Curriculum Briefing Primary 6 Science 9 Jan 2026

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P6 SCIENCE TEACHERS:

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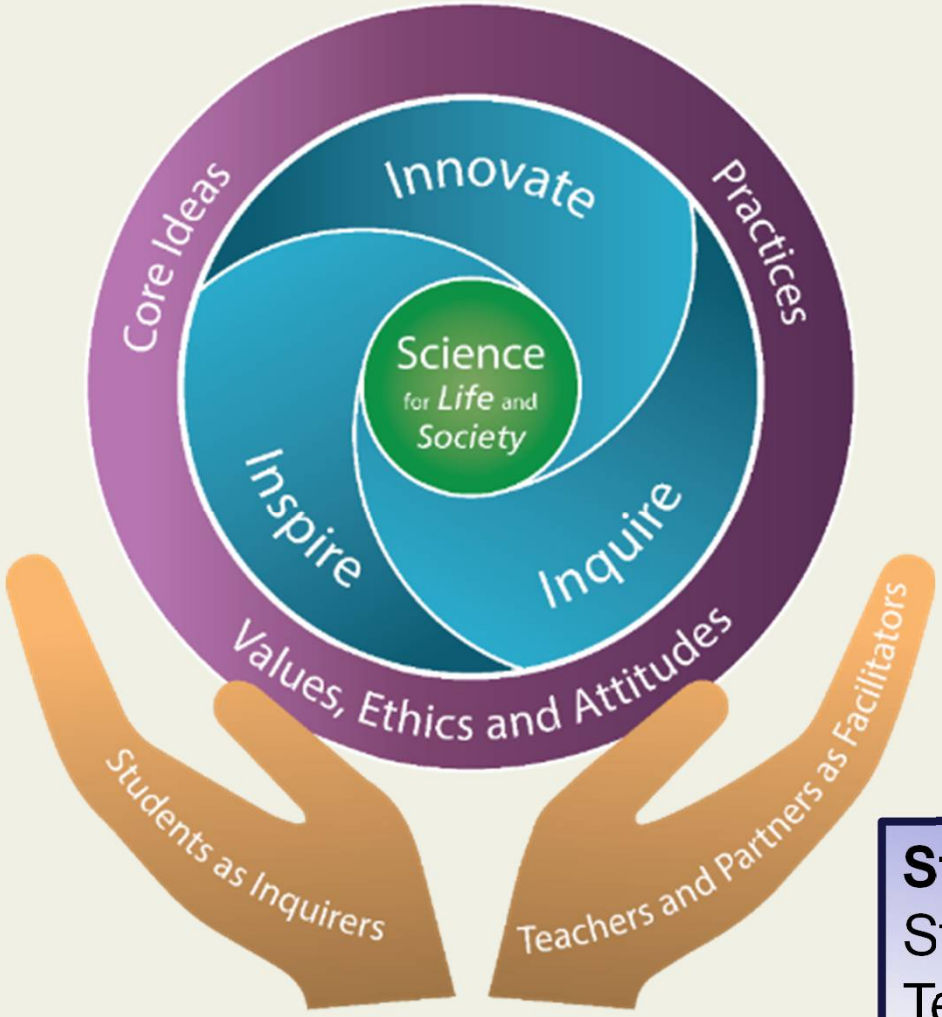
6HI MRS THONG KAR FONG

MDM GUO FENGLING , SH SCIENCE
MS SANTHA SELVA RAJU, ST SCIENCE

Science Curriculum Framework



Goals
Science for Life and Society

Vision - 3Ins
Inspire
Inquire
Innovate

Three Domains
Core Ideas
Practices
Values, Ethics and Attitudes

Stakeholders
Students as Inquirers
Teachers & Partners as Facilitators

21st Century Competencies Framework

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Scientific Literacy

We aim to :

- equip our pupils with the *skills* to enable them to :
  - use scientific knowledge to identify questions
  - draw evidence-based conclusions in order to understand and make decisions about the natural world and the changes made to it through human activity.

- *help our pupils to understand* the characteristic features of science as a form of human knowledge and inquiry.

- for our pupils to be aware of how science and technology shape our material, intellectual and cultural environments.

- equip our pupils with *ethics and attitudes* to engage in science-related issues as a reflective citizen.

Primary Science Syllabus

It aims to :

- provide students with experiences which build on their interest in and stimulate their curiosity about their environment

- provide students with basic scientific terms and concepts to help them understand themselves and the world around them

- provide students with opportunities to develop skills, habits of mind and attitudes necessary for scientific inquiry

- prepare students towards using scientific knowledge and methods in making personal decisions

- help students appreciate how science influences people and the environment

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P6 Science

Science as an Inquiry

1. **Question** - Learner engages in scientific questions

2. **Evidence** - Learner collects data in response to questions

3. **Explanation** - Learner formulates explanations from evidence

4. **Connection** - Learner connects explanations to scientific knowledge

5. **Communication** - Learner communicates and justifies explanations

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What is central to science inquiry?

Helping students use evidence to create explanations for natural phenomena.

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SCIENTIFIC ARGUMENTATION

How do you know that?
(Data in graphical, tabular or pictorial form)

CLAIM + EVIDENCE + REASONING = EXPLANATION

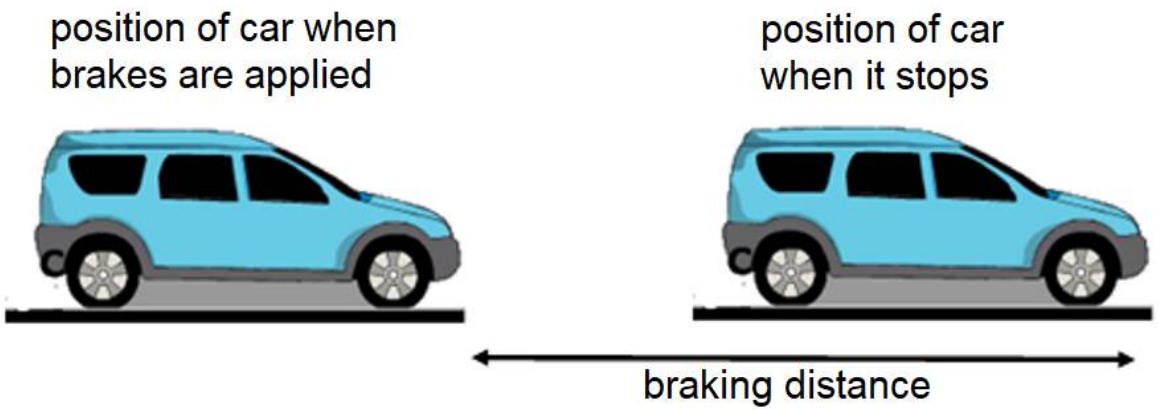
What do you know?
(The answer to the question)

Why does your evidence support your claim?

(Connects evidence to claim which involves the use of a scientific concept to describe why the evidence support the claim)

P6 Science (feature in topical worksheet)

6. The diagram and table below show the braking distance of a car.



type of road surface	braking distance (m)	
	car A (with new tyres)	car B (with old and worn out tyres)
concrete	14	18

(a) Explain why there is a great difference between the braking distance of the two cars. [1]

Please check (√) in the box to make sure that your answer contains a claim, evidence and reasoning.

- ❑ CLAIM
- ❑ EVIDENCE
- ❑ REASONING

The thought box after each part question is meant for the pupils to make their thinking visible by organising and sequence random thoughts that the pupils pen down before they craft their responses as well as guiding the pupils to use CER to frame sound scientific explanations.

Syllabus Organisation (Standard Science)

Levels	P3	P4	P5	P6
Themes	**Diversity . Cycles . Systems . Interactions . Energy**			
Topics	• Diversity of living and non-living things (General characteristics and classification) • Diversity of materials • Cycles in plants and animals (Life cycles) • Interaction of forces (Magnets)	• Cycles in matter and water (Matter) • Human system (Digestive system) • Plant system (Plant parts and functions) • Energy forms and uses (Light) • Energy forms and uses (Heat)	• Cycles in matter and water (Water) • Cycles in plants and animals (Reproduction) • Plant system (Respiratory and circulatory systems) • Human system (Respiratory and circulatory systems) • Electrical system	• **Photosynthesis** • **Energy conversion** • **Interaction of forces (Frictional force, gravitational force, elastic spring force)** • **Interactions within the environment** • **Surviving in the Environment (Adaptations, Man's impact on the environment)**

Syllabus Organisation (Foundation Science)

Levels	P3	P4	P5	P6
Themes	**Diversity . Cycles . Systems . Interactions . Energy**			
Topics	• Diversity of living and non-living things (General characteristics and classification) • Diversity of materials • Cycles in plants and animals (Life cycles) • Interaction of forces (Magnets)	• Cycles in matter and water (Matter) • Human system (Digestive system) • Plant system (Plant parts and functions) • Energy forms and uses (Light) • Energy forms and uses (Heat)	• Cycles in matter and water (Water) • Cycles in plants and animals (Reproduction) • Plant system (Respiratory and circulatory systems) • Human system (Respiratory and circulatory systems) • Electrical system	• **Photosynthesis** • **Interaction of forces (Frictional force, gravitational force, elastic spring force)** • **Interactions within the environment** • **Surviving in the Environment (Adaptations, Man's impact on the environment)**

P6 Science

Attitude Coverage
1) Curiosity
2) Creativity
3) Integrity
4) Objectivity
5) Open-mindedness
6) Perseverance
7) Responsibility

P6 Science

Skills and Processes at P6 level
Skills • Observing • Comparing • Classifying • Using apparatus and equipment • Communicating • Inferring • Predicting • Analysing • Generating possibilities • Formulating hypothesis
Skills and Processes
Processes • Creative Problem Solving • Decision Making • Investigation

P6 Science

Components of Lessons

1. Theory - Concept teaching
2. Hands-on : Practical Sessions in the science laboratory
3. Topical notes
4. Topical Supplementary Worksheets :
   - Worksheet 1 : Misconception
   - Worksheet 2 : MCQ
   - Worksheet 3 : Open-ended
5. Learning Log: Topical reflections by pupil for each unit (last reflection : concept map)
6. Learning Log: Pupil's self-evaluation of their own learning(checklist)
7. Topical Review (at the end of each unit)

P6 Science

Written Assignments

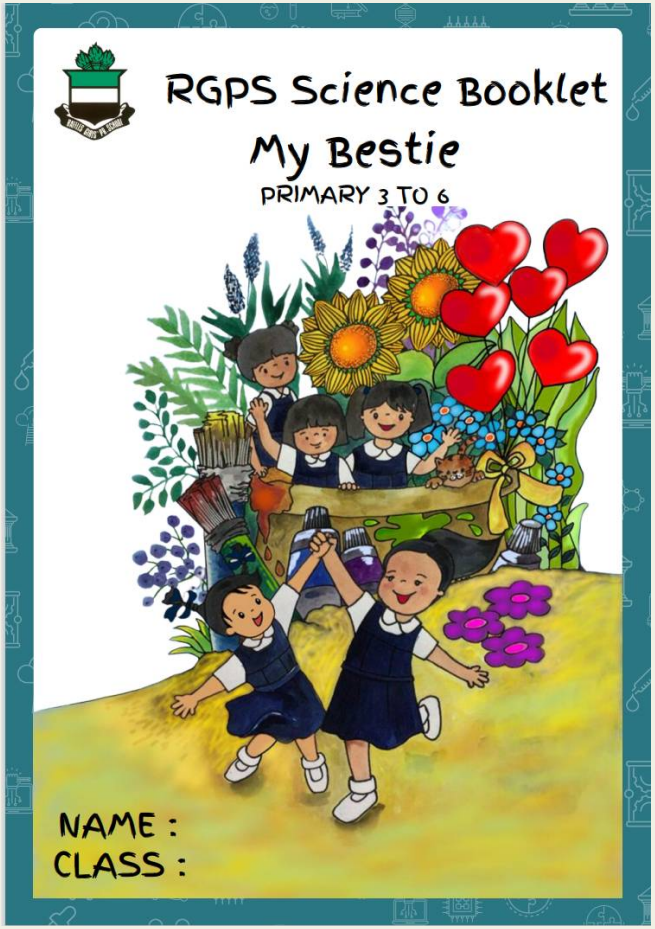
1) Inspiring Science Activity Worksheets
2) Topical unit Supplementary Worksheets
3) Topical Reflection (on Learning Log)

NOTE : Topical worksheets will be returned for parents' checking and signature upon completion of each topic.

To be filed in the Science File

P6 Science

RGPS Student Science Resource Book



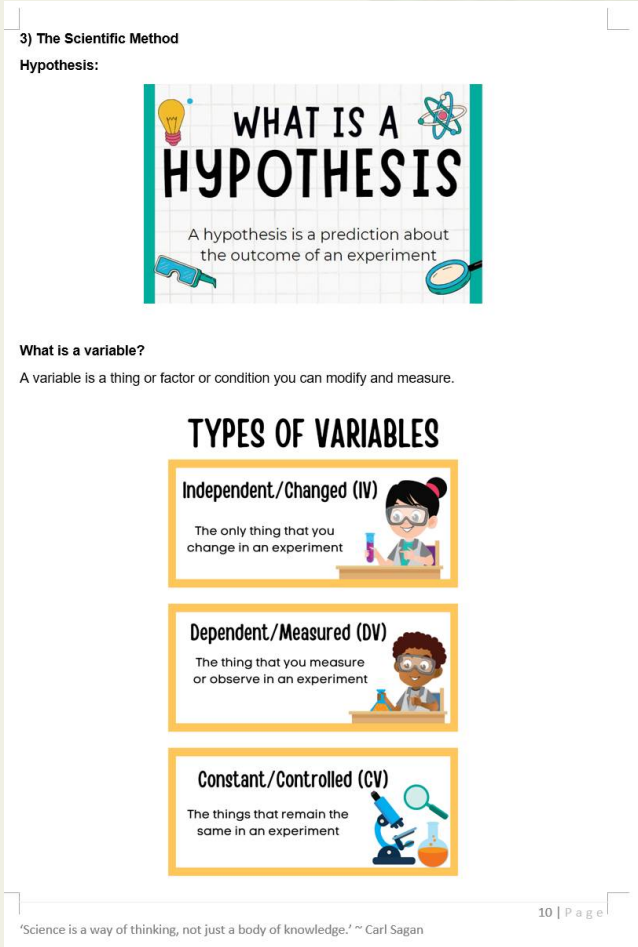
This specially produced booklet by the Science Department is designed to be the pupils' **long-term guide and reference** throughout your years in RGPS.

What's Inside? Key Resource For:
Apparatus Guide: Names & purposes of common lab equipment.

Investigation Protocol: Key components of the scientific method.

Terminology Bank: Definitions of scientific terms from P3 to P6.

Important Reminder
This is a **one-time issue at P3.** Pupils are to **safe-keep their copies**—they will use it every year!



P6 Science

Programme

LEGO In Science

use LEGO as a hands-on tool for P6 students to model, investigate, and understand energy transformation, transfer, and conservation.

Viridis Programme

- Develop a deep, actionable understanding of sustainability.
- Equip pupils with skills to assess, advocate for, and improve local environments.
- Cultivate a lifelong ethos of responsible stewardship.

STEM

- Fostering curiosity, building foundational science skills, and connecting learning to the real world through hands-on discovery

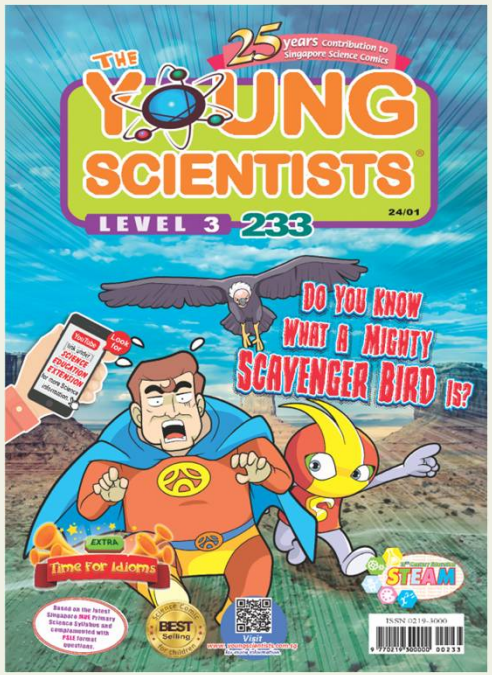
P6 Science

Enrichment

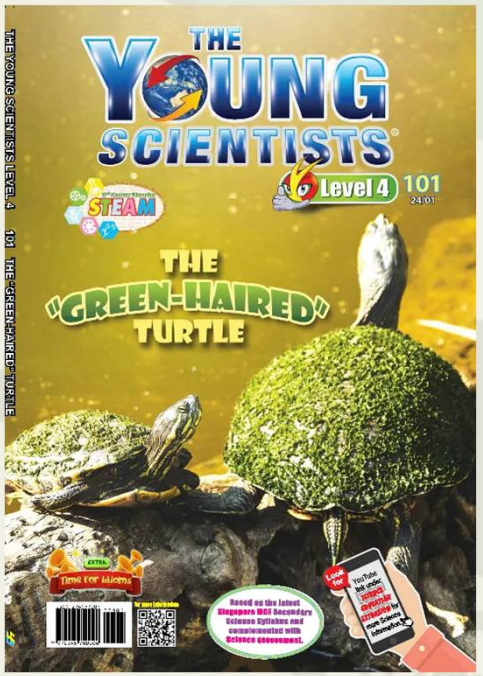
Science Supplementary Reading Material (Optional):

The Young Scientists (Level 3/4)

Online Subscription:



Recommended for P6



Recommended for P6 & Sec 1

https://youngscientistsreader.com.sg/product category/subscriptions/

P6 Science

Enrichment

Online Young Scientist Badge

•Pupils can complete self-directed activities, conduct hands-on experiments, research STEM topics, and collaborate with peers or family to earn online badges through the Young Scientist Badge Scheme

https://youngscientist.sscglobal.com.sg/login/index.php

What do pupils do?

- **Access Portal** – Use the online platform to explore self-directed activities and multimedia content. Sign in using the user-id and password provided by the science teacher.

- **Submit Work** – Upload task responses, experiment findings, and reflections for review.

- **Earn Rewards** – Receive **online badges** for completed tasks, plus optional **physical badges and certificates**

ASSESSMENT MODES

- **FORMATIVE ASSESSMENT**
  (includes open resource assessment for identified topics)
- **SUMMATIVE ASSESSMENT**

ASSESSMENT MODES : FORMATIVE ASSESSMENT

Purpose:

- ❖Provides pupils continual feedback during the instructional and learning process to help pupils actively manage and adjust their own learning.
- ❖Non-graded.
- ❖Helps the pupils to answer these questions:
  - *"Where am I going?"*
  - *"Where am I now?*
  - *"How can I close the gap?"*

Through:

- ✓Teacher/ Self and peer assessment on identified performance tasks using rubric indicators
- ✓Teacher's feedback on identified qualities of pupil's learning on topical unit content page
- ✓Pupils' self evaluation of own learning for each topic
- ✓Pupils' reflection of own learning for each topic

Feedback from the Science Teacher:

ASSIGNMENT	Needs improvement	Sometimes	Most of the time
▪ **Completed** assignments and **submitted on time.**			
▪ **Took initiative** to **clarify doubts by asking questions** in class.			
▪ Able to provide scientific explanation by making an **accurate and complete claim** which is **supported with appropriate and sufficient evidence; provides accurate and complete reasoning** that **links evidence to claim** which includes **appropriate and sufficient scientific concepts/principles**.			
▪ Made concerted effort to **do timely corrections.**			
▪ **Updated** the content page			
▪ **Organised** the **complete** set of unit worksheets for filing.			

Feedback on the pupil's performance.

After the completion of the topic:

Parent's Signature: _____ **Date :** _____

TIME FOR REFLECTION!

*When you reflect, **spend time** and **think deep** to **make sense** of*
***what** you have learnt,*
***why** you learnt,*
***how** you learnt,*
how** you **apply** the knowledge and skills learnt in **real life.

Before *the start of unit lesson* **.My reflection on learning:**

- What do I already know about this topic?
- What are the questions that I have for this unit?
- What do I want to find out about this topic?

Self-evaluation

How well have I understood the science ideas/concepts?

1- Science ideas I understood the least **4 - Science ideas I understood the most**

No.	Science Ideas/ concepts	1	2	3	4
1	I know how to describe the process of photosynthesis.				
2	I know the main product and by-product of photosynthesis				
3	I know the factors affecting rate of photosynthesis.				
4	I know that living things need energy to carry out life processes.				
5	I know how energy is transferred from plants to other living things.				
6	I can recognise that energy from most of our energy resources is derived in some ways from the Sun				
7	I know how to investigate the requirements (water, light energy and carbon dioxide) for photosynthesis (production of sugar and oxygen) and communicate findings.				
8	I am able to **apply** 'CER' technique to craft my scientific explanation.				
9	I am able to **determine** the aim, hypothesis, IV and CVs in an investigative protocol.				

My reflection on learning: After the unit lesson

- What are the scientific concept(s) that I have learnt in this topic?
- How can the scientific concept(s) that I have learnt in this topic be applied in daily life? Explain in detail with named examples.
- I used to think… but now I think…

Assigned as homework before the introduction of the unit

Provide opportunity for the pupil to take charge of her own learning.

Assigned as homework upon the completion of the unit : concept mapping

:

Rubrics related to the activity

Raffles Girls' Primary School
Science
Rubics : Designing a Scientific Experiment

Name : _____ Class: _____

Topic : _____ Date : _____

Assessment*
*(*put a tick if criteria is observed)*

	Performance Criteria	Self	Peer	Teacher
1	There is a testable question for the experiment			
2	Research (literature review) was done to learn more about the question.			
3	The design of the experiment tests the hypothesis.			
4.	A list of all necessary materials and apparatus was included.			
5	A detailed step-by-step procedure is included.			
6.	The procedures were written clearly enough so that another person could repeat the experiments			
7.	The procedures shows that repeated trials were done			
8.	Data were collected and recorded for each trial			
9.	An appropriate graph was created to display the data			
10	Conclusion were drawn using the data and refer back to the hypothesis			
11.	A 3 or more sentence was written explaining and describing what was discovered or learned			

STANDARD SCIENCE

Assessment Modes : Summative

Type	Weighted Assessment 1 (WA1) Term 1	Weighted Assessment 2 (WA2) Term 2	Preliminary Exam (Prelim Exam) Term 3
Format	Open-ended: 8 questions	MCQ: 20 questions	Section A (MCQ): 30 questions Section B (OE): 11 questions
Duration	50 min	30 min	1 h 45 min
Marks	30	40	100 (100% of Prelim Exam)
Overall Weightage	0%	0%	100%

FOUNDATION SCIENCE

Assessment Modes : Summative

Type	Weighted Assessment 1 (WA1) Term 1	Weighted Assessment 2 (WA2) Term 2	Preliminary Exam (Prelim Exam) Term 3
Format	Open-ended: 8 questions	MCQ: 15 questions	Section A (MCQ): 20 questions Section B (OE): 11 questions
Duration	50 min	30 min	1 h 15 min
Marks	25	30	70 (100% of Prelim Exam)
Overall Weightage	0%	0%	100%

P6 Science

Help Your Child to Develop Skills of An Independent Learner

(A) Self-Management Skills:

*-to help them to gain skill to **self-regulate** where they monitor, control and direct aspects of their learning for themselves; to overcome the lure of procastination and reduce stress*.

1) Goal setting

•ability to set realistic, relevant, challenging and manageable goals

2) Time and Resource-management

•ability to manage their own time and resources
•ability to prioritise activities and tasks
•ability to break things into small, manageable pieces

3) Focus & Discipline

•ability to focus on the task in hand and work through distractions and exercise self-discipline to complete task
•ability to distribute study instead of cramming

4) Mind and Body

•ability to take care of oneself – eat, sleep, rest and exercise properly
•ability to recognise cause(s) of stress and manage it.

P6 Science

Help Your Child to Develop Skills of An Independent Learner

(B) Thinking Skills:

-To help them create meaning, gain understanding, make judgements, make good decision, self- analyse and reflect

1) Identify purpose

•ability to identify purpose for reasoning

3) Make decision

•ability to make decisions considering relevant implications and consequences.

4) Ask relevant questions

•ability to ask a range of relevant questions

5) Evaluate Evidences

•ability to recognise and evaluate evidence offered to support claims.

P6 Science

Help Your Child To Develop Skills Of An Independent Learner

(C) Information Skills:

-***Empower them as learners and enable them to :***

1) recognise information needed

•ability to recognise their own lack of knowledge and skills and need to obtain further information or deepen their understanding

2) locate relevant information

• ability to locate relevant information from a range of resources

3) recognise and select appropriate sources

•ability to choose appropriate information sources

4) identify prior knowledge

•ability to reflect on the existence of prior knowledge and experiences, showing awareness of one's tendency to count assumptions as prior knowledge

5) reflect and evaluation

•ability to reflect on their own learning skills, evaluate progress and set further goals

6) apply Information

•ability to apply information to meet the original intent, construct understanding or solve problem

P6 Science

THE ROLE OF PARENTS

- Be a role model for learning
- Practise what your child learns at school
- Tune into how your child learns
- Set aside time to monitor their work and get them to review their daily work. DO NOT TAKE OVER THE HOMEWORK/PROJECT
- Connect what your child learns to everyday life and to the world
- Help your child to take charge of his learning.
- Refrain from over-scheduling your child.
- Limit media exposure.
- Provide emotional and moral support and encouragement

P6 Science

Useful Websites

https://www.brainpop.com/

http://www.bbc.co.uk/bitesize/ks2/science/

Science Video- Eureka!

https://www.youtube.com/playlist?list=PL07249EFA9038FDC1

- ***These short video programmes use comic animation to illustrate and present physical Science concepts***

Bill Nye The Science Guy

https://www.youtube.com/user/TheRealBillNye/videos

- ***These are live action Science educational videos.***

How to support and help your child to revise effectively for examinations ?

What does it mean to revise?

Learning information so that you can use it to answer questions.

Learning means that you have to **understand something completely**, **remember** it and eventually **use it.**

Depends how long it takes for your you child to learn something -

BUT your child have a lot to learn:

- P3-P6 ;
- 4 years' worth of work.

SO:

- Start early - don't cram!
- Store knowledge in long term memory;
- Avoid panicking, stressing out, having a melt down and giving up!

When should your child start revision?

How to help your child to prepare for revision

- Ensure they do all **classwork, homework and unit work** in term time to the best of their ability.
- The more they do in school the less they have to do when they revise.
- **1 to 2 hours a day** on homework.

- **Divide** the revision time **into bite size sessions.**
- **25-30 minute episodes**, with **5-10 minute breaks in between.**
- Vary it according to **sort of knowledge** they are learning and the way they are learning it.

- If don't have 1-2 hours of homework to do every day, **should start some revision in term time**.
- Start the revision **slowly** now and **increase** it nearer to the exams.

Some tips about timings for revision:

- **Use weekends;**
- **3-4 hours over the course of the weekend** during term time on homework, unit work and/or revision.

- **Some subjects** take **longer** to revise than others.
- Some subjects involve learning in different ways.

- Create a **revision timetable** and stick to it:
- Start to revise some of the older and more challenging topics esp physical Science topics (from P4) now;
- Some of them have **retakes** ;
- If start now, they can **ask for help if they don't understand something;**
- Do a revision timetable for the **various term holidays**; if they leave all their revision to Sept hols, they will run out of time.
- Use a **calendar** and factor in days out, outing events, family time and socialising.

Getting ready:

Get organised:

Make sure your child know the following:

- What **knowledge/ concepts** and which **skills** your child will need for **each exam**.

- Which **theme** and **topics** they need to learn for each exam and subject. Most subjects will have given them **a summary of topics** or **assessment information.**
-
- **Divide** the revision into manageable sections; these could be themes, topics and sub topics.

- **Tick off** the subtopics, topics and modules as they go through them and learn them.

Get prepared:
The pupil will feel better about revising if they have the **right equipment**

- Pens and pencils; different colours;
- Highlighters, felt pens;
- P3-P6 Science revision notes, misconception worksheets, topical worksheet practices papers.
- Document or cardboard wallets;
- Exercise books or notepads;
- A3 or A4 plain or coloured paper;
- Wall paper for timelines;
- Post It notes;
- Recording device (to play back)

Some revision techniques:

Other techniques:

- Songs; poems or raps!
- Mnemonics (devices to help you remember numbers and words);
- Quizzes;
- Question and answers;
- Read, cover, up, say, write, check;
- Role play;
- Teach somebody else;
- Read, summarise (write), record (speak) on recording devise and play back (listen).
- Colour code text picking out different points each time;
- Create Venn diagrams/ mind maps/ concept maps

PSLE or exam papers and questions:

- Revise a topic and attempt an exam paper;
- Use the questions as headings and subheadings for revision notes, mind maps and cards;
- Get their heads round the skills needed for each question;
- Recognise the question types;
- Apply formulas/ concepts that have learnt (especially for science and maths);
- Make a note of the question they have no idea about.

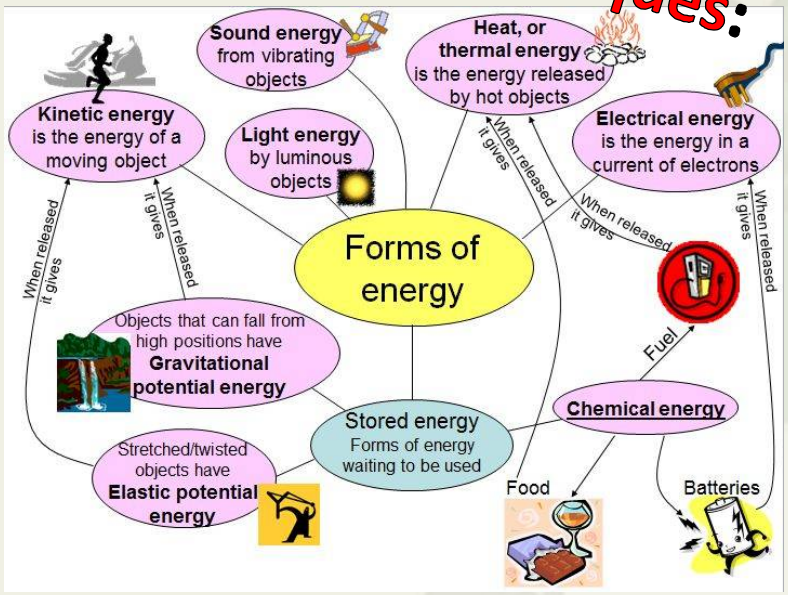
Flow charts or timelines:

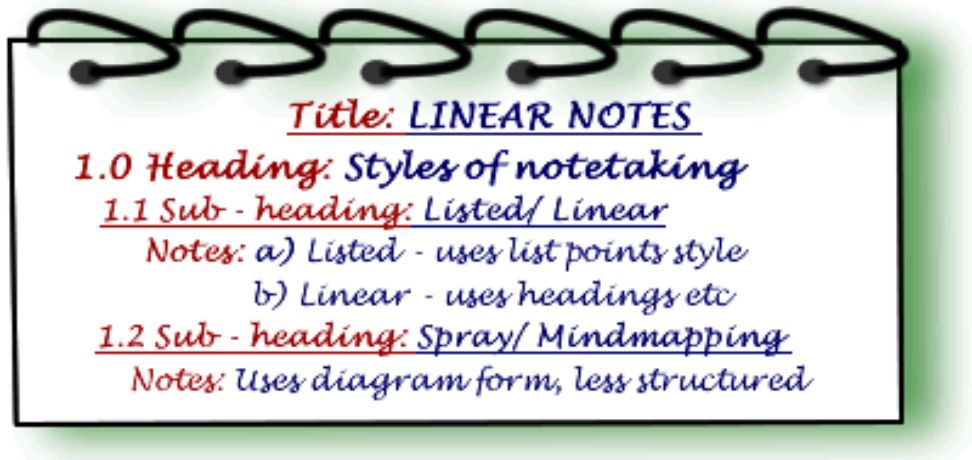
- Large pieces of paper (rolls of wall paper or pieces stuck together);
- Key dates, ideas, processes or stages;
- Add the information as they go along;
- Use different coloured pens or highlighters;
- Add images or diagrams.

Some revision techniques:

Linear notes on paper:

- Reduce what is in their folder/exercise book/textbook;
- **Read through** what they need to summarise before they actually summarise it;
- Use **headings and subheadings**
- Keep notes **brief;**
- Write everything in a way that **they understand;**
- **Do not copy huge chunks out;**
- Add detail
- Underline key words; highlight; write in different coloured pens;
- Use bullet points, arrows or numbers to keep it clear and organised;
- Leave spaces to add points;
- Use arrows or dotted lines to **link** points.





Mind maps or spider diagrams:

- Key question, exam question or a key topic in the centre;
- Subtopics or subheadings;
- Add key pieces of information;
- Develop some of your points;
- Add symbols or images;
- Use different coloured pens or highlight different points;
- Use different sized pieces of paper.

Some final tips to help your child when revising:

Avoid all distractions:.

- Be honest and exercise self-discipline;
- Keep TV, computer, laptop, ipad, phone, kindle, Facebook, twitter and any games **away**
- If **music** becomes a distraction, get rid of it.
- Do not waste time or delay starting.

- Clear space to store folders, textbooks and revision.
- It is going to be around for a while so make space for it somewhere in the house.

In their breaks:

- move around;
- drink water;
- eat something .

Provide them with a **desk or a table** that is not cluttered so they can spread things out on. They might want to leave things out for the next session.

Eat, Rest & Sleep well:

- Have a healthy diet and regular meal.
- Do not work into the early hours of the morning
- give themselves a break between finishing revision and going to bed.

Do some form of **exercise** during revision and exams.

Reward themselves at the end of their revision session.

Find a space they are comfortable revising in:

- This might be in the bedroom, or a study or the kitchen. Some of them might find it easier to revise if their parents are there with them . (to provide emotional support)

Get them to inform family members when they are revising:

- Family members help **by keeping distractions away from the child** including themselves, brothers, sisters, friends and pets and keeping the house quiet.
- Family members can help and support the child by **testing them and keeping them on track if they lose focus.**

Help your child to remember why they are doing this:

- If they have not already worked this out, **they are doing all of these for themselves!**
- Set themselves a **target** and go for it.
- Success in exams is **not the be all and end all in life** BUT IT DOES HELP!
- Exams do mean **grades** and good grades mean widen their range of choices in secondary school selections a better and higher education and opportunities.
- Do not throw opportunities away due to undesirable learning attitudes and habits like procastinations.
- **Assessment or PSLE are not impossible**; they are designed for most pupils to do well in.

Thank You