



**MY  
PALS  
ARE HERE!**

# Science

**International (2nd Edition)**



**Fun and Engaging Learning Experience  
Delivered Through Trusted Pedagogies**



# Supports High Quality Teaching and Learning

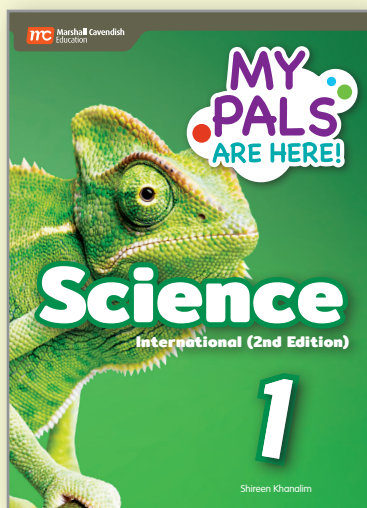


**Science International (2nd Edition)** is a colourful and vibrant six-book series that presents science concepts to young learners in a fun and enjoyable way, catering to pupils with a variety of learning styles. At the core of MPAH Science International (2nd Edition) lies the same effective pedagogies that are iconic to the MPAH Science series, which has seen success for almost two decades of supporting primary science teaching and learning.

The 2nd Edition continues the Inquiry-based Approach, structured around the 5E (Engage, Explore, Explain, Elaborate, Evaluate) Instructional Model, in order to develop pupils' science process skills. Together with a spiral progression in curriculum design and addition of new features, the series helps pupils acquire a deep understanding and appreciation of the scientific concepts.

## Core Resources

### Course Book



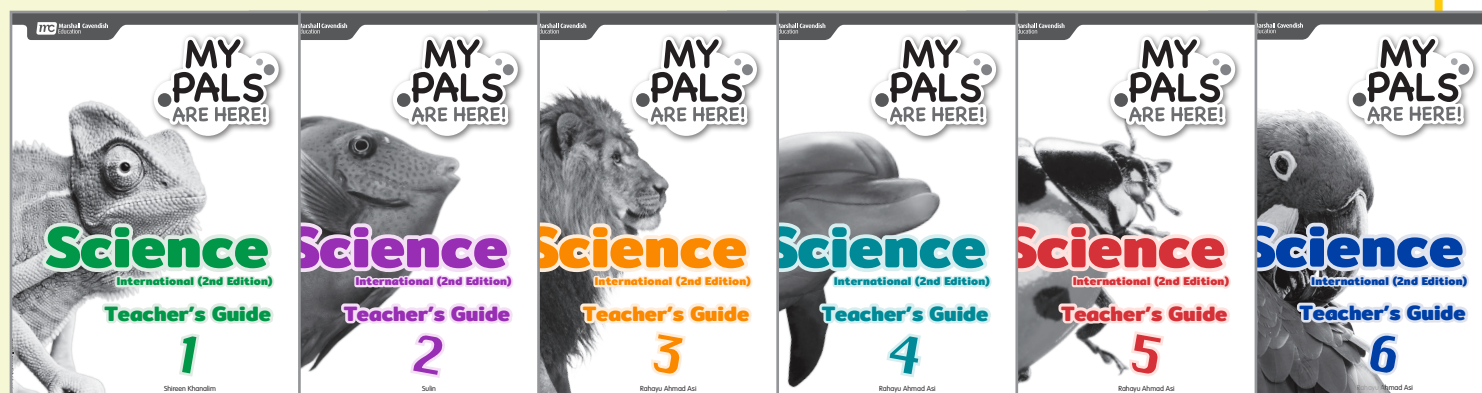


## Activity Book



## Teacher Resources

### Teacher's Guide



### Digital Resource Pack

- Digital Teacher's Guide P1-6
- Scheme of Work
- Editable Lesson Plans
- Question Bank P1-6
- PPT Slides P1-6

## Equips Teachers for Success in Lesson Delivery

Together with a comprehensive Teacher's Guide, delivering a successful lesson is made easier and less time-consuming!



# A Journey Through Our Science Series

## Why Choose Science?



### Supports High Quality Teaching and Learning

- Inquiry-based approach with the 5E Model
- Spiral progression for foundation building
- Caters to varying learning styles of pupils



### Engages and Captivates through a Holistic Curriculum

- Cross-disciplinary subject integration
- Creative and hands-on activities
- Colourful illustrations and stunning photographs



### Develops Confidence and Independence in Learning

- Assessment features at various junctures in learning
- Revision features for exam preparation
- Encourages self-directed learning



### Cultivates Global and Future Readiness

- Relates real life to science concepts learnt
- Links learning to 21<sup>st</sup> century skills



## Chapter Opener



Develops inquiry skills in pupils by engaging them and inspiring curiosity through relatable daily life examples relevant to the topic, with attractive and engaging photographs.



### Let's Find Out:

- What are air and wind?
- What are the uses of air and wind?
- What is air pollution?
- How can we keep the air clean?

## Learning Outcomes



Provides an overview of syllabus coverage. It also serves as a checklist tool to encourage independent learning in pupils.

## Section Heading



Introduces a new section with a question, which helps foster inquiry skills in pupils.



## Explore



Builds 21st Century Competencies - inculcates critical and inventive thinking; communication, collaboration, and information skills in pupils.

## Flashback



Highlights, where applicable, related prior concepts for meaningful learning. It also serves as a tool for recall and reinforcement.





## Creative Science



Introduces an art-based project or activity, catering to the kinesthetic and visual learners. On top of cross-disciplinary exposure, this serves as reinforcements of concepts learnt as well.

## Quick Check



A series of questions after sections provide opportunities for formative assessment. Pupils are able to test their understanding of concepts learnt in the section.



## Research



Offers question prompts that pique pupils' curiosity to explore further beyond the classroom, discover fun facts and accumulate knowledge, building up essential research skills.

## We Care



Builds 21st Century Competencies – offers pupils opportunities to gain awareness on current global environmental issues, such as conservation. Pupils also develop civic literacy, global awareness, and cross-cultural skills.



## Language Connect



Caters to linguistically inclined learners through activities like writing short stories, rhymes, synonyms and even storytelling, providing opportunities for pupils to express scientific concepts through language.



Supports High Quality Teaching and Learning



Engages and Captivates through Holistic Curriculum



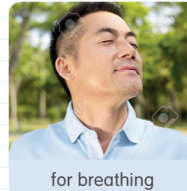
## What We Have Learnt



Provides a visual summary of all learning objectives that is useful for a quick recap and revision.

## What We Have Learnt

Air



for breathing

is used

can be polluted by  
smoke and dust from



forest fires



factories

## Science Today



Showcases science concepts through real-life applications, highlighting recent developments in the world of science and technology. This ensures relevance and context in pupils' learning.

## Science Today



Can you recall a time when the air was hazy?

Haze is caused by air pollution.

In 2015, the Southeast Asian haze affected many countries.

It was caused by forest fires.

The dirty air caused many people to fall sick.



When there is haze, people wear masks so they don't breathe in the polluted air.



Develops Confidence and Independence in Learning



Cultivates Global and Future Readiness



## Test Yourself



Provides summative assessment with end-of-chapter questions that assess pupils' understanding of the concepts learnt. Questions that develop higher order thinking skills are also included to challenge pupils.

## Test Yourself

1. Fill in the blanks. Use the helping words.

- (a) We need to breathe in \_\_\_\_\_ (air / water) to stay alive.
- (b) We need air to \_\_\_\_\_ (burn / wash) things.
- (c) Smoke and \_\_\_\_\_ (dust / snow) can pollute the air.
- (d) \_\_\_\_\_ (Clean / Polluted) air can make us sick.
- (e) \_\_\_\_\_ (Rain / Wind) is moving air.

**Activity Book**  
Let's Review, pages 6-7



### SCIENCE WORDS

**Air**  
**Breathe**  
**Burning**

**Dust**  
**Haze**  
**Pollution**

**Smoke**  
**Unclean**  
**Wind**

## Science Words (P1 to P2)



Highlights scientific terms for young learners to note and to provide a language focus for pupils.

## Science Glossary (P3 to P6)



Highlights scientific terminology and provides their meanings for pupils' easy referencing and learning.



### SCIENCE GLOSSARY

#### Difference

Property that varies between two or more objects

#### Material

What an object is made of

#### Measure

To use an instrument to find the size or mass of an object

#### Property

Feature or characteristic

#### Reduce

To lessen the amount

#### Similarity

Property shared between two or more objects



Supports High Quality Teaching and Learning



Engages and Captivates through Holistic Curriculum



## Activity 1 Uses of Air and Wind

► Process skills: Observing, analysing

Circle the pictures that use air or wind.

A



B



C



D



E



F



## Activities

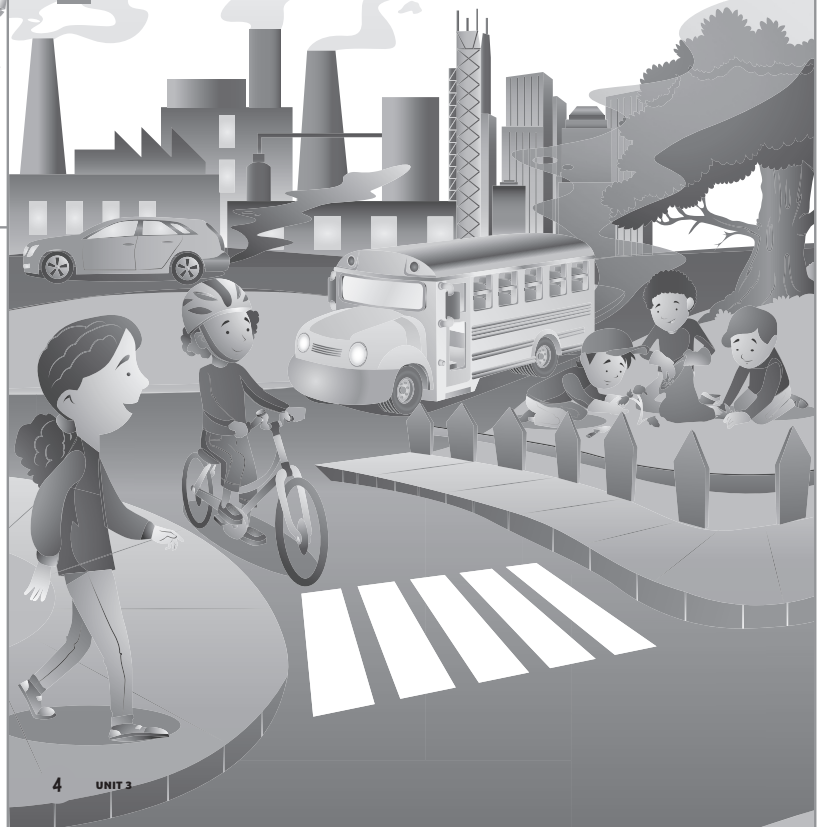


Builds scientific inquiry and process skills in pupils through hands-on and relatable activities with real-life contexts. These offer opportunities for pupils to experience scientist-like endeavours.

## Activity 2 Clean and Polluted Air

► Process skills: Observing, analysing, communicating

A Cross out the things that dirty the air.



4 UNIT 3



Develops Confidence and Independence in Learning



Cultivates Global and Future Readiness

## Let's Review

**A** Choose the correct answer. Write A, B, C and D in the brackets provided.

1. \_\_\_\_\_ can dirty the air.

- A Trees
- B Walking
- C Bicycles
- D Factories

( )

2. \_\_\_\_\_ do **not** need air to live.

- A Fish
- B Cars
- C Astronauts
- D Scuba divers

( )

3. Which of the following will **not** pollute the air?

- A Forest fires
- B Burning fuels
- C Volcano eruptions
- D Planting more trees

6 UNIT 3

## Let's Review



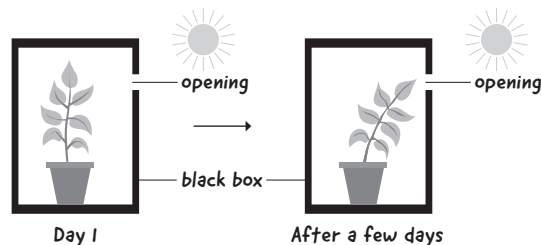
Assesses pupils' overall understanding of the chapter through a formative assessment review activity.



## Revision Exercise

**A** Choose the correct answer. Write A, B, C or D in the brackets provided.

1. A potted plant was placed in a black box with an opening. The box with the plant was then placed under the Sun. After a few days, the plant grew to one side as shown.



What does the experiment show?

- A The stem is weak.
- B The plant responds to sunlight.
- C The plant needs water to grow.
- D The box is too small for the plant.

( )

8 REVISION EXERCISE

## Revision exercises



Increases exam preparedness and confidence using exam-format questions that develop higher order thinking skills. This is a good tool for consolidation, summative assessment, and revision.



Develops Confidence and Independence in Learning



Cultivates Global and Future Readiness



# What's In the Teacher Resources?

Packed with information that is required to conduct a lesson, the Teacher Resources provide Schemes of Work, 5E-focused Lesson Plans, as well as helpful notes such as suggested activities and differentiation ideas. PowerPoint lessons slides are also available, making it hassle-free for a teacher to conduct a successful lesson with little preparation time required.

## Teacher Resources

### UNIT 6 OBJECTS AROUND US

#### SCHEME OF WORK

**Suggested time frame:** 11 periods (1 period is approximately 40 minutes.)

| Lesson | No. of Periods | Learning Objective(s)  | Process Skill(s)  | Resources and material(s)   |
|--------|----------------|--|---|---|
| 1      | 2              | <ul style="list-style-type: none"> <li>Know different properties of objects.</li> </ul>  | <ul style="list-style-type: none"> <li>Classifying</li> <li>Communicating</li> <li>Comparing</li> <li>Observing</li> </ul>  | <ul style="list-style-type: none"> <li><b>Textbook</b>, pp. 1–5</li> <li><b>Activity Book</b>, pp. 1–2</li> <li><b>PowerPoint</b>, slides 3–7</li> <li>Objects around the classroom</li> <li>Yellow rubber glove, metal fork</li> </ul>   |
| 2      | 2              | <ul style="list-style-type: none"> <li>Know how to compare objects based on the similarities and differences in their properties.</li> </ul> | <ul style="list-style-type: none"> <li>Analysing</li> <li>Classifying</li> <li>Communicating</li> <li>Comparing</li> <li>Generating possibilities</li> <li>Observing</li> </ul>                                     | <ul style="list-style-type: none"> <li><b>Textbook</b>, pp. 6–7</li> <li><b>Activity Book</b>, pp. 3–4</li> <li><b>PowerPoint</b>, slides 8–12</li> <li>Pupils' pencil cases</li> <li>Scissors, glue, various materials of different colours</li> <li>Aluminium foil, tissue paper, towel, food cling wrap / plastic bag, water</li> </ul>                                    |
| 3      | 2              | <ul style="list-style-type: none"> <li>Know how to choose appropriate materials for making objects.</li> </ul>                               | <ul style="list-style-type: none"> <li>Analysing</li> <li>Communicating</li> <li>Evaluating</li> <li>formulating hypothesis</li> <li>Inferring</li> <li>Observing</li> <li>Using apparatus and equipment</li> </ul> | <ul style="list-style-type: none"> <li><b>Textbook</b>, pp. 8–9</li> <li><b>Activity Book</b>, pp. 5–6</li> <li><b>PowerPoint</b>, slides 13–16</li> <li>Objects found in the classroom or around the school</li> <li>Plastic spoon, wooden spoon, metal spoon</li> <li>Water, nylon, plastic, cotton, polyester, 4 plastic cups, 4 rubber bands</li> <li>Umbrella</li> </ul> |
| 4      | 2              | <ul style="list-style-type: none"> <li>Know how to measure the size and mass of objects.</li> </ul>  | <ul style="list-style-type: none"> <li>Communicating</li> <li>Comparing</li> <li>Evaluating</li> </ul>  | <ul style="list-style-type: none"> <li><b>Textbook</b>, pp. 10–11</li> <li><b>Activity Book</b>, pp. 7–8</li> <li><b>PowerPoint</b>, slides 17–19</li> </ul>  |

Objects Around Us

#### Scheme of Work

Outlines the curriculum content with an overview of critical details such as:

- number of periods
- process skills covered
- resource usage guide

Editable version is also included in the digital resources.

|   |   |   |  |  |
|---|---|---|--|--|
|   |   |   | Using apparatus and equipment  | <ul style="list-style-type: none"> <li>Ruler, measuring tape, clothes hanger, 2 plastic cups, hole puncher, strings, 3 small objects from your pencil case</li> <li>Pen, pencil, eraser, pencil case, ruler, paperclips, measuring tape</li> </ul> |
| 5 | 3 | <ul style="list-style-type: none"> <li>Know some ways to reduce waste,</li> </ul> | <ul style="list-style-type: none"> <li>Analysing</li> <li>Classifying</li> <li>Communicating</li> <li>Comparing</li> <li>Evaluating</li> <li>Generating possibilities</li> <li>Observing</li> <li>Using apparatus and equipment</li> </ul> | <ul style="list-style-type: none"> <li><b>Textbook</b>, pp. 12–18</li> <li><b>Activity Book</b>, pp. 9–11</li> <li><b>PowerPoint</b>, slides 20–23</li> <li>Blanket, plastic bottle, jam jar, tyre</li> </ul>                                      |



## 5E Lesson Plan

Guides teachers through the 5E instructional model with detailed lesson plans designed and written with the model in mind. This is helpful for both new and experienced teachers.

| 5E                         | Lessons  | Resources   |
|----------------------------|--|---|
| <b>Additional Activity</b> | <i>(Skills: Communicating, observing)</i> <ul style="list-style-type: none"> <li>Get pupils to observe the picture of a rubber glove and the metal fork on PowerPoint slide 7.</li> <li>Give pupils an actual rubber glove and metal fork to touch and feel.</li> <li>Get pupils to describe the rubber glove and the metal fork using the properties that they have learnt in this lesson.                             <ul style="list-style-type: none"> <li>The rubber glove is yellow in colour.</li> <li>The rubber glove is made of rubber.</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li><b>PowerPoint</b>, slide 7</li> <li>Yellow rubber glove, metal fork</li> </ul> |

## B How Are Materials Chosen to Make Objects?

### Lesson 3

Duration of lesson: 2 periods

#### Learning objective

- Know how to choose appropriate materials for making objects.

#### Process skills

- Analysing, communicating, evaluating, formulating hypothesis, inferring, observing, using apparatus and equipment

## Learning Objectives

Shows all the key learning outcomes for easy reference. It also serves as a checklist for teachers.

| 5Es                          | Lesson   | Resources  |
|------------------------------|--|--|
| <b>Engage</b><br>(10 min)    | <i>(Skills: Communicating, inferring, observing)</i> <ul style="list-style-type: none"> <li>Use PowerPoint slide 13 to inform pupils that by the end of the lesson, they should be able to choose appropriate materials for making objects.</li> <li>Get pupils to observe the objects on PowerPoint slide 14.</li> <li>Ask pupils the following questions:                             <ul style="list-style-type: none"> <li>Why are these objects made of the materials mentioned?</li> <li>What are the properties of the materials that make them suitable for making the objects?                                     <ul style="list-style-type: none"> <li>Wood is hard.</li> <li>Metals are strong.</li> <li>Plastic is waterproof.</li> <li>Rubber is elastic.</li> <li>Glass is transparent.</li> </ul> </li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li><b>PowerPoint</b>, slides 13–14</li> </ul>  |
| <b>Explore</b><br>(15 min)   | <i>(Skill: Analysing)</i> <ul style="list-style-type: none"> <li>Get pupils to find objects in the classroom or around the school that are made of metal, plastic or wood.</li> <li>Ask pupils the following questions:                             <ul style="list-style-type: none"> <li>Why are these materials used to make the objects?</li> <li>How is the choice of material important for the use of the object?                                     <ul style="list-style-type: none"> <li>Window: Glass is transparent so light can pass through the window to enter the room / classroom.</li> <li>Table: Metal used for the legs is strong so the table can withstand the weight of the books.</li> <li>Water bottle: Plastic is waterproof so the bottle can contain water.</li> </ul> </li> </ul> </li> </ul>                |  |
| <b>Explain</b><br>(15 min)   | <i>(Skill: Communicating)</i> <ul style="list-style-type: none"> <li>Use PowerPoint slides 15–16 to explain to pupils how properties of materials used for each object are very closely related to the purpose of the object.</li> <li>Use examples on Textbook pp. 8–9 to explain further.</li> </ul>   | <ul style="list-style-type: none"> <li><b>Textbook</b>, pp. 8–9</li> <li><b>PowerPoint</b>, slides 15–16</li> </ul>                |
| <b>Elaborate</b><br>(15 min) | <i>(Skills: Inferring, observing)</i> <p>Note: Teacher to prepare spoons made of different materials beforehand</p> <ul style="list-style-type: none"> <li>Let pupils touch and feel the spoons made of different materials.</li> </ul>  | <ul style="list-style-type: none"> <li><b>Textbook</b>, Explore, p. 9</li> <li>Plastic spoon, wooden spoon, metal spoon</li> </ul> |

## Links to Activity Book and Textbook

Provides a quick reference to the relevant pages in the correct resources. Teachers are supported in effectively making use of this comprehensive package.



## Answers to Textbook Questions

### Quick Check, Textbook p. 5

1. Size, shape, colour, material (Accept other possible answers.)
2. Wood, metal, plastic, rubber (Accept other possible answers.)

### Quick Check, Textbook p. 9

Plastic. It is light and does not allow water to pass through.

### Test Yourself, Textbook p. 15

1. Group B
2. (a) B  
(b) A  
(c) shape / size  
(d) colour
3. (a) The mass of object X is smaller than the mass of object Y. / The mass of object Y is greater than the mass of object X.  
(b) Measuring tape
4. Tying up a plastic bag containing waste before throwing it into the bin does not help reduce waste. It helps keep the waste from spilling. However, the amount of waste in the plastic bag remains the same.

## Answers to Activity Book Questions

## Answers

Provides answers to

- Quick Check (Textbook)
- Test Yourself (Textbook)
- Let's Review (Activity book)
- Revision Exercises (Activity book)

Weak  
Stiff  
Soft  
Non-stretchable  
Transparent

answers.)

**Conclusion**  
use; material

### Activity 3, Activity Book pp. 7–8

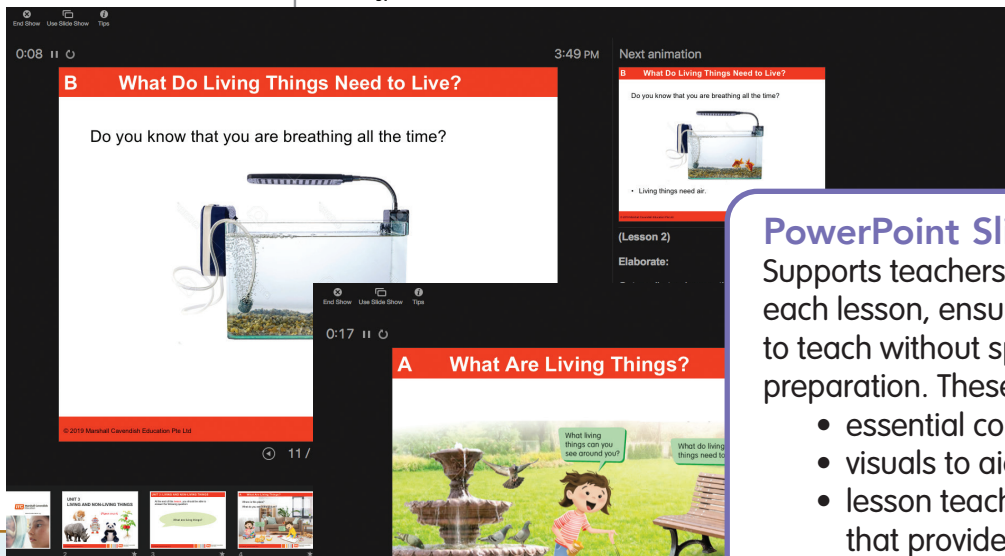
#### Conclusions

1. ruler / measuring tape
2. lever balance

### Let's Review, Activity Book pp. 10–11

#### Section A

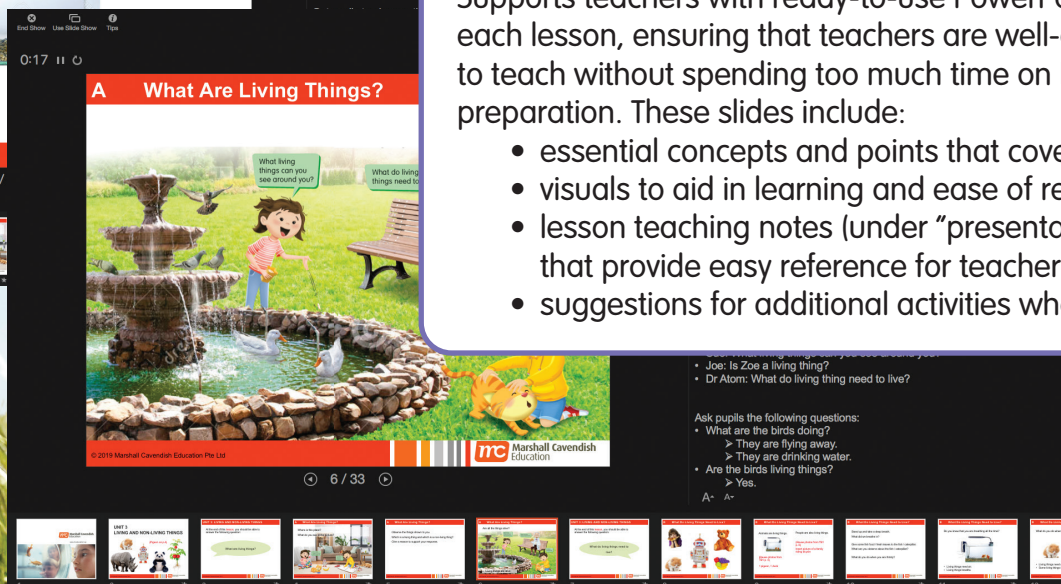
1. 3
2. 2
3. 4



## PowerPoint Slides

Supports teachers with ready-to-use PowerPoint slides for each lesson, ensuring that teachers are well-equipped to teach without spending too much time on lesson preparation. These slides include:

- essential concepts and points that cover the topic
- visuals to aid in learning and ease of reference
- lesson teaching notes (under “presentation notes”) that provide easy reference for teachers
- suggestions for additional activities where relevant





# Table of Contents

## Book 1

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|---------------------------------|----------------------|
| 1. Me!                          | 6. Things around me  |
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| 3. Living and non-living things | 8. Weather           |
| 4. Animals                      | 9. Light and heat    |
| 5. Plants                       | 10. Pushes and pulls |

## Book 2

- |                               |                         |
|-------------------------------|-------------------------|
| 1. Useful and harmful animals | 7. Light and shadows    |
| 2. Useful and harmful plants  | 8. Heat and its effects |
| 3. Air                        | 9. Sound                |
| 4. Water                      | 10. Electricity         |
| 5. In the ground              | 11. Magnets             |
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## Book 3

- |                             |                                     |
|-----------------------------|-------------------------------------|
| 1. Our amazing body         | 6. Objects around us                |
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| 3. Classifying animals      | 8. Forces                           |
| 4. Classifying plants       | 9. Sources and uses of electricity  |
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## Book 4

- |                                 |                             |
|---------------------------------|-----------------------------|
| 1. Animal parts and functions   | 7. Types of forces          |
| 2. Plant parts and functions    | 8. Forms and uses of energy |
| 3. Life cycles of living things | 9. Sources of energy        |
| 4. Our environment              | 10. Properties of light     |
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## Book 5

- |                                 |                                    |
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| 3. The digestive system         | 9. Heat transfer                   |
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| 5. Cells                        | 11. Materials and their properties |
| 6. Healthy diet                 | 12. The water cycle                |

## Book 6

- |                            |                                    |
|----------------------------|------------------------------------|
| 1. Reproduction in animals | 7. Electric circuits               |
| 2. Reproduction in plants  | 8. Types and properties of magnets |
| 3. Heredity                | 9. Soil                            |
| 4. Man and the environment | 10. Natural disasters              |
| 5. Adaptations             | 11. The Solar System               |
| 6. Separation techniques   |                                    |



## About Marshall Cavendish Education

Marshall Cavendish Education (MCE) is a global education solutions provider dedicated to nurturing the joy of learning and preparing students for the future. We believe the best way to do so is by simplifying learning and listening to the needs of schools, teachers, students, and parents.

MCE makes world-class educational content more accessible through a seamless experience that integrates both print and digital resources. We provide holistic and end-to-end solutions customised to the school's requirements, with professional development to help educators implement the curriculum.

We've worked with ministries, policymakers, educators, and parents in over 85 countries, designing education solutions in 14 languages for Pre-K to 12. MCE is the only Asia-based publisher that is an endorsement partner of Cambridge Assessment International Education.

**[www.mceducation.com](http://www.mceducation.com)**

