

# **Science (Standard)**



# **Content**

- 1. Joy of Learning**
- 2. Topical Coverage**
- 3. P6 Level Focus**
- 4. P6 Key Strategies**
- 5. Assessment Format**
- 6. Home Support**

To provide opportunity for students to **apply their knowledge** and **conceptual understanding**, **ask questions** and **solve problems** through experiential learning.

Joy of Learning

Students will go through the **Ecotrail** in term 2

- to examine the different habitats that support different communities of living things
- to measure and determine factors such as temperature and light intensity, which affect organisms living in the pond and garden habitats with use of dataloggers and sensors

## Experiential Learning via Ecotrail



- To arouse **students' curiosity** and to guide them to understand the concepts through **hands-on and collaborative work**
- To promote **scientific thinking** through hands-on practices



Joy of Learning

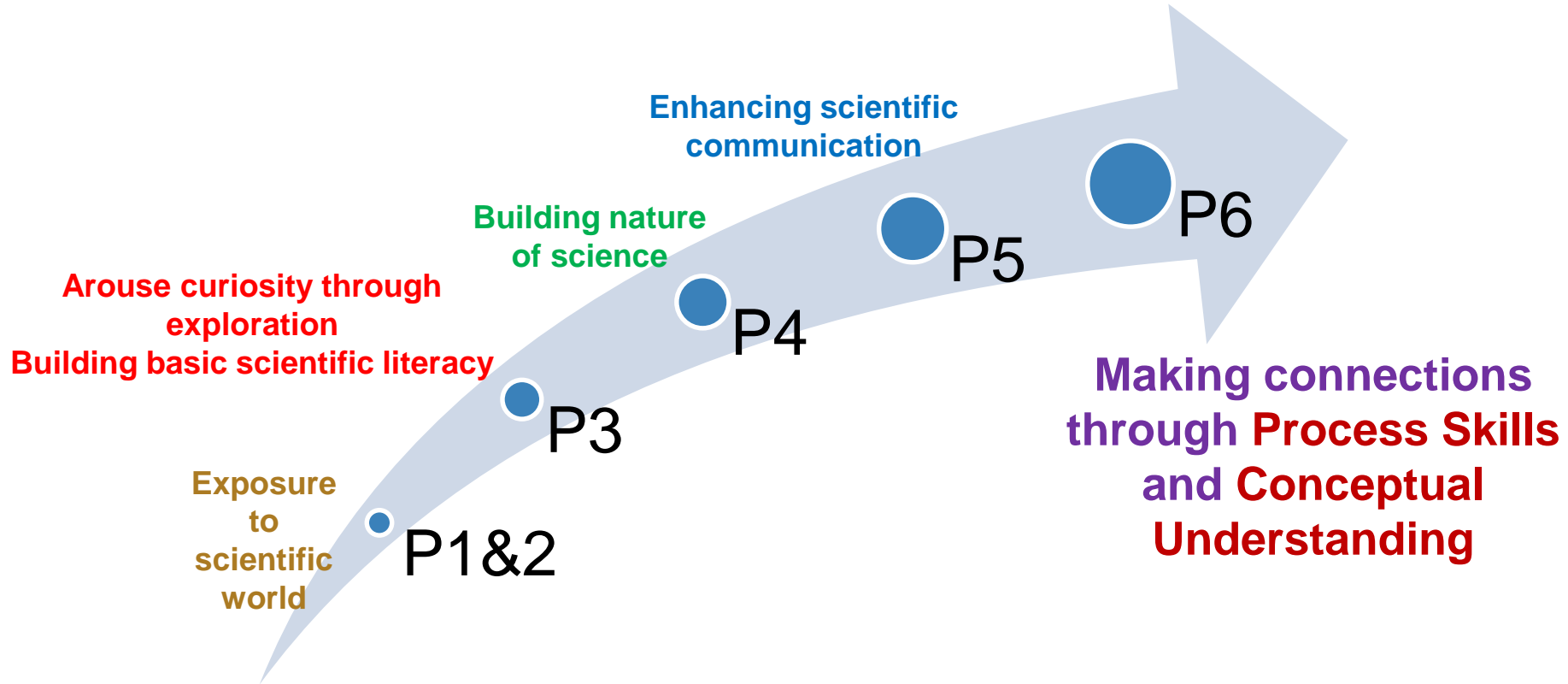
## Practical Laboratory Work



# Syllabus (2014) Standard

THEMES	LOWER BLOCK (P3 & P4)	UPPER BLOCK (P5 & P6)
DIVERSITY	Diversity of living and non-living things Diversity of materials	
CYCLES	Cycles in plants and animals Cycles in matter and water (matter)	Cycles in plants and animals Cycles in matter and water (water cycle)
SYSTEMS	Plant system Human system (digestive)	Plant system (respiratory and circulatory systems) Human system (respiratory and circulatory system) Cell system Electrical system
INTERACTIONS	Interaction of forces (Magnets)	1. Interaction of forces 2. Interaction within the environment
ENERGY	Energy forms and uses (Light and Heat)	3. Energy forms and uses (photosynthesis) 4. Energy conversion

# Level Focuses



## P6 Level Focus

At the start of Primary 6, the students would have learnt more than 75% of the science syllabus. It is important for students to start their own revision early through tools such as Concept or Mind Maps for topical revision, or listing all the concepts relevant to a topic, for example, magnets or life cycle of animals.

The P6 science content builds on the learning from P3 to P5. Hence, during the teaching of Process Skills and Concepts, connections to prior knowledge and concepts are explicitly made to allow students to see gain a better understanding of the interconnections and linkages between concepts learnt.

# Support for the Students

- ★ Explicit teaching of process skills during supplementary lessons
- ★ Use of PSLE or Exam Questions as exemplars to illustrate the various strategies and/or techniques to answer Science questions, in particular the open-ended questions.
- ★ Mind maps and/or Concept maps to help students to structure what they have learnt and make connections (join the dots) between concepts within a theme and across themes.

## P6 Key Strategies



# Support for the Students

- ★ Self-directed practices of Booklet A

- ★ Topical PSLE Practice Papers

- ★ Full Exam Revision Papers

- ★ **June Holiday Master Classes**

Lessons to address the **specific learning gaps** identified from the student responses in the 2019 SA1 science, before the Preliminary Examination in August.

## P6 Key Strategies

# Explicit Teaching of Process Skills

- ▣ Observing
- ▣ Classifying
- ▣ Using apparatus and equipment
- ▣ Comparing
- ▣ Communicating
- ▣ Inferring
- ▣ Formulating Hypothesis

Predicting

Analysing

Generating Possibilities

Evaluating

**Higher order thinking questions which are commonly assessed in PSLE will be taught**

## P6 Key Strategies

## Lesson 9

### Analysing

Skills: Suggest many, varied and original ideas with some details.

Pupils are expected to suggest ways of carry out an experiment and support it with reasons. Always look into the aim of the experiment and the condition affecting the experiment.

#### Sample Question (PSLE Booklet)

Suzie carried out an experiment to study the decomposition of dead leaves. She placed dead leaves and some damp soil in a bin as shown below. She was advised not to add water to the bin.



After a few months, the dead leaves were decomposed into a damp back substance which could be used as fertiliser.

Give two things that Suzie could do to make the dead leaves decompose **faster**. Give a reason for each of your suggestions.

Topic: Decomposition

One ought to understand how conditions affecting decomposition:

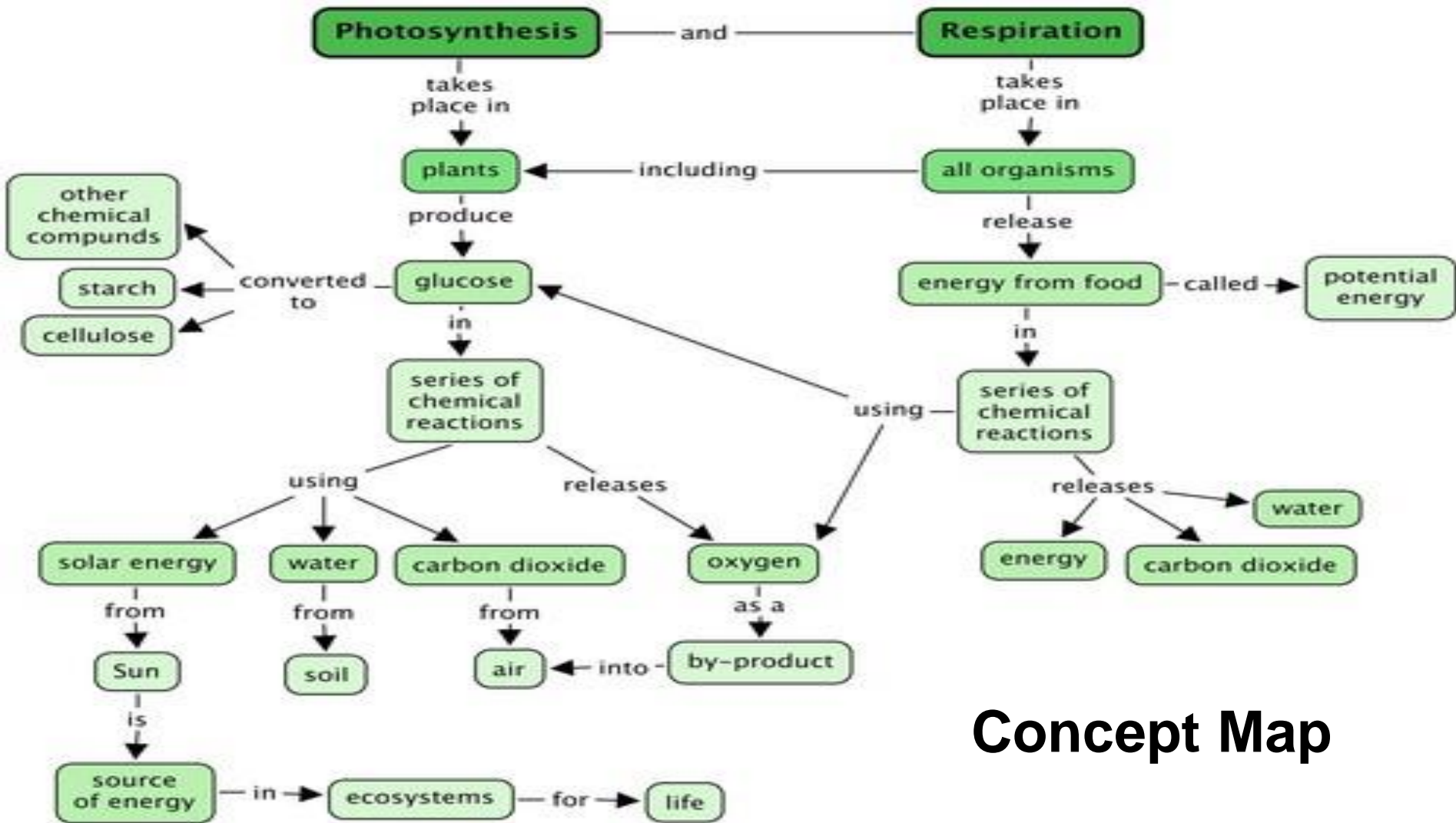
- ☐ Presence of water
- ☐ Presence of animals in the leaf litter community
- ☐ Temperature of the surrounding

Strategy to  
answer this  
type of  
questions

Sample  
Question  
used to guide  
the students  
in answering  
process skills  
questions  
explicitly

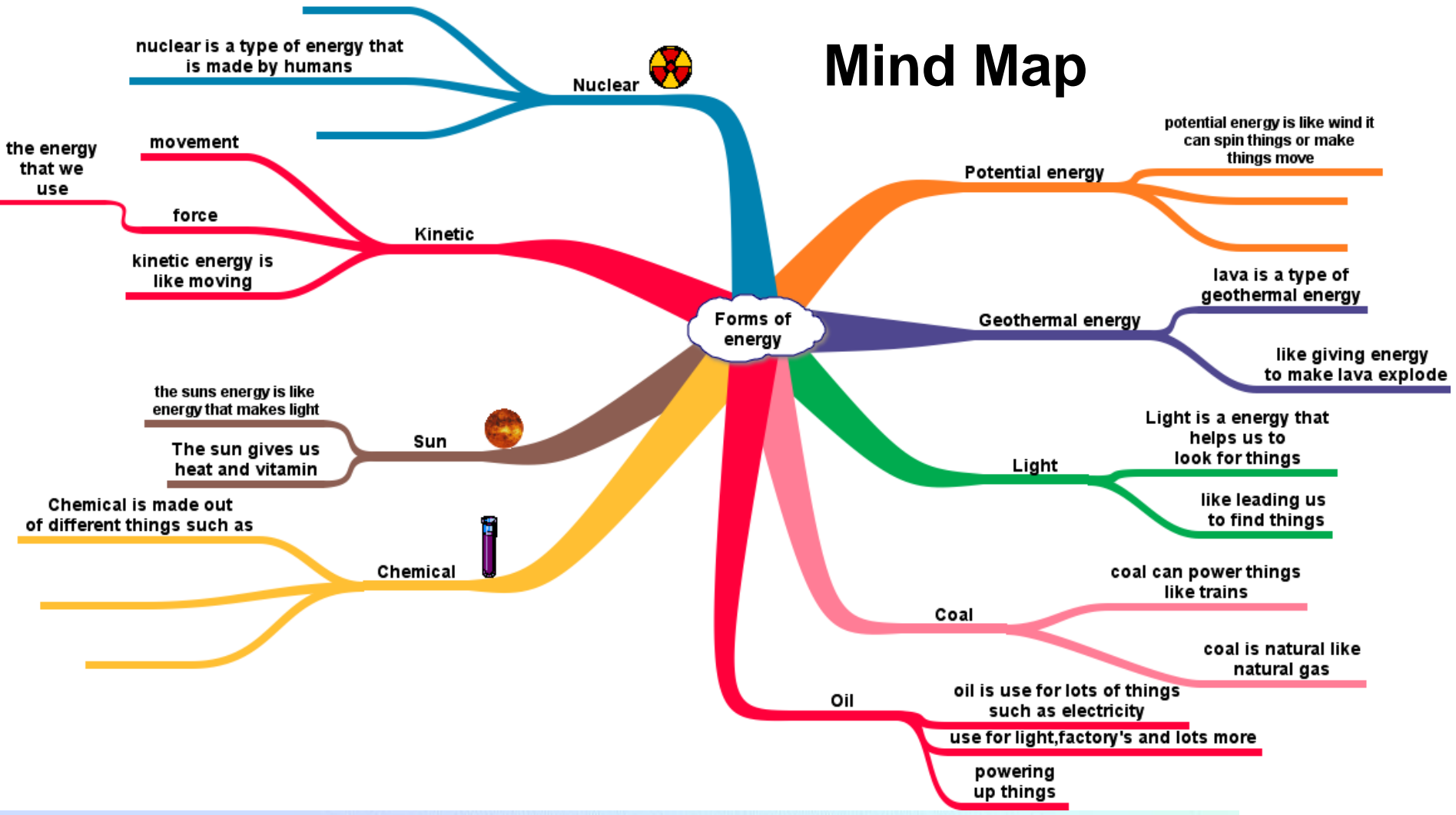
Identify the  
relevant  
concepts and  
conditions

# Explicit Teaching of Process Skills



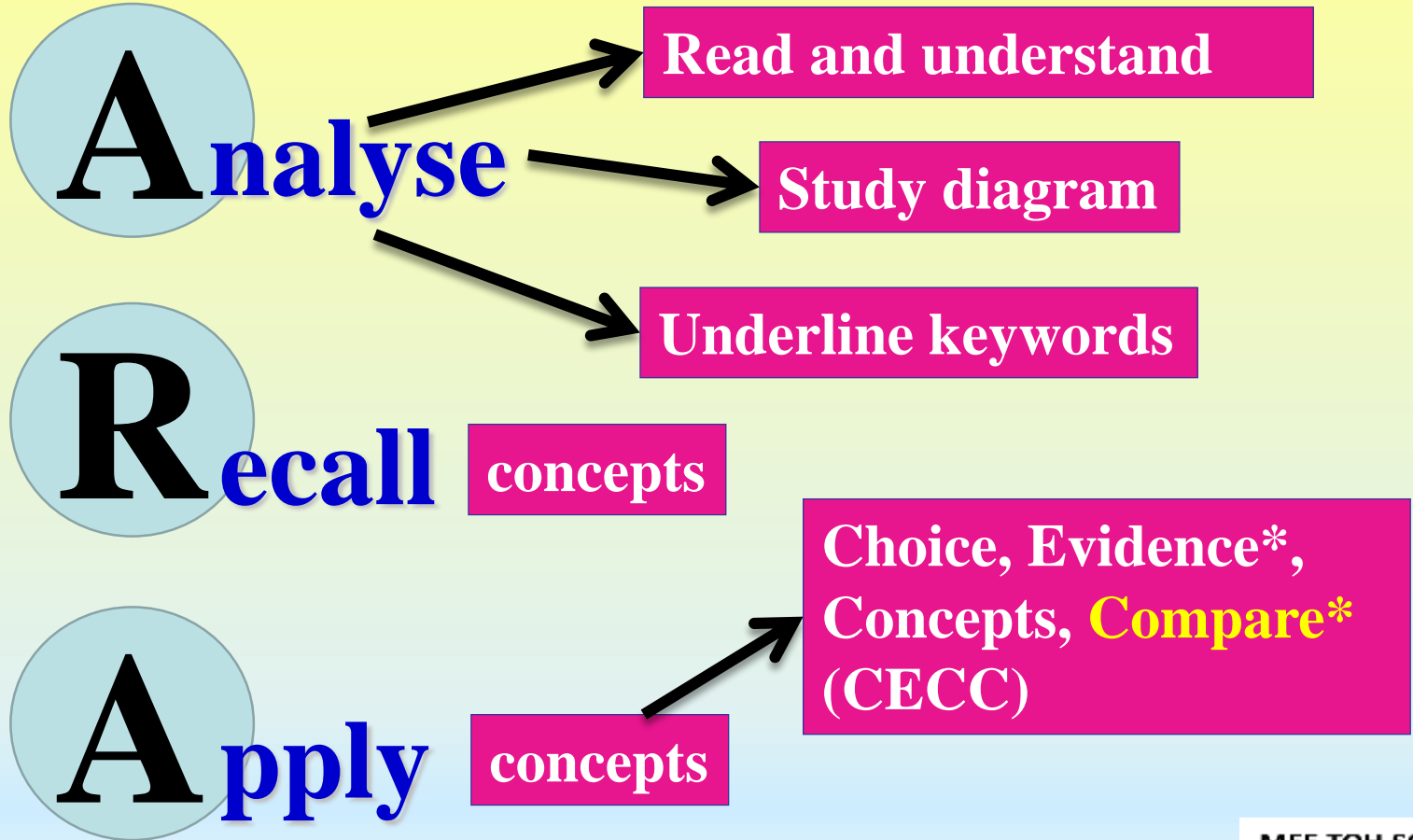
Concept Map

# Mind Map



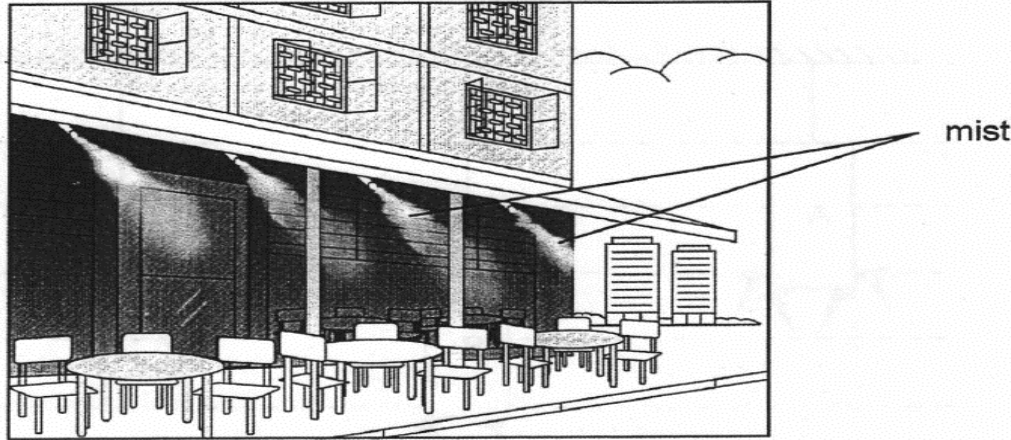


# ARA Strategy



# Apply through the use of CCEC

For some buildings, water mist systems are used to cool the surrounding air. Tiny water droplets are produced in the form of a mist as shown below.



Explain how such a system is able to lower the temperature of the surrounding air. Give a reason for your answer.

The mist **increases** the amount of water droplets in the air. [Observe from the picture and question stem] Thus, the water droplets **gain heat faster from the surroundings and evaporate faster**, [Concept], removing heat **faster** from the surrounding air. [Evidence from “lower the temperature”] Thus, the temperature decreases.

# Assessment Format (Standard)

- The table below shows the Exam Format.

## Assessment: P6 CA1 / SA1 / Prelim

Booklet	Item Type	No. of Qns	Marks	Duration
A	Multiple choice	28	56	1 h 45 min
B	Open-ended	12 – 13	44	
Total		40 – 41	100	1 h 45 min

- The above school assessment format adheres to the PSLE Science Paper format, which was updated starting with the 2017 PSLE paper.
- The table below shows the PSLE Science paper format in 2016 and earlier.

Booklet	Item Type	No. of Qns	Marks	Duration
A	Multiple choice	30	60	1 h 45 min
B	Open-ended	14	40	
Total		44	100	1 h 45 min

- ★ Go through your child's work and check their knowledge and understanding of what they have learned.
- ★ Check your child's work daily to ensure they complete and submit their work on time.
- ★ The identification and annotation of scientific terms in a question stem is important. Help to reinforce this as daily revision is carried out at home.
- ★ Help your child to apply their learning in daily life contexts. Encourage your child to ask questions and make connections between concepts and observations.

## Home Support

# Thanks!

Happy 2019

