

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

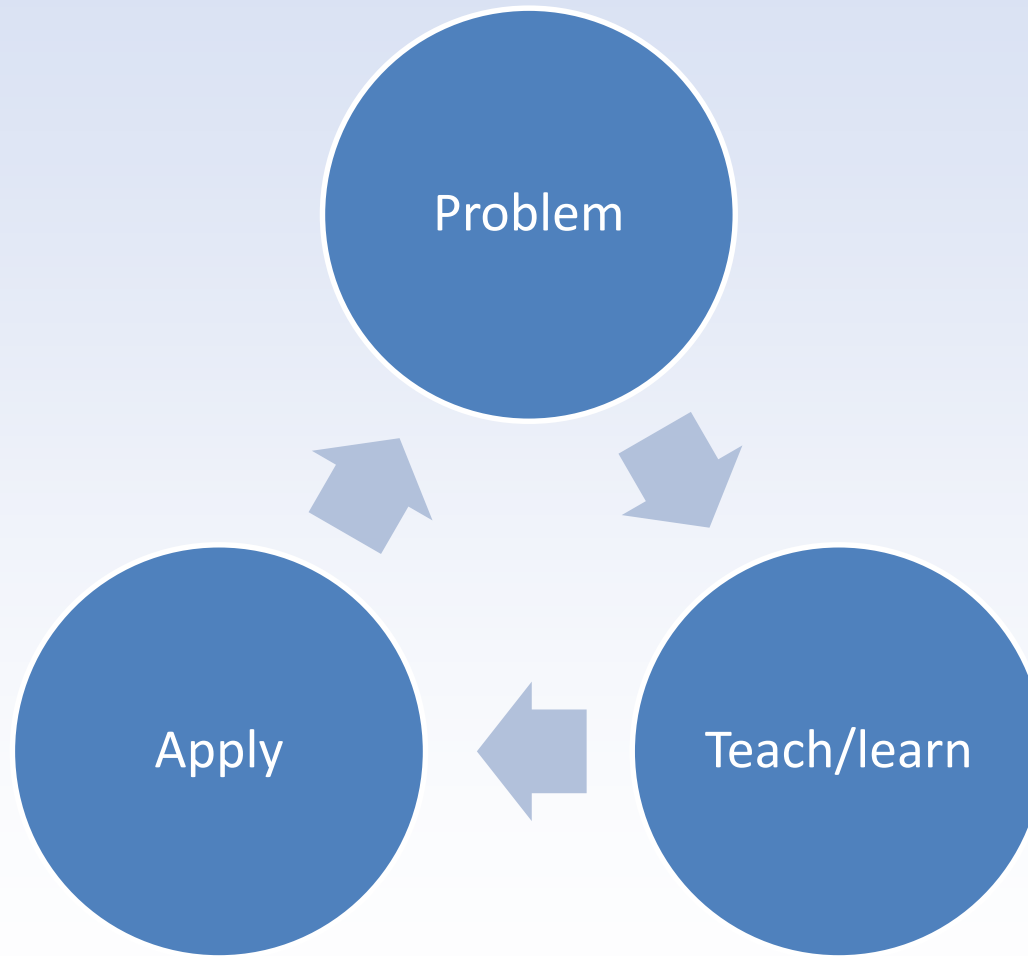
5Es pedagogical approach

- Engage
- Explore
- Explain
- Elaborate
- Evaluate



Science Pedagogical Process Flow

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



Pose a Problem

(Bacteria and Fungi Lesson)



2. Bacteria and Fungi >

a. Introduction / Problem

One Saturday morning, Mrs Tan bought a bunch of grapes from the nearby supermarket. While Mrs Tan set about packing her house after lunch, she placed the bunch of grapes at the balcony and forgot about them.



Two weeks later, while Mrs Tan was clearing some old clothes at the balcony, she noticed a stench coming from a corner of the balcony. Upon investigation, she found her bunch of grapes. However, they no longer look like how they were when she first bought them.



Problem

Mum just bought a bunch of grapes from the supermarket.

What can you do to ensure that the grapes remain edible for the longest possible time?

What do you think have caused food around us to turn bad?

Teaching and Learning

Think-Puzzle-Explore (Beginning of lesson, BOL)

- 1) What do you think has happened to the grapes? Describe what you think could have happened.
 - 2) What puzzles you about what had happened to the grapes?
 - 3) Is there anything you wish to explore based on what you have seen happened to the grapes?
- In your groups, discuss and post on the padlet below.

P3-Resilience(Group 7)

I think the the bunch of grapes are rotten.The grapes are rotten because there are bacteria and mold inside the rotten grapes.

P3 Wonder Ryan Koh

I see that the grapes is mouldy. I think it there is bacteria inside. I wonder is there any fungi inside the grape

1) I think that the bunch of grapes grew mould.

2) What puzzled me is that mould needs air, moisture and warmth but there is no water on the grapes.

3)I wish to explore about how mould looks like.

Josiah & Shaun Wee

1) I think the grapes are rotten.

2) How did the mould appear on the grapes.

3) I want to explore how mould grows on food.

P3-Thanksgiving Julian Kan

Q1) I think that the grapes are rotten and there is mold growing on it. I think that because it was left to the open air for a long time.

P3-Resilience(Group 7)

I think the the bunch of grapes are rotten.The grapes are rotten because there are bacteria and mold inside the rotten grapes.

P3 Resilience (group 6)

I think that the grapes became rotten as fungi and bacteria is growing on it so it cannot be eaten.

I think that if Mrs Tan should have kept it in the fridge so it will last longer.

Primary 3 Thanksgiving T.Shridhar

1) I think the bacteria grew on the grapes as it looks very different from the way it looked before.

2) How does bacteria grow?

3) I wish to see how microscopic bacteria looks like on a microscope.



Teaching and Learning

BOL

What are some words you can think of that are related to fungi and bacteria? *

Class *

Group *

What are some words you can think of that are related to fungi and bacteria?

living mushrooms moulds spores puffballs yeast
 mold, fungi, bacteria, yeast, rod-shaped, spiral shaped, spherical shaped, mushroom
 living bacteria fungi mushroom toadstool spores mould yeast micro - scopic
 Mould Microscopic Mushroom Toadstool Grow on something
 living, mushroom, yogurt, mould, spores, water, yeast, damp, germs.
 bacterium living harmful good mould mushroom ebola severe syndrome yogurt influenza dengue malaria measles
 Mushroom, mole, cup fungi, jelly fungi, algae,
 living bacteria fungi mould yeast mushroom cheese bread beer wine yogurt spores bracket toadstool stalk cap gills
 mushroom spores molds living bacteria inedible dirt microscopic
 green slimy mushroom
 spores slimy green gorse smelly not tasty hated everywhere microscopic mushroom toadstool
 fungi bacteria mole mushrooms grow affect people spores puffballs
 toadstool, bread mold, mushroom, micro organisms, move, living thing, eat, jew's ear, bracket fungus
 fungi yeast mold mushroom salad soup cheese banana
 mushroom moss yeast mold soup salad cheese banana
 bacterial, fungi, mole, mushroom, black fungus, black truffle.
 bacteria, fungi, living, mole, mushrooms, cup fungi
 living dark moist spores germs smells mould sick parasite yeast toadstool
 living mould mushroom
 yeast, virus, mold
 Yeast germs
 mould spores

Class	Group
3 Thanksgiving	Group 5
3 Thanksgiving	Group 8
3 Thanksgiving	Group 8
3 Thanksgiving	Group 1
3 Thanksgiving	Group 2
3 Thanksgiving	Group 10
3 Thanksgiving	Group 7
3 Thanksgiving	Group 6
3 Thanksgiving	Group 4
3 Thanksgiving	Group 1
3 Thanksgiving	Group 1
3 Thanksgiving	Group 7
3 Thanksgiving	Group 5
3 Thanksgiving	Group 8
3 Thanksgiving	Group 8
3 Thanksgiving	Group 5
3 Thanksgiving	Group 7
3 Thanksgiving	Group 2
3 Thanksgiving	Group 10
3 Thanksgiving	Group 4
3 Thanksgiving	Group 6
3 Thanksgiving	Group 2



Teaching and Learning Strategies

P3 Science ICT lessons

Search this site

P3 Science

Home

- 1. Diversity - Animals
 - 1. Introduction
 - 2. Exploration
 - 3. Conclusion
- 2. Bacteria and Fungi
 - a. Introduction / Problem
 - b. Investigation / Exploration**
 - 3. Thanksgiving discussion
- 3. Interactions - Magnets
 - a. Exploration
- 4. Announcements
- 5. Resources
- Lesson Study
- Lesson Study Cycle 2
- Teaching/learning

[2. Bacteria and Fungi >](#)

b. Investigation / Exploration

Observations of the Bread (Day 1)

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

* Required

Class *

Group *

What do you see on the bread? *

Apply

Strategies / End of Lesson (EOL)

Substitute, Combine, Adapt (SCA)

SCA on grapes preservation

*Substitute something in the grape *

*Combine the grape with something *

*Adapt the grape with something *

Class *



Developing the Skilled Communicator



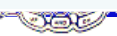
Presentations

Group work



P3 Assessment

Themes	Term 1	Term 2
Diversity <ul style="list-style-type: none">• Living and non-living things• Plants• Animals• Fungi and bacteria• Materials	<u>Topical review 1</u> <ul style="list-style-type: none">• Living and non-living things• Animals	<u>Semestral Assessment 1 (30%)</u> <ul style="list-style-type: none">• Booklet A, 20 MCQs (40 marks)• Booklet B, 7 OEs (20 marks)• Total: 60 marks• Duration: 1h 5 min
Systems <ul style="list-style-type: none">• Your amazing body as a system• Plants and their parts		
Interaction <ul style="list-style-type: none">• Magnets and their characteristics• Making Magnets		



P3 Assessment

Themes	Term 3	Term 4
<p>Diversity</p> <ul style="list-style-type: none"> • Living and non-living things • Plants • Animals • Fungi and bacteria • Materials <p>Systems</p> <ul style="list-style-type: none"> • Your amazing body as a system • Plants and their parts <p>Interaction</p> <ul style="list-style-type: none"> • Magnets and their characteristics • Making Magnets 	<p><u>Performance-based Assessment, PA (Formative)</u></p> <ul style="list-style-type: none"> • Practical assessment • 1 booklet • 2 to 3 questions • 10 marks • Duration: 20 min <p><u>Topical review 2</u></p> <ul style="list-style-type: none"> • Plant system • Human system 	<p><u>Semestral Assessment 2 (70%)</u></p> <ul style="list-style-type: none"> • Booklet A, 25 MCQs (50 marks) • Booklet B, 10 OEs (30 marks) • Total: 80 marks • Duration: 1h 25 min



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

