✓	✓
<b>Processes</b>		
Creative problem solving	✓	✓
Decision-making	✓	✓
Investigation	✓	✓

# Progression of Process Skills



# Process Skills for P3



<b>Observing</b>	<ul style="list-style-type: none"><li>• To use senses to gather information about objects and events</li></ul>
<b>Classifying</b>	<ul style="list-style-type: none"><li>• To group a set of objects into two or more groups based on common characteristics</li></ul>
<b>Comparing</b>	<ul style="list-style-type: none"><li>• To identify the similarities and differences between two or more objects</li></ul>
<b>Communicating</b>	<ul style="list-style-type: none"><li>• To read off information from symbolic representations such as diagrams and tables</li></ul>
<b>Predicting</b>	<ul style="list-style-type: none"><li>• To assess the likelihood of an outcome based on prior knowledge of how things usually turn out</li></ul>

# Learning of Primary Science

---

I hear, I forget.

I see, I remember.

I do, I understand.

*Confucius*



# Learning of Primary Science

---

- Textbook
- School based activity sheets
  - Align to process skills
- Concept map/mindmap

# Activity Sheet

Description of shell:

<input type="checkbox"/> hard	<input type="checkbox"/> wet	<input type="checkbox"/> rough
<input type="checkbox"/> soft	<input type="checkbox"/> dry	<input type="checkbox"/> smooth

Colour of shell: \_\_\_\_\_

Other observations: \_\_\_\_\_

Description of body:

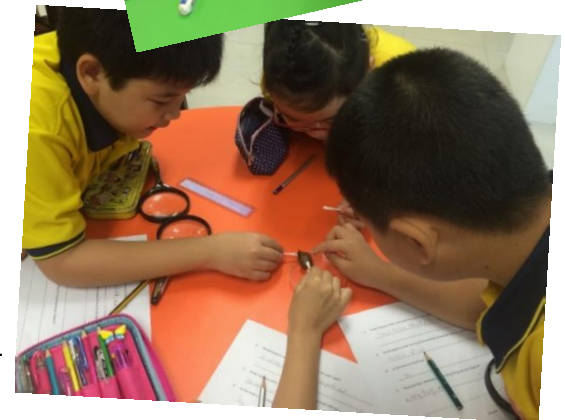
<input type="checkbox"/> hard	<input type="checkbox"/> wet	<input type="checkbox"/> rough
<input type="checkbox"/> soft	<input type="checkbox"/> dry	<input type="checkbox"/> smooth

Colour of body: \_\_\_\_\_

Length of body: \_\_\_\_\_

Other observations: \_\_\_\_\_

Process skill:  
Observing



# Activity Sheet

- (a) Classify the buttons on the table according to one characteristic.  
Draw the buttons in the boxes below.

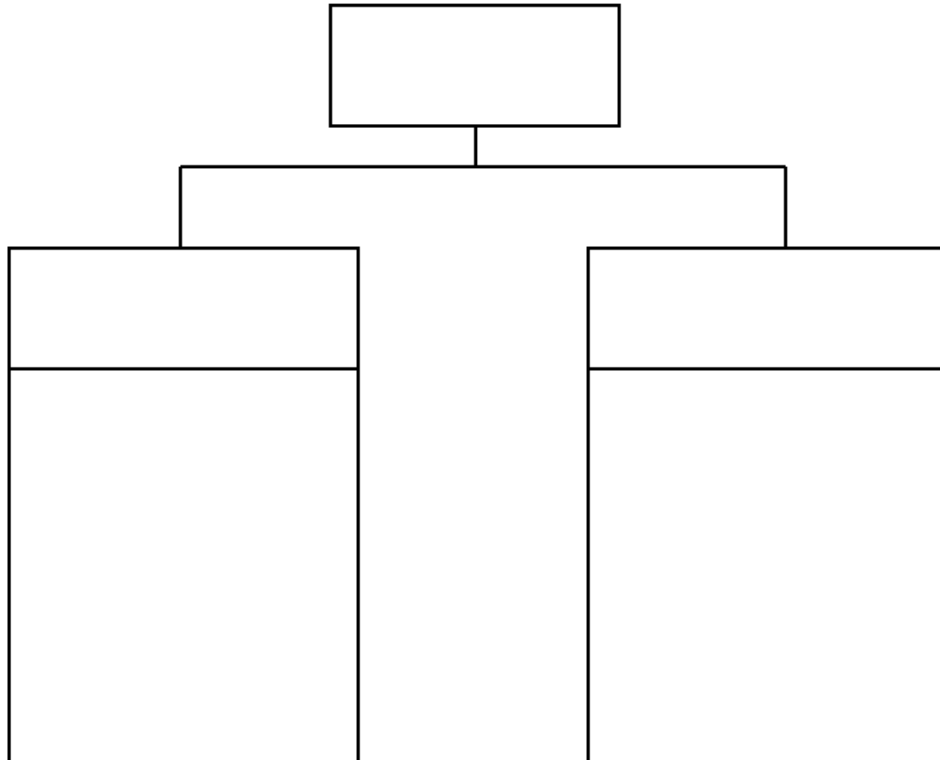
Buttons	
Characteristic:	Characteristic:
<hr/>	<hr/>

**Process skill:**  
Classifying,  
Comparing



# Activity Sheet

- (c) Classify the buttons in the classification chart below according to the characteristic stated in (b).



**Process skill:**  
Classifying,  
Comparing



# Assessment Matters

---

# Overview of P3 Assessment

---

Terms	Pen and paper assessment	Performance-based assessment
1	Common Test 1	
2	Mid-Year	
3	Common Test 2	Practical Test
4	End-Year	

# Weightings for each level

---

Level	Knowledge with understanding	Application of knowledge and process skills
P3	60%	40%
P4	50%	50%
P5	40%	60%
P6	40%	60%

# Exam Format

Booklets	Common Test 1	Mid-Year Examination	Common Test 2	End-Year Examination
<b>Booklet A:</b> (Multiple Choice Questions)	(10 Qns x 2 m each) 20 marks	(18 Qns x 2 m each) 36 marks	(18 Qns x 2 m each) 36 marks	(22 Qns x 2 m each) 44 marks
<b>Booklet B :</b> (Open-Ended Questions)	(5 Qns x 2 m each) 10 marks	(8 -9 Qns x 2 or 3 m each) 24 marks	(10 -11 Qns x 2 or 3 m each) 24 marks	(12-13 Qns x 2 or 3 m each) 26 marks
Practical Test	-	-	10 m	-
<b>Total:</b>	<b>30 marks</b>	<b>60 marks</b>	<b>70 marks</b>	<b>70 marks</b>



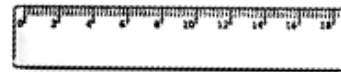
# Multiple Choice Questions

---

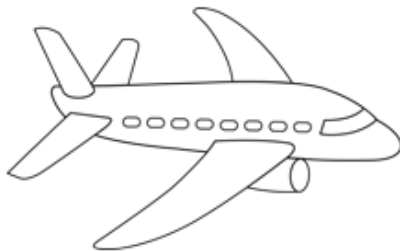
1. Which one of the following, 1, 2, 3 or 4 is a living thing?



(1) A table in the kitchen



(2) A ruler in the pencil box



(3) An aeroplane in the toy box



(4) A tree in the garden

**Level:**  
Knowledge with  
understanding

# Multiple Choice Questions

The table below shows information of 3 living things, A, B and C. A tick (✓) shows that the living thing has the characteristic(s). A cross (×) shows that the living thing does not have the characteristic(s).

Characteristics	Living Things		
	A	B	C
Can move from place to place	✓	✓	×
Has 3 body parts	×	✓	×
Has feathers on its body	✓	×	×

**Level:**

Application

**Process skills:**

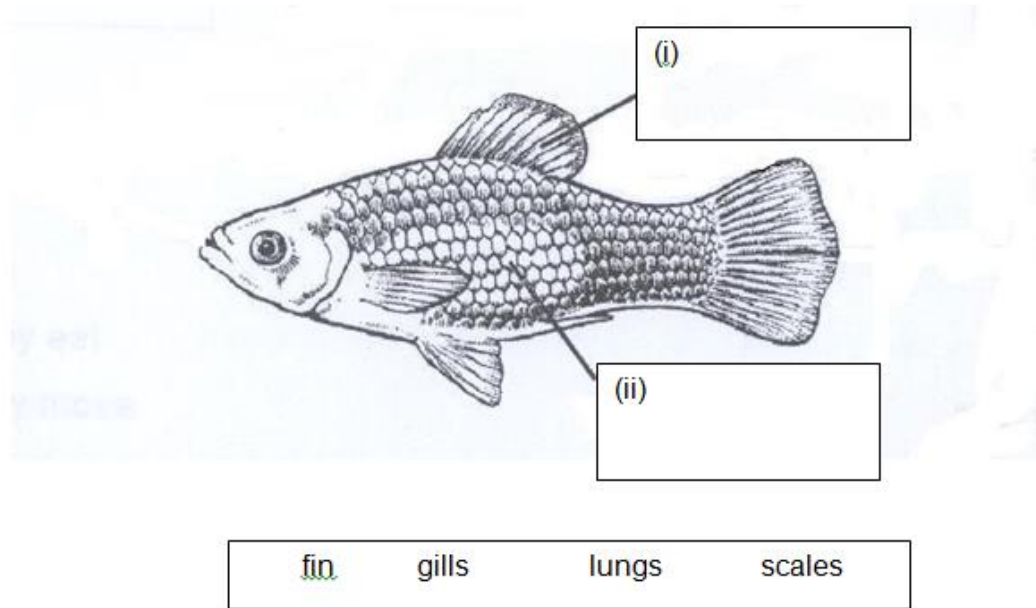
- Communicating

Which groups of living things do A, B and C belong to?

	A	B	C
(1)	bird	insect	fungi
(2)	insect	bird	fungi
(3)	fungi	bird	insect
(4)	insect	fungi	bird

# Open-ended Questions

23. Look at the picture below.



**Level:**  
Knowledge with  
understanding

(a) Use the appropriate words from the box above and label the parts of the fish. [1]

(b) What is the function of the part labelled (a)(i)? [1]

# Open-ended Questions

24. The table below shows the characteristics of two animals, X and Y.

Characteristics of Animal X	Characteristics of Animal Y
<ul style="list-style-type: none"><li>• Lives in water</li><li>• Eats small animals</li><li>• Lays eggs</li><li>• Feeds its young with milk</li></ul>	<ul style="list-style-type: none"><li>• Lives on land and in water</li><li>• Eats animals</li><li>• Lays eggs</li><li>• Has smooth skin</li></ul>

**Level:**

Application

**Process skills:**

Communicating  
(reading of table)

(a) Place Animals X and Y into the correct box below.

[2]

Reptile	Fish	Mammal	Amphibian

(b) Which characteristic helps you to determine the animal group of Animal X?

[1]

# Practical Test

---

- 3 stations
- Tested on process skills

# Example of a practical test

## Station 1


Classify the objects on the table into two groups.

Draw the objects in the boxes below.

(2 m)

Give a heading for each group.

(1 m)

 <hr/>	<hr/>

**Thank you**

---