

# 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 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



# National Approach

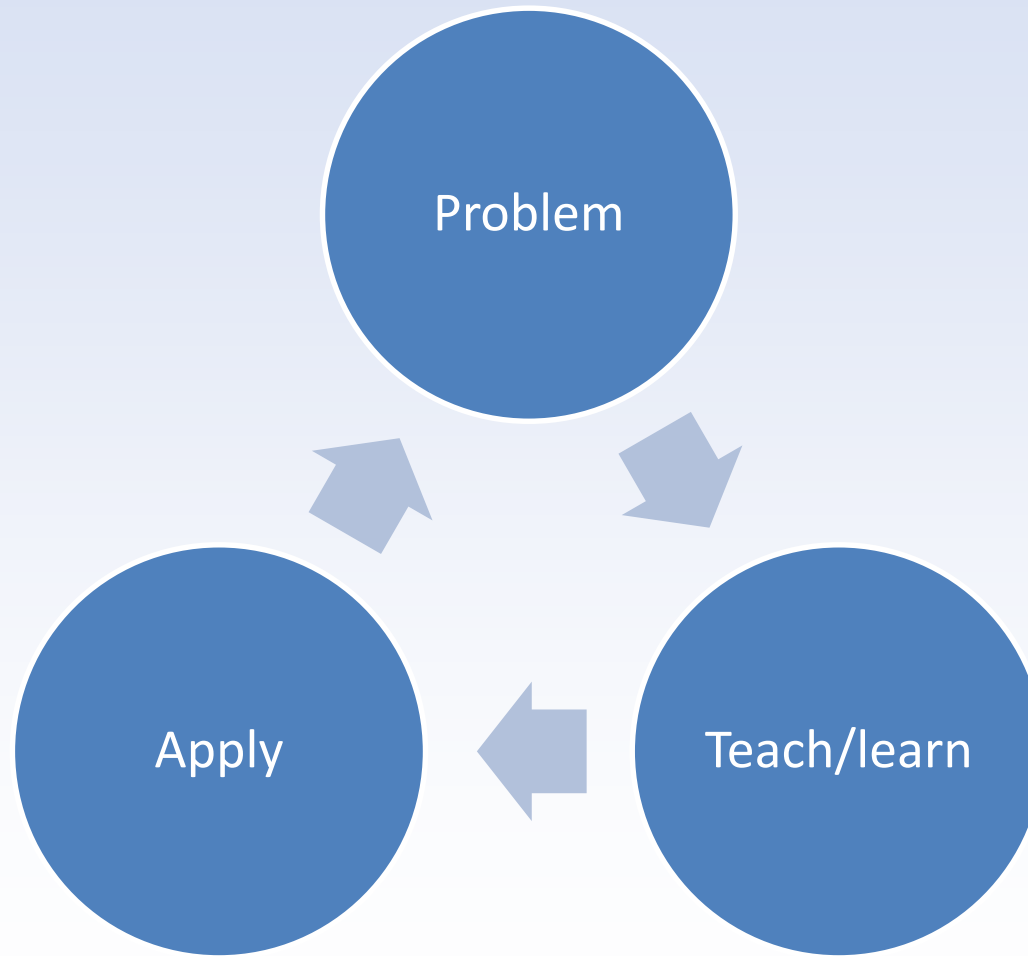
## 5Es pedagogical approach

- Engage
- Explore
- Explain
- Elaborate
- Evaluate



# Science Pedagogical Process Flow

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



# P: Problem

## **Problem**

A shadow puppeteer realised that the screen he has been using for his shows is torn. He has an upcoming shadow puppet performance in a week's time and needs to find a replacement so that he can perform. However, he has no idea which material to choose for his screen and requires your help.

Based on the teacher's demonstration, in your groups, discuss and choose a material you think can be used as the screen in a shadow puppetry play. Support your answer with an explanation.



**Suggest a material best used as the screen in a shadow puppetry play.**

The boys will be given a problem to solve.  
The problem usually will be set in a real world context to provide authentic learning and problem solving experience.



# T: Teaching and Learning

## 2. Investigation

As you conduct the experiment, assign 1 member in your group to enter the data obtained in the form below.

Le

1.

2.

Be

T

## Data 3. Explanation

### Compare and explain

Your username (pearlyn.sew@saintandrewsjunior.moe.edu.sg) will be recorded when you submit this form. Not pearlyn.sew? [Sign out](#)

\* Required

Class \*

Group \*

Compare the two materials given, which one has a higher LUX reading? \*

Explain the difference in LUX readings of the two materials. \*

Give

R

Pupils are required to conduct their own experiments, make observations and try to explain what they observed.





# A: Application

## 4. Conclusion

Review the table you have completed prior to the lesson. Ask yourself the following questions:

- 1) Were the knowledge you have about the topic accurate? What has changed?
- 2) Were the questions you had about light answered? If not, what are you going to do to find the answers?

Complete the column under 'Post-activity'.

- 1) State what you have learnt from today's activity.
- 2) 1 thing about light that still puzzles you and wish to explore about the the topic of light.

Document can be found [here](#).

Recall the little demonstration done at the beginning of the lesson. After conducting the investigation, which material do you think is best suited to be used as the screen in a shadow puppetry play?

Use concepts of light to support your answer.



**Choice of material best suited to be used as screen in a shadow puppetry play.**

Students have to apply what they have learnt from their investigation and determine which material is best suited to be used.



# Developing the Skilled Communicator



**Presentations**

**Group work**





# P4 Assessment

Themes	Term 1	Term 2
<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, PA1</u> (Formative)</p> <ul style="list-style-type: none"> <li>• 1 booklet</li> <li>• 10 marks</li> <li>• Duration: 20 min</li> </ul> <p><u>Topical review 1</u></p> <ul style="list-style-type: none"> <li>• Life cycles of some animals</li> </ul>	<p><u>Semestral Assessment 1 (30%)</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> </ul>



# P4 Assessment

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, PA2 (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> <ul style="list-style-type: none"> <li>• Light and shadow</li> </ul>	<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>



# 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

- Class Science Website
- Science Notes
- Weekly MCQ on class department website
- Supplementary Lessons
  - Answering techniques
  - P.R.I.D.E

Guide books

- Science PSLE Revision Guide

