marshall cavendish education

Next Generation Science Standards

PRIMARY SCIENCE

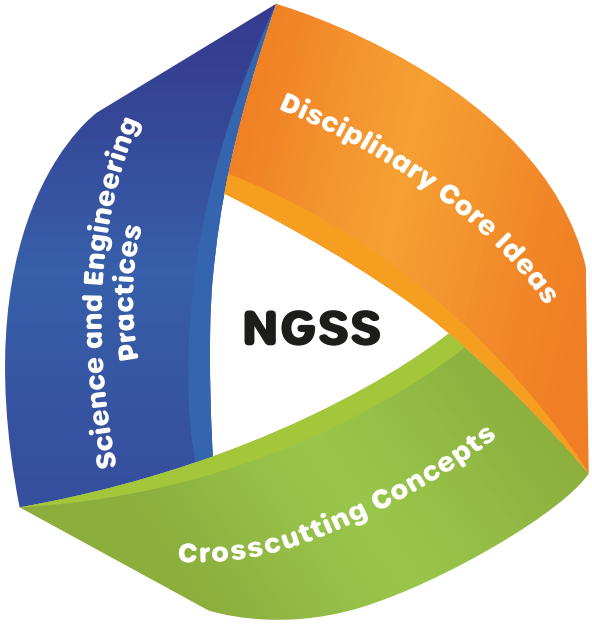
Brochure

This series is aligned with the

Next Generation Science Standards (NGSS)

Marshall Cavendish Education
PRIMARY SCIENCE

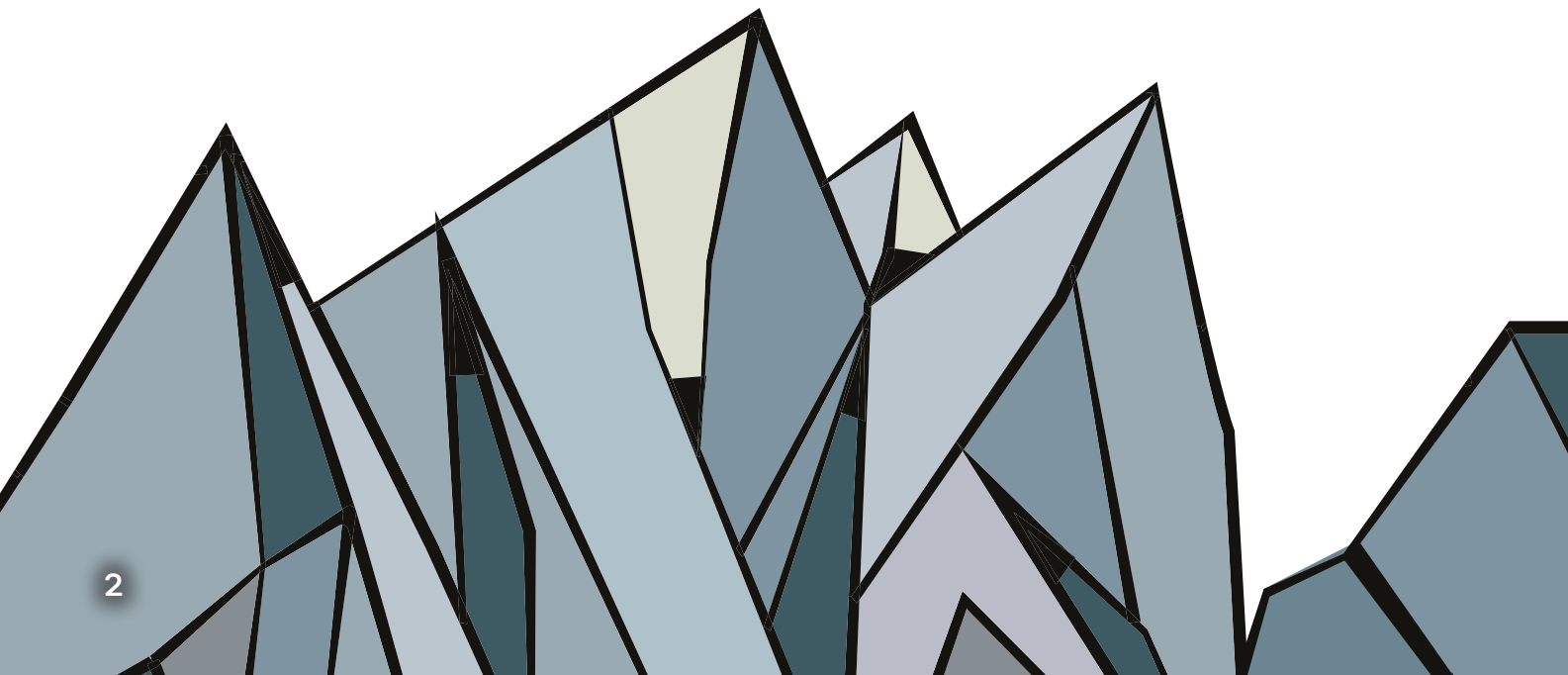
The **PRIMARY SCIENCE** series aligns completely with the Next Generation Science Standards (NGSS). It encourages inquiry and delivers performance expectations that incorporate the three dimensions of science learning – Disciplinary Core Ideas (DCI), Science and Engineering Practices (SEP) and Crosscutting Concepts (CCC).



This series combines the US standards with Singapore's teaching methodologies to equip students to achieve success in learning and in international examinations. It incorporates the inquiry approach based on the BSCS 5E Instructional Model developed by Rodger Bybee to help students acquire deep conceptual understanding and develop critical thinking skills through active exploration.

It is designed to meet the needs of students and teacher. Language support is available to ensure that concepts can be easily understood, and learning can take place, regardless of language proficiency.

The series seeks to nurture the joy of learning as it is essential for students to enjoy what they study in class for real learning to take place. It offers rich digital resources such as videos, quizzes and games, and hands-on activities to engage the students in their learning process. Students are given opportunities to interact with both the print and digital resources, which immerse them in a fun, interesting, and meaningful learning experience.



Why Choose MCE PRIMARY SCIENCE?

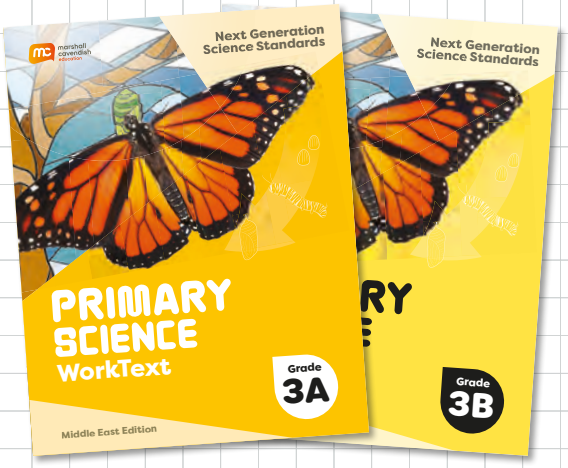
A complete science education solution based on NGSS standards, balanced with Singapore methodologies proven to deliver learning successes while nurturing the joy of learning.

Offers the best of the US and Singapore to equip students for success in learning

Designed to foster a meaningful and relatable learning experience

Nurtures the joy of learning in students through a vast array of resources

Product Architecture



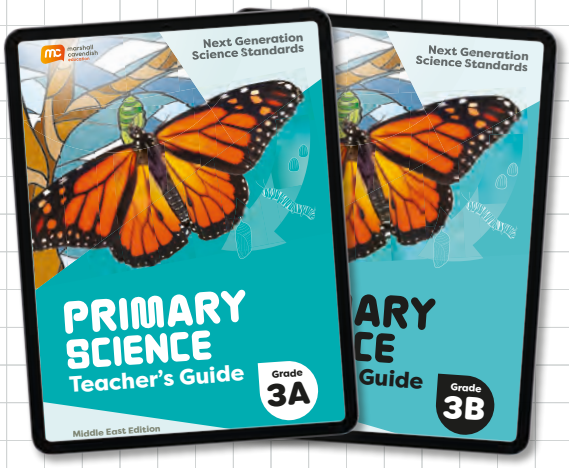
Available in print and annotatable eBook

WorkText

Grade K Book A	ISBN: 978-981-5089-41-7
Grade K Book B	ISBN: 978-981-5089-42-4
Grade 1 Book A	ISBN: 978-981-5089-45-5
Grade 1 Book B	ISBN: 978-981-5089-46-2
Grade 2 Book A	ISBN: 978-981-5089-49-3
Grade 2 Book B	ISBN: 978-981-5089-50-9
Grade 3 Book A	ISBN: 978-981-5089-53-0
Grade 3 Book B	ISBN: 978-981-5089-54-7
Grade 4 Book A	ISBN: 978-981-5089-57-8
Grade 4 Book B	ISBN: 978-981-5089-58-5
Grade 5 Book A	ISBN: 978-981-5072-07-5
Grade 5 Book B	ISBN: 978-981-5072-19-8
Grade 6 Book A	ISBN: 978-981-5072-63-1
Grade 6 Book B	ISBN: 978-981-5072-75-4

Teacher's Guide

Grade K Book A	ISBN: 978-981-5089-43-1
Grade K Book B	ISBN: 978-981-5089-44-8
Grade 1 Book A	ISBN: 978-981-5089-47-9
Grade 1 Book B	ISBN: 978-981-5089-48-6
Grade 2 Book A	ISBN: 978-981-5089-51-6
Grade 2 Book B	ISBN: 978-981-5089-52-3
Grade 3 Book A	ISBN: 978-981-5089-55-4
Grade 3 Book B	ISBN: 978-981-5089-56-1
Grade 4 Book A	ISBN: 978-981-5089-59-2
Grade 4 Book B	ISBN: 978-981-5089-60-8
Grade 5 Book A	ISBN: 978-981-5072-35-8
Grade 5 Book B	ISBN: 978-981-5072-47-1
Grade 6 Book A	ISBN: 978-981-5108-52-1
Grade 6 Book B	ISBN: 978-981-5108-53-8



Available as digital resources only

Digital Resources

- **WorkText eBooks:**
  - Tagged with digital resources such as videos, animations, simulations, and quizzes
  - Contain Arabic translations of key terms in writing and audio, and audio readings of selected key content explanations
- **Teacher's Guide:**
  - Editable schemes of work and lesson plans
  - Solutions to WorkText questions

Offers the best of the US and Singapore to equip students for success in learning

The combination of US teaching standards with Singapore methodologies provides students with stepping stones to achieve success in learning and in international benchmark examinations such as TIMSS and PISA.

The NGSS aim to develop students into scientific-literate persons, and it is done through open inquiry and deep learning. Open inquiry and deep learning encourage students to formulate their own ideas and carry out investigations on the topics, which are especially important for students who aspire to become engineers and scientists.

The series adopts the BSCS 5E Instructional Model, developed by Rodger Bybee, which provides a structure for integrated instructional units. Students are able to understand each concept over time through a series of established steps. The model provides embedded professional development to teachers, as they are guided to deliver pedagogically sound instructions through the five steps.

In Singapore, students are taught science through practical and guided inquiry. Practical inquiry engages students in learning experiences that are related to their personal experiences, thereby helping them to deepen their understanding. Guided inquiry encourages active exploration, facilitated by the teacher, using critical, logical, and creative thinking skills to answer questions. The outcome of these combined methodologies has helped Singaporean students acquire deep conceptual understanding which can be seen in their achievements in international benchmark assessments.

Lesson 4 Balanced and Unbalanced Forces

Key Terms

balanced opposite

Kickstart the lesson using the **Recall** questions to build on the students' prior knowledge and introduce the upcoming lesson.

Recall

1. The Earth's g<u>ravity</u> pulls all objects downwards.
2. Forces can be c<u>ontact</u> or n<u>on-contact</u> forces.

Engage

Capture students' interest at the start of the lesson using digital resources* such as videos, animations, simulations, games or quizzes.

**Scan the relevant page using the MCEduHub app on your smart device to launch the resources.*

Arm Wrestling

Scan this page!

Scan QR code to see a sample!

Figure 1.30

1. What is happening in the picture?
2. Are the boys using the same amount of force? How can you tell?
3. What will happen if one of the boys uses a much greater force?

Use the featured image to extend discussion after capturing interest with the digital resource.

Engage

Arm Wrestling

Scan this page!

Figure 1.30

1. What is happening in the picture?
2. Are the boys using the same amount of force? How can you tell?
3. What will happen if one of the boys uses a much greater force?

Using the inquiry questions related to the image, engage the students by having them interpret and analyze what they see.

One of the inquiry questions is carefully crafted to encourage students to imagine, think creatively, and predict results.

2nd E – Explore

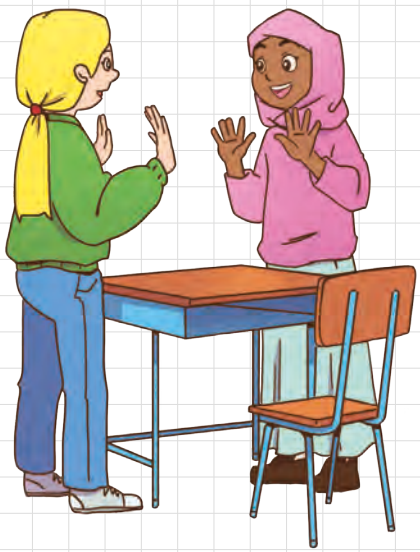
Explore

Palm Push Game

In **Engage** on page 38, you hav
stay still when equal forces are
what happens when one of the

Hands-on and minds-on activities involving experiments or investigations are used to guide students to construct understanding based on what they already know. This promotes active exploration and development of critical thinking skills.

1. Work with a classmate. Stand on opposite sides of a table.
2. Place your palms facing each other above the table.
3. On the count of three, give your classmate's hands a push. You win if your classmate moves his or her feet to stay balanced.
4. Repeat the game. Tick (✓) the boxes in **Table 1.6** to show



As part of the inquiry approach, students are guided to collect results for analysis and prompted to share their thoughts by answering the discussion questions.

Table 1.6 Results of the palm push game

	Name of Student A: _____	Name of Student B: _____
1st round		
2nd round		
3rd round		

How do you tell who is using a greater force in each round?

Concepts are unpacked in a step-by-step manner using rich visuals and infographics for illustration. Inquiry questions are included to provoke thinking and the main content will guide students to draw connections from what they have explored previously to the related scientific concepts.

Explain

What Are Balanced Forces?

You have learned that a force can make an object move. You can apply a force on an object from different directions.

In **Explore**, you applied a force on your friend's palms. When neither of you moved, the forces used were **balanced**. Two equal forces can act on an object in **opposite** directions. The object will stay stationary. You can arrows of the same size to show balanced forces (**Figure 1.32**).

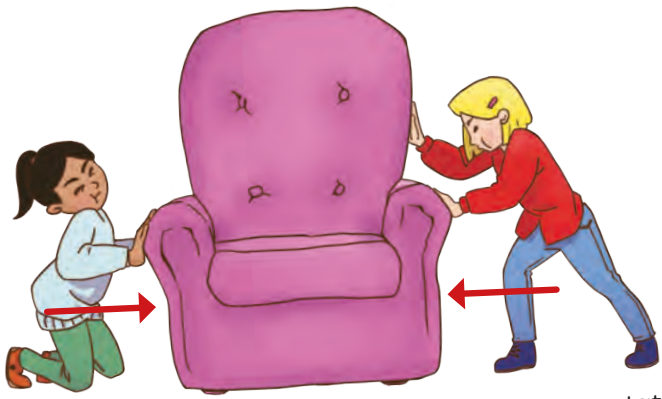
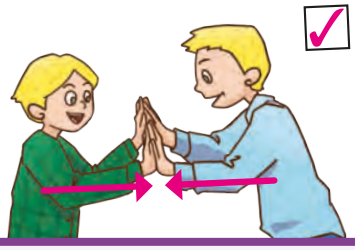
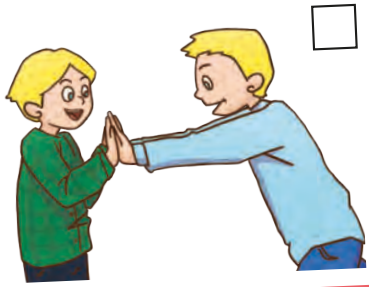


Figure 1.32 Balanced forces act on the sofa. The sofa stays stationary.

Check Your Understanding

In which picture are the boys applying equal forces? Tick (✓) the correct box. Draw arrows to show that the forces are balanced.





Test students' understanding on concepts taught with the formative questions in **Check Your Understanding** before moving on to the next section.

Engage students in simple classroom activities to promote understanding of concepts through practical inquiry, where they can deepen their understanding with personal experiences.

Try It!

Work in pairs. Use sticky tape to mark a start line on the table. Place a book along the start line. You and your classmate will place two fingers on opposite sides of the book (**Figure 1.35**).

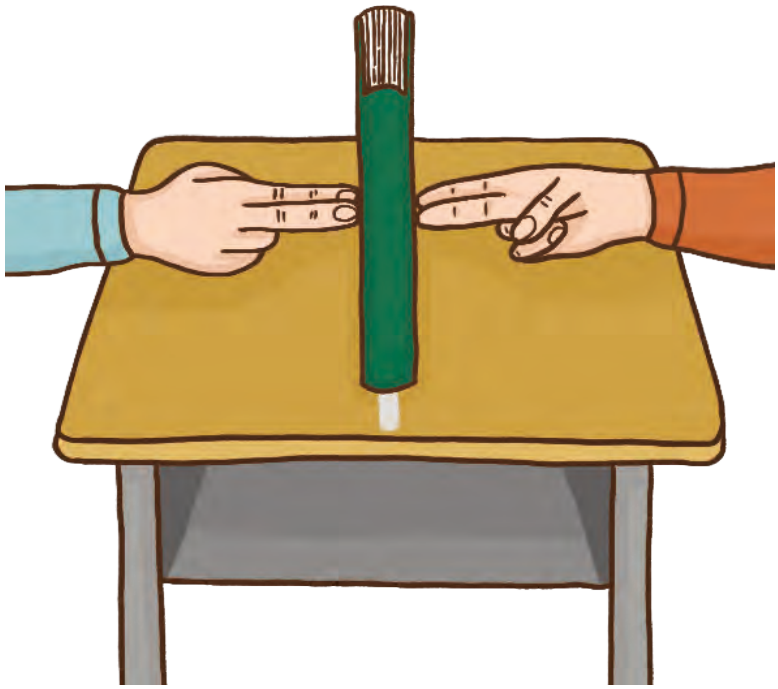


Figure 1.35

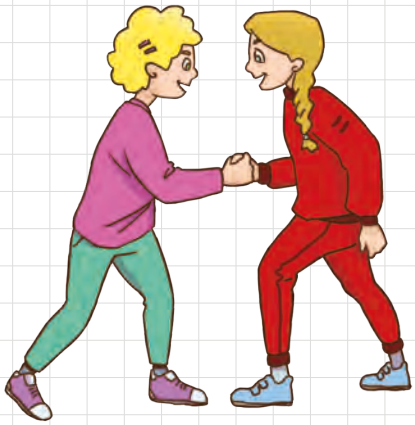
1. Each of you will push the book such that it does not move. What can you say about the forces applied on the book?
2. Both of you will push the book as hard as possible. Stop when it moves past the start line. What can you say about the forces applied on the book?

Elaborate

Apply It!

1. Work with a classmate to perform each action. Then tick (✓) the boxes to show your results.

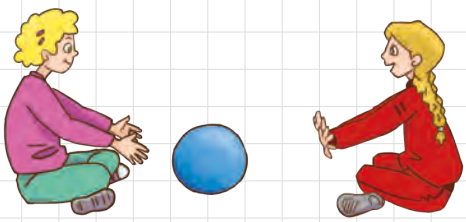
(a)



- ☐ I managed to pull my classmate.
- ☐ Both of us did not move.
- ☐ My classmate managed to pull me.
- ☐ My classmate and I applied a force in the same direction.
- ☐ My classmate and I applied a force in different directions.
- ☐ We used balanced forces.
- ☐ We used unbalanced forces.

Extend learning by having students apply the concepts learned to different contexts as a way of formative assessment.

This section includes an activity for students to think critically and gather data for analysis, where relevant.



- ☐ I managed push the ball towards my classmate.
- ☐ The ball did not move.
- ☐ My classmate managed to push the ball toward me.
- ☐ My classmate and I applied a force in the same direction.
- ☐ My classmate and I applied a force in different directions.
- ☐ We used balanced forces.
- ☐ We used unbalanced forces.

5th E – Evaluate

Opportunities for formative and summative assessment are present to help evaluate students' understanding. Formative assessment can be done by discussing the questions raised in the main content or under **Check Your Understanding**.

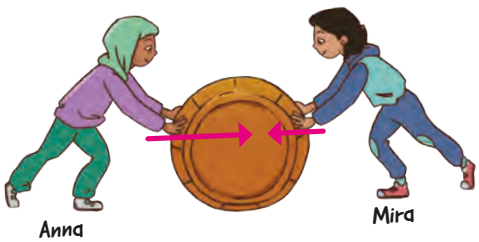
Evaluate

Lesson Review

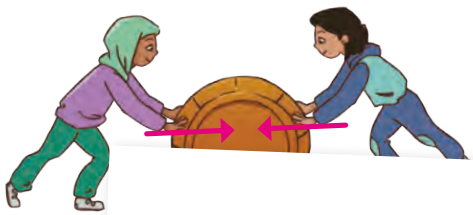
Answer the questions in the spaces provided.

1. Look at the each picture. Draw an arrow to show the force used by each person.

   (a) Anna is using a greater force than Mira.

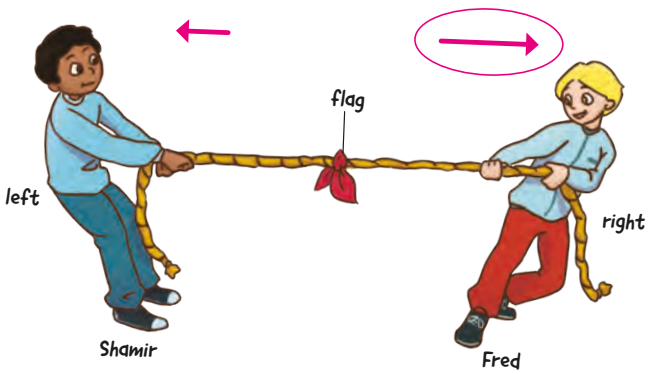


   (b) Anna and Mira are using the same amount of force.



   (c) Mira is using c

2. Look at the picture. Fred uses a greater force to pull the rope.



   On the picture, draw arrows to show the amount of force used by each boy. Circle the arrow that shows the direction in which the red flag moves.

Lesson Review and **Unit Review** serve as summative assessments for teachers to review students' overall learning and identify any gaps in understanding.

Unit Review

Answer the questions below.

1. Two girls are pushing a ball with equal forces. What will happen to the ball?

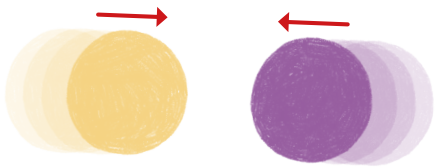
A The ball will not move.
B The ball will start bouncing.
C The ball will move toward the left.
D The ball will move toward the right.

2. Fill in the blanks.

Caleb is using a greate

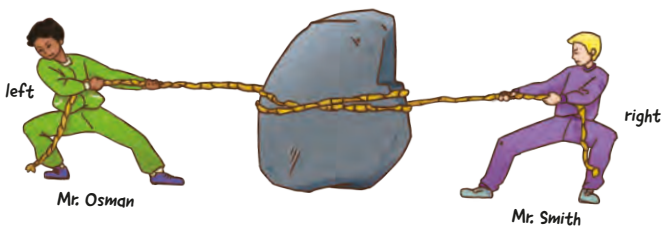
The crate will move awa

3. Two marbles are rolling toward each other.



Draw arrows to show the forces they should collide with. Both marbles should change in direction.

4. Two men pull a rope tied to a rock from opposite directions.



What happens if Mr. Osman pulls the rock with a greater force than Mr. Smith?

The rock will move towards the left / Mr. Osman.

Unit Review includes questions which cover all the key concepts taught in the unit. It involves a higher-order thinking question with real-life application and various question types such as multiple-choice and structured questions to prepare students for assessments.

Chapter Self-Reflection

Tick (✓) to show what you can do.

I can	Yes	Not sure	No
show balanced forces			
show unbalanced forces			
predict how an object will move given the forces applied			
predict what happens when two moving objects collide			

Chapter Self-Reflection allows students to conduct self-assessment and promotes journaling for students to keep track of their learning progress.

My Journal

What I Know	What I Still Want to Know

Designed to foster a meaningful and relatable learning experience

The Primary Science series has been developed with special considerations given to the needs and interests of students and teachers.

The English language used in the MCE Primary Science series are written to be age-appropriate for young learners. Abstract concepts are taught using visuals such as infographics so that students are able to learn regardless of their English language proficiency. In the eBook, audio readings of key paragraphs that explain concepts are included to provide further language support. Arabic translation of Key Terms are also provided in writing and audio forms at the point of use in the student materials so that students are able to better remember the scientific terminology.

The use of familiar contexts helps students relate to and identify with the content, thus making their learning more relevant and meaningful.

Key Terms

balanced opposite unbalanced

Key words are listed under **Key Terms** at the start of each lesson and highlighted within the main content to promote scientific literacy.

Scan QR code to hear the audio sample!

Audio and written Arabic translations of the key words are available to enable students to easily understand their meaning and remember the key words.

Explain

What Are Balanced Forces?

You have learned that a force can make an object move. You can apply a force on an object from different directions.

In **Explore**, you applied a force on your friend's palms. When neither of you moved, the forces used were **balanced**. Two equal forces can act on an object in **opposite** directions. The object will stay stationary. You can arrows of the same size to show balanced forces (**Figure 1.32**).

Audio readings of key paragraphs that explain concepts are included in the eBooks to provide further language support.

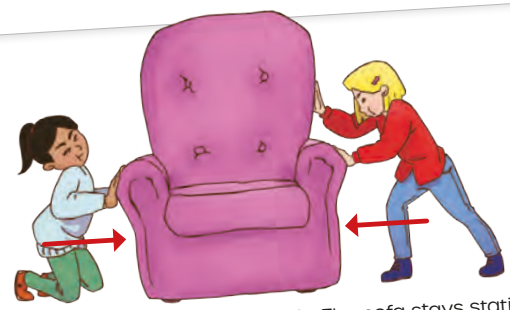
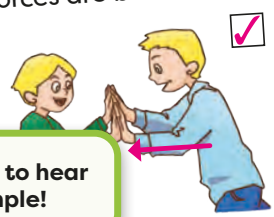
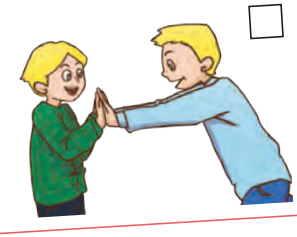


Figure 1.32 Balanced forces act on the sofa. The sofa stays stationary.

Check Your Understanding

In which picture are the boys applying equal forces? Tick (✓) the correct box. Draw arrows to show that the forces are balanced.





Scan QR code to hear the audio sample!

The content is designed to be easy to understand as the language is pitched to suit each grade level with the minimal use of difficult words.

What Are Unbalanced Forces?

In **Explore**, when you applied a greater force than your friend, the forces were **unbalanced**. Your friend was not able to keep his or her balance. When two unequal forces act on the same object, the object will start moving.

In **Figure 1.33**, Salim is using a greater force than Kai to push the suitcase. You can use a longer arrow to show this.

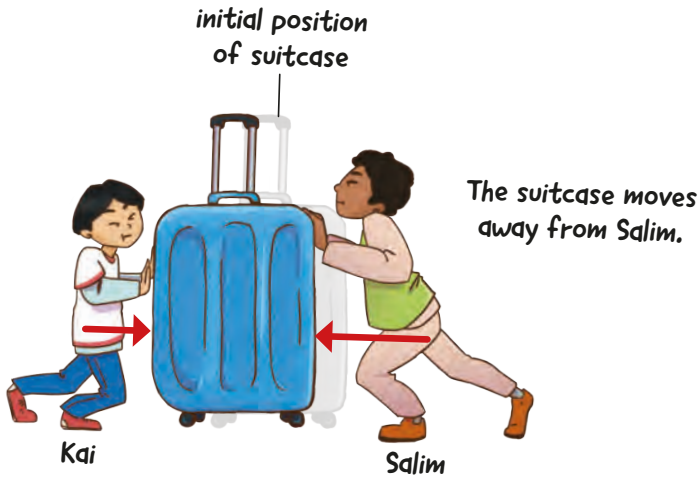


Figure 1.33 Two unbalanced push forces act on the suitcase. The suitcase moves away from the greater force.

Unbalanced forces pull can also move objects. In **Figure 1.34**, Salim is using a greater force than Kai to pull the crate.

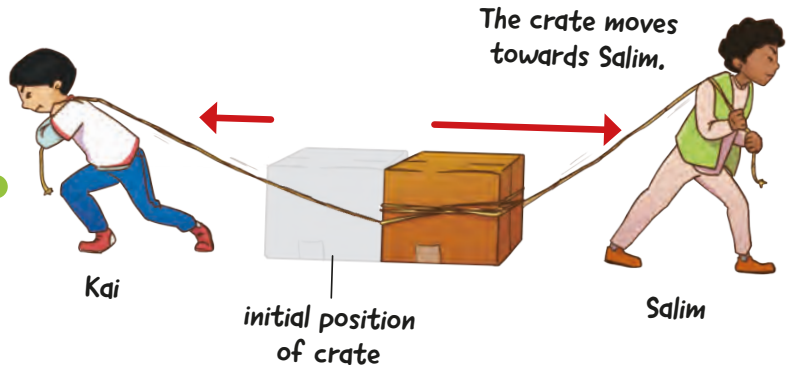
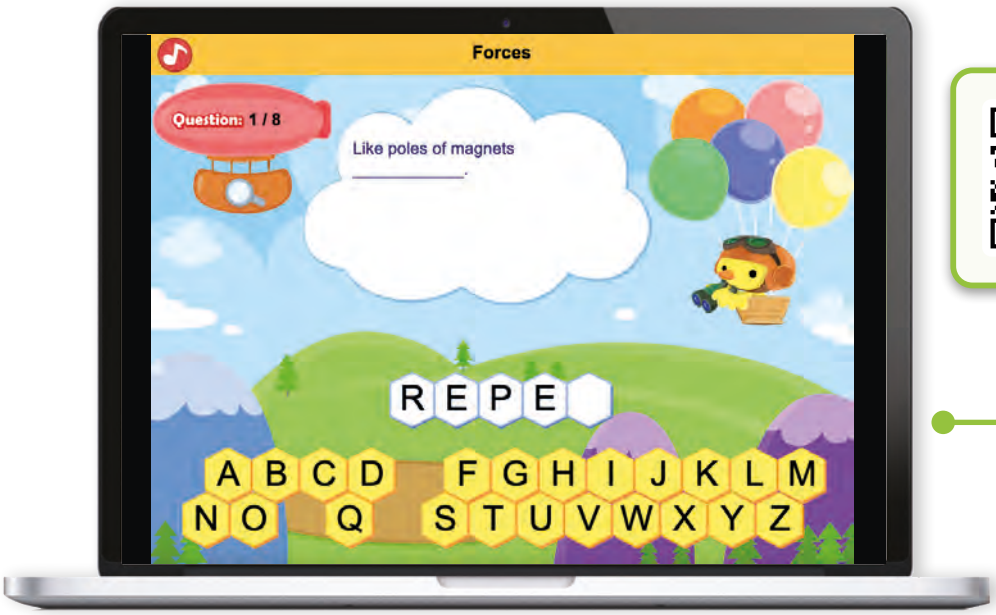


Figure 1.34 A greater force is used to pull the crate. The crate moves towards the greater force.

Infographics are used to demonstrate abstract concepts and enable students to visualize these concepts to aid in their understanding.



Scan QR code to see a sample!

WordPlay features digital games* like guess the word, fill in the blanks, match the correct word, and unscramble the word, serving as language support as it tests students' understanding of key terms covered in the unit.

**Scan the relevant page using the MCEduHub app on your smart device to launch the game at the end of each unit.*

Interesting real-world information related to the concepts are featured for students to appreciate the relevance of what they are learning.

WOW!

Ants can carry objects up to 5000 times their weight. Have you seen a group of ants work together to carry a piece of food much bigger than themselves (**Figure 1.36**)? How do they do that?

The ants use unbalanced forces to guide the objects from one place to another. What will happen to the object if balanced forces are applied on it? Will the object move?

Figure 1.36 Ants use unbalanced forces to move large objects.

SciTalk features information on technology or scientific discoveries related to the topic and involves research and critical thinking questions to promote digital literacy.

SCI TALK

Did you know that engineers have developed giant 3D printers for making buildings (**Figure 1.40**)? Some "printed" buildings are designed to withstand the forces exerted by earthquakes. This prevents them from collapsing during earthquakes.

Find out more about 3D printing in construction.

What materials are used to make 3D printed buildings? How are these 3D printed materials made strong enough to withstand an earthquake?

Figure 1.40 The world's tallest 3D printed building is found in Riyadh, Saudi Arabia.

The use of examples will promote relatability as students can identify with the content, making learning relevant and meaningful.

UNIT 1 FORCES

Semester 1 Weeks 1–3
Total unit duration: 18 periods (12 hours)

CHAPTER 1A Motion and Forces

SCHEME OF WORK

Periods (18)	Duration (minutes)	Performance Expectation(s)	Disciplinary Core Idea(s)	Science and Engineering Practice(s)	Crosscutting Concept(s)	Resources and Materials
Period 1 of 18 Unit Introduction	40	• **3-PS2-1:** Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.	• **PS2.B: Types of Interactions** ○ Objects in contact exert forces on each other.	• **SEP.3 Planning and Carrying Out Investigations** ○ Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered.	• **CCC.2 Cause and Effect** ○ Cause and effect relationships are routinely identified.	• Worktext 3A, pages 2–3
Periods 2–3 of 18 Chapter Introduction	80	• **3-PS2-1:** Plan and conduct an investigation to provide evidence of the effects of	• **PS2.A: Forces and Motion** ○ Each force acts on one particular object and has	•	•	• Worktext 3A, page 4 • 80 Cardboard rolls • 8 Pairs of scissors

Editable Schemes of Work offer convenience to teachers as they provide an overview of each lesson, helping them quickly locate resources for lesson planning.

☐ **Explain (3rd E)** **3 periods**

What Are Balanced Forces?

Purpose

- To formalize students' understanding of the concept of balanced forces

Suggested Teaching Strategy

- Refer students to Worktext 3A page 40.
  - Recap what students have learned in Explore. Emphasize that a force can make an object move, and forces can be applied on an object in different directions.
  - Define that two forces are balanced when the forces are equal and act on the same object in opposite directions. The object will stay stationary.
  - Focus students' attention on the figure. Highlight that the two arrows are of equal length to show that equal forces are acting on the sofa.
    - **Ask:** Why do the arrows face inward? *(They are there to show the direction of movement; they show the direction of the forces; the girls are both applying a pushing force onto the sofa.)*
  - Guide students to use arrows of the same length and in opposite directions to show balanced forces. Emphasize that the object will not move in such a scenario.

> **Caution**
> - Students may develop the misconception that the arrows show the direction of motion.
> - Explain to students that the direction of motion depends on the strength of the forces, which they will be learning over the next few pages. The arrows shown here show the strength of the forces.

Check Your Understanding

- This **Question** assesses students' ability to identify balanced forces.
  - **Ask:** In the picture on the left, who applies a greater force? *(The boys are both applying a balanced pushing force.)* How should be arrows be drawn? *(They should be of the same size and face inwards. The boys are exerting a pushing force on each other's hands.)* In the picture on the right, who applies a greater force? *(The boy on the right applies a greater force.)*
- If students select the picture on the right, explain that they boys are not stretching their arms out equally, so they are not applying balanced forces.

What Are Unbalanced Forces?

Suggested Teaching Strategy

- Introduce to students the concept of unbalanced forces on Worktext 3A page 41 using the step-by-step scaffolded teaching strategy. Refer students to the first picture on the page.
  - **Ask:** Do you think the luggage will move? Why do you say so? *(Yes, the luggage will move as the forces are not balanced.)* In which direction will it move? *(away from Salim)*
  - Facilitate discussions and promote interactions as students to share their thoughts. Write all the responses on the board to correct misconceptions later.
- Have students look at the first picture on page 41 again.
  - **Ask:** Who applies a greater force? *(Salim applies a greater force.)* Why do the arrows face inward? *(The boys are both applying a pushing force.)* How does the suitcase move? *(It moves left, away from Salim.)*
  - Explain that unbalanced forces can move objects. An object moves away from the greater force if it is pushed.
- Refer students to the second picture on Worktext 3A page 41.

Differentiated Instructions

Additional Support	On-level Practice	Extension
• Show students pictures of different objects in motion or forces acting on an object. • Have students show with hand gestures what forces are being applied (push or pull, and direction if applicable). • Encourage students to draw arrows to represent what they have shown using hand gestures.	• Refer students to the picture on Worktext 3A page 40. • **Ask:** What other forces are acting on the sofa? Are they balanced or unbalanced forces? ○ Gravity pulls the sofa down, but the floor pushes up against the bottom of the sofa. So, the forces are balanced. • Divide students into small groups. Provide each group with a sheet of paper. Label one page with "balanced forces" and "unbalanced forces" on the other. Have students paste magazine cut-outs or draw pictures to show examples of balanced and unbalanced forces. Allow students to share their examples with the class.	• Introduce students to the Rube Goldberg machine (a chain-reaction type machine that shows cause and effect such as a domino run). • Have students use their slide built in the Chapter Project as the first part of a Rube Goldberg machine. Encourage students to build the rest of the machine using materials such as erasers, cards, and boxes. • Invite volunteers to describe the balanced or unbalanced forces acting on the marbles or the other objects.

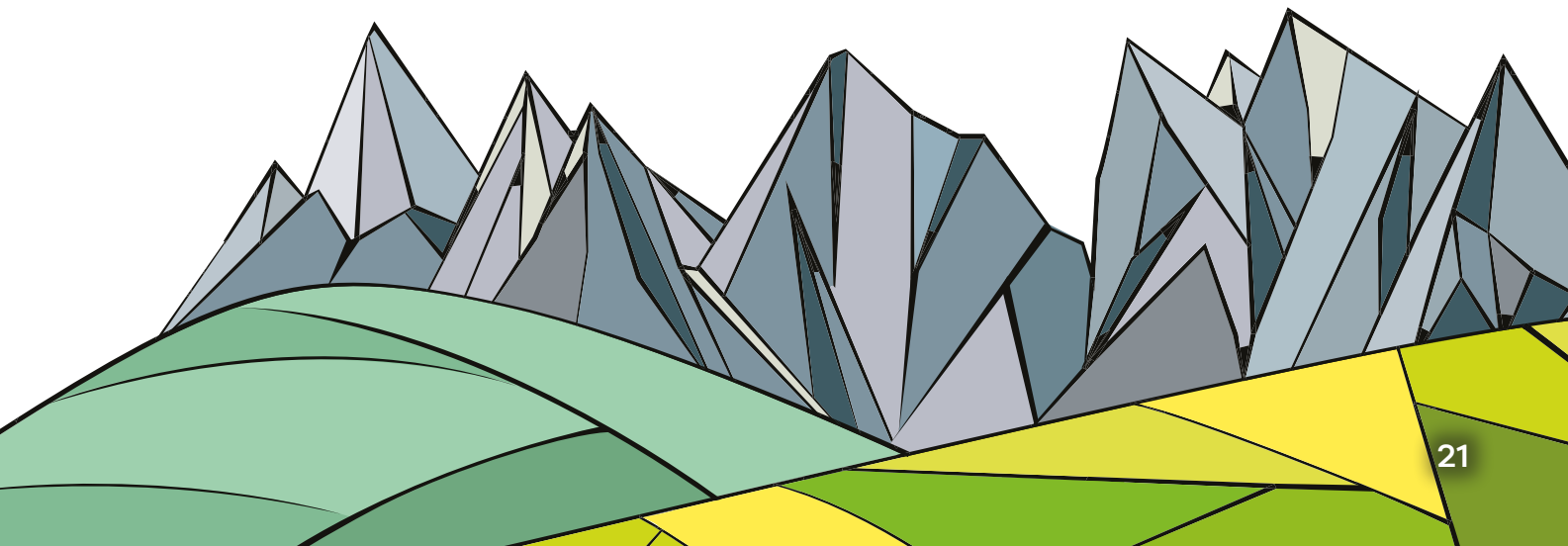
Editable Lesson Plans are time-saving tools that enable teachers to plan their lessons efficiently. They include suggested teaching ideas and critical thinking questions to engage students effectively. They also cater to students of different readiness levels by providing differentiated instructions in the form of Additional Support and Extension.

Nurtures the joy of learning in students through a vast array of resources

Nurturing the joy of learning is critical in helping students be intrinsically motivated, acquire love for what they do in class, and enjoy attending school.

The Primary Science series presents learning experiences where students are guided through an inquiry process as they interact with both print and digital resources. Students are able to interact with the books via the marker recognition (MR) feature. Digital resources can be retrieved by scanning pages in the book using a smart device. Students will engage with hands-on activities, watch videos, animations, participate in quizzes, and play games as they learn new concepts. These digital resources can also be accessed via the eBooks, making the teaching and learning experience seamless and fuss free.

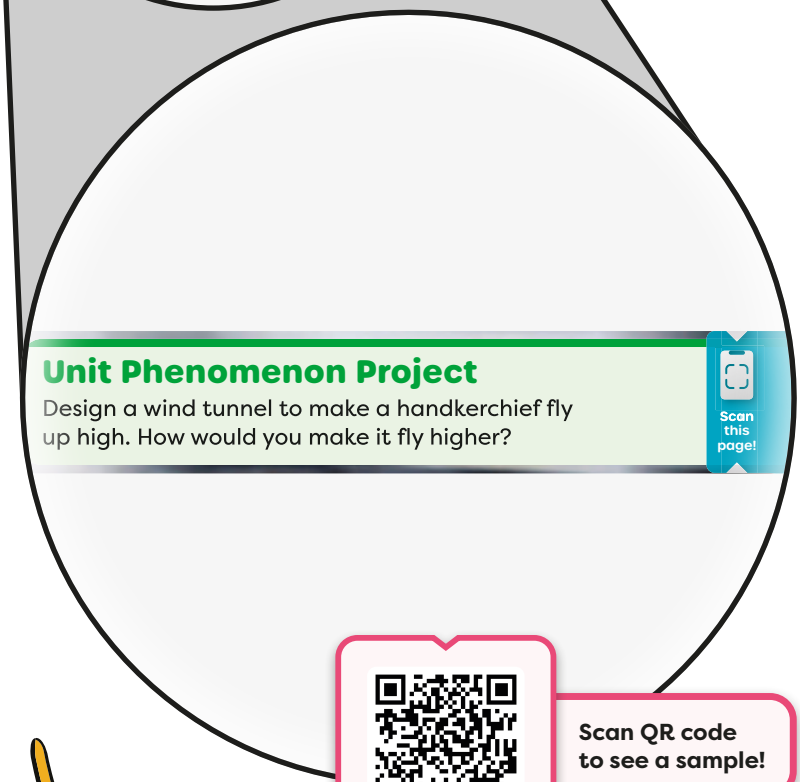
The series strives to provide interesting, fun, and meaningful learning experiences through its range of resources. It subscribes to the belief that only where the joy of learning exists, can real learning take place.



Annotatable eBooks provide a seamless and fuss-free learning and teaching experience as they provide an alternative access to the digital resources. They serve to support both face-to-face and online lessons.

Interact with the books by retrieving digital resources such as videos, animations, quizzes and games using the marker recognition (MR) feature*. This provides a fun and engaging learning experience for the students as they explore the various digital resources found throughout the series.

**Scan the relevant page using the MCEduHub app on your smart device to launch the resources.*

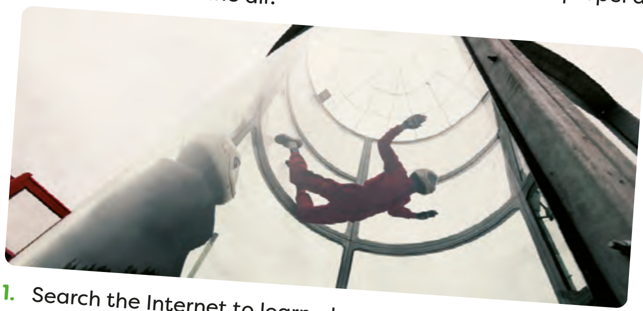


Scan QR code to see a sample!

Features a hands-on application-based project related to the unit that can be completed progressively after each chapter. Students will be involved in applying their knowledge to a real-life scenario and experience authentic learning.

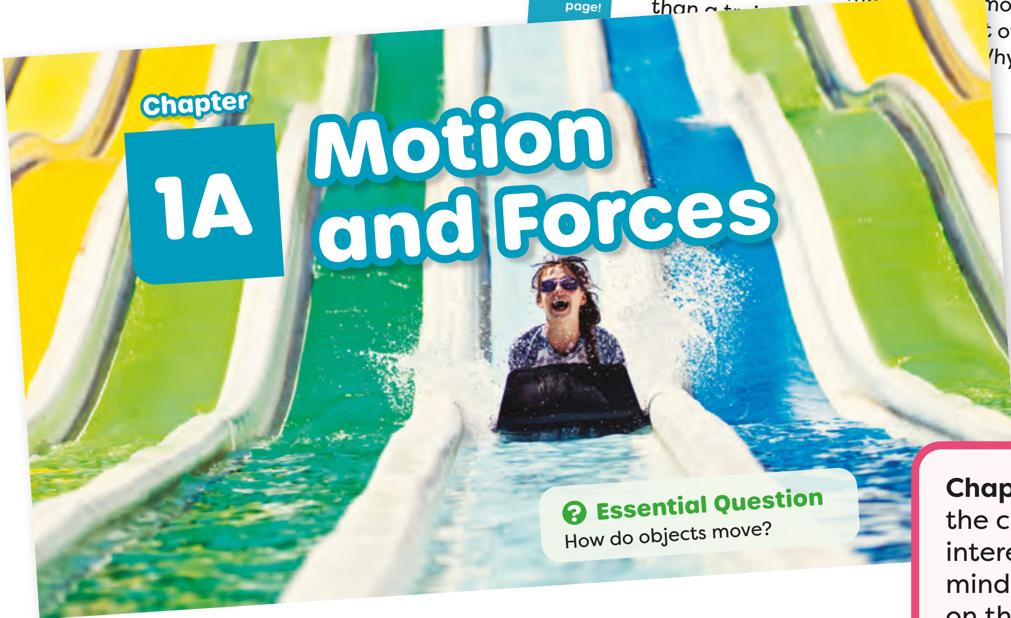
Unit Phenomenon Project

A wind tunnel uses fans at the bottom to propel skydivers into the air. Now, try making your own wind tunnel to propel a handkerchief into the air.



1. Search the Internet to learn about how some wind tunnels work.
2. Design your own wind tunnel. Draw a model of the wind tunnel. Label the forces involved in making the handkerchief fly. Make a list of the materials needed.
3. Make and test your wind tunnel based on your design. See if your wind tunnel is able to propel different objects like dried leaves and sheets of plastic.
4. Based on your test results, make improvements to your model. For example, if you used a bottle to make the tunnel, try using a narrower bottle. You can also use a stronger fan or hairdryer at the bottom. How do these improvements make the handkerchief fly higher? How have the forces changed?
5. Research on how magnets help to keep maglev trains afloat. Why does a maglev t... move much faster than a t... other objects ...hy do you say so?

Scan this page!



Chapter

1A Motion and Forces

Essential Question

How do objects move?

Chapter Project

A slide is a ramp that can move something from the top to the bottom. Build a slide out of cardboard rolls using the steps below.

1. Cut two of the rolls into halves lengthwise.
2. Cut slits at different heights of the other rolls.
3. Insert the half-rolls into the slits. Secure them with sticky tape.
4. Test the slide using some marbles (**Figure 1.1**).
5. Paint the slide using your favorite colors!

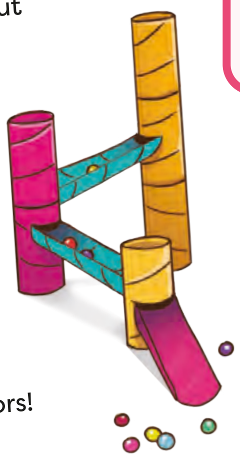


Figure 1.1

Chapter Project introduces the chapter through an interesting hands-on and minds-on activity that is based on the **Essential Question**. Students are guided to create a product with everyday materials which will trigger critical thinking and curiosity pertaining to the chapter.

Chapter Project Review provides opportunities for students to reflect on their Chapter Project design and suggest improvements by applying the concepts learned. They are encouraged to collaborate and share their thoughts with the class.

Chapter Project Review

Look at the slide you built using the instructions on page 4. Think of some ways to improve your slide. Here are some ways you could do:

- Add a few more cardboard rolls to make a longer slide.
- Increase the height of your slide to make things roll down faster.
- Use different objects on the slide.

Discuss these questions with your classmates.

- How do the improvements change the object's motion?
- Does the object slow down? How can you tell?
- Does the object slide down faster? How can you tell?

Let's look at **Unit Phenomenon Project**.

Scope and Sequence

The scope of our content is developed to meet the curriculum in the Next Generation Science Standards (NGSS). The pedagogical approach of the content was developed as a result of Marshall Cavendish Education's research on the most effective strategies of teaching and learning.

Scan QR code for more!

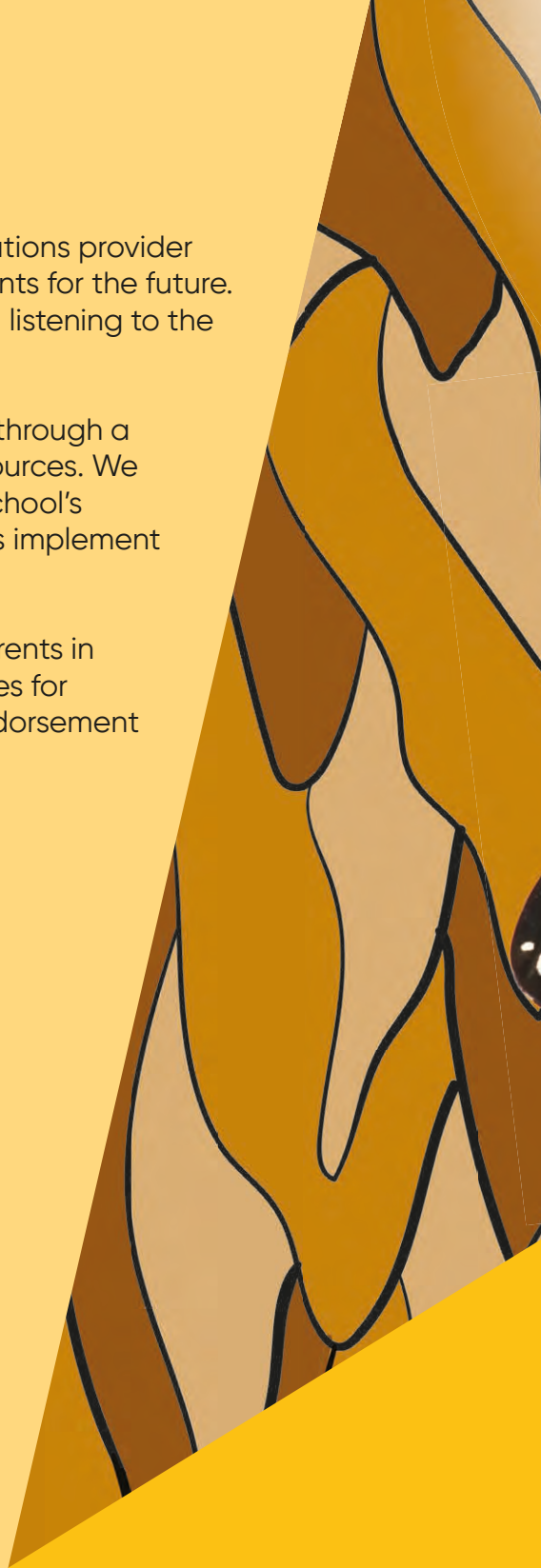
About Marshall Cavendish Education

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 90 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



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