



# ENGLISH PROGRAM PROGRAM 2023

CATALOG

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ENGLISH PROGRAM  
AND INTERNATIONAL  
PROGRAM MEDIA  
FOR  
KINDERGARTEN  
PRIMARY AND  
LOWER SECONDARY

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# Working together to serve various needs of schools in Thailand

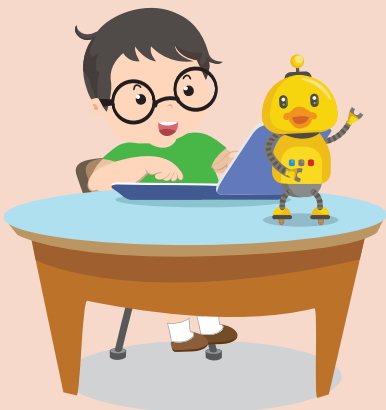
Aksorn Charoen Tat ACT. is the Sole Distributor for Cambridge University Press for the Primary series : Global English, Primary Mathematics, and Primary Science for International Primary Curriculum.

With the understanding that schools, using English as a medium of instruction, have various needs for teaching and learning, we offer learning media in two different curricula.



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Aksorn Learning Model for English Program starts with the development of English Language skills through various methods and materials those aim to foster listening, speaking, and reading skills of the students since primary level. This helps pave the way seamlessly for the next level using English as a medium of instruction. Students will then be able to learn the concepts and skills of each subject through the medium of English, namely Mathematics, Science, Health and Physical Education, and Social Studies.



## Cambridge University Press

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#### Create better learning moments



With Cambridge, you’ll find a curriculum and resources that encourage learners to think critically, collaborate and be creative. A range of assessments give you powerful insights to help you plan your learners’ next steps and support with effective teaching approaches, including a range of professional development resources. The latest editions of our primary series has been fully updated to support the new curriculum frameworks.



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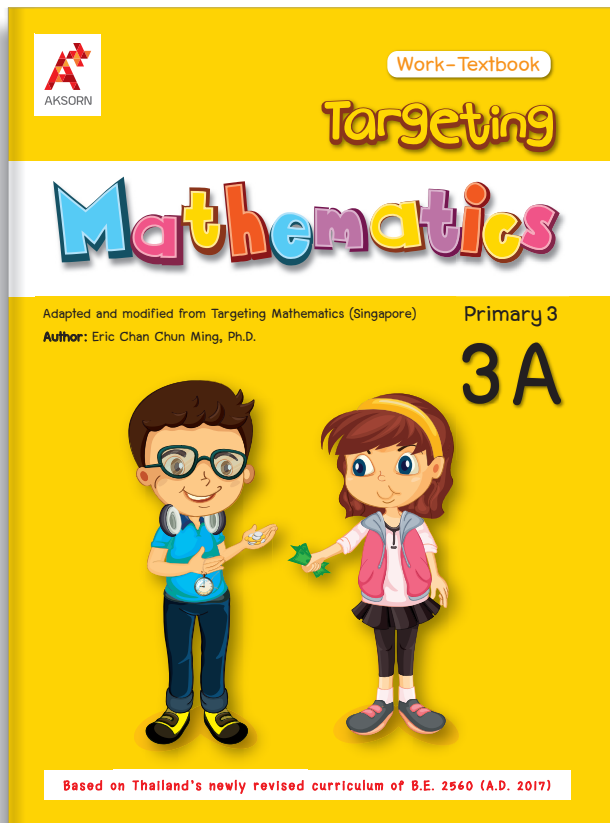


# Targeting Mathematics

## Work-Textbook



- Covering all the content based on Thailand's revised curriculum of B.E. 2560 (A.D. 2017).
- Utilizing the CPA approach (Concrete-Pictorial-Abstract), which helps the students understand the abstract concepts more easily.
- Employing the "Bar Model", which helps the students solve the problems more systematically with the visual aids.
- All-in-one : content, exercises and activities in one book.
- เนื้อหาครบทุกตัวชี้วัดตามหลักสูตรฉบับปรับปรุง '60
- ประยุกต์ใช้วิธีการ CPA (Concrete-Pictorial-Abstract) ช่วยให้เด็กเข้าใจเนื้อหาคณิตศาสตร์ที่เป็นเรื่องนามธรรมได้ง่ายยิ่งขึ้น
- Bar Model วิเคราะห์โจทย์ปัญหาโดยใช้แท่งบาร์เพื่อให้สามารถแก้ปัญหาได้ง่าย และมีระบบ
- มีทั้งเนื้อหา และแบบฝึกหัด ครบ จบในเล่มเดียว



### CPA

#### Addition

**See and Learn**

Adding by counting on

1 Add 66 and 3.

66 eggs 3 eggs

Let's count on 3 ones from 66.

1 more 1 more 1 more

66 67 68 69

$66 + 3 = 69$

2 Add 53 and 40.

Let's count on 4 tens from 53.

10 more 10 more 10 more 10 more

53 63 73 83 93

$53 + 40 = 93$

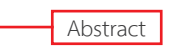
194



Concrete



Pictorial



Abstract

CPA : Concrete – Pictorial – Abstract

ทำแนวคิดคณิตศาสตร์ให้จับต้องได้

### Bar Model

2 Mr Ling had 36 l of paint.  
He used 27 l to paint his room.  
How many liters of paint did he have left?

36 l

27 l

?

Bar Model

$36 - 27 = 9$

He had 9 liters of paint left.

3 Container A has 60 tablespoons of water.  
Container B has 25 tablespoons less water than Container A.  
What is the volume of water in Container B?

60 tbsp

25 tbsp

?

Bar Model

$60 - 25 = 35$

The volume of water in Container B is 35 tablespoons.

185

Bar Model

ใช้แท่งบาร์ช่วยแก้ปัญหาคณิตศาสตร์

Content

2 Addition up to 100,000

Let's Talk About...

Mrs Tan wants to have an ensemble in the school.  
How much will it cost?

How many musical instruments should I buy?

5640฿

Developed from Singapore's best seller Mathematics series to be consistent with Thailand's newly revised curriculum of B.E. 2560 (A.D. 2017).

เนื้อหาพัฒนาให้ตรงตามหลักสูตร'60 โดยนำบทเรียนมาจากหนังสือคณิตศาสตร์ระดับประถมฯ ที่ขายดีที่สุดของสิงคโปร์

Exercises

Exercise

1 Put a tick (✓) in the box for each symmetric letter.

(a) V ☒ (b) M ☒

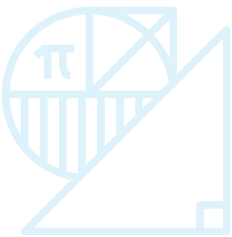
(c) F ☐ (d) S ☐

(e) X ☒ (f) H ☒

(g) B ☐ (h) Z ☐

Checking students' understanding of mathematical concepts using graded exercises from easy to challenging.

ทดสอบความเข้าใจแนวคิดคณิตศาสตร์ด้วยแบบฝึกหัดที่มีการแบ่งระดับจากง่ายไปยาก



Activities

Let's Have Fun!

Show and Say

Work in groups.  
Use these words and numbers to make two 2-step word problems.  
Get another group to solve the word problems.

(a) visitors adults children  
zoo 2,400 more than  
368 How many

(b) Lakshmi Primary School more than 2,311  
476 Redmond Primary School How many

Do and Learn

Solve the word problems.

The library at Forest Primary School has 4,523 non-fiction books and 3,352 fiction books.

How many fiction and non-fiction books are there altogether?

4,523	3,352
non-fiction	fiction
?	

Th	H	T	O
4	5	2	3
3	3	5	2
7	8	7	5

4,523 + 3,352 = 7,875

There are 7,875 fiction and non-fiction books altogether.

Engaging students to work with their classmates to communicate and share what they have learned. Encouraging them to apply mathematical concepts through games and activities.

ส่งเสริมการเรียนรู้ร่วมกัน แบ่งปันความรู้ สนับสนุนการนำแนวคิดคณิตศาสตร์ไปใช้ผ่านการเล่นเกม และกิจกรรม

Review

Review

1 Count and write in Hindu-Arabic numerals.

1,000 chocolates 1,000 chocolates 1,000 chocolates 1,000 chocolates 1,000 chocolates 1,000 chocolates

10 10 10 10 10 10 10 10

6,970

2 Write the numbers in words.

(a) 5,638 Five thousand, six hundred and thirty-eight

(b) 7,785 Seven thousand, seven hundred and eighty-five

(c) 16,324 Sixteen thousand, three hundred and twenty-four

(d) 67,936 Sixty-seven thousand, nine hundred and thirty-six

3 Write in Hindu-Arabic and Thai numerals.

(a) Thirty-six thousand, four hundred and thirty-eight

36,438 ๓๖,๔๓๘

Hindu-Arabic numerals Thai numerals

(b) Seventy-nine thousand, nine hundred and eight

79,908 ๗๙,๙๐๘

Hindu-Arabic numerals Thai numerals

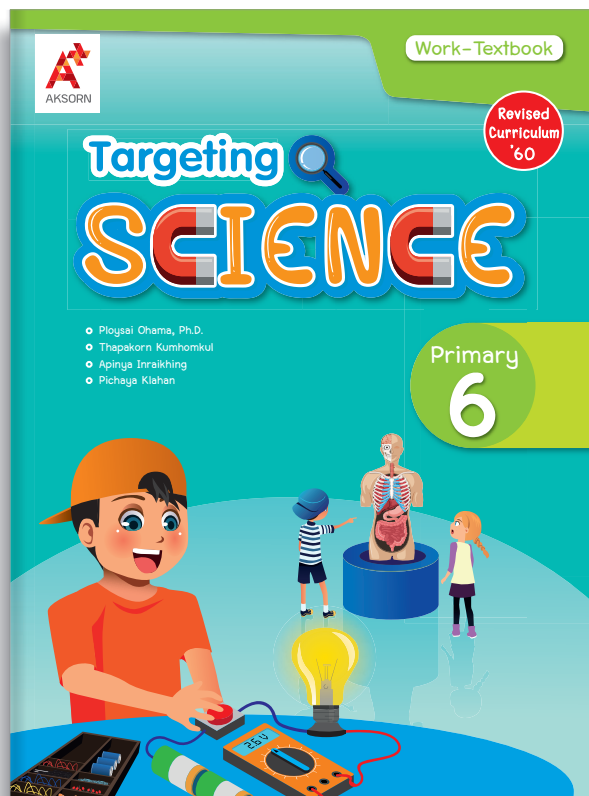
Allowing students to revise and consolidate mathematical concepts they have learned.

ให้นักเรียนทบทวนความเข้าใจ และทบทวนแนวคิดคณิตศาสตร์ที่ได้เรียนมา



# Targeting Science

## Work-Textbook



- Covering all the content based on Thailand's revised curriculum of B.E. 2560 (A.D. 2017).
- Packed with active learning activities to engage the students in the learning process which helps enhancing their thinking skills.
- Including different exercises to practice the science process skills and problem solving skill of students.
- Providing evaluation section to reflect students' competence on what they have learned, both knowledge and skills.
- All-in-one : content, exercises, activities and evaluation section in one book.
- เนื้อหาครบทุกตัวชี้วัดตามหลักสูตรฉบับปรับปรุง '60
- อัดแน่นด้วยกิจกรรม Active Learning ที่จะช่วยให้นักเรียนมีส่วนร่วมในกระบวนการเรียนรู้ และได้พัฒนาทักษะการคิด
- แบบฝึกหัดหลากหลายเพื่อให้นักเรียนได้ฝึกฝนกระบวนการ และทักษะทางวิทยาศาสตร์ รวมถึงทักษะการแก้ปัญหา
- มีส่วนประเมินผลเพื่อวัดความสามารถ ความรู้ ทักษะ และสิ่งที่นักเรียนได้เรียนรู้
- มีทั้งเนื้อหา และแบบฝึกหัด ครบ จบในเล่มเดียว



Free!

Teacher's Resource



Answer Key



Lesson Plan



DIGITAL

Scan Me  
for Media Sample



Loaded with creative and helpful illustrations and infographics to capture students' interest.

มีภาพประกอบ และอินโฟกราฟิกส์ ช่วยดึงดูดความสนใจของผู้เรียน



Content

In each day, we should eat foods from all 5 food groups. So, we will get enough nutrients to make us grow and stay healthy. The 5 food groups are:

Group 1 gives us proteins

E.g. meats, eggs, milks, and nuts



Group 2 gives us carbohydrates

E.g. rice, starch, sugar, taro, and potato



Group 3 gives us vitamins and minerals

E.g. vegetables



Group 4 gives us vitamins and minerals

E.g. fruits



Group 5 gives us fats

E.g. vegetable fats and animal fats



24

Developed based on Thailand's newly revised curriculum of B.E. 2560 (A.D. 2017) with creative and helpful illustrations and infographics.

เนื้อหาพัฒนาตรงตามหลักสูตร '60 พร้อมภาพประกอบ และอินโฟกราฟิกที่ช่วยสร้างความเข้าใจ ผู้เรียนเรียนรู้ได้เร็วขึ้น

Exercises



Think Higher Lesson 1

1 Study the pictures. Are these activities appropriate? Explain your answers. (Suggested answer)



Not appropriate. Burning grass causes air pollution that affects the breathing of humans and animals. Also, animals might lose their food resources.



Not appropriate. Throwing garbage into water sources will dirty and pollute it. This will harm water animals and make water bad for drinking.



Appropriate. Eating enough healthy food everyday gives us enough nutrients for living.



Appropriate. Picking garbage makes our surrounding clean and keeps both humans and animals healthy.

36

Plenty of fun exercises to check if students understand what they have learned.

กิจกรรมแสนสนุกมากมายเพื่อตรวจสอบความเข้าใจของผู้เรียน



Activities

2 Read the information and answer the questions.



Human use of water

As the world's population grows, the use of water also increases. Also, humans do many activities that destroy the balance of nature. This changes water supply and brings problems that destroy living things and properties, e.g. drought and floods. So, we should know about these problems and work together to take care of our water resources.

Give 2 human activities that destroy the balance of nature and changes water supply. What are their effects? (Suggested answer)

1. Cutting down of forest (deforestation). This causes drought because there are no trees to shade the ground and floods because there are no trees to absorb water.
2. Throwing garbage into water sources. This pollutes water sources, making it bad for use. Also, water animals might die and humans will lose water and food sources.



Perfect Your 21<sup>st</sup> Century Skills

Do the activity in groups.

1. Choose 1 animal you want to know about. Draw or stick a photo of it on a card paper.
2. Find out about the food it eats and write it on the card paper.
3. Present your work to the class and explain what will happen if this animal cannot find the food it eats.

21 <sup>st</sup> century skills	Indicating behavior	Level	
Learning and innovation skills-4Cs	Able to seek for knowledge	Able to conduct research from various sources independently	3
	Able to integrate the knowledge obtained	Able to classify the data obtained systematically	3
		Able to partially classify the data obtained systematically	2
		Able to partially classify the data obtained	1

The Lives of Humans and Animals 37

Encouraging students to implement the knowledge learned and to practice skills needed in the Real-World situation.

กระตุ้นให้ผู้เรียนเชื่อมโยงความรู้ และฝึกฝนทักษะที่จำเป็น ที่ต้องใช้ในสถานการณ์จริง

Evaluation



Evaluation Section Unit 2

I got Out of 35

Part 1 20 points

1 Study the given pictures and answer the questions.



What do these animals need? Grass. What is its benefit? (Suggested answer) Grass is food for cows, so it gives them energy and helps them grow.



What do these animals need? Water. What is its benefit? (Suggested answer) Animals drink water for their living.



What do these animals need? Air. What is its benefit? (Suggested answer) Birds breathe air. They also need air to help them fly.

2 Tick (✓) the statements showing good behaviors and cross out (X) the ones showing bad behaviors.

1. We should eat only the foods we like. (X)
2. We should wear dust mask when we pass near dusty places. (✓)
3. We should not drink much water because it makes us use the toilet more. (X)
4. We should throw excess food into water so that fish can eat them. (X)
5. We should clear out water weed so that water can flow well. (✓)

50

1. Standard SC 1.2 G. 3.1-2	2. Standard SC 1.2 G. 3.2
I got Out of	I got Out of
6	5

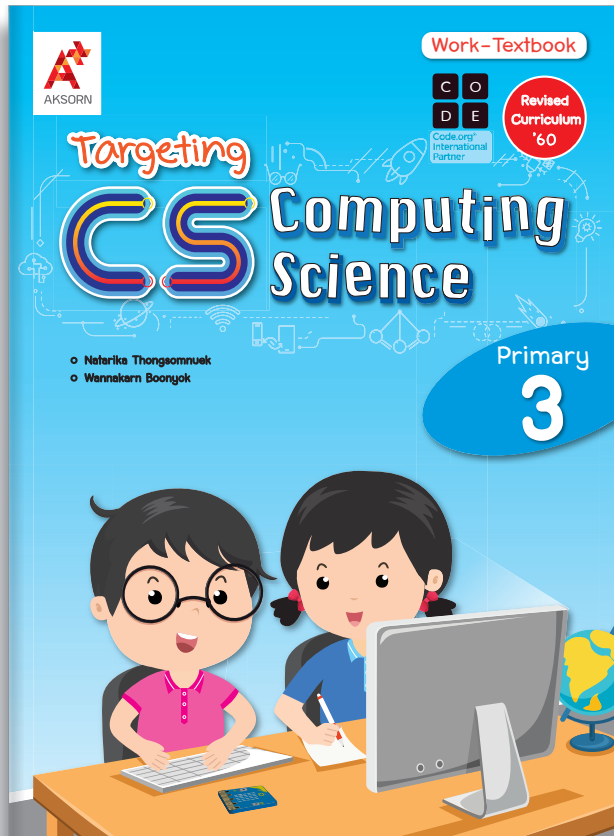
Evaluating learning achievement of students according to the indicators.

ประเมินผลสัมฤทธิ์ทางการเรียนรู้ของผู้เรียนตามตัวชี้วัด



# Targeting Computing Science

## Work-Textbook



- Covering all the content based on Thailand's revised curriculum of B.E. 2560 (A.D. 2017).
- Encouraging students with Computational Thinking, which leads to problem solving.
- Practicing Higher order thinking through challenging exercises and activities.
- Providing evaluation at the end of each unit to reflect students' competence on what they have learned, both knowledge and skills
- All-in-one : content, exercises, activities and tests in one book.
- เนื้อหาครบทุกตัวชี้วัดตามหลักสูตรฉบับปรับปรุง '60
- ส่งเสริมแนวคิดเชิงคำนวณ (Computational Thinking) เพื่อให้เกิดทักษะการแก้ปัญหา
- ฝึกทักษะการคิดขั้นสูงผ่านแบบฝึกหัด และกิจกรรมที่ทำทาย
- มีข้อสอบท้ายหน่วยเพื่อประเมินสมรรถนะของผู้เรียนทั้งในด้านความรู้ และทักษะ
- มีทั้งเนื้อหา และแบบฝึกหัด ครบ จบในเล่มเดียว

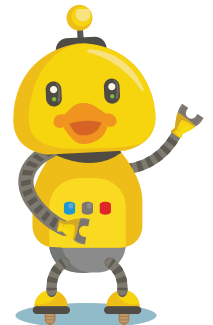


Free!

Teacher's Resource



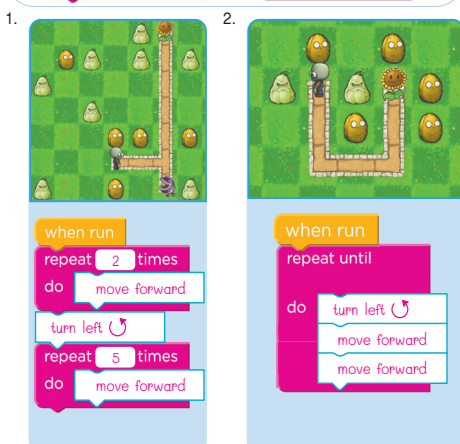
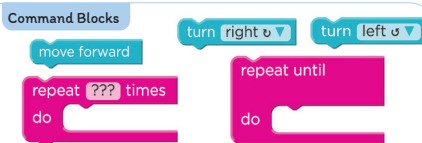
Answer Key



### Activities

#### Activity 2.4

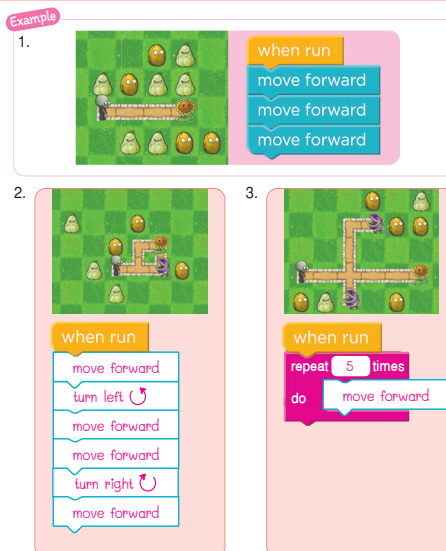
Code by using the command blocks below to get the zombie to the sunflower.



### Activities

#### Activity 2.5

Enter <https://studio.code.org/s/course3/stage/2/puzzle/1>. Write a program to help the zombie get to the sunflower.



Packed with command card activities and plenty of fun exercises to check if students understand what they have learned.

มีกิจกรรมการใช้การ์ดคำสั่ง เพื่อตรวจสอบความเข้าใจ และทำให้ผู้เรียนเรียนรู้อย่างสนุก ได้ประสบการณ์จริง



Computational Thinking

Think Wisely



Activity 1.2

Study the situation and solve the problem by using computational thinking.

There are beads of different colors in a tray. Mother asks Ging to sort them into each bag by color.



- Decomposition:  
Task 1: How many colors of the beads are there?  
Task 2: How should we sort the beads?
- Pattern Recognition:  
Answer to Task 1: There are 5 different colors: blue, yellow, pink, purple, and green.  
Answer to Task 2: We should sort the beads by color.
- Abstraction:  
Colors of the beads
- Algorithm:  
Step 1: Get 5 bags ready for sorting 5 different colors of beads.  
Step 2: Put the same color of beads into the same bag.  
Step 3: Repeat Step 2 until there are no beads left.

Promote students' thinking process to solve computational problems through plugged and unplugged activities.

ส่งเสริมกระบวนการคิดเพื่อแก้ปัญหาทางคอมพิวเตอร์ ด้วยกิจกรรม Plugged และ Unplugged

Algorithms

Think Wisely

2. Pictures: it is a way to show algorithms in solving problems by drawing or using the pictures.



Example 4 Drawing to show an algorithm in buying things in the school shop



Allow students to develop and express algorithmic thinking to solve problems.

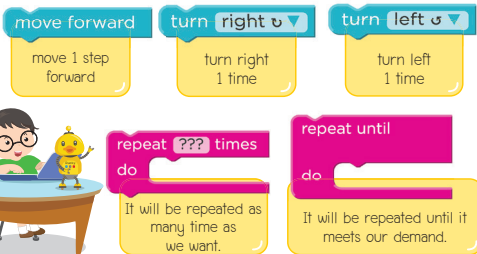
สอนการคิดแบบอัลกอริทึม ค้นหาขั้นตอนเพื่อแก้ปัญหาได้จริงอย่างเป็นขั้นตอน

Coding and Programming

1 Programming a Character

Coding or programming is a step of writing instructions to tell a computer or a character in the program to do something.

We can tell the character in Code.org to do something by using command blocks as a code. Let's have a look.



1.1 Using a Repeat Loop

To program a character to do the same thing over and over again, we can use the same command block as many as we want. But, with a repeat times block, we can set the number of times that we want the character to act. This repeating command is called a loop.

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In this series, students will gain coding and programming skills via various tools, programs and websites which will equip them with the problem-solving skill.

ช่วยผู้เรียนให้เกิดทักษะโค้ดดิ้ง และการเขียนโปรแกรม



Digital Literacy

Unit 3

The Internet and Information Technology

Information technology or IT helps us with our living and work. With it, we can use the Internet through a computer and a smartphone to communicate and search for knowledge. So, it is very useful to us because it gives us chances to learn endlessly.



Indicator

SC 4.2 G. 3/3 Use the Internet to search for knowledge.

Instruct students to use the internet and information technology safely under the given rules.

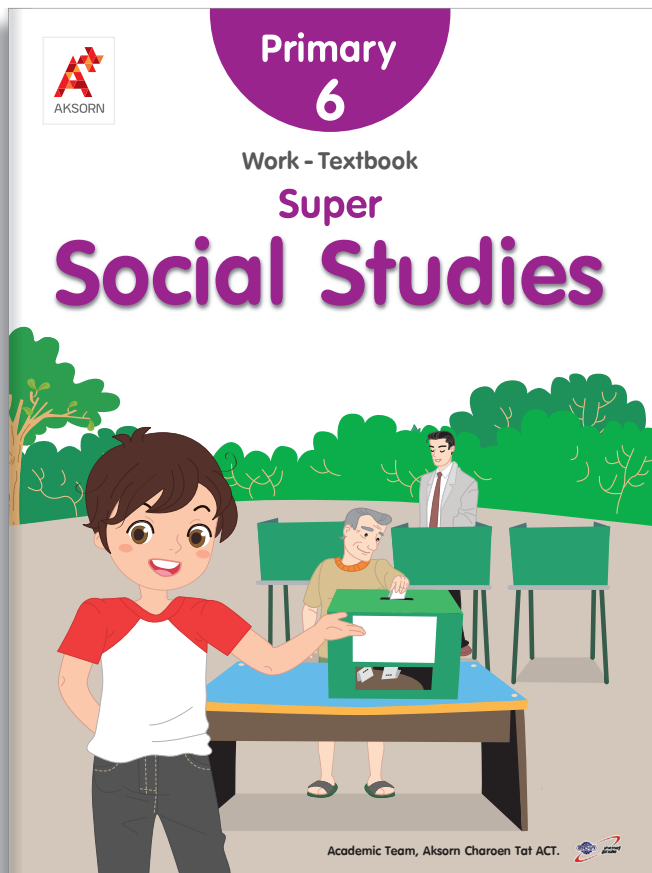
เสริมสร้างทักษะให้ผู้เรียนเข้าใจในการใช้อินเทอร์เน็ต เพื่อเป็นเครื่องมือในการสืบเสาะหาความรู้อย่างปลอดภัย



# Super Social Studies

## Work-Textbook

Geo-  
Literacy



- Complete with all 5 strands : Religion, Civic, Economic, History and Geography.
- Encouraging the students to understand the content without memorizing.
- Enhancing student's application of the process of problem solving in the real world through carefully guided activities.
- Promoting "Geo-literacy" through problem-solving activities in geography.
- Providing opportunities to utilizes the knowledge with projects.
- Building up other 21st Century Skills.
- ในเล่มมีครบทั้ง 5 สาระ : ศาสนา หน้าที่พลเมือง เศรษฐศาสตร์ ประวัติศาสตร์ และภูมิศาสตร์
- สอนเนื้อหาผ่านกระบวนการเรียนรู้เพื่อให้เกิดทักษะ ไม่ต้องท่องจำ
- ให้นักเรียนรู้จักการประยุกต์ใช้ขั้นตอนการแก้ปัญหาที่เกิดขึ้นจริงผ่านกิจกรรม
- เสริมสร้าง Geo-Literacy ผ่านวิธีการแก้ปัญหาทางภูมิศาสตร์
- เปิดโอกาสให้ใช้ความรู้ผ่านการทำโครงการ
- มีทั้งเนื้อหา และแบบฝึกหัด ครบ จบในเล่มเดียว



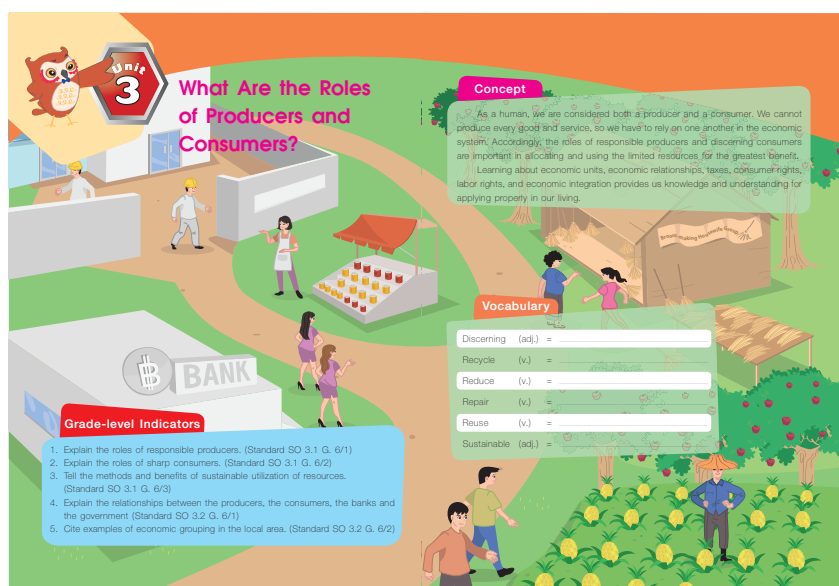
Free!

Teacher's  
Resource



Answer Key

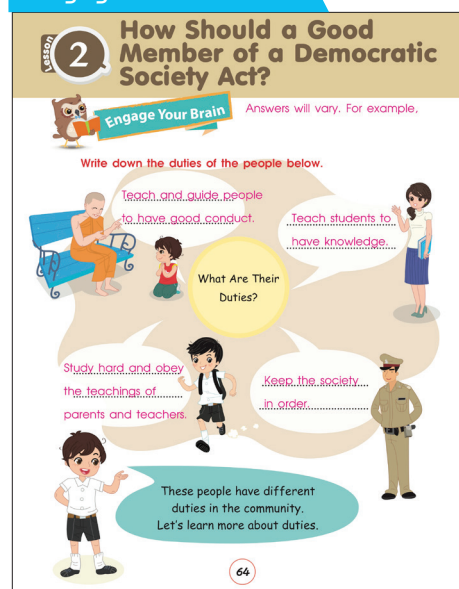
### HIGHLIGHT



Unit Opening Page : preparing the students with the unit's concept and key vocabulary.

เตรียมพร้อมเข้าสู่บทเรียนด้วยแนวคิด และคำศัพท์สำคัญ

### Engage Your Brain



Engage students to think about the content with a question for students to think throughout the lesson.

เนื้อหา กระตุ้นผู้เรียนให้ใช้ความคิดเกี่ยวกับเนื้อหา พร้อมคำถามให้คิดตลอดทั้งบทเรียน

21<sup>st</sup> Century Skills Activities

21<sup>st</sup> Century Skills Activities

How can we share the work?

Divide equally into groups. Each group works together to find a solution to the given situation and writes it down on a piece of paper.

Today is a holiday. Tonkla and his family help each other do housework. His mother tells the family members to gather the unused things and categorize them. After finishing the housework, the family members consider those things. There are three piles of things, including a pile of plastic bottles, unused cloths, and a lot of papers. So, everyone thinks of how to turn the things in these three piles into something more useful.

Answers will vary. For example:

1. Identify the problem:
  - Unused bottles
  - Unused cloths
2. Explore information:
  - Search for information on websites
  - Learn from books about creating things by using recycled materials
3. From 3, select the best solution(s).

Solution	Reason
Learn from books about creating things by using recycled materials.	It can help us gain an idea of recycling things for the greatest benefit. We may also be able to make money from those things we create.

Additional information source:

- Television programs regarding recycle inventions
- Classic fishing videos

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Problem-solving Activities

Problem-solving Activities

From the lesson, how can you specify ways to solve the problem of selling goods in Tonkla's community?

Answers will vary. For example:

- Set up activity for sales promotion
- Form a group of people who have same career within the community
- Develop products in the community for better quality

Additional information source:

Consultative groups from various communities

From the information above, choose the best way(s) for solving the problem of selling goods in Tonkla's community.

Best Way	Reason	Benefit Gained from This Activity
Form a group of people who have same career within the community	Forming a group of people who have same career within the community helps strengthen the production and sale. The products will also be outstanding and unique. Also, people in the community can build the unity from working together as a group.	It encourages the unity within the community.

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Present the best way(s) you have chosen in the form of a drawing, a diagram, a mind map, etc.

Answers will vary depending on the teacher's decision.

Show your work and share your opinions with friends.

Evaluate yourself based on what you have thought and done. How many scores do you get?

List of Evaluation	Score		
	3	2	1
1. You can understand the problems and analyze them.			
2. You can gather knowledge to reach a solution.			
3. You can use skills and abilities in solving the problems.			
4. You can work systematically.			
5. You can pass on knowledge to others and make them understand.			

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Training the students the skills required in their future.

กิจกรรมสร้างทักษะแห่งศตวรรษที่ 21 ฝึกให้ผู้เรียนมีทักษะที่จำเป็นในโลกยุคปัจจุบัน

Guiding the students through the process and getting them to familiarize with problem-solving.

กิจกรรมฝึกแก้ปัญหา เพื่อเป็นแนวทางให้นักเรียนได้คุ้นเคยกับการแก้ปัญหาในรูปแบบต่าง ๆ

What We should do

What We Should Do

Science Week

When you buy goods at the shop in our school's science week fair, what should you do to save the resources?

I will use a cloth bag for keeping the goods I buy.

If you use resources economically, they will remain for the next generation. How about other students? What will you do to save the resources?

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What Have I Learned?

What Have I Learned?

How would you buy mangoes as a good consumer?

- Survey a price from different shops
- Consider just necessity when buying
- Choose a reliable shop

If you were a fruit gardener, how would you produce mangoes as a good producer?

- You would use resources to wisely
- You wouldn't be lazy
- You would use technology to improve

What would you do to keep the mangoes last longer?

Process food into different kinds of products such as mango drinks and preserved mangoes.

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Projects

Project

Many houses are grouped together as a village. Many villages are grouped together as a subdistrict. Many subdistricts are grouped together as a district. The result is there are many people living together. However, there are pros and cons of living together. For example, people sometimes help one another, but they are sometimes in conflict. Conflicts can arise over various matters such as over the use of public utilities and over noise levels.

Let's design the rules for living happily together in the community by following the steps below.

Answers will vary. For example:

Project name: History of the Local Community

1. Specify the problem.  
We do not know the history of our own local community.
2. Set the hypothesis.  
If we know the history of our local community, we will be proud of it.
3. Make a plan for the project.  
Specify sources of the information required and share the tasks among the group members.
4. Describe the working process.  
Each of the group members collects the information from different sources, and all the information collected is shared in the group to be included in a brochure for the presentation on the local history.
5. Summarize the results of the project.  
The project helps spread the information about the history of the community to the locals and tourists. This made them have better knowledge and understanding of the community's history.
6. Present the project.  
The project is presented in the form of a brochure containing the history of the local community.

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Imparting morality and values to the students and leaving them with questions to think on.

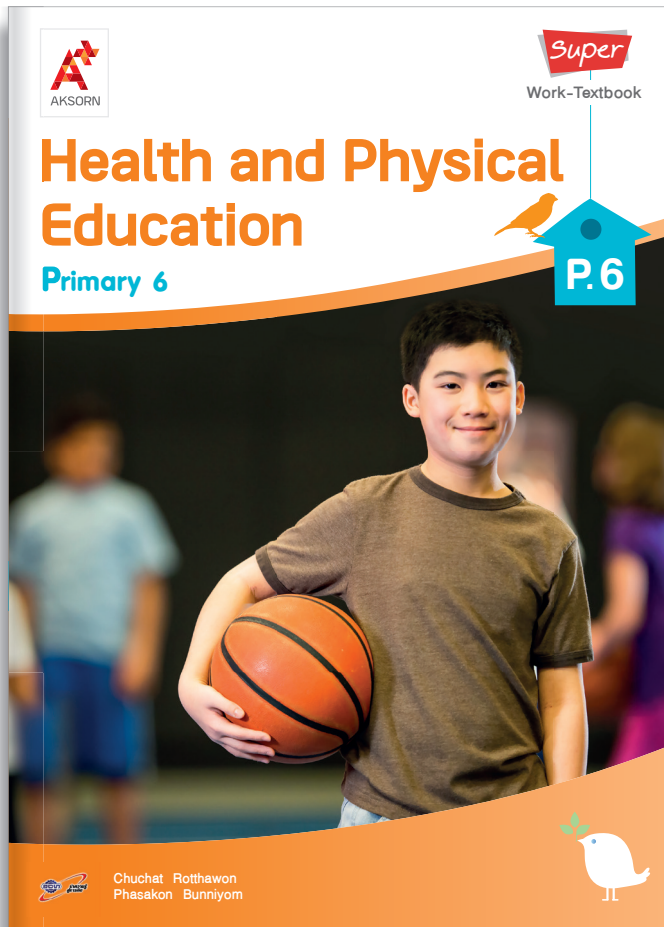
สอนให้ผู้เรียนได้ตระหนักถึงคุณธรรม และการมีเจตคติที่ดี มีการตั้งคำถามเพื่อให้ผู้เรียนได้คิดตาม

Letting the students write the conclusion themselves.

บททวนความเข้าใจด้วยกิจกรรมสรุปเนื้อหา

Providing the students chances to utilize the knowledge to solve the problem using the scientific-like process.

มีกิจกรรมให้ผู้เรียนได้ฝึกใช้ความรู้ในการแก้ปัญหา โดยใช้กระบวนการทางวิทยาศาสตร์



# Super Health and Physical Education

## Work-Textbook



- Leading students to the lesson and motivating their interests with “Let’s Get Started!”.
- Helping students practice and develop their knowledge and skills of the unit through “Activities”.
- Letting students evaluate themselves about the lessons learned through “Check Yourself”.
- Summarizing what students have learned in each unit with “Let’s Review!”.
- นำเข้าสู่บทเรียน และกระตุ้นความสนใจด้วยกิจกรรม Let's Get Started!
- ช่วยให้นักเรียนได้ฝึกฝน พัฒนาความรู้ผ่านแบบฝึกหัด และกิจกรรมในเล่ม
- ช่วยให้นักเรียนฝึกฝน พัฒนาความรู้ และทักษะผ่านกิจกรรมต่าง ๆ ตลอดเล่ม
- นักเรียนสามารถประเมินตัวเองผ่านกิจกรรม Check Yourself



Free!

Teacher's  
Resource



Answer Key



### Content

#### Unit 5

#### Food Suitable for Various Ages

Food is considered an important factor in life. Consuming appropriate food in suitable portions and setting menus by considering the cost-effectiveness and nutritional values needs to be considered. Considering these issues appropriately will bring about proper growth and development, perfect health, and happiness in life.



Indicators



Compulsory Details

- Set the menus suitable to various ages, bear in mind the cost-effectiveness and the nutritional value. (HP 4.1 G. 9/1)
- Setting menus suitable for various ages: from the ages of infancy, preschool, school, teen, adolescence, up to the elderly, by bearing in mind cost-effectiveness and nutritional value

### Exercises

#### Unit 5



#### Exercises

1 Write down the nutritional values and benefits of the given foods below.

Menu	Nutritional Values	Benefits
1. Spicy seafood salad		
2. Boiled rice with pork		
3. Vegetable salad		
4. Fried pork with basil leaves + fried egg		
5. Offal noodle soup		

Focus on activities  
related to the nature  
of learning in each  
learning area and  
students' individual  
interest.

เน้นผู้เรียนเป็นสำคัญ  
กิจกรรมฝึกการเรียนรู้จากสิ่งใกล้  
ตัวอย่างเป็นธรรมชาติ



Learning Goals

Unit 2

Life and Family

What is the relationship?

Learning Goals

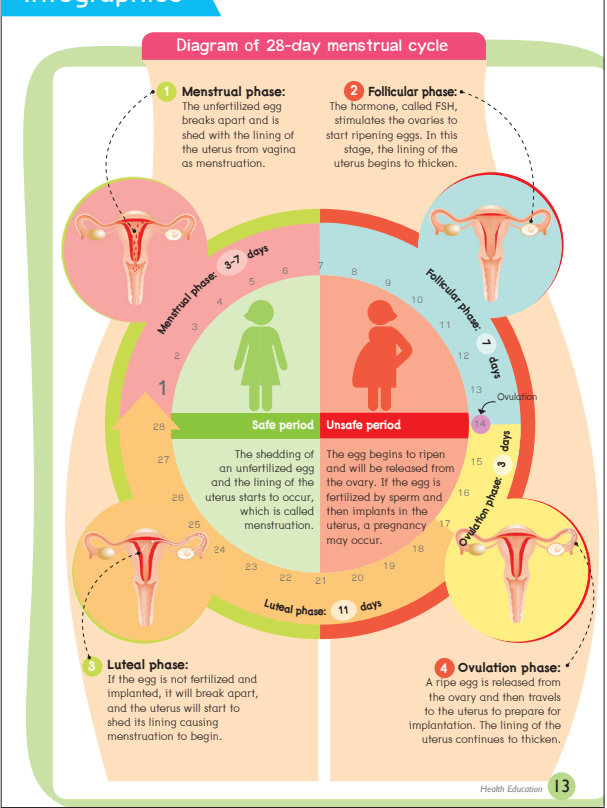
Upon completing this unit, the students will be able to:

1. Explain the importance of establishing and maintaining the relationships with others.  
(Standard HP. 2.1 G. 6/1)
2. Identify the risk behaviors conducive to sexual intercourse, contracting AIDS, and premature pregnancy.  
(Standard HP. 2.1 G. 6/2)

Defining knowledge and ability that the students will gain after learning each unit.

ระบุความรู้ และความสามารถที่ผู้เรียนจะได้รับในแต่ละหน่วย

Infographics



Engage students with infographics that provide easy-to-understand knowledge.

มีอินโฟกราฟิกช่วยกระตุ้นความสนใจ และทำให้ผู้เรียนเข้าใจได้ง่าย

Concept

Chapter 4

Surrounding Environment

Concept

The environment can affect our health. Environmental problems cause harmful effects on our health. Therefore, it is important that we understand how to prevent and solve these problems.

Let's Get Started!

1

2

3

?

From the picture, which place would you choose to live? Why?

Health Education 33

The essence of knowledge that students will retain.

บอกองค์ความรู้หลักที่ผู้เรียนจะได้รับจากการศึกษา

Activities

Activities

1. Pair up with your friend to perform a relay race and a long jump and then evaluate each other.

Evaluation Criteria

Results

Recommendations

4 3 2 1

1. Baton holding

2. Baton passing

3. Positions of runners

4. Running

5. Safety

Score criteria: 4 = Excellent 3 = Good 2 = Fair 1 = Need improvement

Total score: Over 18 = Excellent 15-17 = Good 10-14 = Fair Below 10 = Need improvement

Evaluation Criteria

Results

Recommendations

4 3 2 1

1. Running

2. Jumping

3. Flight

4. Landing

Score criteria: 4 = Excellent 3 = Good 2 = Fair 1 = Need improvement

Total score: Over 16 = Excellent 11-15 = Good 6-10 = Fair Below 6 = Need improvement

Health Education 121

Helps students to practice and develop their knowledge and skills of the unit.

กระตุ้นให้ผู้เรียนฝึกฝน พัฒนาความรู้ และทักษะต่าง ๆ ผ่านกิจกรรมท้ายบท



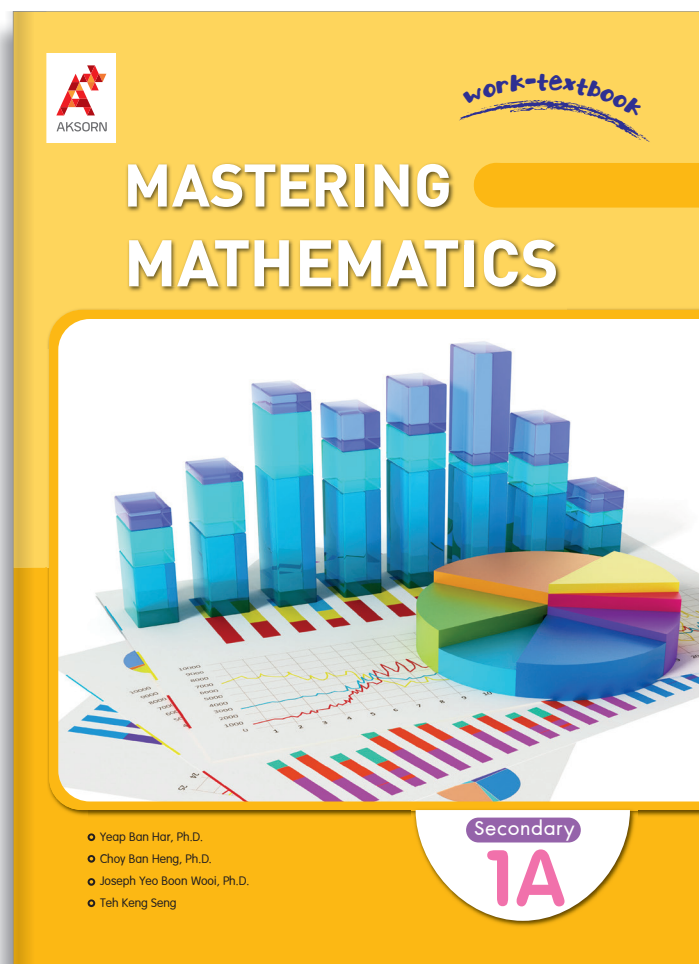


# Mastering Mathematics

## Work-Textbook

Singapore's Best seller

- Mastering Mathematics Work-Textbook series will transform your students experience in learning mathematics.
- Including various active learning activities to help increase students' knowledge and enhance their thinking skills.
- Providing marginal notes along the way allowing students to extend and increase their understanding on what they have learned.
- Finishing with problems in Real-World Context to let students apply their mathematical knowledge on real-life situations.
- All-in-one : content, exercises and activities in one book.
- คณิตศาสตร์แนวสิงคโปร์
- เนื้อหาตรงตามหลักสูตรฉบับปรับปรุง '60
- เน้นทักษะการคิดวิเคราะห์ และแก้ปัญหา
- เชื่อมโยงความรู้ทางคณิตศาสตร์ไปใช้ในชีวิตจริง
- มีทั้งเนื้อหา และแบบฝึกหัด ครบ จบในเล่มเดียว



Free!

Teacher's  
Resource



Answer Key



Lesson Plan

### Content

## Chapter 4 Statistics

Climatology is defined as the study of climate in a specific area over a long period of time. Often, many different measurements of the various weather conditions such as temperature and rainfall are obtained. In order to be able to carry out comprehensive studies, the data has to be organized and presented in an orderly manner.

#### Indicators

- Understand and apply the concept of statistics to present and interpret data and to solve real-world problems by using appropriate technology. (MA 3.1 G. 7/1)

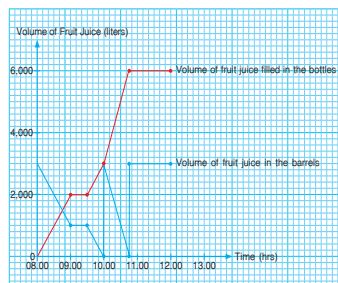
#### Compulsory Details

- Statistical Questions
- Data Collection
- Display of Data
  - Pictograms
  - Bar Graphs
  - Line Graphs
  - Pie Charts
- Interpretation of Data
- Statistics in Real-World Contexts

175

### Challenge Yourself

The graphs below shows the volume of fruit juice filled in the bottles and the volume of fruit juice poured out of the barrels from 08.00 hrs to 12.00 hrs. In this fruit juice factory, the juice will be filled automatically by a machine into each 500-ml bottle.



From the graphs, explain the possible event that these graphs derives from.

Sample answer

A fruit juice factory uses an automatic machine to fill the fruit juice into each bottle. This machine is able to fill 4,000 bottles of fruit juice per hour. After the factory has started working for 1 hour from 08.00 hrs, the machine is broken, which takes 30 minutes to fix it. Since 30 minutes is wasted, the owner afraid that the production of the factory will not be able to meet the daily order, so at 10.00 hrs, he speeds up the production, which is the exact same time that the fruit juice in the current barrel runs out. Even though the new barrel of fruit juice can be attached to the machine instantly without any waste of time, the machine becomes broken again after 45 minutes. And, the fixing of the machine continues until noon such that it is time for the workers to take a lunch break.

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Engaging students with unit openers.

หน้าเปิดแต่ละหน่วยช่วยกระตุ้นความสนใจก่อนเข้าสู่บทเรียน

Challenge and stretching high-ability with  
Challenge Yourself.

ฝึกทักษะ และความสามารถด้วยปัญหาที่ท้าทายท้ายบท

Activities

Investigation

Golden Ratio



(a) Vitruvian Man



(b) Parthenon in Athens

1. Fig. (a) shows the famous Vitruvian Man drawn by the world-renowned artist Leonardo da Vinci in 1487. Measure the lengths of  $AB$  and  $BC$  and find the ratios  $\frac{AC}{AB}$  and  $\frac{AB}{BC}$  correct to 2 decimal places.

$AB = 1.7 \text{ cm}$

$BC = 1.05 \text{ cm}$

$\frac{AC}{AB} = \frac{2.75}{1.7} \approx 1.62$

$\frac{AB}{BC} = \frac{1.7}{1.05} \approx 1.62$

$\frac{BC}{1.05} \approx 1.62$

2. Fig. (b) shows the Parthenon in Athens, Greece. Measure the length  $XY$  and width  $YZ$  of the rectangle, and find the ratio  $\frac{XY}{YZ}$  correct to 2 decimal places.

$XY = 4.2 \text{ cm}$

$YZ = 2.6 \text{ cm}$

$\frac{XY}{YZ} = \frac{4.2}{2.6} \approx 1.62$

3. What do you notice about the values obtained in the previous two questions?

All the values on the previous questions are all equal.

Practicing their understanding through exercises and activities

ฝึกความเข้าใจผ่านแบบฝึกหัด และกิจกรรมต่าง ๆ

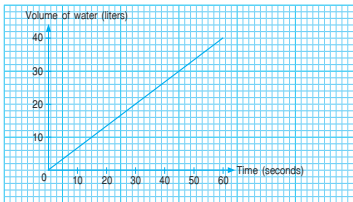
Exercises

3.5 Real-Life Applications of Linear Equations in Two Variables

In everyday life, we can use the graph of linear equation in two variables to show relationships of two sets of values that are linear. For example, the graph showing the relationship between the distance the car travels and its speed and the relationship between the volume of gas and its price.

Worked Example 10

The graph below shows the rate at which a tank, which can hold 40 liters of water, is being filled with water.



Use the graph to answer the following questions.

- When passing 15 and 45 seconds respectively, what are the volumes of water in the tank?
- How long does it take to fill the tank completely?
- How long does it take to fill half of the tank?

Solution:

- When passing 15 seconds, the volume of water in the tank is 10 liters and when passing 45 seconds, the volume of water in the tank is 30 liters.
- When volume of water = 40 liters, time = 60 seconds.
- When volume of water = 20 liters, time = 30 seconds.

Linking the mathematical concepts with the real-world situations.

เชื่อมโยงแนวคิดคณิตศาสตร์สู่การนำไปใช้ในชีวิตจริง

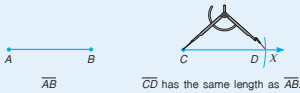
Summary

Summary

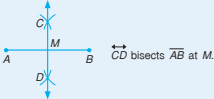
"Geometric constructions" is the construction of geometric figures by using only two types of tools, which are a set square and compasses. The summary of this chapter is as follows:

1. Construction Related to Line Segments

- Constructing a line segment such that it has the same length as the given line segment

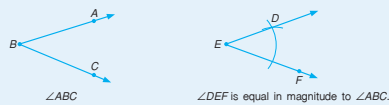


- Bisecting the given line segment

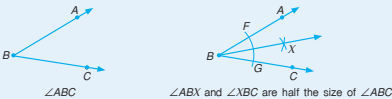


2. Construction of Angles

- Constructing an angle such that it is equal in magnitude to a given angle



- Half division of a given angle



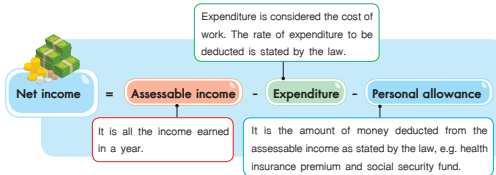
Summarizing the content at the end of each unit.

มีสรุปเนื้อหาในตอนจบของแต่ละหน่วย

Problems in Real-World Contexts

Problem 1 Income Tax

To develop a country, money is needed. These amounts of money are usually the income of the government earned from tax collection, e.g. value added tax and income tax. The income tax can be divided into two types, which are a personal income tax collected from a person with income and a corporate income tax collected from a company or a registered partnership. Since the personal income tax is the tax directly related to us, we should know how to calculate such tax from our net income.



The Revenue Department has stipulated personal income tax rate for 2017 and 2018 as shown in the table below.

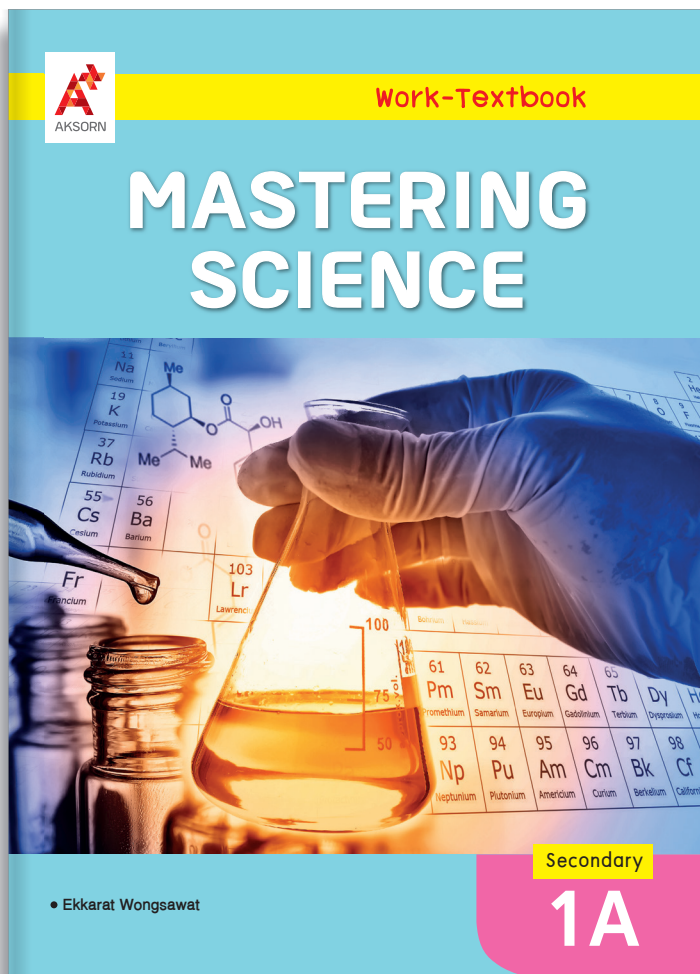
Taxable income bracket	Highest taxable income bracket	Tax rate (%)	Tax rate on income in bracket	Accumulated tax rate on income in bracket
0 - 150,000	150,000	5	Exempt*	0
150,000 - 300,000	150,000	5	7,500	7,500
300,000 - 500,000	200,000	10	20,000	27,500
500,000 - 750,000	250,000	15	37,500	65,000
750,000 - 1,000,000	250,000	20	50,000	115,000
1,000,000 - 2,000,000	1,000,000	25	250,000	365,000
2,000,000 - 5,000,000	3,000,000	30	900,000	1,265,000
Over 5,000,001	-	35	-	-

\* This condition is applied according to Section 4 of the Royal Decree (No.470) B.E. 2551 (A.D. 2008) for the net income earned in 2008 onward only, together with Section 12 of the Act Amending the Revenue Code (No. 44) B.E. 2560 (A.D. 2017), which was effective since the tax year 2017 onward.

(Source: The Revenue Department, Thailand)

Problem in real-world contexts at the end of the book to let students apply their mathematical knowledge on real-life situation.

โจทย์ปัญหาแบบอิงกับชีวิตจริงในตอนจบของหนังสือ เพื่อให้นักเรียนฝึกเชื่อมโยงแนวคิดคณิตศาสตร์ไปปรับใช้ในชีวิตจริง



# Mastering Science Work-Textbook

- Covering all the content based on Thailand's revised curriculum of B.E. 2560 (A.D. 2017).
- Including active learning activities to engage the students in the learning process which helps them learn meaningfully and enhance their thinking skills.
- Providing opportunities for students to conduct activities and experiments using the scientific process.
- Finishing with integrated activity focusing on developing students' STEM skills.
- All-in-one : content, experiments, exercises and evaluation section in one book.
- เนื้อหาตรงตามหลักสูตรฉบับปรับปรุง '60
- มีกิจกรรมการทดลองเพื่อฝึกกระบวนการทางวิทยาศาสตร์ตลอดเล่ม
- ส่งเสริมทักษะการคิดขั้นสูงด้วยกิจกรรม Active Learning และ Thinking Skills Activity
- มีกิจกรรม STEM เพื่อฝึกทักษะแบบบูรณาการใน 4 สหวิทยาการ
- มีข้อสอบวัดผลสัมฤทธิ์ทางการเรียนในเล่ม



Free!

Teacher's  
Resource



Answer Key



Lesson Plan



DIGITAL



Scan Me  
for Media Sample

## Content

### 1. Photosynthesis



How is photosynthesis important for living organisms?

Photosynthesis is the process by which green plants and some other organisms use water and carbon dioxide as substrates to transform light energy into chemical energy in the form of food.

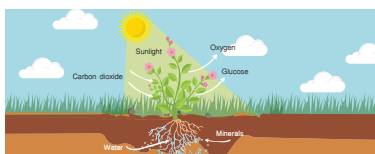
The chemical energy or food that plants make is carbohydrate, protein, and fat which can be transferred to animals and humans who eat the plants. In addition, since carbon dioxide is needed for the process of photosynthesis, green plants help reduce the carbon dioxide from human activities, which is the cause of global warming.

Photosynthesis is able to take place in any green part of a plant, but mostly occurs in the leaves where chloroplasts live. The chloroplasts contain the pigment or substance called chlorophyll which plays a role in light absorption for photosynthesis.

Bom planted the birch tree where there is enough light since light is a key factor affecting photosynthesis.

Many Wonders

Pigments in chloroplasts are the natural substances that produce color. They can be classified into three classes: chlorophylls, carotenoids, and phytyobilins. These substances absorb light energy to use in photosynthesis.



▲ Plants can make their own food through photosynthesis.

Life Processes of Plants

## Fuel-up Test

### Fuel-up Test

Part 1 Choose the correct answer for each question.

- Which of the following classifies the substances based on particle size?
  - Pure substances and mixtures
  - Solids, liquids, and gases
  - Homogeneous substances and heterogeneous substances
  - Solutions, suspensions, and colloids
- Which of the following is not a physical property of substances?
  - Boiling point
  - Solubility
  - Combustion
  - Melting point
- Which of the following is a chemical change of substances?
  - Coal combustion
  - Sublimation of mothballs
  - Evaporation of water in natural sources into the atmosphere
  - Dissolved salt in water
- Which of the following elements are different from the others?
  - Iron and copper
  - Iodine and carbon
  - Zinc and magnesium
  - Aluminum and calcium
- Which of the following statements is correct about compounds?
  - They are homogeneous substances.
  - They are homogeneous substances consisting of a solvent and a solute.
  - It is clearly seen they are heterogeneous substances.
  - They are formed when two or more elements are chemically combined.

Substances

## Additional Section



Evaluation Section



O-NET Practice



Engaging students with each topic through questions.

มีคำถามกระตุ้นความคิดนักเรียนในแต่ละหัวข้อ

Evaluating learning achievement of students in each unit according to the indicators.

ประเมินผลการเรียนรู้ตามตัวชี้วัดในแต่ละบทด้วยแบบทดสอบท้ายบท

Activities

Objective

To study the characteristics of guard cells and compare the numbers of guard cells in the upper epidermis and in the lower epidermis of a leaf

Problem

Do guard cells differ from other cells in a leaf? Are the numbers of guard cells in the upper epidermis and in the lower epidermis different?

Hypothesis

Yes, guard cells differ from other cells. Yes, there are more guard cells in the lower epidermis than in the upper epidermis.

Equipment

- 1. An oyster plant
- 2. A scalpel
- 3. A microscope glass slide and a coverslip
- 4. A microscope

Instructions

- Tissue of the lower side
- Coverslip
- A leaf of the oyster plant
1. Observe and record the characteristics of the upper epidermis and the lower epidermis of the leaf of the oyster plant.
  2. Fold and tear the leaf diagonally to peel off the thin tissue attached to the lower epidermis of the leaf. Cut the tissue into tiny pieces and place them on the glass slide with a few drops of water. Then, place the coverslip on the top.
  3. Examine the tissue under the microscope with low and high magnification, respectively. Draw a picture of the cells.
  4. Repeat steps 1-3 with another leaf to examine the upper epidermis.
  5. Observe the numbers of guard cells in the upper epidermis and in the lower epidermis to check which side has more guard cells.

Science process skills

- Observing
- Formulating Hypotheses
- Experimenting

Scientific mind

- Avidity for learning
- Ability to work with others effectively

Be Careful!

Be careful when using a microscope with low magnification. When adjusting the coarse adjustment knob, place your eyes at the same level as the stage and then adjust the objective lens to be close to the stage. The objective lens can break if it hits the slide.

Life Processes of Plants 85

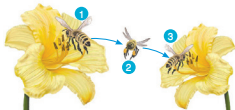
Exercises

1. Describe the structures and functions of the following reproductive parts of plants.  
1) Sepal: This is transformed from the leaves. It covers and protects other parts and supports its forming. In some plants, sepals can photosynthesize and attract insects.  
2) Petal: This is next to the sepal. It has a bright color, nectar glands, and a pleasant smell to attract insects which help pollination.  
3) Stamen: This is next to the petal. It is a male reproductive part that consists of a filament and the anther where pollen is produced.  
4) Pistil: This is the innermost part of a flower. It is a female reproductive part that is made up of three parts: a stigma, a style, and an ovary.

2. Complete the following paragraph.

Flowers can be classified by the four main parts into two groups. Complete flowers have all of the four important parts, which are sepals, petals, stamens, and pistils, whereas Incomplete flowers have less than four parts. In addition, flowers can be classified by their reproductive parts. The flowers that contain both stamens and pistils in the flowers are perfect flowers and the flowers that contain either stamens or pistils are imperfect flowers.

3. Look at the figure below. What type of pollination is it?  
It is cross-pollination.



Explain the process of the pollination in order.

- 1 When a bee visits a flower, the pollen grains attach themselves to the body of the bee.
- 2 The bee with pollen grains flies around and visits other plants to collect nectar.
- 3 When the bee lands on another flower, the pollen grains deposit on the stigma; thus cross-pollination occurs.

Allowing students to perform the scientific process skills through activities and experiments.

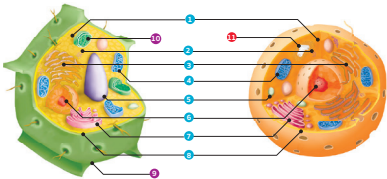
ให้นักเรียนลงมือปฏิบัติผ่านกิจกรรม และการทดลอง เพื่อเสริมสร้างทักษะกระบวนการทางวิทยาศาสตร์

Packed with exercises to reflect and practice what students have learned.

มีแบบฝึกหัดหลากหลายเพื่อทบทวนความรู้ และความเข้าใจ

Summary

Structures and Functions of Plant and Animal Cells



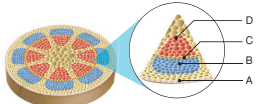
- 1 Cytoplasm is where several organelles are found and which contains water and many chemical compounds.
- 2 Ribosomes are found in large numbers on the endoplasmic reticulum in the cytoplasm, where protein synthesis occurs.
- 3 Endoplasmic reticulum (ER) is the continuous membrane system that forms a series of flattened sacs or tubes and plays roles in protein and enzyme synthesis.
- 4 Mitochondria are made up of two layers of cell membranes: a smooth outer layer and a thin inner layer stacked together. They play a role in producing energy for the cell.
- 5 A vacuole in a plant cell stores water and other substances such as pigments. In an animal cell, it plays roles in water balance and getting rid of soluble waste.
- 6 A nucleus is fairly round. It is the central regulator of all cell activities and plays roles in genetic inheritance, synthesis of protein, and metabolism. Each cell has one nucleus but a white blood cell has many nuclei.
- 7 Golgi body is made up of thin membrane sacs that are stacked together. It plays roles in storing chemicals produced by the endoplasmic reticulum and transporting them to other parts of the cell.
- 8 A cell membrane is the thin membrane that encloses the cell cytoplasm and allows some substances to pass through. Thus, it is called a selectively permeable membrane.
- 9 A cell wall is a thick outer layer that encloses the cell. It is made up of cellulose and other compounds. A cell wall strengthens the cell and helps maintain its shape.
- 10 A chloroplast has a double membrane structure that contains chlorophyll needed for photosynthesis.
- 11 A centriole is the cylindrical cellular organelle found in pairs which one lying at a right angle to the other and located inside animal cells. The centriole separates chromatids from each other in the process of cell division.

- Found in both plants and animals
- Found in plants
- Found in animals

Basic Units of Life 63

Thinking Skills

Part 1 This is the internal structure of a plant stem.



Read the statements and answer "yes" or "no".

Statement	Answer
1. Layer A consists of several layers of cells.	No
2. Layer A envelops and protects the stem.	Yes
3. Water and minerals are transported through Layer B.	No
4. Layer C plays a role in the height of the plant.	No
5. The plant that has Layer C is a dicot.	Yes

Part 2 In the figure, what is the benefit of the characteristic of root hair cells? (Circle the correct answer.)

- a. Increasing area in contact with the soil
- b. Increasing the growth rate of roots
- c. Increasing the roots' ability to anchor the plant to the ground
- d. Absorbing more types of organic substances
- e. Increasing efficiency in water absorption only

Life Processes of Plants 113

Summarizing the content at the end of each unit.

มีสรุปเนื้อหาในตอนจบของแต่ละหน่วย

Enhancing thinking skills and familiarizing students with PISA test through the 'Thinking Skills Activity'.

พัฒนาทักษะการคิด และสร้างความคุ้นเคยกับข้อสอบ PISA ผ่านกิจกรรมเสริมทักษะการคิด

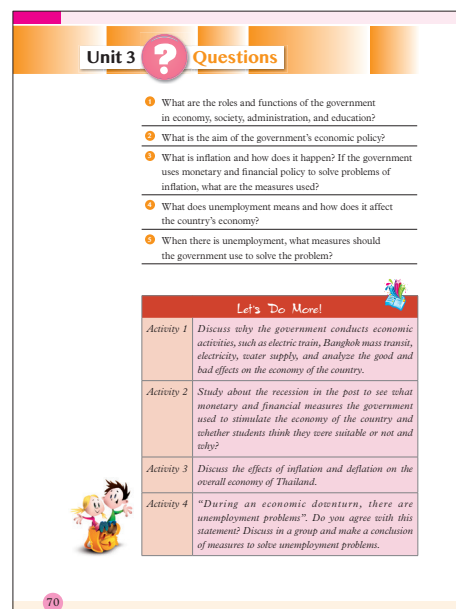
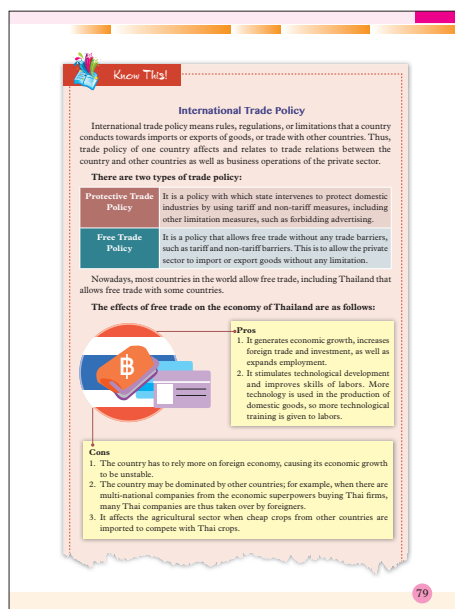
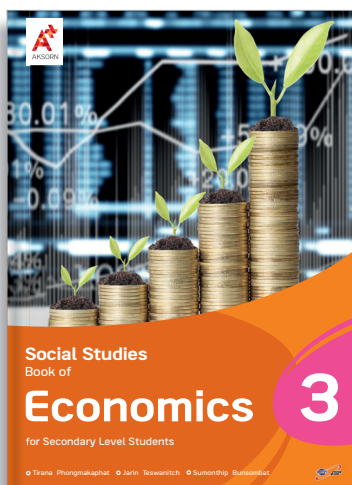
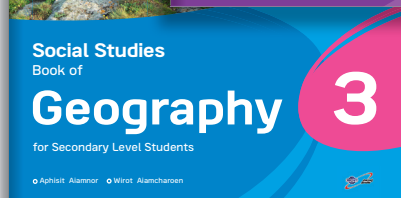
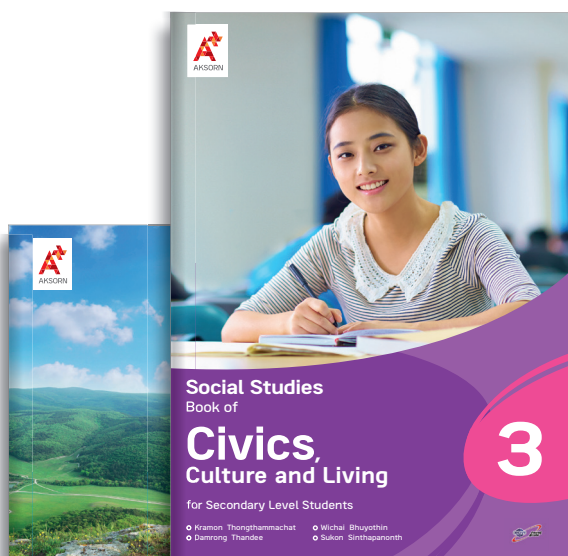




# Social Studies

## Textbook

- Covering the essential 3 main strands :
  - Civics, Culture and Living
  - Economics
  - Geography
- Increasing and expanding student's knowledge beyond the curriculum through "Did You Know?" and "Know This!".
- Reviewing and assessing student's understanding of the lessons with "Unit Questions".
- Developing critical thinking skills and knowledge application through "Let's do more!".
- มีเนื้อหาครบกลุ่มสาระฯ หน้าที่พลเมือง เศรษฐศาสตร์ และ ภูมิศาสตร์
- เพิ่มเติมความรู้นอกเหนือจากหลักสูตรในกิจกรรม Did You Know? และ Know This!
- มีส่วนทบทวน และประเมินความรู้ความเข้าใจของผู้เรียนผ่านกิจกรรม Unit Questions
- พัฒนาทักษะการคิดแบบมีวิจารณญาณ และการประยุกต์ความรู้ผ่านกิจกรรม Let's do more!

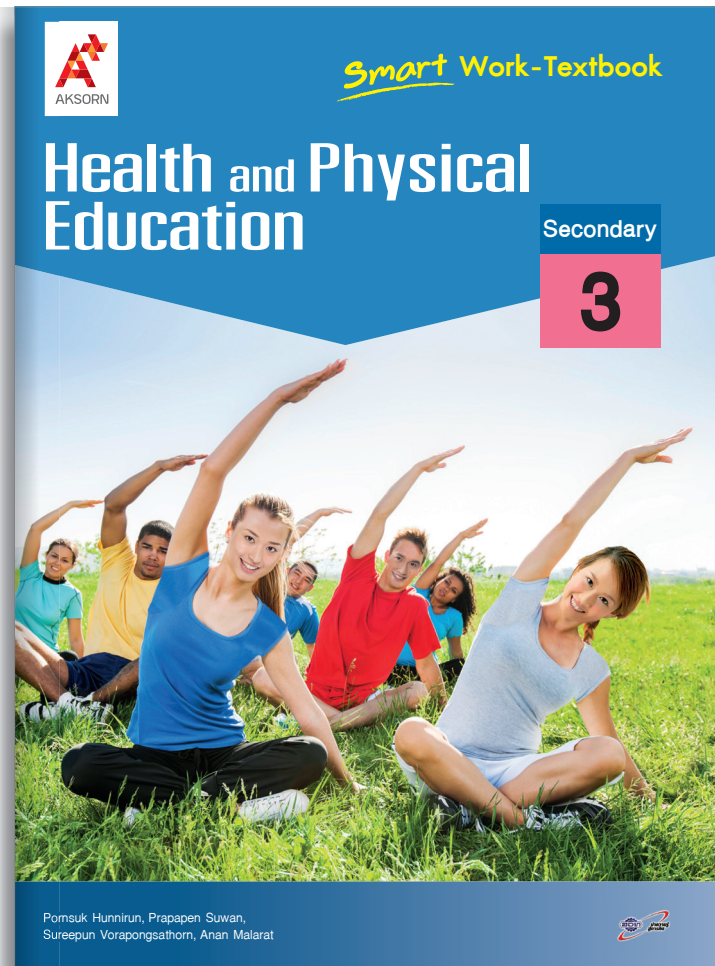


Packed with helpful content.  
เนื้อหากระชับ ทันสมัย

Providing marginal notes to extend  
students' knowledge and  
understanding.  
มีเกร็ดความรู้ช่วยขยายความเข้าใจ  
ในบทเรียน

Finishing with exercises and  
activities at the end of each unit.  
มีแบบฝึกหัด และกิจกรรมในตอนจบหน่วย





# Smart Health and Physical Education Work-Textbook

- Providing easy-to-understand content.
- Enhancing student's ability to apply the knowledge gained in everyday situations.
- Increasing and expanding student's knowledge beyond the curriculum through "Did You Know?" and "Know This!".
- Reviewing and assessing student's understanding of the lessons with "Unit Questions".
- Developing critical thinking skills and knowledge application through "Let's do more!".
- เนื้อหาเข้าใจง่าย อธิบายด้วยภาพจริง และอินโฟกราฟิกส์
- ยกระดับความสามารถของผู้เรียนในการประยุกต์ใช้ความรู้กับสถานการณ์ปัจจุบันรอบตัว
- มีส่วนทบทวน และประเมินความเข้าใจบทเรียนของผู้เรียนผ่านกิจกรรมท้ายหน่วย Unit Questions
- พัฒนาศักยภาพการคิดแบบมีวิจารณญาณ และการประยุกต์ใช้ความรู้ในกิจกรรม Let's do more
- มีเนื้อหา และแบบฝึกหัด ครบ จบในเล่มเดียว



Free!

Teacher's  
Resource

Answer Key

**Unit 6**

## Disease and Prevention

Health problems are an important issue in Thailand. There are various causes of illness, disease, and death among Thais. Having knowledge about the diseases and being able to suggest appropriate preventions of diseases will decrease the risks of contracting a disease and will increase the quality of life for oneself and others.

**Indicators**

- Propose the guidelines to prevent diseases that are the main causes of illness and death of Thai people. (HP 4.1 G, 9/2)

**Compulsory Details**

Diseases that are the main causes of illness and death of Thai people:

- Communicable diseases are:
  - Sexually transmitted diseases
  - Bird flu (avian influenza) etc.
- Non-communicable diseases
  - High blood pressure
  - Heart disease (Cardiomyopathy) - Cancer, etc.

**Prevention**

Detected hypertension disease normally results from an unknown cause, and comes from many factors and risky behaviors. One should follow these practices in order to prevent oneself from developing the disease.

1. Have a medical checkup annually or every 6 months.
2. Control and balance your body weight, keep it within a healthy range.
3. Balancing one's eating habits and exercising frequently.
4. Change your risky behaviors by developing healthy ones such as avoiding eating spicy food or food that contains a high level of fat.
5. Have enough rest and deal with stress in an appropriate way.

**Did You Know?** Local Herbs Help in Reducing the Risk of Hypertension

Indigenous Thai local herbs are now known to contain properties that help hypertension, which are as good as conventional medicine. There are many kinds of herbs that can help reduce the risk of hypertension. Some of them are:

- **Garlic:** Slice half a teaspoon of fresh garlic and cook it with a meal. Eat this amount 2-3 times a day. You can also eat raw garlic, but never eat it when the stomach is empty because you may get stomach pains.
- **Celery:** Pick fresh celery and pestle it, then extract and drink the juice. One can also pestle 2 wips of celery and boil it in water, then filter the residue out. Have 1-2 tablespoons of it before your meals. Celery can also be eaten uncooked with a meal.
- **Rosella:** Boil dried sepals with water and drink as a tea. Besides reducing the risk of hypertension, rosella also reduces cholesterol, calculi, and fever.
- **Centella asiatica:** According to Thai pharmacopoeia, centella asiatica is used as medicine to nourish the heart, to defend lassitude, to help micturition, and used to relieve internal heat. If one boils fresh centella asiatica in water and drinks it regularly, one could avoid having hypertension.

Moreover, other herbs in the food we eat normally such as ginger, siamase cassia, parsley, tamarind, and sweet basil can also prevent us from developing hypertension as well.

Therefore, do not avoid eating these herbs. Instead, you should eat all of them because they are useful to your body.

**Unit 9**

## Exercises

1 Write down the effect of alcohol consumption on health into the given diagram.

Brain

Liver

Heart

Stomach

Pancreas

**Packed with helpful content.**เนื้อหาสาระแน่น ช่วยพัฒนาความรู้ ทักษะ  
เจตคติของผู้เรียน**Providing marginal notes to extend  
students' knowledge and understanding.**

มีเกร็ดความรู้ช่วยขยายความเข้าใจเพิ่มจากบทเรียน

**Finishing with exercises at the end  
of each unit.**

มีแบบฝึกหัด และกิจกรรมในตอนจบหน่วย

# Building brighter futures together

with Cambridge University Press resources

We put teachers  
first and work with  
Brighter Thinkers

Everything we do begins with you, and a clear understanding of your needs and aspirations - because we believe teachers are at the heart of learning.

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Our approach encourages students to be creative and critical thinkers, to be resourceful collaborators and communicators, and to be confident problem solvers and decision makers in education and in life.



Brighter Thinking

Better Learning

# What's new



## Professional Development



Preparing to Teach courses



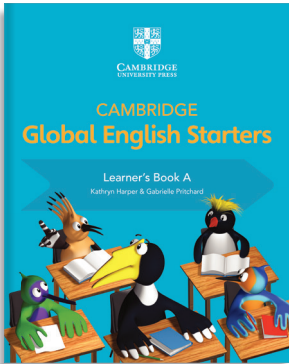
Cambridge Teaching Skills Roadmap



Cambridge Teacher Support Service

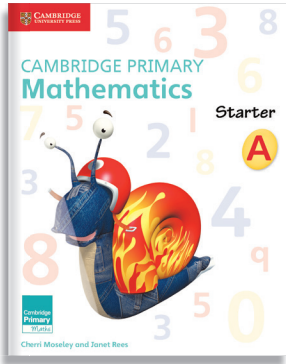
## Kindergarten

English



Cambridge Global English Starters A - C

Mathematics

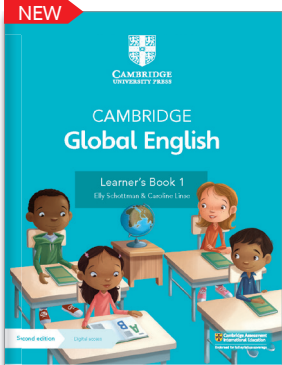


Cambridge Primary Mathematics Starters A - C

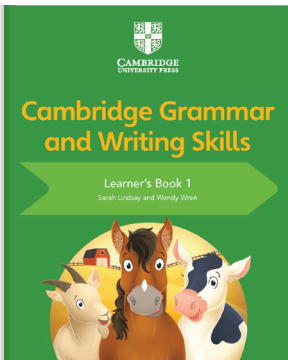


## Primary

English

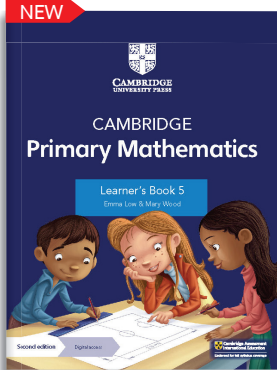


Cambridge Global English Stages 1 - 6



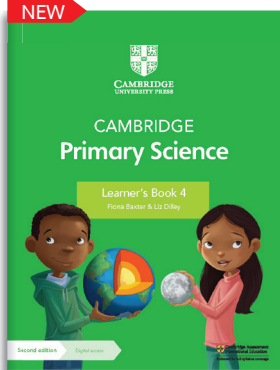
Cambridge Grammar and Writing Skills Stages 1 - 6

Mathematics



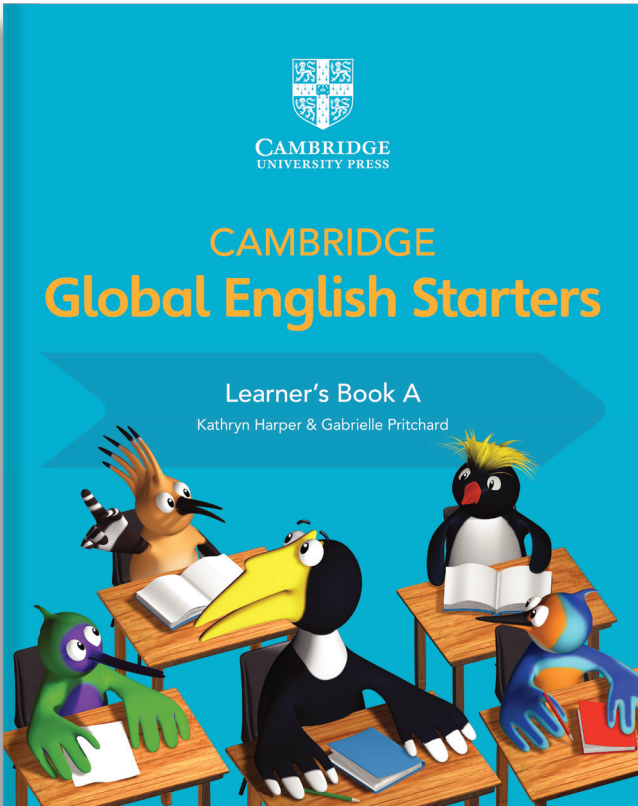
Cambridge Primary Mathematics Stages 1 - 6

Science



Cambridge Primary Science Stages 1 - 6



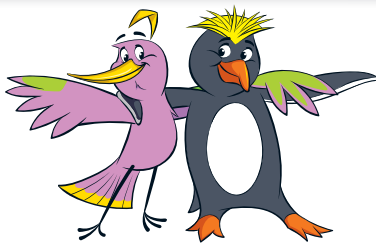


# Cambridge Global English Starters

Kathryn Harper, Gabrielle Pritchard  
and Annie Altamrino

Cambridge Global English Starters is a fun course to get your learners ready to study in English. Written by experts in pre-primary education, this series fulfils the requests of teachers by helping to develop the skills children need to begin learning in English at Grade 1. Suitable for learners going on to the Cambridge Primary or IB Primary Years Programme, you can use it either in Kindergarten or at the start of Grade 1.

- ช่วยพัฒนาทักษะภาษาอังกฤษของผู้เรียนในระดับ A1 (CEFR)
- มีกิจกรรมสนุกสนานหลากหลายร่วมกับเกม เพลงตลอดเล่ม
- มีกิจกรรมฝึกการใช้ภาษาอังกฤษ เช่น phonics ในหัวข้อ 'feelings' และ The Classroom
- มีสื่อประกอบการสอนมากมาย ช่วยให้ครูสอนง่าย สอนสะดวก



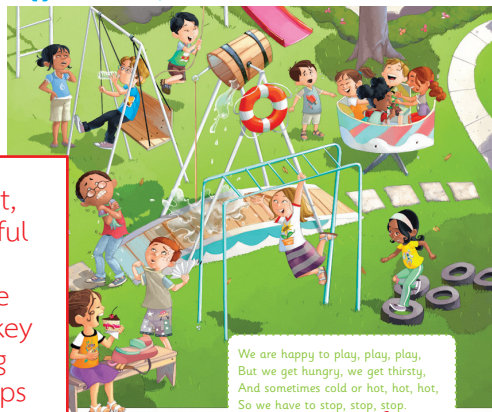
There pages are from Global English Starters Learner's Book A

**A big question** introduces the enquiry-led learning approach, encouraging learners to reflect on questions and examine ideas. มีคำถามกระตุ้นการคิดของผู้เรียน

## 3 Feelings

1 Think about it What makes you happy or sad?

1 Chant and clap.



What can you see? Explore the picture.

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3 Listen, say and stick.



4 Choose and act.

Choose a picture and act it out. Your friends guess the feelings.



**A short poem or chant**, as well as large colourful images, lead into the topic of the unit. These help learners identify key vocabulary, while using rhythm and rhyme helps them remember.

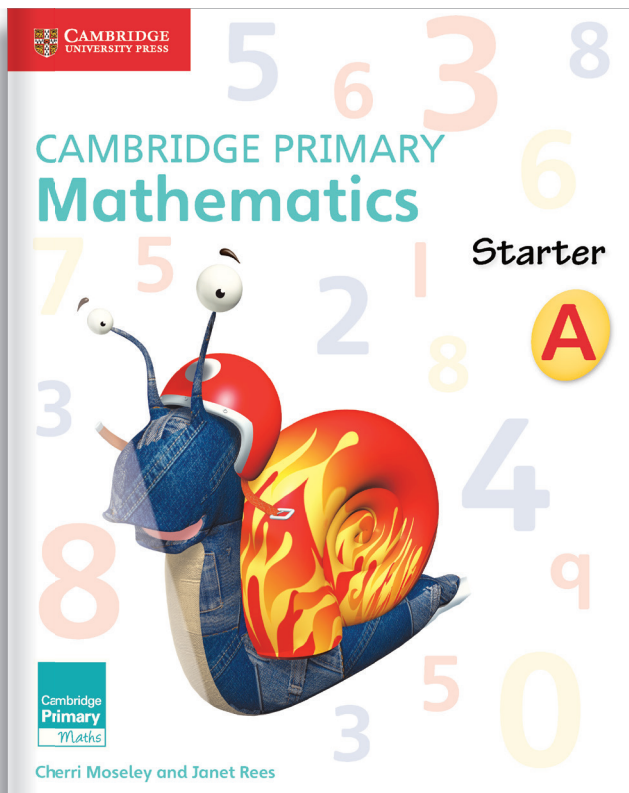
มีกลอน ภาพสีสันสดใส ช่วยให้ผู้เรียนเข้าใจ และจำคำศัพท์ต่าง ๆ ได้ง่าย

**Packed with games** to make learning in English fun!

ทำให้การเรียนรู้ภาษาอังกฤษได้อย่างสนุกสนานผ่านเกมต่าง ๆ

Learner's Book A	Activity Book A	Fun with Letters and Sounds A	Teacher's Resource with Cambridge Elevate
Learner's Book B	Activity Book B	Fun with Letters and Sounds B	Cambridge Elevate Digital Classroom
Learner's Book C	Activity Book C	Fun with Letters and Sounds C	





# Cambridge Primary Mathematics Starter

Cherri Moseley, Janet Rees

Cambridge Primary Mathematics Starters are complementary activity books which are specifically designed as preparatory activity books before children embark on the Cambridge Primary Curriculum at Grade 1. The Starters provide a range of activities which will help children acquire the vital numeracy skills they will need for primary school, such as numbers, counting, identifying shapes and comparing sizes and quantities. They include discreet activity guidance for teacher or parent as they support their child in completing the activities.

- หนังสือกิจกรรมเตรียมความพร้อมในระดับเริ่มต้นที่ออกแบบมาเพื่อหลักสูตร Cambridge Primary Mathematics โดยเฉพาะ
- มีกิจกรรมมากมายที่ช่วยให้ผู้เรียนเกิดทักษะพื้นฐานด้านการคิดคำนวณ เพื่อต่อยอดสู่การเรียนรู้ในระดับชั้นประถมศึกษา
- มีคำแนะนำการจัดกิจกรรมพร้อมให้ครูใช้งานได้สะดวก

There pages are from Cambridge Primary Mathematics Starter Activity Book A

**Vocabulary Box** to reinforce of key Maths terms.

กล่องคำศัพท์ บอกราคาคำศัพท์สำคัญที่ได้เรียนรู้จัก

### Match the elephants

Play the game, match the elephants.


### Vocabulary

1, 2, 3, 4, 5, number, match, matching, count, how many?

**You will need:** a pencil and a paperclip to use the spinner, two different playing pieces such as counters or buttons

**What to do**

This is a game for two players or two teams. Children take turns to spin the spinner to choose an elephant. They place one of their playing pieces on a matching elephant in the grid. Play continues until every elephant has been matched and covered. If all the pictures of a particular elephant have been matched, the child misses that turn. For a more challenging game, children replace one of the other player's playing pieces with one of their own.

**Further activities**

Some children may be able to identify the winner of the game by comparing the playing pieces on the board. Each player removes their pieces and matches them, one-to-one, with the other player's pieces. The child with unmatched pieces is the winner.

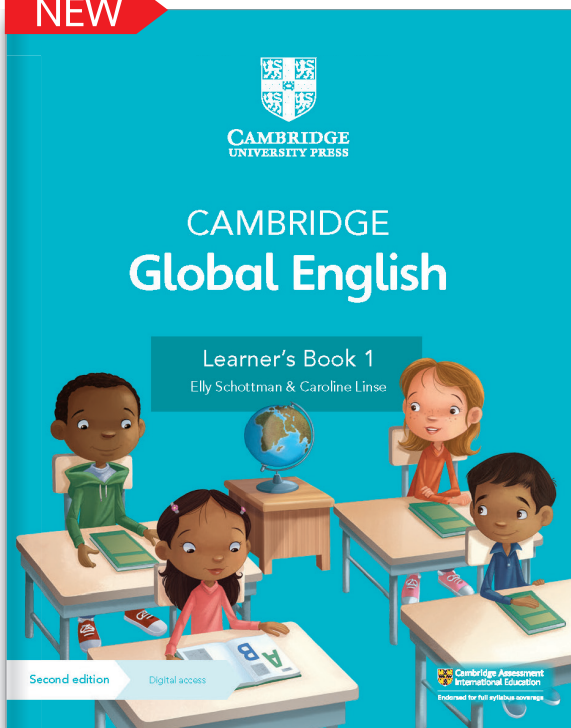


**Activity Guidances** for the teacher as they support their child in completing the activities.

คำแนะนำเพื่อช่วยให้ครูจัดกิจกรรมได้สะดวก



NEW



# Cambridge Global English

Elly Schottman, Caroline Linse, Kathryn Harper

With international cross-curricular topics, from adventures and space to sport and nature, the series helps your class develop the skills to study across the curriculum in English. Developed resources by subject experts take your learners from A1 to B1/B2 CEFR level.

- เน้นการฝึกทักษะภาษาอังกฤษด้วยบทเรียนข้ามสาระนั้นานาชาติ ไม่ว่าจะเป็นการผจญภัย และอวกาศ เรื่องกีฬา และเรื่องธรรมชาติ เพื่อให้ผู้เรียนได้ฝึกฝนการใช้ภาษาอังกฤษในการเรียนวิชาอื่น ๆ
- ช่วยพัฒนาผู้เรียนบรรลุทักษะภาษาอังกฤษจากระดับ A1 สู่ B1/B2 ตามระดับ CEFR

## Learner's Book หนังสือเรียน

Packed with literature, oracy and games, the learner's books help your class use English confidently. Step-by-step writing activities with models support them to develop their writing, while tip boxes help with language and skills learning strategies. Each unit ends with a 'Project Challenge' where learners work together on cross-curricular projects like a comic strip or presentation, developing collaboration and critical thinking skills.



These pages are from Cambridge Global English Learner Book 4

8 Nature matters

8.4 A personal recount

We are going to...

- write about a visit to a local park, river or coastline.

1 What can you see in this picture? Where are the children going? What do you think the children are going to do? Tell your partner.

2 Read the description. Were your predictions correct?

**OUR VISIT TO THE LOCAL RIVER**

In class we were learning about the environment and thinking about how our habits and the waste we create affects nature. Miss Smith wanted us to do a project about nature and rubbish in our community, so she arranged a trip to our local river to see if it was 'clean' and 'green'.

It was a beautiful day and I was excited about going for a walk along the river with my classmates. We arrived at school at the usual time on Tuesday morning and then waited for a bus to take us all to the river. The trip only took about 15 minutes.

When we arrived, Miss Smith gave out clipboards with a worksheet for us to do. Our task was to write down the names of any wildlife we saw and to fill in a chart about the rubbish we found too.

The first thing we saw was a group of tiny ducklings swimming behind their mother. They were so cute! We saw a frog near the riverbank, croaking among the reeds and even a shoal of small fish.

But I was shocked at the amount of rubbish I could see on the riverbanks. There were plastic bottles, bags and cans. It was horrible to see so much rubbish in this lovely place. So, we've decided to go back at the weekend to clean up the rubbish.

8.4 Write on!

3 Read the description and find the answers to these questions.

- What was the purpose of their trip?
- How did the child feel about going on this visit?
- Did they see any wildlife there?
- How did they record the information they found?
- How did the writer feel about the rubbish?

4 Why do we use the past simple in a personal description? Find examples of regular and irregular verbs in the text.

5 Read the examples from the text and label (F) for fact or (O) for opinion.

- The teacher arranged a trip to the local river.
- They were so cute!
- The trip only took about 15 minutes.
- I was shocked at the amount of rubbish I could see.

6 Write a personal recount about an exciting or memorable school trip you have been on. Write about your experiences and feelings.

**Writing tip**

**Facts and opinions**

Look for words like I think and I was, which give an opinion, and figures and statements that are true for facts.

**Step 1: Make notes**

- The school trip you want to write about.
- Where did you go and why?
- How did you travel there?
- How did you feel about going on the visit?
- What was your task (if any)?
- What did you see and do?
- Did you enjoy the trip?

**Step 2: Organise your recount**

- Use paragraphs to organise the information.
- Write things in the order that they happened.
- Write in **past tenses**.
- Use first person pronouns I and we.
- Include facts and your opinions.

**Step 3: Read, compare and check**

Swap with a partner. Check for spelling and grammar mistakes!

Opportunities for grammar practice in the context of the activity help develop accuracy.

ฝึกฝนการใช้ไวยากรณ์ผ่านการทำกิจกรรม

Activities to develop critical thinking skills are included throughout.

กิจกรรมเพื่อพัฒนาทักษะการคิดวิเคราะห์

Writing and oracy spreads in each unit help learners develop their productive skills.

ในแต่ละหน่วยจะมีการฝึกเขียนและการพูด

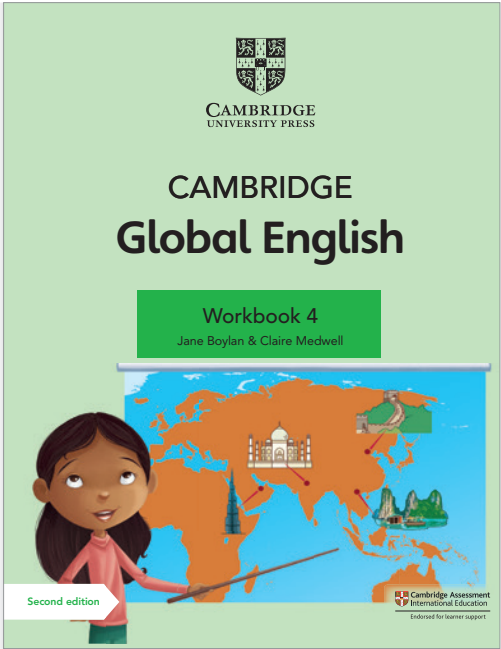
A process writing model helps learners develop confidence.

กระบวนการเขียนเพื่อสร้างความมั่นใจในการเขียนให้ผู้เรียน

Workbook แบบฝึกหัด

Activities including puzzles and quizzes help your class practise and consolidate what they have learnt, providing support for the reading, writing and use of English strands of the curriculum framework. Ideal for use in the classroom or for homework.

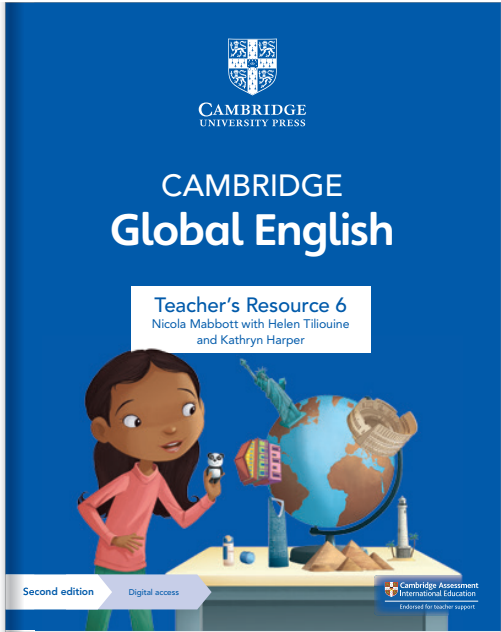
- Process writing pages consolidate your learners’ knowledge of text types including literature
- More grammar practice. Three-tiered grammar exercises : Focus, practice and challenge.
- Write-in for ease of use



Teacher’s Resource คู่มือครู

Provide everything you need to plan and run your lessons, including

- Starter activities and additional lesson ideas not included in the learner's books
- Answers audio files and wordlists for all activities
- Photocopiable games and activities in the accompanying digital resource.
- Downloadable progress and unit tests, with answers, provide ready-made assessment opportunities
- The ‘Teaching skills focus’ helps you develop your own teaching style and bring active learning, assessment for learning and differentiation into your classroom
- Common misconceptions’ highlight areas that learners frequently find challenging and show you how to overcome them
- ‘Learning plans’ show you how your lessons link to the Cambridge Primary English as a Second Language curriculum framework



Digital Classroom แพลตฟอร์มการสอนด้วยดิจิทัล

With on-screen versions of the learner’s book and workbook, plus video, grammar presentations and interactive activities, our Digital Classroom resources bring English to life! Zoom, highlight or annotate to emphasise important points.

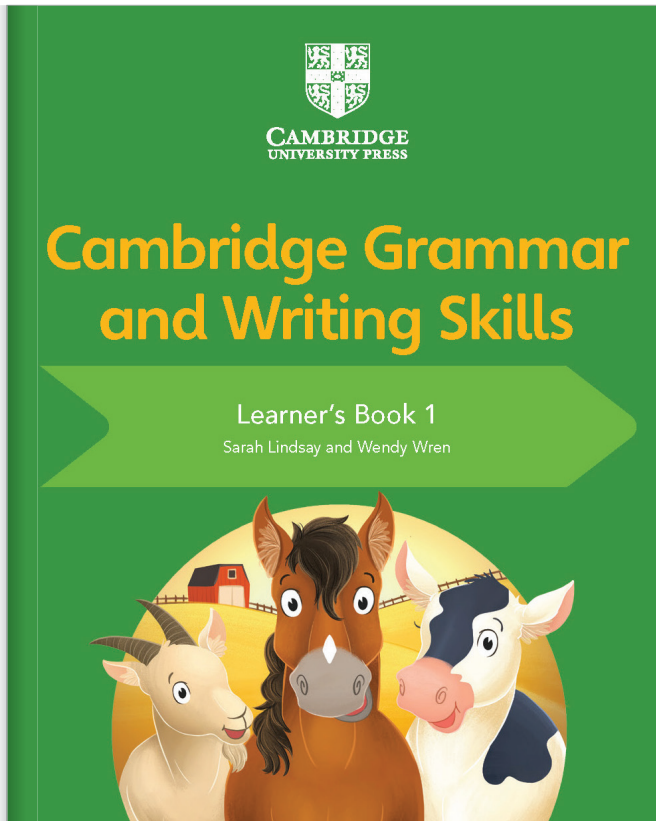
- Help learners develop their grammar with presentations and interactive activities
- Save time with ready-made videos linked to each topic, with accompanying questions
- Quickly and easily display answers on screen

Curriculum support

This new series supports you and your learners through the new Cambridge Primary English as a Second Language curriculum framework (0057) Find out more about how our resources support you and your learners at [cambridge.org/primary](https://cambridge.org/primary)

Learner's Book 1	Workbook 1	Teacher's Resource 1	Digital Classroom 1
Learner's Book 2	Workbook 2	Teacher's Resource 2	Digital Classroom 2
Learner's Book 3	Workbook 3	Teacher's Resource 3	Digital Classroom 3
Learner's Book 4	Workbook 4	Teacher's Resource 4	Digital Classroom 4
Learner's Book 5	Workbook 5	Teacher's Resource 5	Digital Classroom 5
Learner's Book 6	Workbook 6	Teacher's Resource 6	Digital Classroom 6



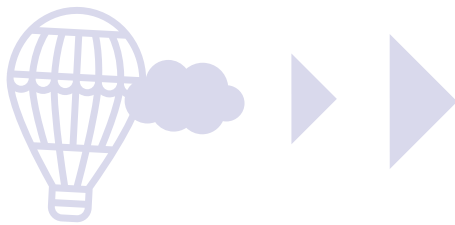


# Cambridge Grammar and Writing Skills

Sarah Lindsay and Wendy Wren

Watch your learners grow in confidence as they develop their writing skills. They'll write a newspaper article, adapt a myth and even create an advert for their favourite breakfast cereal! From haikus, fairy tales and plays to biographies, recounts and instructions, this series gives your learners the knowledge and skills to tackle a range of writing types.

- เน้นกระบวนการเพื่อพัฒนาทักษะทางการเขียนภาษาอังกฤษให้สัมฤทธิ์ผล
- เหมาะสำหรับทั้งผู้เรียนภาษาอังกฤษเป็นภาษาที่ 1 และภาษาที่ 2
- ช่วยให้ผู้เรียนพัฒนาทักษะความเข้าใจผ่านกิจกรรม Let's Talk ในแต่ละบท
- ตรวจสอบความเข้าใจของผู้เรียนก่อนทำกิจกรรมผ่านกิจกรรม Writer's Toolbox (Writer's checklist)
- ประเมินผลความเข้าใจของผู้เรียนในแต่ละบทผ่านกิจกรรม Assessment Sheet ท้ายเล่ม
- คู่มือครูที่ช่วยแนะนำครูผู้สอนเตรียมตัวได้สะดวก และมั่นใจพร้อมเฉลยกิจกรรม



These pages are from Cambridge Grammar and Writing Skill Learner's Book 6

## B Rewrite each active sentence as a passive sentence.

- 1 The boy throws the bottle into the sea.
- 2 The man sorts the plastic bottles.
- 3 The plastic rubbish harms the whale.

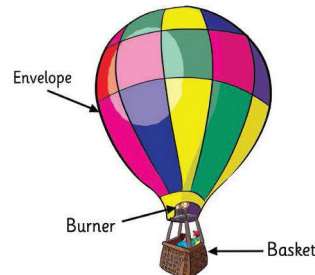
## Let's practise

Hot air balloons have been around since the 16th century. The first successful hot air balloon flight carrying a person was in 1783.

You are going to write an explanation of how a hot air balloon works.

## A Planning

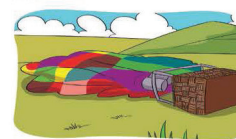
- 1 What title will you give your explanation?



## 3 Each illustration shows a stage in the explanation of how a hot air balloon works.

Use the words in the vocabulary boxes to discuss the illustrations.

### Stage 1



balloon is taken open space

### Stage 2



burner is lit

### Stage 3



flames heat air

### Stage 4



envelope fills hot air

A range of planning tools, including mind maps, helps learners develop their writing.

กิจกรรมช่วยพัฒนาทักษะการเขียน

Students bring together everything they have learned to create their own text, with planning support including story maps and prompts. This section is called 'Guided writing' in Stages 7-9.

กิจกรรม Guided writing ที่จะช่วยให้ผู้เรียนสามารถเขียนข้อความจากการศึกษา Storymap และคำสั่งเพื่อกระตุ้นความคิด

Students should be encouraged to work together during the ideas and planning stage.

กระตุ้นให้ผู้เรียนคิด เสนอความคิดเห็น และการวางแผน

Words and phrases to help learners with their writing.

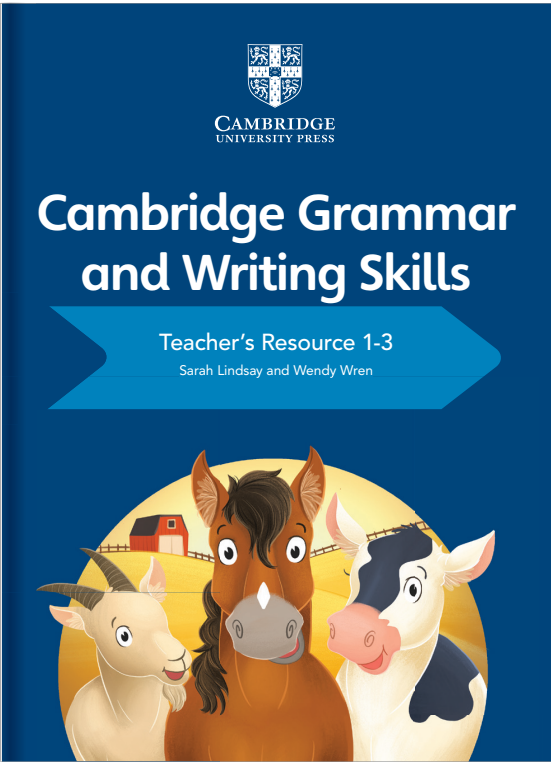
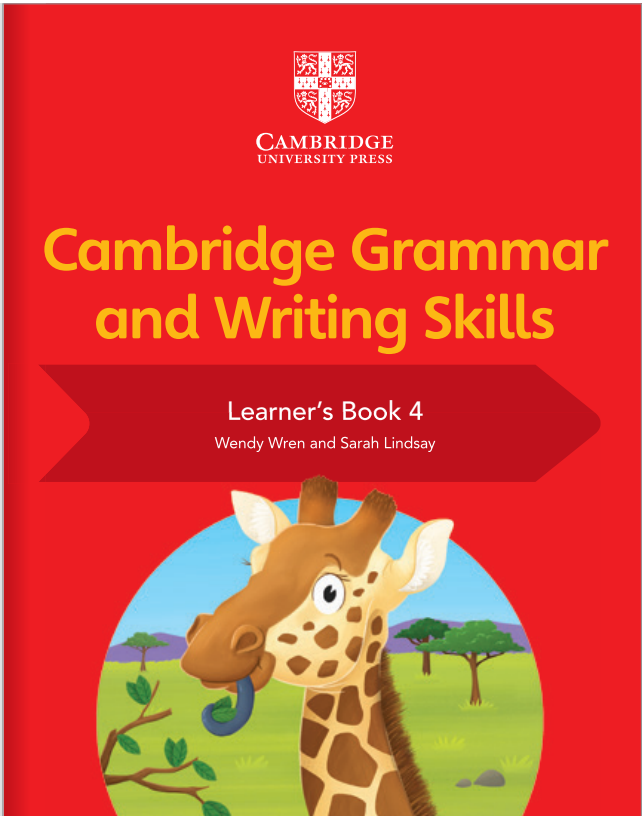
แนะนำคำศัพท์ และวลีสำคัญให้ผู้เรียนนำไปใช้ในการพัฒนาการเขียน



Learner’s Book หนังสือเรียน

Provides activities for learners to practise and extend their creative writing skills.

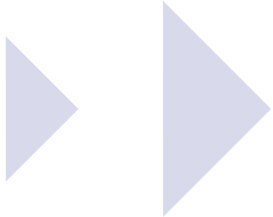
มีกิจกรรมต่าง ๆ ที่สอดแทรกหลักไวยากรณ์ เพื่อพัฒนาทักษะการเขียนภาษาอังกฤษของผู้เรียน



Teacher’s Resource คู่มือครู

Your essential companion to the course, the print and digital teacher’s resource.

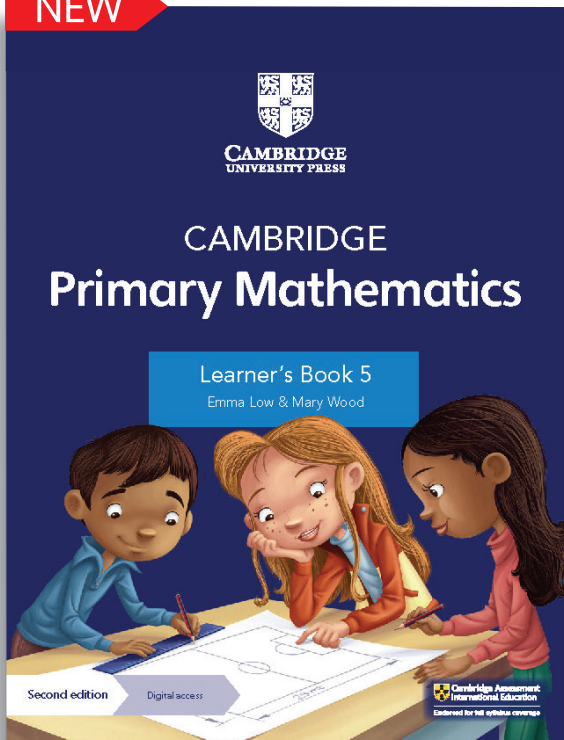
คู่มือครูที่ช่วยแนะนำครูผู้สอนเตรียมตัวได้สะดวก และมั่นใจยิ่งขึ้นพร้อมกับการสอนผ่านสื่อดิจิทัล



Learner's Book 1	Teacher's Resource with Digital Access 1-3
Learner's Book 2	
Learner's Book 3	
Learner's Book 4	
Learner's Book 5	Teacher's Resource with Digital Access 4-6
Learner's Book 6	



NEW



# Cambridge Primary Mathematics

Cherri Moseley, Janet Rees, Emma Low and Mary Wood

Whether they are creating a house with 3D shapes or using recipes to understand fractions, this series helps your learners develop mathematical thinking skills.

- ไม่ว่าจะเป็นการสร้างบ้านรูปทรงสามมิติ หรือการใช้สูตรทำอาหารก็ช่วยให้ผู้เรียนเข้าใจในเรื่องเศษส่วนได้ สื่อคณิตศาสตร์ชุดนี้ช่วยให้ผู้เรียนได้พัฒนาทักษะการคิดทางคณิตศาสตร์อย่างสร้างสรรค์

## Learner's Book หนังสือเรียน

Learners will be fully supported with worked examples and plenty of practice exercises to help them build their confidence with a range of maths concepts including handling data, algebra and probability. We've also worked with the team at NRICH to include projects that provide opportunities for deeper investigation of mathematical ideas and concepts, such as exploring negative numbers through water levels. With key word boxes, clear diagrams and supporting illustrations, the resources are accessible for all learners.

The 'Getting started' feature at the start of each unit gets your learners thinking and talking about what they already know

- Help your learners to think and work mathematically with clearly identified questions and activities throughout each unit
- 'Think like a mathematician' provides learners with investigation activities linked to the skills they are developing
- 'Look what I can do!' statements in each section and a 'Check your progress' exercise at the end of each unit help your learners reflect on what they have learnt
- Answers for all activities can be found in the accompanying teacher's resource

There pages are from Cambridge  
Primary Mathematics Learner's Book 4



### 1 Numbers and the number system

#### > 1.1 Counting and sequences

##### We are going to...

- count on and back in steps of tens, hundreds and thousands starting from any number
- count back through zero to include negative numbers such as  $-2$
- recognise linear sequences and non-linear sequences
- extend sequences and describe the term-to-term rule
- recognise and extend patterns that represent square numbers.

You will continue counting forwards and backwards in steps of constant size and you will start to use **negative numbers**.

Around the coasts of Antarctica temperatures are between  $-10^{\circ}\text{C}$  and  $-30^{\circ}\text{C}$ .

Try counting back in tens starting at 30 and ending with  $-30$ .



linear sequence  
negative number  
non-linear sequence  
spot! pattern  
square number  
term  
term-to-term rule

##### Worked example 1

Carlos writes a number sequence.

The first term in his sequence is 8.

He uses the rule 'subtract 2' to work out the next term.

What is the fifth term in his sequence?

8  $\xrightarrow{-2}$  6  $\xrightarrow{-2}$  4  $\xrightarrow{-2}$  2  $\xrightarrow{-2}$  0

Answer: The fifth term is 0.

Start with 8 and subtract 2 each time until you have five terms.

## Clear information on what learners will cover.

ให้ข้อมูลชัดเจนถึงสิ่งที่ผู้เรียนจะได้เรียนรู้

### Worked example 2

The numbers in this sequence increase by 50 each time.

60  $\xrightarrow{+50}$  110  $\xrightarrow{+50}$  160  $\xrightarrow{+50}$  ...

What is the first number greater than 1000 that is in the sequence?

Explain how you know.

60, 110, 160, 210, 260, ...

Write down the first few terms.

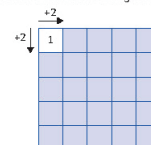
(You could write down all the terms in the sequence, but it would take a long time.)

Answer: The terms all end in 10 or 60 so the first number greater than 1000 is 1010.

### Exercise 1.1

1 Copy and complete this square using the rule 'add 2 across and add 2 down'.

What do you notice about the numbers on the diagonal? Discuss with your partner.



Draw two more 5 by 5 squares and choose a rule using addition. Predict what the numbers on the diagonal will be before you complete the squares.

Choose any two of these three sequences.

How are they similar to each other and how are they different?

2, 4, 6, 8, ...    2, 5, 8, 11, ...    3, 5, 7, 9, ...

Key terms highlighted in the context of use.

อธิบายคำศัพท์สำคัญทางคณิตศาสตร์ และ การใช้ในบริบทต่าง ๆ

Key vocabulary terms for learners to become familiar with.

กล่องแสดงคำศัพท์เพื่อให้ผู้เรียนเรียนรู้ศัพท์สำคัญทางคณิตศาสตร์

Worked examples to help students see how to apply new skills.

ตัวอย่างการทำโจทย์เพื่อให้ผู้เรียนได้นำสิ่งที่เรียนไปมาประยุกต์ใช้

Workbook แบบฝึกหัด

Providing practice consolidation Mathematics, the workbooks are packed with activities, including puzzles, ordering, and matching. Specific questions focus on developing learners’ Challenge exercises provide clear progression through each topic, helping learners skills for Thinking and Working Mathematically, while three-tiered Focus, Practice and Challenge exercises provide clear progression through each topic. The workbooks are ideal for use in the classroom or for homework.

- Three-tiered exercises in every unit get progressively more challenging to help students track their own learning
- Varied question types keep learners interested
- Covers all skills in the learner’s book
- Answer for all questions can be found in the accompanying teacher’s resource

Teacher’s Resource คู่มือครู

Provide everything you need to plan and run your lessons, including

- The ‘Background knowledge’ section gives you key information on each unit, so you have the detail you need to teach confidently
- The ‘Teaching skills Additional focus’ helps you develop your own teaching style and bring active learning assessment for learning and differentiation into your classroom

Digital Classroom แพลตฟอร์มห้องเรียนดิจิทัล

Engage your learners with on–screen versions of the learner’s book and workbook, video, animations and slideshows as well as interactive activities.

- Zoom, highlight or annotate to emphasise important points
- Save time with ready–made videos to introduce your learners to concepts like tessellation
- Interactive on–screen manipulatives reinforce key concepts such as calculating area
- Quickly and easily display answers on screen



- Guidance on selected Thinking and Working Mathematically questions is assessments provided for each section, helping you to develop these skills in your learners
- ‘Common misconceptions’ highlight areas that learners frequently find challenging and show you how to overcome them

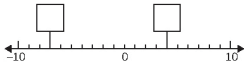
These pages are from Cambridge Primary Mathematics Workbook 4




1 Numbers and the number system

**Practice**

5 Here is part of a number line.  
Write the missing numbers in the boxes.



6 The thermometer shows a temperature of  $-8^{\circ}\text{C}$ .



Draw arrows on the thermometer to point to these temperatures.  
 $-4^{\circ}\text{C}$   $14^{\circ}\text{C}$   $-1^{\circ}\text{C}$

7 Write the missing numbers in these sequences.

a  $-12, -8, \underline{\hspace{1cm}}, 0, 4, 8, \underline{\hspace{1cm}}$

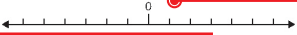
b  $-15, \underline{\hspace{1cm}}, -5, 0, 5, \underline{\hspace{1cm}}$

8 The temperature outside when Saraya arrived at school was  $-1^{\circ}\text{C}$ .  
By lunchtime the temperature had risen by  $8^{\circ}\text{C}$ .  
What was the temperature at lunch time?

**Challenge**

9 Put these numbers in order on the number line.


$-1$   $1$   $-2$   $-3$   $-5$



1.2 More on negative numbers

10 The temperature in Amsterdam is  $2^{\circ}\text{C}$ .  
The temperature in Helsinki is  $-7^{\circ}\text{C}$ .  
How many degrees warmer is it in Amsterdam than in Helsinki?

11 Here is a fridge freezer.

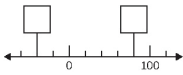


← The temperature in the freezer is  $-15^{\circ}\text{C}$

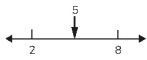
← The temperature in the fridge is  $4^{\circ}\text{C}$

What is the difference in temperature between the fridge and the freezer?

12 Here is part of a number line.  
Write the missing numbers in the boxes.



13 Mira counts on in threes starting at  $-13$ .  
She says, 'If I start at  $-13$  and keep adding 3, I will reach 0.'



Is Mira correct?  
Explain your answer.

Three-tiered approach, Focus, Practice and Challenge, gives learners opportunity to consolidate and build on their learning.

กระบวนการ 3 ขั้นตอน เพื่อให้ผู้เรียนได้รวบรวมความคิด และเกิดการเรียนรู้

Links to the unit focus in the learner's Book.  
เชื่อมโยงกิจกรรมกับเนื้อหาในหนังสือเรียน

Activities which focus on Thinking and Working Mathematically competencies are clearly identified.

กิจกรรมที่เน้นกระบวนการคิด และการปฏิบัติงาน แบบคณิตศาสตร์ที่ระบุถึงการจะบรรลุสมรรถนะอย่างชัดเจน

Curriculum support

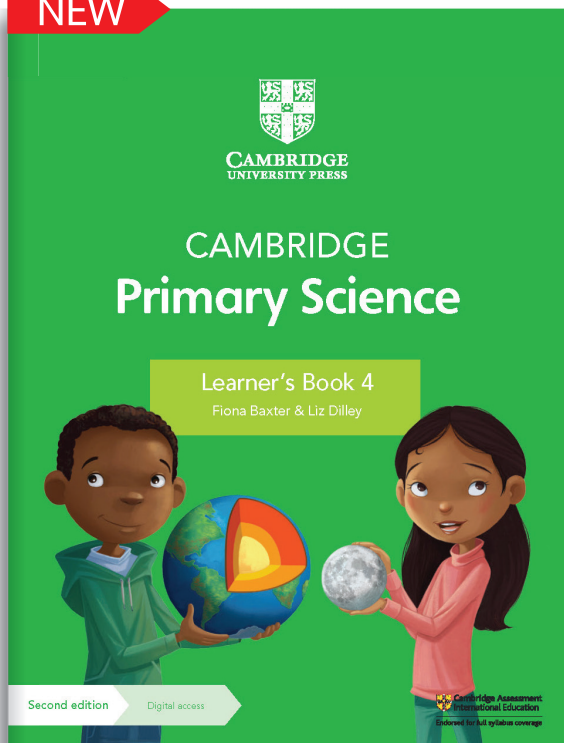
This series supports you and your learners through the new Cambridge Primary Mathematics curriculum framework (0096). Find our more about how our resources support you and your learners at [cambridge.org/primary](https://cambridge.org/primary)

Learner's Book 1	Workbook 1	Teacher's Resource 1	Digital Classroom 1
Learner's Book 2	Workbook 2	Teacher's Resource 2	Digital Classroom 2
Learner's Book 3	Workbook 3	Teacher's Resource 3	Digital Classroom 3
Learner's Book 4	Workbook 4	Teacher's Resource 4	Digital Classroom 4
Learner's Book 5	Workbook 5	Teacher's Resource 5	Digital Classroom 5
Learner's Book 6	Workbook 6	Teacher's Resource 6	Digital Classroom 6





NEW



# Cambridge Primary Science

Jon Board, Alan Cross, Fiona Baxter,  
Liz Dilley and Sally Burbeary

From finding out if water conduct electricity, to discover how energy is transferred, Cambridge Primary Science gets your learner think like scientists

- ซีรีส์วิทยาศาสตร์ที่จะช่วยให้ผู้เรียนมีกระบวนการคิดแบบนักวิทยาศาสตร์ เช่น การค้นหาคำตอบว่าน้ำเป็นตัวนำไฟฟ้าหรือไม่ พลังงานมีการถ่ายเทอย่างไร



## Learner's Books หนังสือเรียน

Our learner's Books include practical activities to develop learners' scientific enquiry skills. They'll find out how our muscles work, discover the difference between liquids and solids, and what cause volcanos.

Each unit ends with a project, like creating presentation on worm farms, so help learners bring together what they have learnt and understand how the topic relate to the real world.

With Vocabulary boxes, clear diagrams and supporting illustrations, the course makes science accessible for learners with English as a second language.

- Get your learners thinking and talking about what they already know with 'Getting Started' boxes at the start of each topic
- Help your learners think and work scientifically with practical tasks in the 'Think like a scientist' feature
- Topic throughout the series support the new earth and space strand of the curriculum framework
- Help your students reflect on what they have learnt with 'Reflections' and 'Look what I can do!' sections at the end of each topic
- Answers for all activities can be found in the accompanying teacher's resource



These pages are from Cambridge  
Primary Science Learner's Book Stage 1

Learners are clear on what they will be covering in the lesson.

แสดงคำศัพท์สำคัญทางวิทยาศาสตร์ที่ผู้เรียนควรรู้ในแต่ละหน่วย

## 3 Materials in My World

### > 3.1 Different materials

We are going to:

- observe things to find out what materials they are made of
- draw things and write what they are made of.

materials  
wood  
plastic  
metal  
glass  
rock  
paper  
fabric  
rubber  
feel

Getting started

- Do you know what things are made of?
- Things are made of many different materials.
- How many materials can you name?

3.1 Different materials

What materials can you see in the playground?

Can you see water, wood, plastic, metal, glass, rock, paper, fabric and rubber?

What other materials can you see?



Key vocabulary is identified in the text.

แสดงคำศัพท์สำคัญที่อยู่ในบทเรียน



Workbooks แบบฝึกหัด

Encourage your learners to think and work scientifically and provide opportunities to consolidate their learning. The workbook includes Focus, Practice and Challenge exercises to provide clear progression through each topic, helping learner to see what they have achieved. The drawing and writing activities give learners more experience with scientific vocabulary, which help develop their language skills. The exercises and activities are ideal for use in the classroom or for homework

- Active learning opportunity to help learners apply their knowledge to new contexts
- Three-tiers excercises in every topic to help students track their own learning
- Varied exercise types keep learners interested
- Answers to all activities can be found in the accompanying teacher’s resources

Teacher’s Resources คู่มือครู

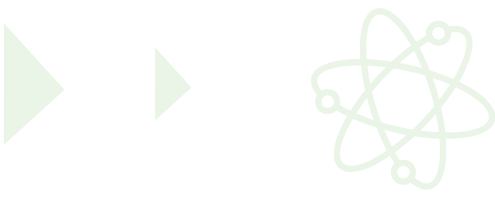
Provide everything you need to plan and run your lessons, including

- Guidance on the key teaching approaches and how to use them in your classroom
- The ‘Background knowledge’ section gives you key information on each unit so you have the detail you need to teach confidently
- The ‘Teaching Skill focus’ helps you develop your own teaching style and bring active learning, assessment for learning and differentiation into your classroom with confidence

Digital Classroom แพลตฟอร์มห้องเรียนดิจิทัล

Our Digital Classroom resources help your learners think like scientists, with ‘Cambridge Science Investigators’ videos which include experiments like melting points and plastic strength. You’ll also find digital versions of the learner’s books and workbooks and interactive activities

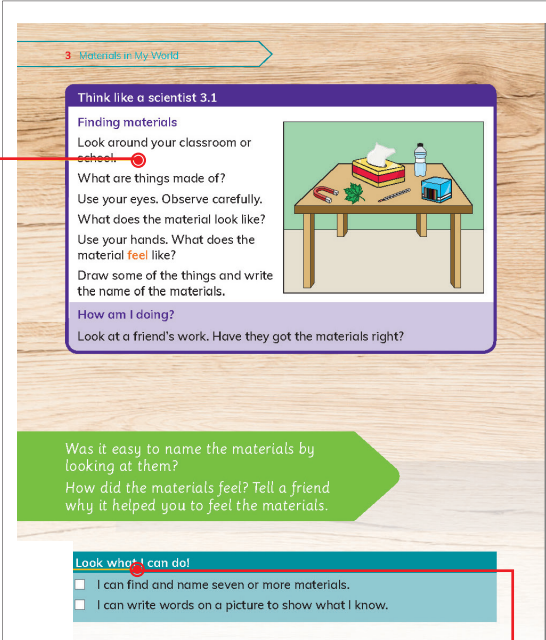
- Zoom, highlight or annotate to emphasise important points
- Videos or animations give you ready made materials linked to each topic, which accompanying questions
- Quickly and easily display answers on screen



- ‘Common misconceptions’ highlight areas that learners frequently find challenging and show you how to overcome them
- Downloadable tests, with answers, provide ready-made assessment opportunities



These pages are from Cambridge Primary Science Workbook 4



Diagrams and illustrations are included to help learners understand.  
แผนผัง และรูปภาพเพื่อช่วยให้ผู้เรียนเข้าใจเรื่องที่เรียนได้ง่ายขึ้น

3.2 Properties of materials

We are going to:

- find out about the properties of materials
- observe materials to find out their properties.

Getting started

- Look around you. Feel some materials.
- Tell your friends how the material feels.

strong  
hard  
flexible  
shiny  
property/properties  
smooth  
magnifying glass

weak  
soft  
rigid  
dull  
rough  
threads  
sort



This metal is strong.



This paper is weak.



This wood is hard.



This fabric is soft.



This plastic is flexible.



This wood is rigid.



This metal is shiny.



This paper is dull.

Activities throughout help your learners develop their scientific enquiry skills.  
กิจกรรมต่อเนื่อง ช่วยพัฒนาทักษะการสืบค้นทางวิทยาศาสตร์

Opportunities for students to self-assess their learning, helping to develop reflection skills.  
ผู้เรียนประเมินตนเองในสิ่งที่ได้เรียนไปแล้ว เพื่อประเมินความรู้ ความเข้าใจ และการสะท้อนคิด

Curriculum support

This series supports you and your learners through the new Cambridge Primary Science curriculum framework (0097). Find out more about how our resources support you and your learners at [cambridge.org/primary](https://cambridge.org/primary)

Learner's Book 1	Workbook 1	Teacher's Resource 1	Digital Classroom 1
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Learner's Book 5	Workbook 5	Teacher's Resource 5	Digital Classroom 5
Learner's Book 6	Workbook 6	Teacher's Resource 6	Digital Classroom 6

IDEA KIT



Creative construction and STEAM Education classroom media to support various learning activities. Perfect for teachers to stimulate an Active Learning class by triggering students’ curiosity, enhancing their imagination and creative problem-solving skill through designing and building 2D and 3D objects.



IDEA KIT Creative construction and STEAM Education classroom media

No.	Item	Code	Price	Quantity	Total
1	IDEA KIT 580 pcs + Creative construction and STEAM Education classroom media	4811004	4,800		
2	IDEA KIT 630 pcs + Creative construction and STEAM Education classroom media	4811001	7,110		



Bee-Bot Audio

Bee-Bot is a programmable educational robot and an excellent teaching aid for students from nursery through to primary school. This educational robot will help children master spatial location or movement programming. Bee-Bot helps teachers with unplugged coding activities. It is a great way to introduce coding/programming as well as computational thinking concepts to younger students before starting on Computing Science subject.

Bee-Bot Audio

No	Item	Code	Price	Quantity	Total
1	Bee-Bot Audio : programmable educational robot	4621032	3,600		

Code-to-Learn : Unplugged Coding Board Game



An unplugged-coding learning activity in board game format lets students learn and transform abstract coding concepts into tangible and easy-to-understand basic programming knowledge. The game allows learners to subconsciously familiarize programming principles along with knowledge of malwares. Students will get used to and remember basic commands easily and naturally through fun in-game missions. This gets students ready to learn block-based programming quickly. With Game-based Learning, as one of Active Learning pedagogy concepts, students involve in the learning and practicing, as well as developing thinking, problem-solving, and communication skills which, in turn, lead to desired learning outcomes and students’ competencies specified in the curriculum. The game is also equipped with “teacher’s manual,” completed with teaching and learning process, as well as worksheets to make sure students understand the concepts after playing the game.

No	Item	Code	Price	Quantity	Total
1	Board Game : Code-to-Learn	4621045	1,950		



Thailand's Best Managed Companies is an awards program that recognises the excellence of private companies in operating businesses to international standards across the world. For more than 25 years, Deloitte Private, an audit, management, and information technology consultant, has recognised 17 private companies for their excellence in business. This year, Aksorn Education Public Limited Company is one of the award-winning companies representing outstanding business amid the COVID-19 pandemic.

