Science Sharing

Lower Block

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Spotlight

- Syllabus Updates and Examination Format
- Highlights in Lower Block Science
- Parental Guidance (PG)
  - ✓ CER Strategy
  - ✓ Scientific Skills and Processes

Syllabus Updates

Implementation of 2023 Primary Science Syllabus

Content Update

Levels	P3	P4
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)	• Plant system (Plant parts and functions) • Human system (Digestive system) • Cycles in matter and water (Matter) • Energy forms and uses (Light) • Energy forms and uses (Heat)

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(+) Include property of 'Light travels in straight lines' in a LO under Energy forms and uses (Light)

(+) Include concept of 'Heat is a form of energy' in a LO under Energy forms and uses (Heat)

Examination Format

Pri 3

Booklet	Item Type	Number of questions	Number of marks per question	Marks
A	Multiple-choice	21	2	42
B	Structured	6 - 9	2 - 4	28

Pri 4

Booklet	Item Type	Number of questions	Number of marks per question	Marks
A	Multiple-choice	30	2	60
B	Structured	13	2 - 4	40

"At the end of the day,
it's just ***raw*** curiosity.

I think almost everybody
that gets ***into Science***
is ***driven by curiosity***."

- Kerry Emmanuel of MIT

CER Strategy

PG

2. The Evidence

Scientific data used to support the claim.

- Qualitative (senses)
- Quantitative (numerical) data.

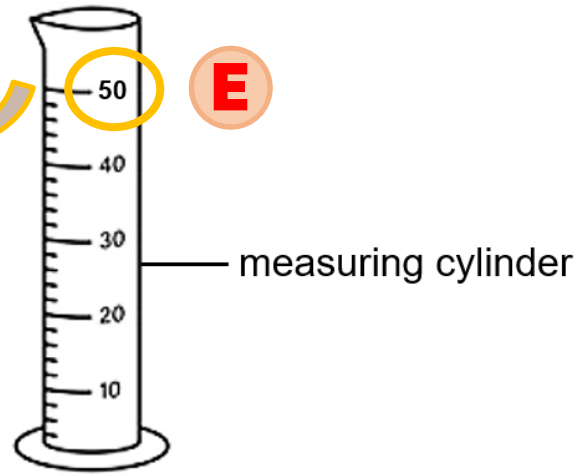
3. The Reasoning

Ties together the claim and the evidence.

Incorporates scientific principles to explain the connection.

PG

Tim poured 80 ml of water into the measuring cylinder shown below.



E

R

space in measuring cylinder?

C

After pouring 80 ml of water into the measuring cylinder, Tim observed some water flowing out of it.
Explain his observation.

E Measuring cylinder can only contain at most 50ml of water.

R So, there is not enough space in the measuring cylinder for all 80ml of water to occupy.

CER Strategy

PG

To be uploaded together with slides on school website

How to write CER (Parent-friendly steps)

A guide to help your child master the Claim-Evidence-Reasoning framework for science assessments

Scientific Skills and Processes

PG

Record and compare observations/data.

Analyse simple data in tables, graphs, bar charts and diagrams to infer patterns and relationships.

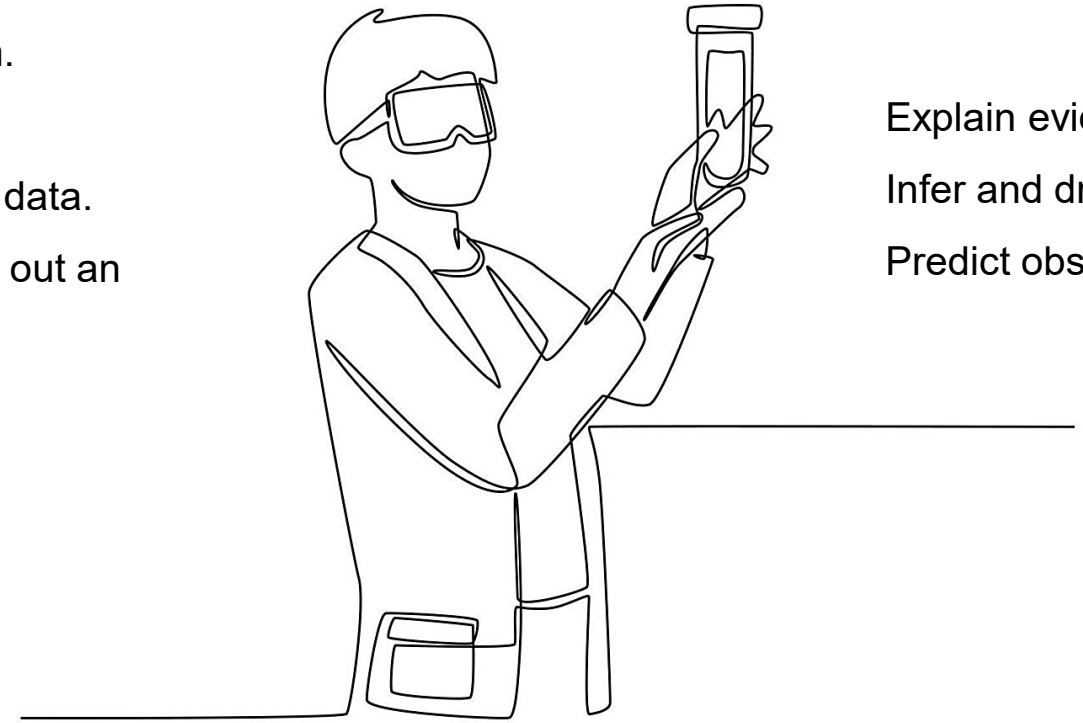
Determine reliability and accuracy of data gathered.

Ask a question and understand the aim.

Recognise a fair test (i.e. variables).

Select appropriate apparatus to gather data.

Understand steps of a protocol to carry out an experiment.



Explain evidence with clear scientific reasoning.

Infer and draw conclusions.

Predict observations/results in (familiar) context.

Scientific Skills and Processes

PG

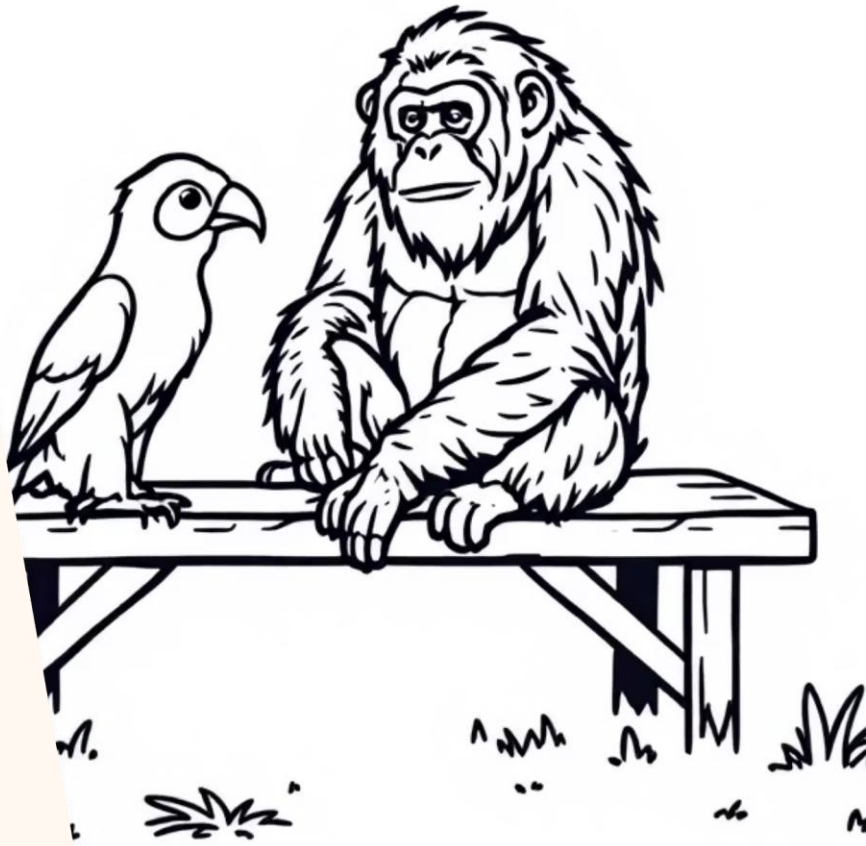
Diversity of Living Things / Materials

Data Analysis

Compare trend in numerical data

Infer relationship

Use increase/decrease for 'How did _____ change?'



PG

Magnets

Concept of Fair Test

Recognise variables (i.e. changed, unchanged and measured)

Infer relationship

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PG

Plant System, Light & Heat

Fair Test Mastery

Reinforce fair test and its variables

Data Analysis

Compare trend in numerical data/graphs

Digestive System

Compare trend in graphs (bar chart/line)

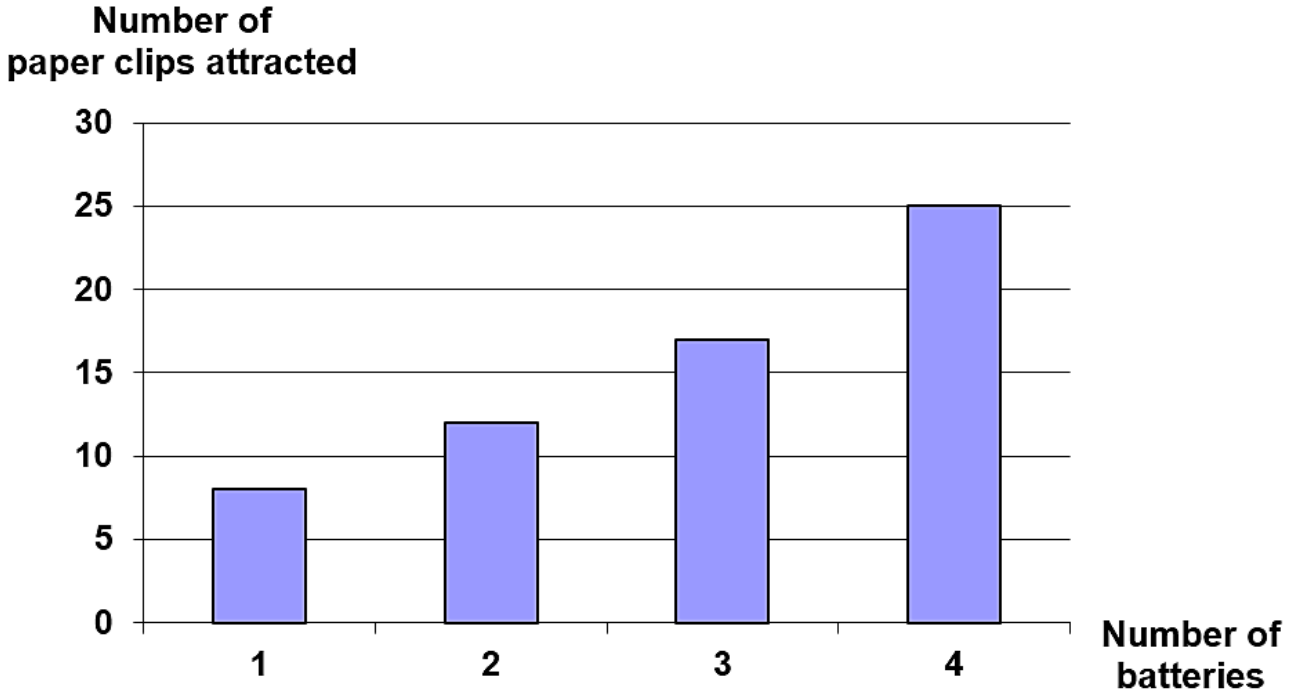
PG

Matter

Scientific Method

Hypothesis Conclusion	Choice of apparatus for more accurate results	Protocol (to prove the property or to measure mass/volume)

PG



From the results, what is the relationship between the number of batteries and the number of paper clips attracted? [1]

In the list of variables below, put a tick (✓) in the correct boxes to ensure a fair test. [2]

	Variable to be changed	Variable to be measured	Variable that does not change
Temperature of the water at the start			
Temperature of the hot plate			
Time taken for the water to boil			
Size of the beakers			

In A Nutshell

Knowledge with Understanding

Science Factual Fluency

Concepts/definitions/characteristics/ properties/factors/processes/functions

Key scientific terms/phrases

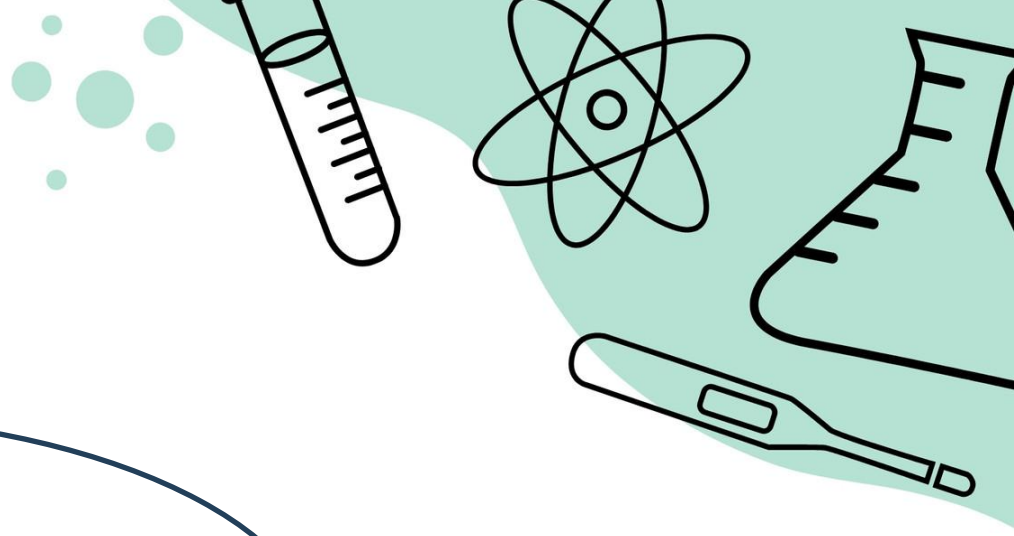
Application of Knowledge and Scientific Inquiry

Real-world context

- Scientific explanation (CER)

Investigative in nature

- Skills and processes



Thank You

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