

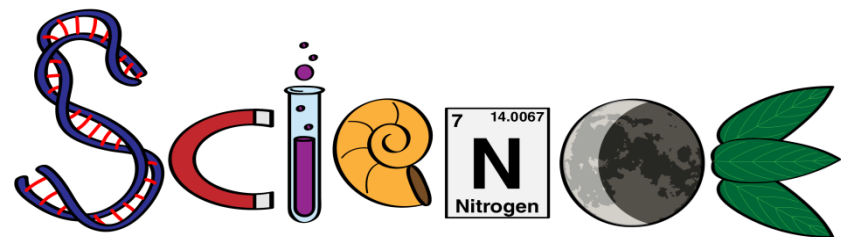
**Primary 3**  
**Science Curriculum**  
**Sharing**

**January 2024**



# Scope of Sharing

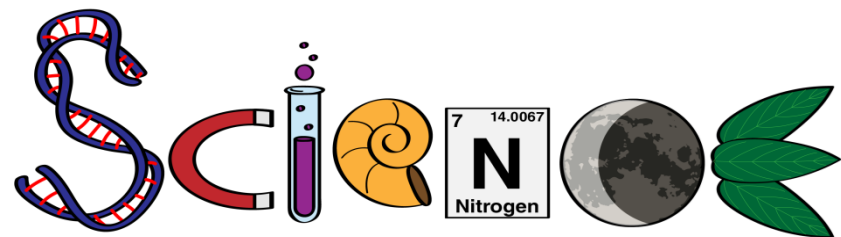
- HPPS Science Curriculum
- Infusing Applied Learning
- Components of P3 Science Lessons
- Science Assessment &
- Home Support



# HPPS Science Curriculum



- Provides the **Foundation** for Science beyond Primary Level
- Driven by **Inquiry**-based Learning
- Acquisition of Science **knowledge, skills & positive attitudes** towards **lifelong learning**
- Learning of Science is **useful and meaningful**; as it is **relevant** to everyday life
- Nurture the **love and care** for the **environment**



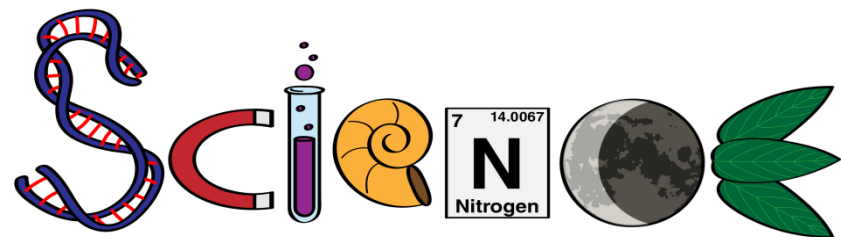
# Inquiry-based learning



Takes place by **observing**, asking **questions**, **finding answers** through **investigation** — rather than simply discussing the scientific **content**.

Encourage students to make **observations**, and **inferences**, ask relevant **questions**, find answers through **hands-on** (under supervision)

In P3, the inquiry-based learning process is guided by the Science teacher.

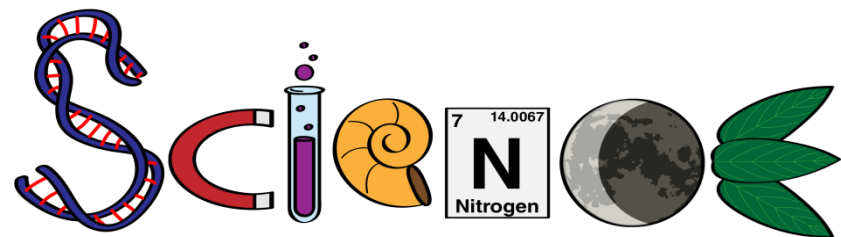


# 2023 Science Syllabus : Divided into 5 Broad Themes



**Diversity, Cycles, Interactions, Systems & Energy**

Block	Level	Themes
Upper	P6	Energy, Interactions
	P5	Cycles, Systems, Interactions
Lower	P4	Systems, Cycles, Energy
	P3	Diversity, Cycles, Interactions



# Themes/Topics in P3



## **Diversity & Cycles**

Living & Non-Living Things,  
Animals, Plants, Fungi & Bacteria  
(**Term 1**)

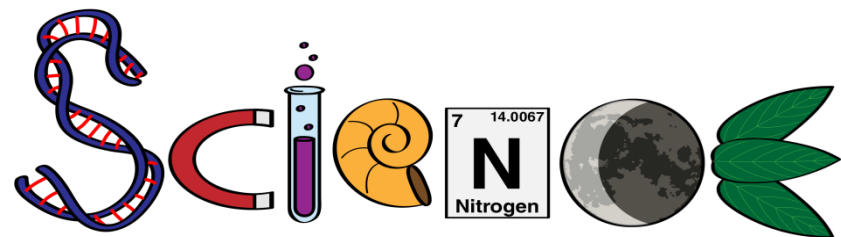
Animal & Plant Life Cycle (**Term 2**)

## **Diversity**

Fun with Variables and Materials  
(**Term 3**)

## **Interactions**

Magnets (**Term 3 & 4**)



# Understanding Concepts in Diversity: How ideas are connected



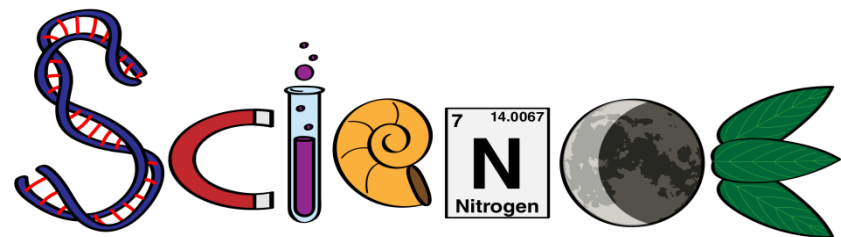
**Key Idea 1:** There are living and non-living things.

**Key Idea 2:** Living things need water, food and air.

**Key Idea 3:** Living-things grow, respond to changes and reproduce.

**Linking question:** How are living things different from non-living things?

**Linking questions help teachers to facilitate discussion and students to see connections between concepts / ask further questions**



# Key Process Skills



## Observing (and inferring)

- Using our 5 senses to gather information from our surrounding

## Comparing

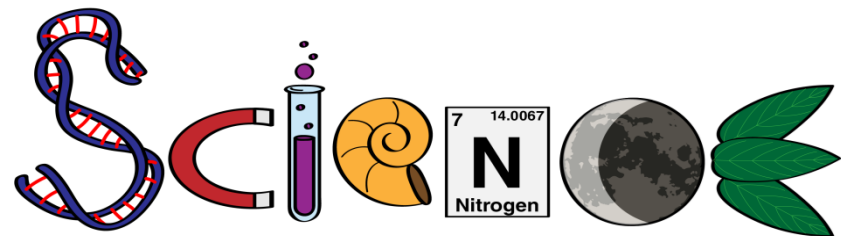
- Recognise what is similar/different between 2 things

## Classifying

- Putting things into groups based on common characteristics

## Communicating

- Reading Writing Speaking & Listening in order to collect/share information





# Scientific Processes: Creative Problem Solving

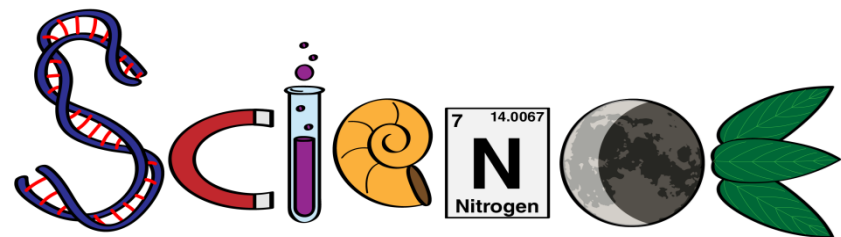


- This is a process of **analyzing a problem** or **choosing a relevant solution** in order to remedy or alter a problem situation
- Often through discussion of **real-life problems**

➤ Example:

Topic: Fungi and Bacteria

Thinking of ways to slow down bread from turning moldy quickly



# Scientific Processes: Decision Making

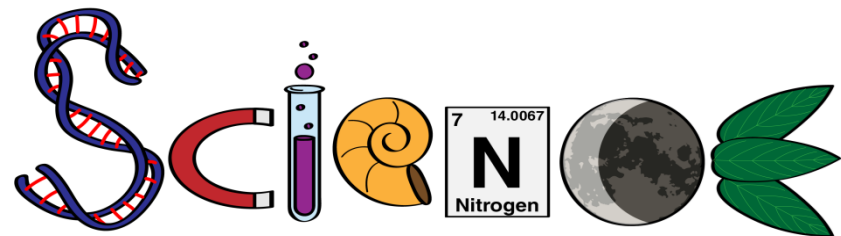


➤ This is the process of **establishing** and **applying** criteria to select from among seemingly **equal alternatives**.

➤ Example:

Topic: Magnets

**Giving students a number of objects and ask them to prove which object is a magnet**



# Scientific Processes: Investigation

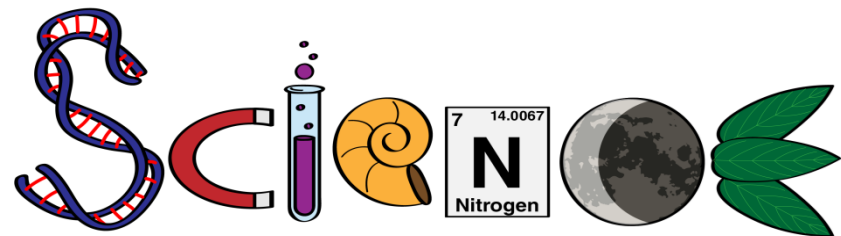


- This involves formulating hypothesis, planning and carrying out fair experiments to test the hypothesis.
- Carried out in all topics
- Process skills will be taught

➤ Example:

Topic: Materials

To find out which material, A or B, is the most / least flexible



# Positive Attitudes

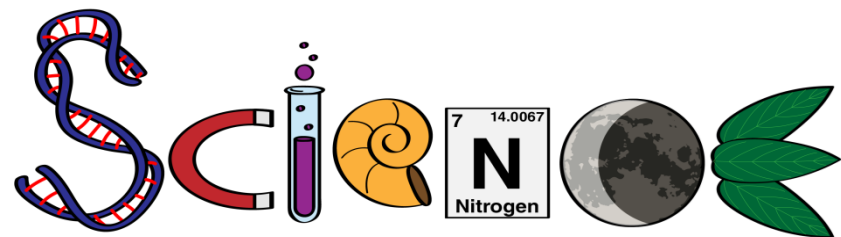


**Curiosity** - Desire to explore the surrounding and question what they find

**Creativity** - Suggest innovative and relevant ways to solve problems

**Integrity** - Handle and communicate data and information with integrity

**Objectivity** - Seek data and information to validate observations and explanations objectively



# Applied Learning



**Connecting  
scientific knowledge  
and process skills to  
the real world**

**Makes learning  
purposeful and  
relevant**

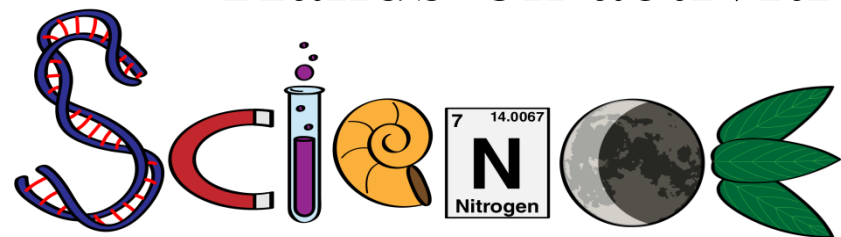
**Students are happy  
and motivated**



# P3 Science Curriculum

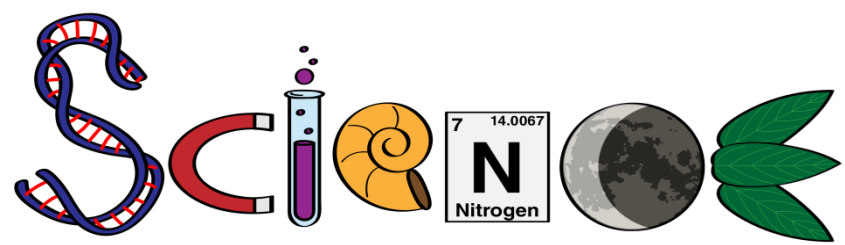
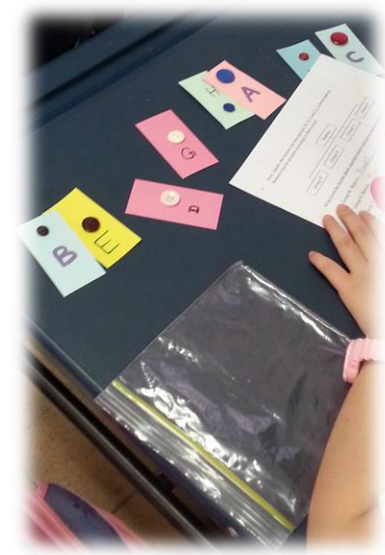


- Fun with Variables and Materials – Inquiry and Scientific Method
- Every Child A Seed Programme – Planting
- Eco Farm Programme - Planting
- Outdoor Learning – Flower & Fern Garden
- Learning Journey
- Hands-on activities for all topics





# Key Components of Science Lessons



# Components of Science Lessons

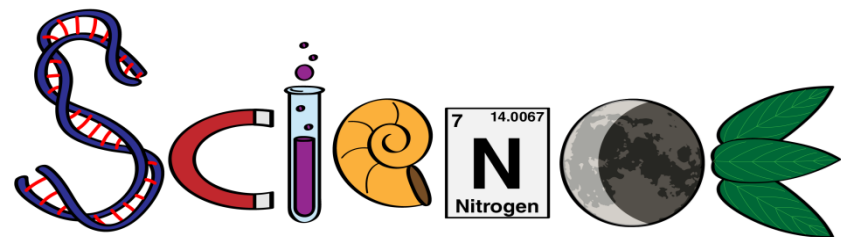


**Theory** : Teaching of Concepts (*Textbooks*)

**Hands-on Sessions** in the Science / computer  
Lab / Outdoors (2-3 periods) / Classroom (2 periods)

Student **Handouts** - Topical Notes on Key ideas

**Activity** sheets for hands-on / Worksheets

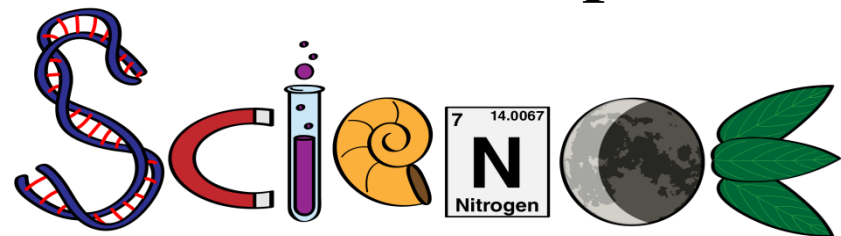




# Written Assignments



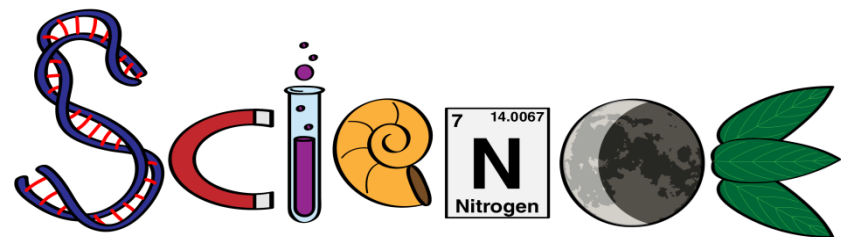
- Activity WS (Booklets) – Hands-on
- School WS – Supplementary Activities & OE WS, Revision WS and Handouts on answering guidelines
- Worksheets will be returned for parents' signature.
- Vitamindz Booklets – Topical / Skills
- Practice Papers – To prepare for exam



# Books & Worksheets

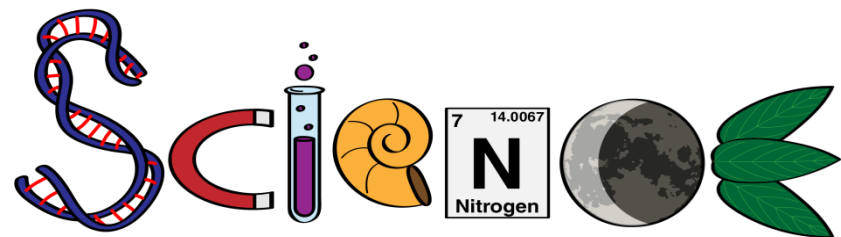
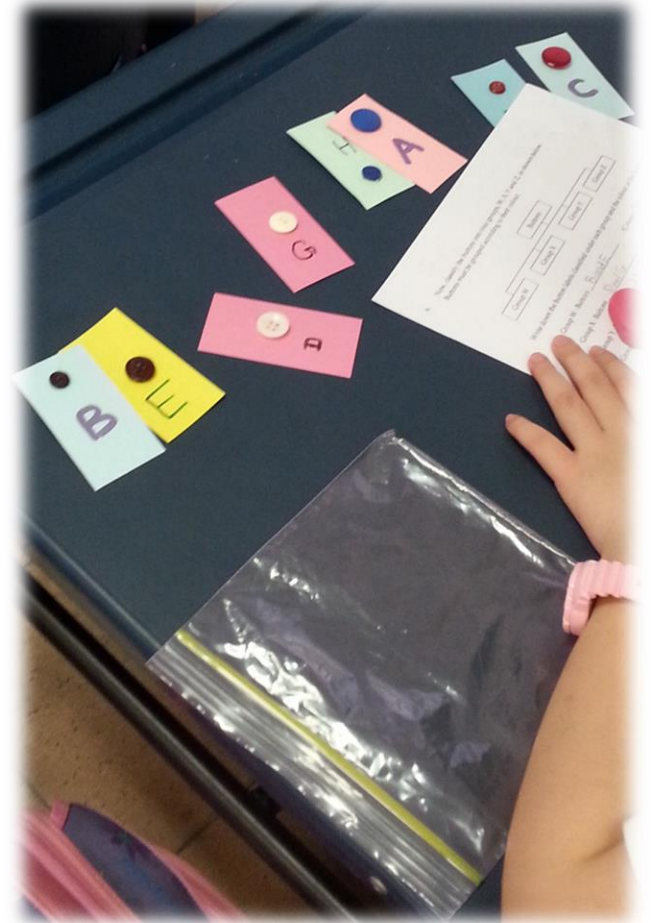


- Textbook covers only P3 topics
- There will be new textbook for P4 2025
- Please DO NOT discard materials at end of P3 as they are needed for P4 to P6 work





# Assessment

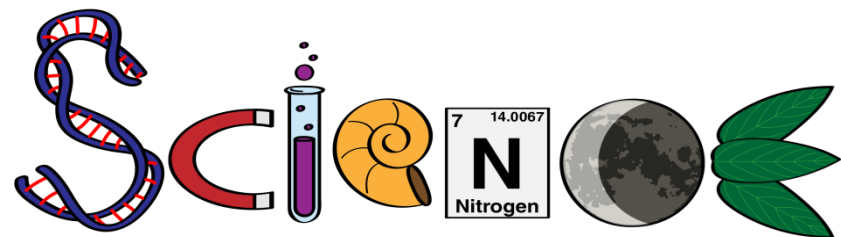


# Evaluating Learning



Class Work - Activities and written work

Semester 1	Semester 2
<b>Weighted Assessment 1</b>	<b>Weighted Assessment 2: Including Performance Task</b>  <b>Year End Examination</b>



More details will be given later

# Format of P3 Science Paper End of Year Exam

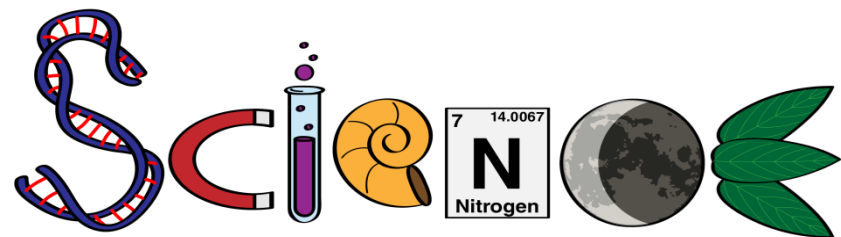


Duration of the Exam - 1 hour 30 minutes

Section A : 20 MCQs (40m)

Section B : 8 Structured Questions (16m)

Section C : 6-8 Open-ended Questions (24m)  
Each question carries 2m - 4m



# Section A

The diagram shows Animal Y feeding on plants.



Animal Y

Which characteristic of living things can be observed from the diagram above?

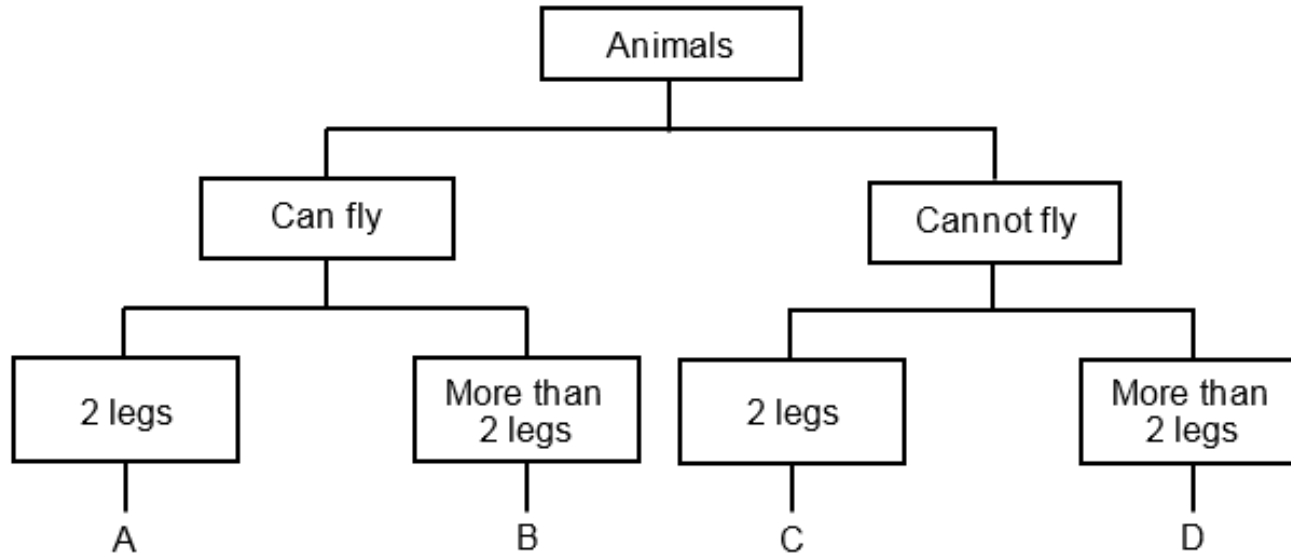
- (1) Living things grow.
- (2) Living things need food.
- (3) Living things reproduce.
- (4) Living things move from place to place.

(     )

# Section A



The classification table below shows how some animals are classified.



Hani saw **Animal M** in her garden and recorded her observations in her Science Journal.

- ★ Animal M cannot fly.
- ★ Animal M has four legs.

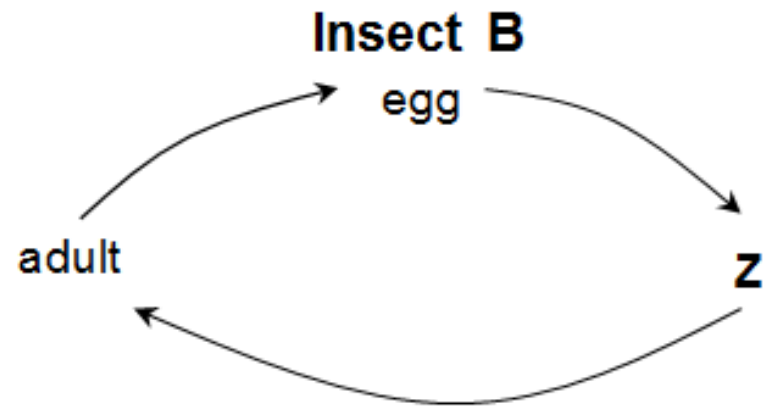
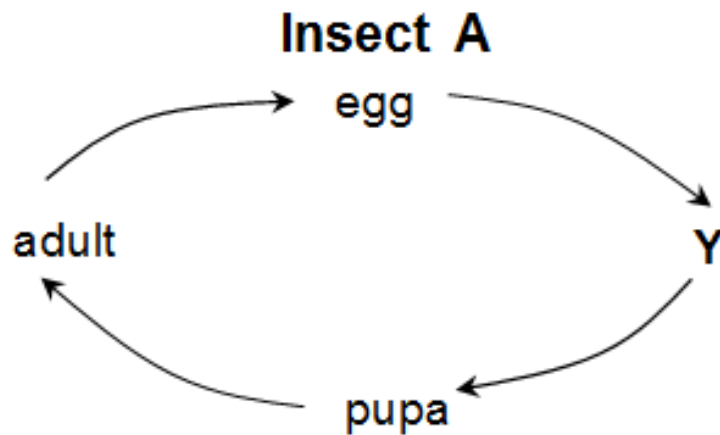
Which group, A, B, C or D, does Animal M belong to?

- (1) A
- (2) B
- (3) C
- (4) D

# Section B



The diagrams below show the life cycles of two insects, **A** and **B**.



Name stages **Y** and **Z** in the life cycles above.

[2m]

**Y:** \_\_\_\_\_

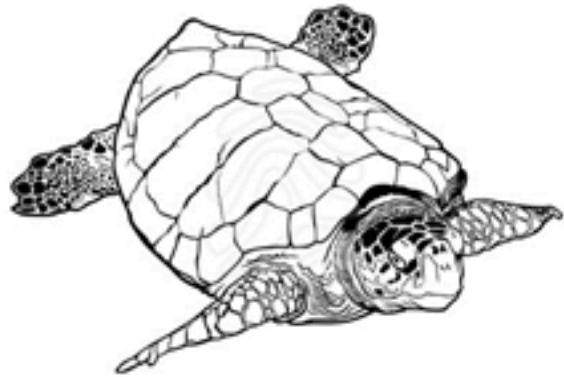
**Z:** \_\_\_\_\_



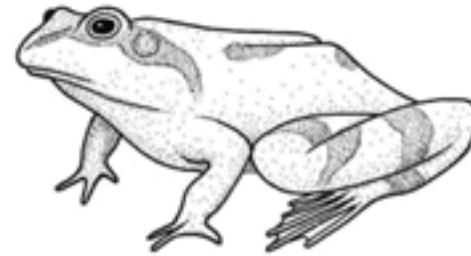
# Section C



The pictures below show organisms A and B.



Organism A



Organism B

These two organisms **reproduce** in a **similar** way.

State this **similarity**.

[1m]

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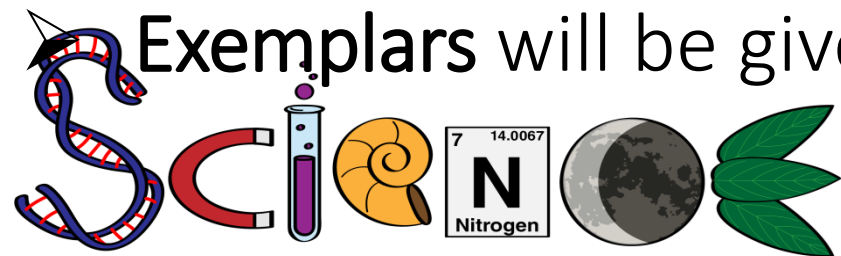
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# Mark Scheme



- Broad and Flexible
- Includes expected correct answers
- Student's responses that are different from the mark scheme are carefully evaluated and included as acceptable answers if they are **conceptually correct**.
- Responses that show evidence of understanding of relevant concepts and mastery of skills will be awarded **due credit**.
- Marks are **not** awarded for stating 'correct' key words

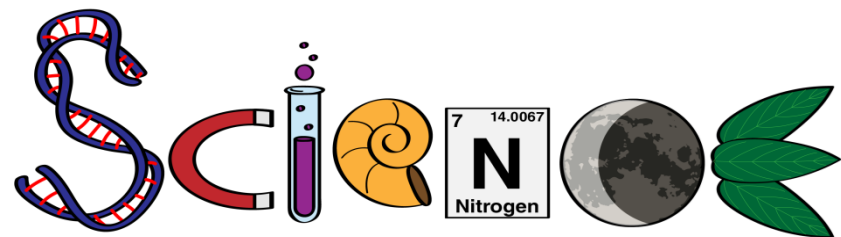
**Exemplars** will be given to students.



# Implications



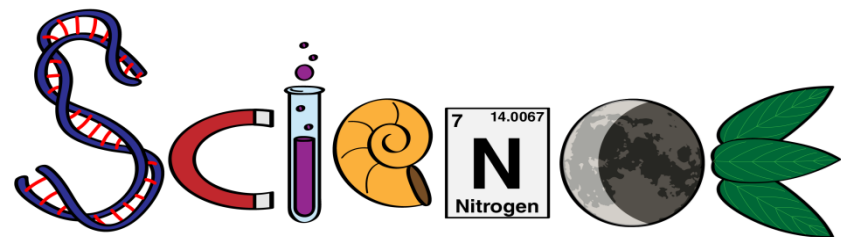
- **Good Understanding** of key concepts is important
  - ✓ **Make Connections** between concepts learnt
  - ✓ **Apply** concepts in new situations
- **Revision** of concepts learnt
  - ✓ Important to **keep** all Science materials for PSLE revision



# Implications



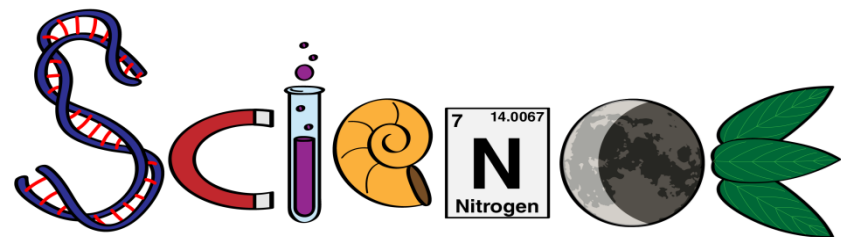
- **Practice & Application of Process Skills to authentic tasks**
  - ✓ active participant in activities
  - ✓ e.g. Fun with Variables, YI Project, Outdoor Learning etc.



# Guide to Answering Questions



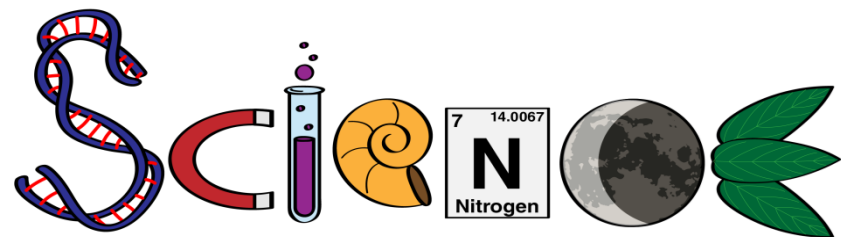
1. Answer in context to question - Never memorize answers, without understanding
2. Be specific e.g. “Plants are different in their leaves” without stating specifically how - e.g. shape, colour, or texture



# Guide to Answering Questions



3. Identify objective of question - asking about aim / procedure / pattern
4. Look for useful information in the question or diagram to identify the topic or key concept that is tested.



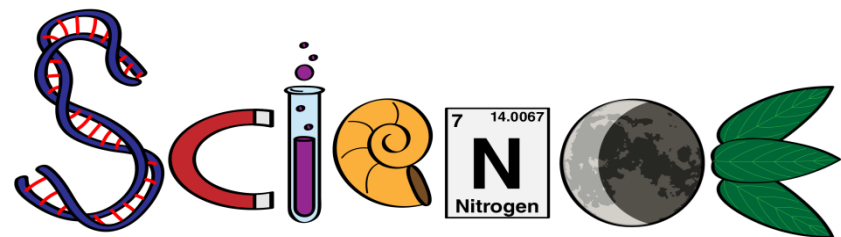
# Expectations & Support@Home



**1. Review & Think** through **key concepts** learnt

**2. Link** ideas across topics  
(For example Materials & Magnets)

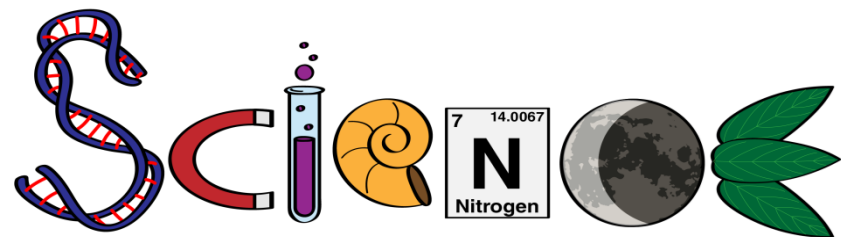
**3. Learn concept words & link** them to everyday life experiences



# Expectations & Support@Home



4. Engage children with **authentic tasks** such as simple cooking, household chores, gardening, repairing a bike or other household objects.

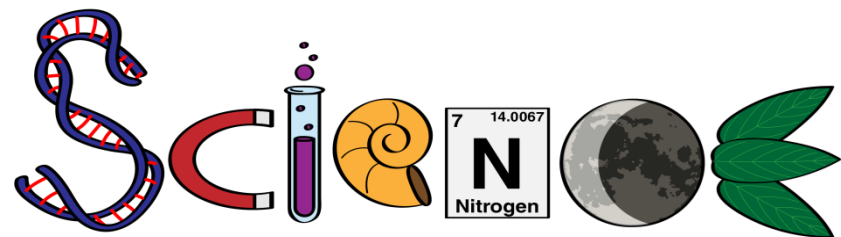




# Expectations & Support@Home



5. Actively engage your children by talking about books they are reading or **television programs** about Science they have watched.
6. In school, we provide our P3 students ample opportunities for experiential learning in our Science Curriculum.





Thank you

