

# Saint Andrew's Junior School

## Science Department

**Mission:** To develop each Science pupil to be an inquirer, innovator and environmentalist

**Vision:** Inculcate in pupils a sense of wonder/curiosity and equip them with skills in exploring and discovering such that they aspire to make a positive impact in future



# Nurturing the Holistic Thinker

Pedagogy: What IS PTA in our school?

Problem/challenge

Teach/Learn

Apply

5 Es  
Engage  
Explore  
Explain  
Elaborate  
Evaluate

MTV

Hands ON

ICT

Dept pedagogy remains- only change is addition of "challenge" to the problem

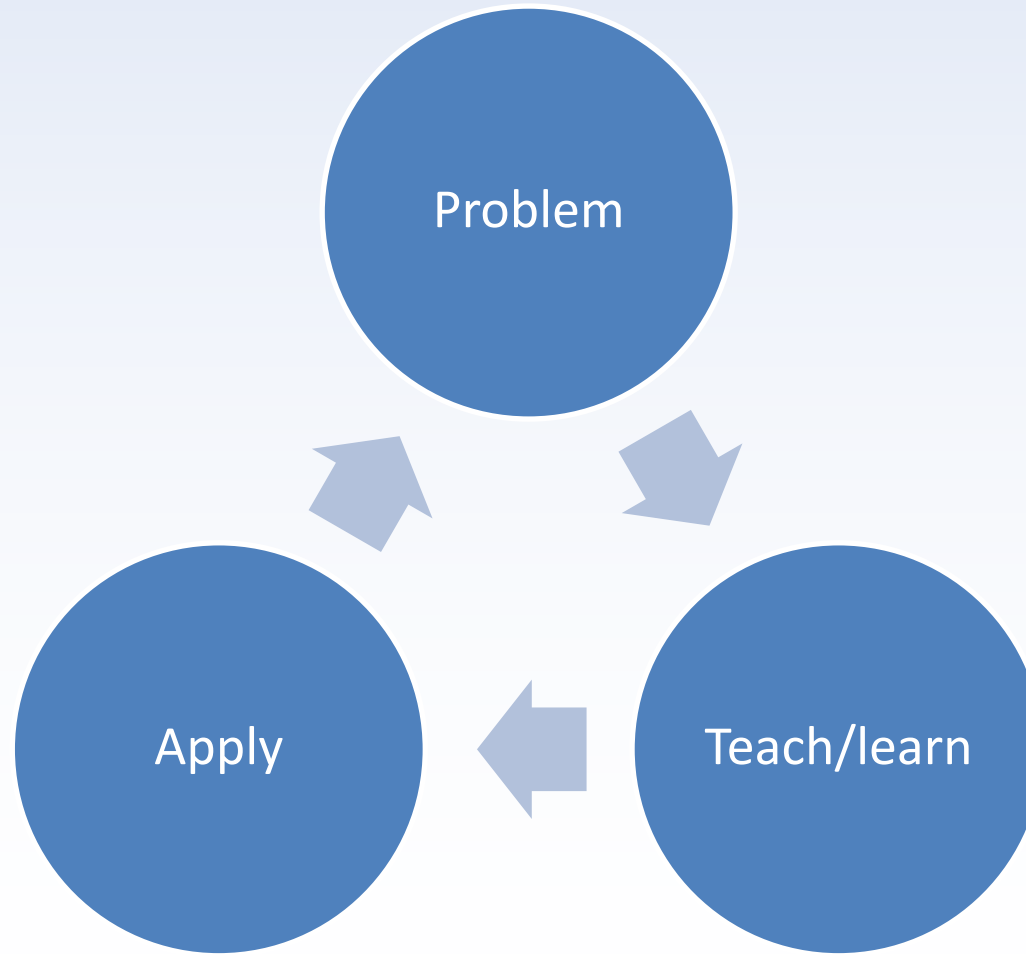
# 5Es pedagogical approach

- Engage
- Explore
- Explain
- Elaborate
- Evaluate



# Science Pedagogical Process Flow

## Problem (P), Teach/learn (T), Apply (A)



# Developing the Skilled Communicator

**Presentations**

**Group work**



- Teaching slides
- Conducting experiments
- Worksheets (Activity, Process Skill, Check-out and Thematic Paper)

In addition....

- SLS (Blended learning)
- Creating PPT slides
- Attempting SLS Weekly/Topic quizzes

Different platforms



Student learning Space  
(SLS)  
Topic:  
P4 Heat and Temperature



## Blended learning (SLS)

Credited to: Yeo Peng Seng Last edited by: Lee P

Activities

Activate Learning

1. Understanding the problem

Activate Learning

2. Teaching and Learning

Activate Learning

3. Let's check if your predictions are correct!

Facilitate Demonstration of Learning

4. Take up the challenge!

Facilitate Demonstration of Learning

5. Let's apply understanding to answer open-ended questions!

Monitor and Provide Feedback

6. Reflection!

## PRIDE

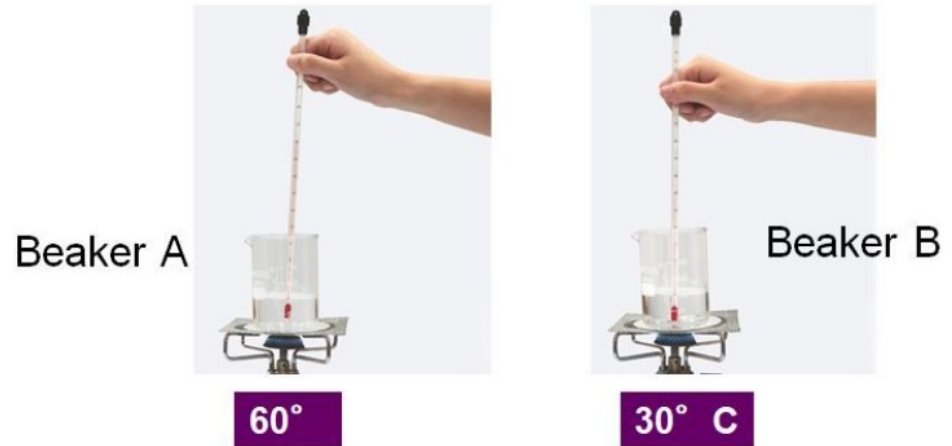
- (1) PINPOINT AND HIGHLIGHT WHAT IS RELEVANT
- (2) RESTATE/REORGANISE QUESTION
- (3) IDENTIFY KEY CONCEPTS/FACTS**
- (4) DECIDE CONCEPTS/FACTS THAT IS MOST APPLICABLE
- (5) EXPLAIN USING THE SCIENTIFIC FACTS

**So have you identified the  
scientific concept  
involved in this problem?**



## What is the difference between heat and temperature?

- The difference between heat and temperature:



To heat up the same amount of water to a higher temperature, more heat is needed. Thus, the water in beaker A has more heat than the water in beaker B.

### Activate Learning

1. Understanding the problem

### Activate Learning

2. Teaching and Learning

### Activate Learning

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Help us improve

Need help?

## Blended learning (SLS)

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### Monitor and Provide Feedback

6. Reflection!

**Let's design an experiment to determine which surface allows ice to melt the fastest!**

**Here's what you need:**

**(1) Ice**

**(2) a variety of surfaces made of different materials**

- metal {like a pot or pan}
- plastic {like a lid, or a bowl}
- paper {like a paper plate}
- glass {like a bowl}

**Choose a variety of surfaces for your ice to melt on. Compare metal, plastic, glass, and paper to see which makes a better conductor of heat.**

**State your prediction before conducting the experiment!**

## Blended learning (SLS)

Activate Learning

2. Teaching and Learning

Activate Learning

3. Let's check if your predictions are correct!

Facilitate Demonstration of Learning

4. Take up the challenge!

Facilitate Demonstration of Learning

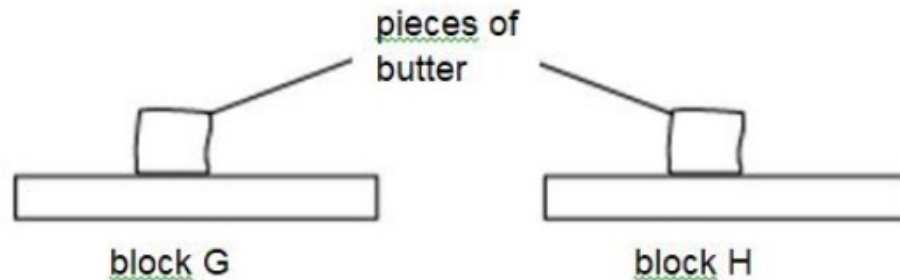
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Monitor and Provide Feedback

6. Reflection!

ADD TO MY DRIVE

Raj placed pieces of butter on two blocks G and H of similar size as shown.



- (a) Raj placed the two blocks at room temperature. He observed that the piece of butter on block H melted more quickly than the one on block G. Explain his observations. [2]

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## Blended learning (SLS)

### Activities

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#### Activate Learning

2. Teaching and Learning

#### Activate Learning

3. Let's check if your predictions are correct!

#### Facilitate Demonstration of Learning

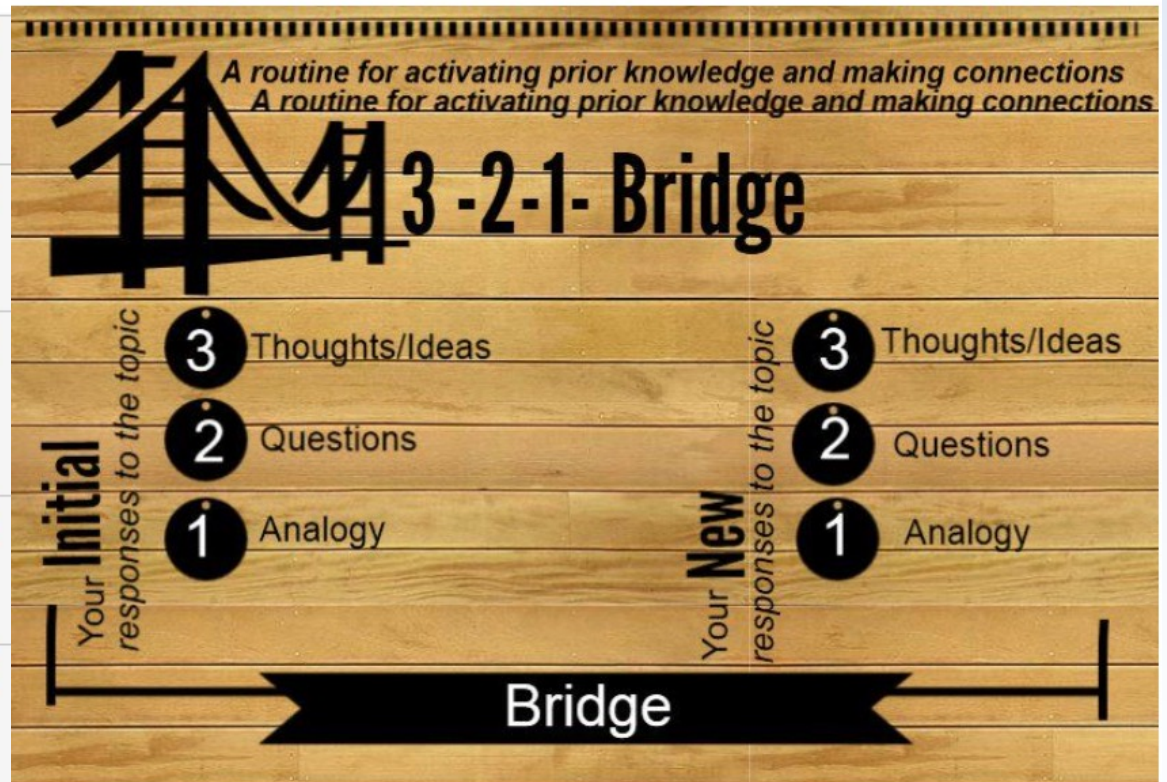
4. Take up the challenge!

#### Facilitate Demonstration of Learning

5. Let's apply understanding to answer open-ended questions!

#### Monitor and Provide Feedback

6. Reflection!



Sample of students' work



Creating PPT slides  
Topic: P4 Life cycle of Animal



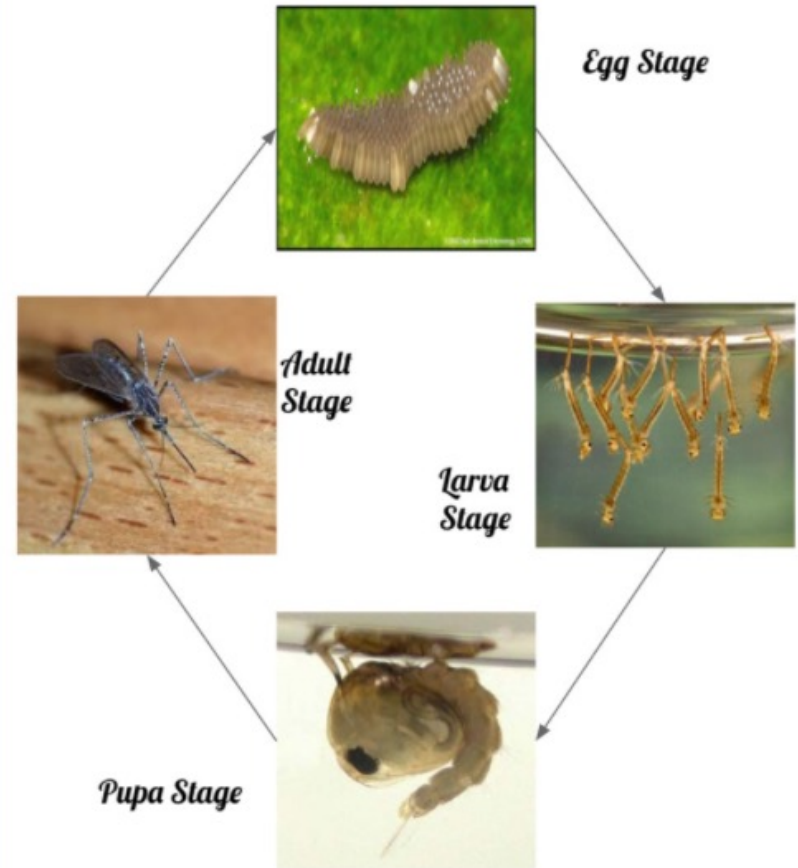
PROJECT: POSTER DESIGN/  
POWER-POINT  
PRESENTATION(MOSQUITO)

- i) Common places for breeding of mosquitoes.
- ii) Ways to prevent mosquitoes from breeding.






Sample of students' work



## COMMON BREEDING AREAS OF THE MOSQUITO

1. Flower pots
2. Buckets with still water
3. Air-con drip trays
4. Trash cans
5. Pools and Spas (not likely)
6. Birdbaths
7. Gutters/Drains
8. Rooftops
9. Rain Puddles
10. Toilet bowl water  
(Only if not in use)

## Weekly/Topic SLS quizzes

Lesson Title **2020 Primary 4 Science - Term 2 - Week 3 - Revision Quiz 3** 

Description Primary Four weekly quiz

Credited to: Ngin Chor Hong Last edited by: Ngin Chor Hong on 16 Mar 2020 12 : 02 PM

### Activities

Custom

1. Complete this quiz 

Complete this quiz

**2020 Primary 4 Science - Term 2 - Week 3 - Revision Quiz 3**

[Show more details](#)

Feedback given after Quiz Submission

Total	Not shown
Recommended	

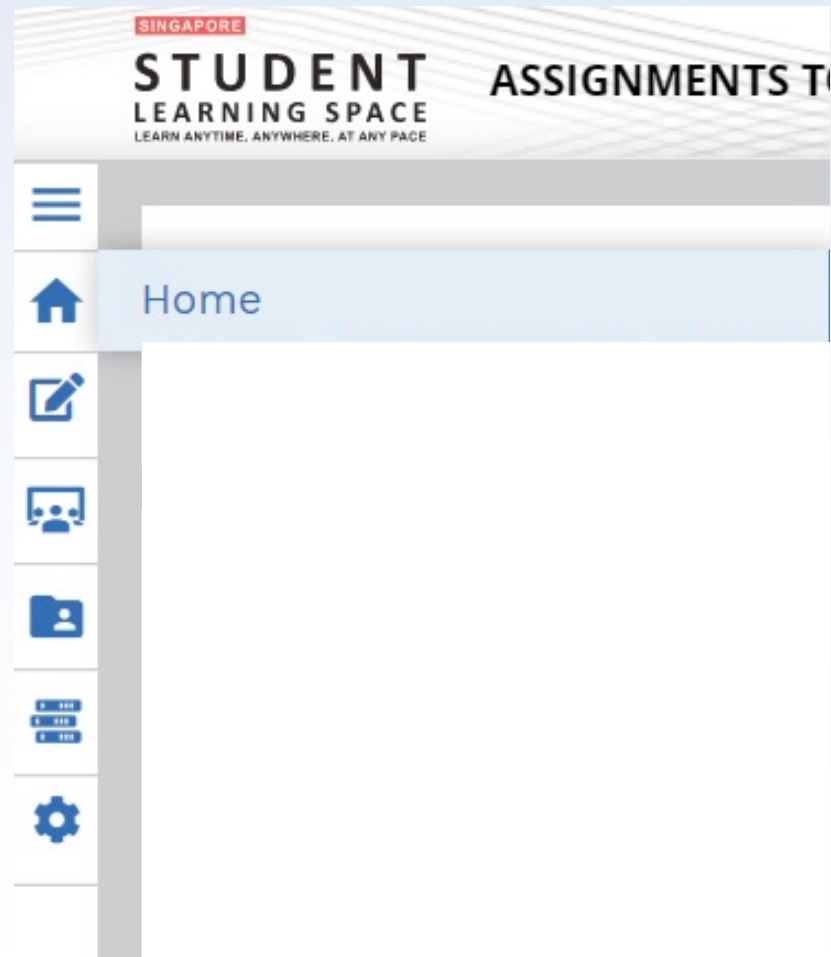
Need

Help us improve



How find these quizzes?

- Login to SLS then
- click Home page



# P4 Checkpoints

Themes	Term 1	Term 2
<p><b><u>P3 topics</u></b></p> <ul style="list-style-type: none"> <li>• <b>Diversity</b></li> <li>• <b>Systems</b></li> <li>• <b>Interactions</b></li> </ul> <p><b><u>P4 topics</u></b></p> <p><b>Cycles</b></p> <ul style="list-style-type: none"> <li>• <b>Life cycles of some animals</b></li> <li>• <b>Life cycles of plants</b></li> <li>• <b>Matter</b></li> </ul> <p><b>Energy</b></p> <ul style="list-style-type: none"> <li>• <b>Light and shadows</b></li> <li>• <b>Heat and temperature</b></li> </ul>	<p><u>Topical review 1 (Not weighted)</u></p> <p>MCQs and Open ended questions</p> <p>Topics</p> <ul style="list-style-type: none"> <li>• Include all P3 topics</li> <li>• Life cycles of some animals</li> </ul>	<p><u>Semestral Assessment 1 (30%)</u></p> <p>Booklet A, 28 MCQs (56 marks)</p> <p>Booklet B, 12-13 OEs (44 marks)</p> <ul style="list-style-type: none"> <li>• Total: 100 marks</li> <li>• Duration: 1h 45 min</li> </ul> <p>Topics</p> <ul style="list-style-type: none"> <li>• Include all P3 topics</li> <li>• P4 topics</li> </ul> <p><u>Cycles</u></p> <ol style="list-style-type: none"> <li>1) Life cycles of some animals</li> <li>2) Life cycles of plants</li> <li>3) Matter</li> </ol>



# P4 Checkpoints

Themes	Term 3	Term 4
<p><b><u>P3 topics</u></b></p> <ul style="list-style-type: none"> <li>• Diversity</li> <li>• Systems</li> <li>• Interactions</li> </ul> <p><b><u>P4 topics</u></b></p> <p><b>Cycles</b></p> <ul style="list-style-type: none"> <li>• Life cycles of some animals</li> <li>• Life cycles of plants</li> <li>• Matter</li> </ul> <p><b>Energy</b></p> <ul style="list-style-type: none"> <li>• Light and shadows</li> <li>• Heat and temperature</li> </ul>	<p><u>Performance-based assessment.</u></p> <p><u>PA1 (Formative)</u></p> <ul style="list-style-type: none"> <li>• Practical Assessment</li> <li>• 1 booklet</li> <li>• 2 to 3 questions</li> <li>• 10 marks</li> <li>• Duration: 20 min</li> </ul> <p><u>Topical review 2</u></p> <p>MCQs and Open ended questions</p> <p>Topics</p> <p>Light and shadow</p>	<p><u>Semestral Assessment 2 (70%)</u></p> <ul style="list-style-type: none"> <li>• Booklet A, 28 MCQs (56 marks)</li> <li>• Booklet B, 12-13 OEs (44 marks)</li> <li>• Total: 100 marks</li> <li>• Duration: 1h 45 min</li> <li>• 30% basic items</li> </ul> <p>Topics</p> <ul style="list-style-type: none"> <li>• Include all P3 and 4 topics</li> </ul>



## Home routines that can support learning of Science

- Linkage of Science to everyday activities or phenomena.
- Guide him in research – information from books / websites
- Ensure that he completes all assignments / corrections.



## Resources

- Science Notes
- Weekly MCQ on SLS
- Answering techniques
  - P.R.I.D.E
  - C.E.R

