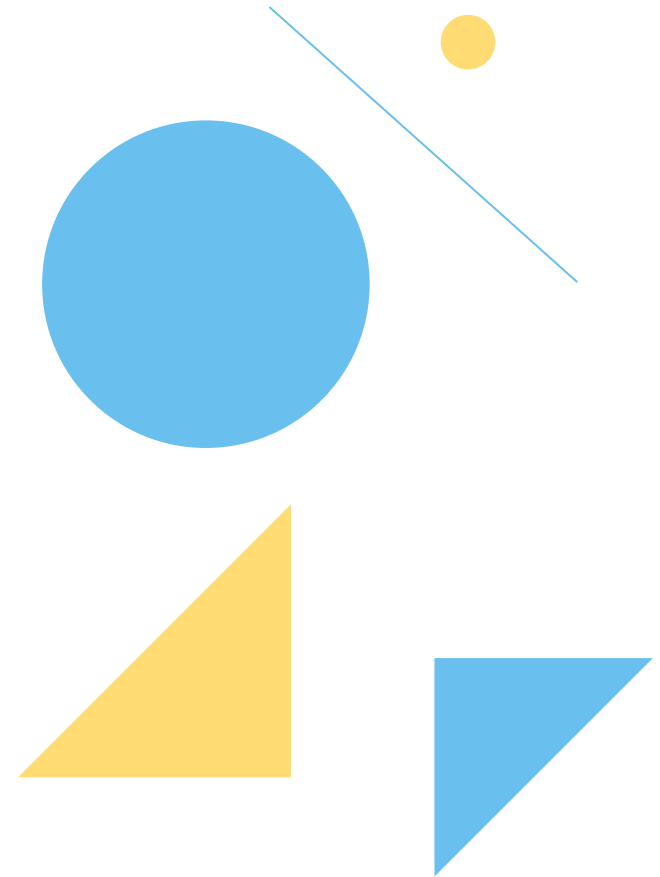


JICA Primary Mathematics Teacher Manual

B5



Ghana Education
Service (GES)



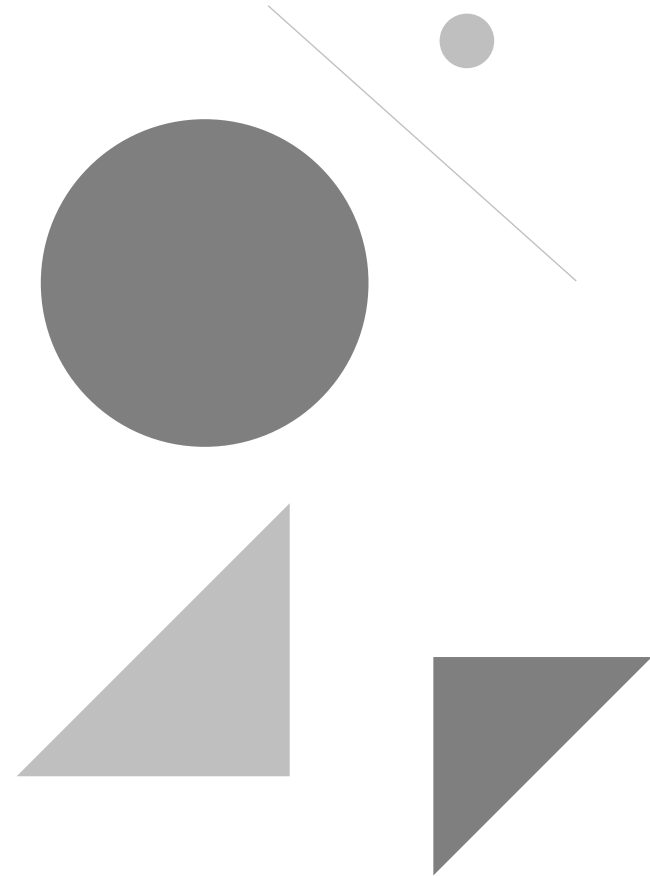
JICA

B5

Primary

Mathematics

Teacher Manual



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ANNUAL REVIEW

JICA Mathematics Teacher Manual

April 2025

About the teacher manual

This teacher manual was developed by the National STEM Resource Unit in GES, in collaboration with the Japan International Cooperation Agency (JICA) to improve mathematics achievement in primary education. This teacher manual was piloted for two years (from March 2023 to July 2024) for validation, and the schools that used this manual improved their academic achievement.

Purpose of the teacher manual.

Two major challenges were identified through various reports and school visits before the development of this teacher manual.

1. Learner achievement in mathematics is low, and learners do not have enough time to work on exercises.
2. Learners are weaker in reading and writing compared to listening and speaking.

To address these challenges, the teacher manual was designed to give learners the following:

1. high-quality exercises with examples;
2. enough time to work on exercises; and
3. enough chance to read and write.

Design of teacher manual

There are two types of lessons in the teacher manuals.

1. Main lessons (learning new topics in the curriculum)
2. Review lessons (reviewing the previous four lessons)
*Lesson numbers are multiples of 5 for review lessons.

A week consists of four main lessons and one review lesson. There are 120 lessons in a year.

Download the teacher manual and training contents

You can download the pdf files of this teacher manual. There are training contents (videos) explaining the above contents on the National STEM Resource Unit website.

Download files or watch the training video from the QR code below.



Lesson structure of the teacher manual

The teacher manual is designed for one lesson per page.

1. Basic information about the lesson

- This section shows the lesson number, the corresponding curriculum page, the lesson objective, sample activities for the introduction, teaching tips, and teacher's notes.
- Teaching tips are general guidelines that apply to all lessons, while the teacher's notes are specific to each lesson.

2. Title and exercise (Part 1)

- The title is the lesson objective stated for learners.
- Tasks in Part 1 are labeled as [1], [1A], or [1B]. Tasks with answers written in black are examples.
- The first sub-task should be used to evaluate learners' understanding. If more than half of the learners cannot solve it, please re-explain it to the whole class.
- Answers are shown in pink and should be written on the board after learners have attempted the task.
- Each lesson is divided into two sections by a dotted line. Exercise Part 1 ends at the dotted line.

3. Exercise (Part 2)

- Tasks in Part 2 are labeled as [2], [2A], or [2B].
- [R] indicates a review task from the previous lesson. Skip this part if you don't have time.

4. Mental Maths

- This section provides practice in mental calculations. Learners are expected to memorise the addition facts up to 20 and their corresponding subtraction facts, as well as the multiplication tables up to 9×9 .

5. Homework

- If you wish to assign homework, you may use the tasks provided in this section.

1. Basic Information

Lesson	9 /120	Curriculum	5.1.1.1.5 (p.58) e.g.1,2
Teaching Tips	Have learners distribute exercise books before the lesson starts.		
Objective	Understand the difference between round up, round down and round off.		
Introduction (sample)	- Write the terms "round up", "round down" and "round off" as shown on the board. - Teach the terms using the table below.		
	40,136	Round up	Round down
	to the nearest ten	40,140	40,130
	to the nearest hundred	40,100	40,200

but it is acceptable

2. Title and Exercises (Part 1)

L9: Round up, down and off

Round up... 0-9 → 10

Round down... 0-9 → 0

Round off... 0,1,2,3,4 → 0
5,6,7,8,9 → 10

[1A] Fill in the blanks.

47,825	Round up	Round down	Round off
to the nearest ten	47,830	47,820	47,830
to the nearest hundred	47,900	47,800	47,800

[1B] Round off:

a) 234,649 to the nearest hundred. 234,600

b) 236,500 to the nearest thousand. 237,000

.....

[2] a) Round up 126,531 to the nearest ten. 126,540

b) Round down 35,781 to the nearest hundred. 35,700

c) Round off 14,650 to be multiples of 100s. 14,700

d) Round down 132,328 to be a multiple of 10s. 132,320

4. Mental Maths

<Mental Maths>

a) $60 + 70 = 130$ b) $90 + 70 = 160$ c) $120 - 90 = 30$

d) $130 - 60 = 70$ e) $130 - 90 = 40$

<Homework>

a) Round up 13,632 to the nearest ten. 13,640

b) Round down 34,795 to the nearest hundred. 34,700

c) Round off 253,499 to the nearest thousand. 253,000

5. Homework

e) Round up 132,401 to be a multiple of 100s. 132,500

f) Round off 236,499 to be a multiple of 1000s. 236,000

[R] Order from big to small numbers.

a) 86,280 86,300 87,090 87,020

87,090 87,020 86,300 86,280

b) 21,394 21,349 21,439 21,493

3. Exercise (Part 2)

How to conduct the main lesson

	Procedure	Teacher manual
Introduction (15 min.)	- Explain today's topic. - The introduction is a sample activity related to today's lesson objective. - See this part if it is written "as shown on the board". Let learners copy it within the introduction time. *Do not exceed 15 minutes to maximise the time for exercise. *You can do group work if necessary.	
Exercise Part 1 (15 min. + 5 min.)	<Exercise (15 min.)> This is a speech bubble. Writes all the black parts except speech bubbles before the dotted line. - Have learners copy all the content into their exercise books and work on them independently. Look around to support learners. <Peer marking (5 min.)> Write the pink parts (answers). - Have learners swap their exercise books and conduct peer marking.	
Exercise Part 2 (15 min. + 5 min.)	- Do it in the same way as Part 1 for the rest of the exercises. - The task shown in [R] is a revision task from the previous day. - Some questions are written as "Answer as [1]" to save time. This means the question is the same as [1]. *Skip [R] if you don't have enough time.	
Mental Maths (5 min.)	- Give mental maths tasks verbally (don't write them). - Let learners write the tasks and answers in their exercise books. - Write the tasks and answers on the board. - Let learners conduct peer marking. - Let learners stand up and practice where they made mistakes. Let learners repeat them 5 times verbally if you have time.	

Lesson flow

The diagram shows the lesson flow.

In the introduction, the teacher provides the most support. As the lesson progresses to Exercise Part 1 and Part 2, learners are expected to work more independently. Exercise Part 1 has fewer tasks than Part 2, allowing more time for explanation.



How to conduct the review lesson

	Procedure	Teacher manual
Test (30 min.)	- Write all the black parts. - Have learners copy all the contents into their exercise books and work on them independently for 30 minutes.	Teacher manual page 1 contains tasks 1 through 5. Task 1 is highlighted with a large black box. The tasks are: - Find the multiples of: a) 4 up to 40. b) 5 up to 40. c) 6 up to 40. - Find the LCM of: a) 4 and 5. b) 4 and 6. - Find the factors of: a) 12. b) 18. c) 32. - Find the HCF of: a) 12 and 18. b) 12, 18 and 32. - Use factor trees to prime factorise: a) 27. b) 28. c) 60. d) 84.
Correction (25 min.)	- Write the pink parts. - Let learners conduct peer marking. - Give feedback for some of the tasks and let them do the correction. - Group work is encouraged.	Teacher manual page 2 contains tasks 1 through 5. Task 2 is highlighted with a large black box. The tasks are the same as on page 1.
Mental Maths (5 min.)	Do it in the same way as the main lesson.	Teacher manual page 3 contains tasks 1 through 5. Task 3 is highlighted with a large black box. The tasks are the same as on pages 1 and 2.

FAQ

Time Management and Lesson Coverage

Q. What if learners cannot finish the exercises within the expected time?

A. Please follow the suggested time limits. The exercises are designed for different levels. For example, if there are six questions:

1. fast learners may finish all;
2. average learners may finish three or four;
3. slow learners may finish one or two.

The lesson design already considers this variation.

Q. How should I handle lessons that take longer than the suggested time but are crucial for understanding?

A. If you are ahead of the scheme of work, repeat the lesson that learners could not solve after a while. If you are behind it, conduct remedial lessons.

Q. How should I support learners who are always unable to finish?

A. Encourage them to complete at least one or two tasks. Provide remedial lessons if possible.

Q. What should I do after completing the teacher manual?

A. Review lessons that learners found difficult. The manual covers all topics in 120 hours, fewer than the total lessons available, so you can use extra time for revision.

Q. What if I cannot finish the introduction within 15 minutes?

A. Prepare carefully to avoid this. Over-explaining is not effective. Instead, let learners attempt Exercise 1 first, then explain it so they discover the key points themselves.

Q. How should I handle lessons that take longer than planned but are important for understanding?

A. If you are ahead of schedule, repeat the lesson later. If you are behind, provide remedial lessons.

Lesson Implementation

Q. What is the role of the teacher?

A. Please keep in mind these three points:

1. Write content clearly and correctly on the board.
2. Allow enough time for learners to do exercises instead of over-explaining.
3. Give feedback to support learners.

Q. Can I change or select the tasks if an exercise seems too easy or too difficult?

A. No. Please complete all exercises as they are (unless there is a mistake). If tasks are too easy, add some extra ones. If they are too difficult, provide hints to support learners.

Q. Which part of the board should learners copy?

A. Learners should copy everything written on the board. This also helps them practise writing sentences.

Q. When should learners copy the content of the introduction, which is shown as “as shown on the board”?

A. Learners should copy it during the introduction time, before you explain. It will be used in some of the exercises.

Q. What should I do after writing the black parts?

A. Check learners' answers to the first sub-task. This task works as a quick evaluation of the lesson. If more than half of the learners cannot solve it, re-explain the concept using that sub-task.

Q. Why are some answers written in black?

A. They serve as hints or examples to help learners solve other tasks. Please write the pink parts only after 15 minutes.

Q. Should I write the lesson objective?

A. No. The lesson objective is for teachers and contains difficult terms that learners do not need to know. It also takes time to write. The lesson title works as the objective for learners.

Q. What should I do if I want to do pair or group work?

A. Pair or group work can be done during the introduction. The introduction is a sample activity that you may adjust as needed. Peer marking is also a form of pair work, as learners can discuss solutions. In review lessons, group work is encouraged to support understanding.

Q. Why do there seem to be so many tasks?

A. This teacher manual includes many tasks to keep all learners engaged and ensure inclusivity. All exercises should be presented. Fast learners can complete all of them, while slower learners are not required to finish every task. Please guide learners according to their level.

Q. How should I organise the board?

Ideally, the final board work should match the teacher manual. This makes it clear, even to someone who did not attend the lesson, what the learners have studied. However, if there is not enough space, erase the left half during Exercise Part 2.

Mental Maths Instructions

Q. Why should I not write mental maths questions at first?

A. Mental maths is designed to help learners understand number sentences by listening.

Q. Why do learners have to stand up during correction time?

A. Standing makes it easy for the teacher to see who is practising. Learners who make no mistakes do not have to stand.

Q. How can I ensure that learners are effectively memorising answers during correction time?

A. Erase the answers from the board (but keep the tasks). Learners should read the tasks, not just copy answers from their exercise books. Say the correct answer aloud and have learners repeat it five times.

Scheme of Work

It is recommended to **write the date of the lesson in the teacher manual**. If you skip the review lesson, please write "skipped". This will help you teach next year or to show the progress to the headteacher or SISO.

Lesson	1 /120	Curriculum	B5.1.1.1.1 (p.55) e.g.1,2
Teaching Tips	Divide the board into two parts and copy the teacher manual as it is. Once learners have copied it, erase the left part to write the right part of the teacher manual.		
Objective	Be able to model the numbers by multi-base diagrams.		
Introduction (sample)	- Draw multi-base diagram as shown on the board. - Show numbers (e.g. 24,000 321,000) using a multi-base material and explain the relationship between the multi-base material and the diagrams. - Show collections of objects and let learners estimate the number.		
Teacher's Note	- Simplify multi-base materials when drawing them because drawing flat with 10×10 grid takes time. - Make a multi-base material with a manila paper if you don't have blocks. - Let learners read the comma (e.g. 35,000) as thousand (1000 separator).		

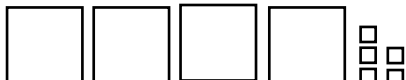
<Mental Maths>

- a) $100 - 70 = 30$ b) $90 + 20 = 110$ c) $70 + 40 = 110$
d) $110 - 20 = 90$ e) $110 - 50 = 60$

<Homework>

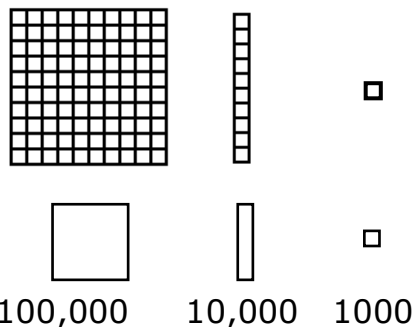
Answer as [2B].

a)  38,000

b)  405,000

To reduce time, allow learners to draw multi-base diagrams without a ruler.

L1: Model numbers up to 1,000,000



[1] Model the numbers.

a) 32,000



b) 54,000



c) 235,000



d) 203,000

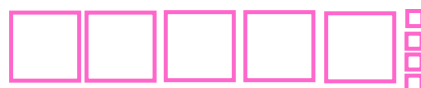


[2A] Answer as [1].

a) 46,000

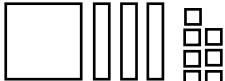


b) 504,000



[2B] Write the numbers represented.

a)  23,000

b)  137,000

c)  305,000

[R] Model the numbers.

a) 42,000 

b) 324,000 

Lesson	2 /120	Curriculum	B5.1.1.1.1 (p.55) e.g.3
Teaching Tips	Encourage learners to write in their exercise books. The more they write, the better their writing skills will become.		
Objective	Be able to model the numbers by money up to ₦100,000.		
Introduction (sample)	- Show learners teacher-made ₦10 and ₦100 notes and ask how many notes are needed to make e.g. ₦130, ₦1030. - Ask how many notes are needed to make ₦670, ₦4,500, ₦23,050. Write the amount as shown on the board.		
Teacher's Note	Utilise the experience of money. It will help learners grasp the idea of base-ten number system.		

<Mental Maths>

- a) $100 - 80 = 20$ b) $80 + 30 = 110$ c) $80 + 40 = 120$
d) $110 - 30 = 80$ e) $110 - 60 = 50$

<Homework>

How many:

- a) tens make 10,000? **1,000**
b) thousands make 100,000? **100**
c) tens make 1,000,000? **100,000**

*This dotted line separates exercise part 1 and 2.
Write all the black parts up to this line in exercise part 1.*

L2: Model numbers with money

$$₦670 = 6 \times ₦100 + 7 \times ₦10$$

$$₦4,500 = 45 \times ₦100$$

$$₦23,050 = 230 \times ₦100 + 5 \times ₦10.$$

[1A] How much is it?

- a) $26 \times ₦100$ **₦2,600**
b) $345 \times ₦100 + 9 \times ₦10$ **₦34,590**

[1B] Model the amount
by ₦10 or ₦100.

- a) ₦24,000 **$240 \times ₦100$**
b) ₦42,560 **$425 \times ₦100 + 6 \times ₦10$**
c) ₦600,000 **$6,000 \times ₦100$**

[2A] Answer as [1B].

- a) ₦87,250 **$872 \times ₦100 + 5 \times ₦10$**
b) ₦100,000 **$1,000 \times ₦100$**

[2B] How many:

- a) thousands make 100,000? **100**
b) hundreds make 100,000? **1,000**
c) thousands make 1,000,000? **1,000**
d) hundreds make 1,000,000? **10,000**

Focus on the number of zeros.

[R] Model the numbers
when a cube is 1000.

a) 35,000



b) 248,000



c) 402,000



Lesson	3 /120	Curriculum	B5.1.1.1.2 (p.56) e.g.1,3
Teaching Tips	Have learners read the sentences, pointing to each word with your finger. Support learners if they have difficulty reading any of the words.		
Objective	Understand the meaning of place value using a place value table.		
Introduction (sample)	- Draw a place value chart as shown on the board. Then, ask: In 1,234,567, what is the place value of: a) 4? b) 3? c) 2? d) 1? - Write the meaning of place value as shown on the board. - In 1,234,567, which digit is in the: a) thousands place? 4 b) ten thousands place? 3 c) hundred thousands place? 2 d) millions place? 1		
Teacher's Note	Try place value number wheel.		

*"as shown on the board" in the introduction part is written here.
Let learners copy it during introduction time.*

L3: Show numbers in place value table

million				thousand		
O	H	T	O	H	T	O
1	2	3	4	5	6	7

4 means 4,000
3 means 30,000
2 means 200,000
1 means 1,000,000

[1A] In 3,428,750,
what is the place value of:
a) 2? **20,000** b) 4? **400,000**
c) 3? **3,000,000**

[1B] In 2,739,468,
which digit is in the:
a) hundreds place? **4**
b) ten thousands place? **3**
c) hundred thousands place? **7**
.....

[2A] In 2,358,641,
what is the place value of:
a) 5? **50,000** b) 2? **2,000,000**
which digit is in the:
c) thousands place? **8**
d) hundred thousands place? **3**

Check the difference in [1A] and [1B].

<Mental Maths>

a) $100 - 90 = 10$ b) $90 + 30 = 120$ c) $90 + 40 = 130$
d) $110 - 40 = 70$ e) $110 - 70 = 40$

<Homework>

In 7,365,942, what is the place value of:
a) 6? **60,000** b) 3? **300,000**
which digit is in the:
c) tens place? **4**
d) millions place? **7**

[2B] How many:
a) thousands make 100,000? **100**
b) tens make 100,000? **10,000**
c) thousands make 1,000,000? **1,000**

[R] How much is it?
a) $32 \times \text{¢}100 + 6 \times \text{¢}10$ **¢3,260**
b) $530 \times \text{¢}100 + 7 \times \text{¢}10$ **¢53,070**
c) $1,000 \times \text{¢}100$ **¢100,000**

Lesson	5 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L1, [2]: L2, [3]: L3, [4]: L4, [5]: L4.		

<Mental Maths>

a) $70 + 50 = 120$ b) $50 + 60 = 110$ c) $80 + 60 = 140$
d) $110 - 90 = 20$ e) $120 - 50 = 70$

<Homework>

*No homework.

L5: Review

[1] Model the numbers
when a cube is 1000.

a) 27,000



b) 403,000



[2] Model the amount by ₦10 or ₦100.

a) ₦80,000

$800 \times \text{₦}100$

b) ₦65,030

$650 \times \text{₦}100 + 3 \times \text{₦}10$

[3] In 6,427,813,
what is the place value of:

a) 2? **20,000** b) 6? **6,000,000**

which digit is in the:

c) thousands place? **7**

d) hundred thousands place? **4**

[4] Write the words in a number.

a) Thirty-five thousand two hundred

35,200

b) Four million and eight hundred

4,000,800

[5] Write the numbers in words.

a) 54,200

Fifty-four thousand, two hundred

b) 429,000

Four hundred and twenty-nine thousand

Lesson	6 /120	Curriculum	B5.1.1.1.2 (p.56) e.g.2; B5.1.1.1.3. (p.57) e.g.1
Teaching Tips	When a learner presents, repeat exactly what they said. Do not summarise or rephrase.		
Objective	Be able to expand numbers up to 10 million.		
Introduction (sample)	Show how to expand numbers as shown on the board.		
Teacher's Note	It is important to understand the relationship between the position of numbers and which place value changes. E.g. Moving one up decreases 100,000 in the table in [2B].		

<Mental Maths>

a) $80 + 50 = 130$ b) $60 + 60 = 120$ c) $90 + 60 = 150$
d) $120 - 30 = 90$ e) $120 - 60 = 60$

<Homework>

Answer using the table in [2B].

a) above 215,000? **115,000**
b) below 315,000? **415,000**
c) to the left of 320,000? **315,000**

L6: Expand numbers up to 10 million

$$1,230 = 1,000 + 100 \times 2 + 10 \times 3$$

$$2,004,050$$

$$= 1,000,000 \times 2 + 1,000 \times 4 + 10 \times 5$$

[1] Expand the numbers.

a) $74,000 = 10,000 \times 7 + 1,000 \times 4$
b) $601,400$
 $= 100,000 \times 6 + 1,000 \times 1 + 100 \times 4$
c) $1,020,050$
 $= 1,000,000 + 10,000 \times 2 + 10 \times 5$
d) $3,067,000$
 $= 1,000,000 \times 3 + 10,000 \times 6 + 1,000 \times 7$

.....

[2A] Answer as [1].

a) $54,030 = 10,000 \times 5 + 4,000 \times 4 + 10 \times 3$
b) $6,000,090 = 1,000,000 \times 6 + 10 \times 9$

[2B] Answer the questions.

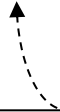
110,000	115,000	120,000
210,000	215,000	220,000
310,000	315,000	320,000
410,000	415,000	420,000

What number is:

a) above 315,000? **215,000**
b) below 320,000? **420,000**
c) to the right of 110,000? **115,000**

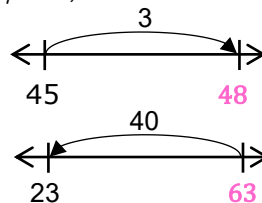
[R] Fill in the blanks.

a) 30,000 40,000 50,000 **60,000**
b) 90,000 **100,000** 110,000 120,000
c) 500,000 600,000 **700,000** 800,000



Give [R] if you have time; skip it if not.

Lesson	7 /120	Curriculum	B5.1.1.1.4 (p.57) e.g.1
Teaching Tips	While you are writing on the board, let learners copy it in their exercise books.		
Objective	Understand relative size of numbers by finding the start or end values.		
Introduction (sample)	- Draw ₦215 (two ₦100, one ₦10 and one ₦5 notes). Confirm that if you add ₦20, it does not affect ones and hundreds places. If you add ₦300, it does not affect tens and ones places. - Draw a number line to fill in the blank. a) <u>48,000</u> is 3,000 more than 45,000. b) 23,000 is 40,000 less than <u>63,000</u>. *Omit the last 3 digits when drawing a number line.		
Teacher's Note	- Relative size means comparing a number to another one and find the difference. - Draw number lines so that they can see the relationship visually. A right arrow shows "more" and a left arrow shows "less".		



<Mental Maths>

- a) $40 + 70 = 110$ b) $70 + 70 = 140$ c) $120 - 70 = 50$
d) $130 - 40 = 90$ e) $130 - 70 = 60$

<Homework>

Answer as [1].

- a) 27,000 is 3,000 more than 24,000.
b) 37,000 is 50,000 less than 87,000.
c) 65,000 is 40,000 more than 25,000.
d) 42,000 is 5,000 less than 47,000.

L7: Find relative size of numbers (1)

[1] Fill in the blanks.

- a) 57,000 is 3,000 more than 54,000.
- b) 32,000 is 4,000 less than 36,000.
- c) 84,000 is 50,000 more than 34,000.
- d) 28,000 is 20,000 less than 48,000.

Let learners hide the last 3 digits.

[2] Answer as [1].

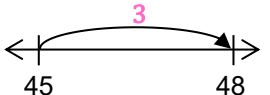
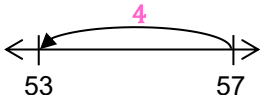
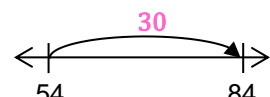
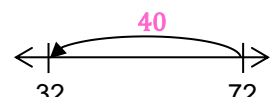
- a) 46,000 is 4,000 more than 42,000.
- b) 71,000 is 5,000 less than 76,000.
- c) 81,000 is 30,000 more than 51,000.
- d) 36,000 is 50,000 less than 86,000.

- e) 54,000 is 30,000 more than 24,000.

- f) 32,000 is 40,000 less than 72,000.

[R] Expand the numbers.

- a) $53,000 = 10,000 \times 5 + 1,000 \times 3$
b) $300,070 = 100,000 \times 3 + 10 \times 7$
c) $1,010,010 = 1,000,000 \times 1 + 10,000 \times 1 + 10 \times 1$

Lesson	8 /120	Curriculum	B5.1.1.1.4 (p.57) e.g.1
Teaching Tips	Have learners repeat what you said to check their understanding.		
Objective	Understand relative size of numbers by finding the differences.		
Introduction (sample)	Fill in the blanks. Draw a number line to show the answers. a) 48,000 is <u>3,000</u> more than 45,000. b) 53,000 is <u>4,000</u> less than 57,000.   c) 84,000 is <u>30,000</u> more than 54,000. d) 32,000 is <u>40,000</u> less than 72,000.  		
Teacher's Note	Draw number lines so that they can see the relationship visually. The bigger number comes right on the number line.		

<Mental Maths>

- a) $50 + 70 = 120$ b) $80 + 70 = 150$ c) $120 - 80 = 40$
d) $130 - 50 = 80$ e) $130 - 80 = 50$

<Homework>

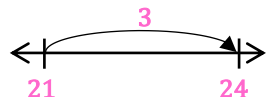
Answer as [1].

- a) 36,000 is 4,000 more than 32,000.
b) 52,000 is 6,000 less than 58,000.
c) 56,000 is 20,000 more than 36,000.
d) 49,000 is 30,000 less than 79,000.

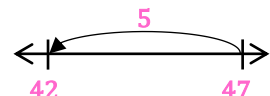
L8: Find relative size of numbers (2)

[1] Fill in the blanks.

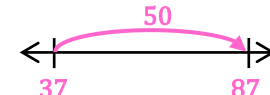
a) 24,000 is 3,000 more than 21,000.



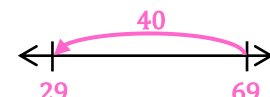
b) 42,000 is 5,000 less than 47,000.



c) 87,000 is 50,000 more than 37,000.



d) 29,000 is 40,000 less than 69,000.

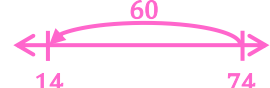


[2] Answer as [1].

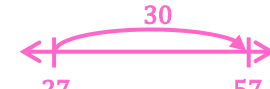
a) 47,000 is 5,000 more than 42,000.



b) 14,000 is 60,000 less than 74,000.



c) 57,000 is 30,000 more than 27,000.

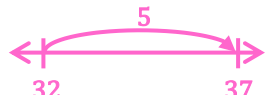


d) 43,000 is 5,000 less than 48,000.

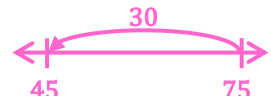


c) to f) are from yesterday's contents.

e) 37,000 is 5,000 more than 32,000.



f) 45,000 is 30,000 less than 75,000.



[R] Answer as [1].

- a) 38,000 is 4,000 more than 34,000.
b) 73,000 is 6,000 less than 79,000.
c) 54,000 is 30,000 more than 24,000.
d) 25,000 is 40,000 less than 65,000.

Lesson	10 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L6, [2]: L7 & L8, [3]: L9.		

<Mental Maths>

a) $30 + 80 = 110$ b) $60 + 80 = 140$ c) $90 + 80 = 170$
d) $140 - 50 = 90$ e) $140 - 80 = 60$

<Homework>

*No homework.

L10: Review

[1] Expand the numbers.

a) 603,790

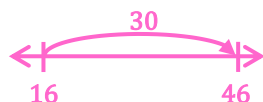
$$= 10,000 \times 6 + 1,000 \times 3 + 100 \times 7 + 10 \times 9$$

b) 4,090,300

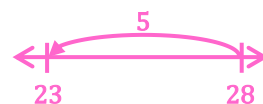
$$= 1,000,000 \times 4 + 10,000 \times 9 + 100 \times 3$$

[2] Fill in the blanks.

a) 46,000 is 30,000 more than 16,000.



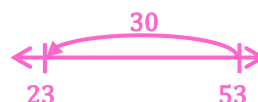
b) 23,000 is 5,000 less than 28,000.



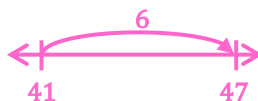
c) 37,000 is 7,000 more than 30,000.



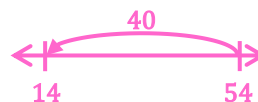
d) 23,000 is 30,000 less than 53,000.



e) 47,000 is 6,000 more than 41,000.



f) 14,000 is 40,000 less than 54,000.



[3] Order from big to small numbers.

a) 29,861 39,761 48,716 28,984

48,716 39,761 29,861 28,984

b) 900,010 209,100 209,099 900,009

900,010 900,009 209,100 209,099

Lesson	12 /120	Curriculum	B5.1.1.1.5 (p.58) e.g.2
Teaching Tips	Organise the board so that others can understand the lesson content just by looking at it.		
Objective	Be able to solve addition and subtraction by estimation.		
Introduction (sample)	Show how to solve addition and subtraction by estimation. Round off so that only the first digit remains. a) $432 + 561 \rightarrow 400 + 600 = 1,000$ b) $687 - 318 \rightarrow 700 - 300 = 400$ c) $6,724 + 4,932 \rightarrow 7,000 + 5,000 = 12,000$ d) $7,824 - 2,932 \rightarrow 8,000 - 3,000 = 5,000$.		
Teacher's Note	- Let learners point out which number to round off (the second digit in this lesson). - Calculation by estimation is useful in daily life.		

Let learners calculate mentally.

L12: Estimate sums and differences

[1] Estimate the answer by rounding off.

a) $520 + 280$ b) $624 - 371$

$500 + 300 = 800$ $600 - 400 = 200$

c) $3,620 + 5,310$

$4,000 + 5,000 = 9,000$

d) $8,170 - 1,914$

$8,000 - 2,000 = 6,000$

e) $41,280 + 27,620$

$40,000 + 30,000 = 70,000$

[2A] Answer as [1].

a) $3,742 + 4,983$

$4,000 + 5,000 = 9,000$

b) $4,132 - 1,990$

$4,000 - 2,000 = 2,000$

c) $25,920 + 52,390$

$30,000 + 50,000 = 80,000$

d) $38,289 - 14,423$

$40,000 - 10,000 = 30,000$

<Mental Maths>

a) $50 + 80 = 130$ b) $80 + 80 = 160$ c) $30 + 90 = 120$

d) $140 - 70 = 70$ e) $150 - 60 = 90$

<Homework>

Answer as [2B].

a) $236 + 576$

$200 + 600 = 800$

b) $865 - 258$

$900 - 300 = 600$

$$\begin{array}{r} 1 \quad 1 \\ 2 \quad 3 \quad 6 \\ + 5 \quad 7 \quad 6 \\ \hline 8 \quad 1 \quad 2 \end{array}$$

$$\begin{array}{r} 5 \quad 15 \\ 8 \quad 6 \quad 5 \\ - 2 \quad 5 \quad 8 \\ \hline 6 \quad 0 \quad 7 \end{array}$$

[2B] Estimate the answer by rounding off, then find the correct answer.

$475 - 159$

$500 - 200 = 300$

$$\begin{array}{r} 6 \quad 15 \\ 4 \quad 7 \quad 5 \\ - 1 \quad 5 \quad 9 \\ \hline 3 \quad 1 \quad 6 \end{array}$$

[R] a) Round up 128,641 to

be a multiple of 10s. $128,650$

b) Round down 135,289 to

be a multiple of 100s. $135,200$

c) Round off 341,611 to

be a multiple of 1000s. $342,000$

Lesson	13 /120	Curriculum	B5.1.1.2.1 (p.59) e.g.1,2 ; B5.1.1.2.2. (p.59) e.g.1, 2
Teaching Tips	If more than half of the learners cannot solve the first task, explain how to solve it using it.		
Objective	Be able to convert Hindu Arabic and Roman numerals up to 100 and vice versa.		
Introduction (sample)	- Let learners write Roman numerals as shown on the board. - Explain the rule below. - I = 1, V = 5, X = 10, L = 50, C = 100 - IV means 1 before V (five) which is 4, VI means 1 after V which is 6. - IX means 1 before X (ten) which is 9, XI means 1 after X which is 11. - XL means 10 before L (fifty) which is 40, LX means 10 after L which is 60. - XC means 10 before C (hundred) which is 90.		
Teacher's Note	- Learners need to remember the meaning of I=1, V=5, X=10, L=50, C=100. All the other numbers are shown in the combination of the five numbers. - Divide the Roman numerals to tens and ones.		

<Mental Maths>

- a) $40 + 90 = 130$ b) $70 + 90 = 160$ c) $150 - 70 = 80$
d) $160 - 70 = 90$ e) $170 - 80 = 90$

<Homework>

[1] Write in numbers.

- a) XVI = **16** b) XLIX = **49**
c) LXXVII = **77** d) XCI = **91**

[2] Write in Roman numerals.

- a) 19 = **XIX** b) 38 = **XXXVIII**
c) 46 = **XLVI** d) 74 = **LXXIV**

L13: Understand Roman numerals

I = 1, II = 2, III = 3, IV = 4, V = 5,
VI = 6, VII = 7, VIII = 8, IX = 9,
X = 10, XL = 40, L = 50, LX = 60,
XC = 90, C = 100

[1] Write in numbers.

- a) XIV = **14** b) XV = **15**
c) XX = **20** d) XXVI = **26**
e) XLII = **42** f) LIX = **59**
g) LXX = **70** h) XCV = **95**

.....

[2A] Answer as [1].

- a) XXXVI = **36** b) XLIV = **44**
c) LXIII = **63** d) XCIX = **99**

[2B] Write in Roman numerals.

- a) 13 = **XIII** b) 34 = **XXXIV**
c) 48 = **XLVIII** d) 51 = **LI**
e) 72 = **LXXII** f) 94 = **XCIV**

[R] Estimate the answer by rounding off.

- a) $4,132 + 5,923$ **$4,000 + 6,000 = 10,000$**
b) $25,120 + 71,410$
 $30,000 + 70,000 = 100,000$
c) $9,362 - 2,199$ **$10,000 - 2,000 = 8,000$**
d) $56,889 - 12,357$
 $60,000 - 10,000 = 50,000$

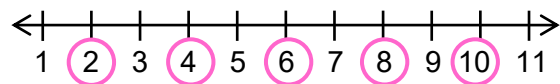
Lesson	14 /120	Curriculum	B5.1.1.3.2 (p.61) e.g. 2; B5.1.1.3.3. (p.62) e.g. 1, 2
Teaching Tips	Have learners copy everything from the board into their exercise books.		
Objective	Understand the even, odd and prime numbers.		
Introduction (sample)	- Introduce even numbers as multiples of 2s and odd numbers as those which are not even numbers. - Introduce prime numbers as the numbers which are not multiples of any numbers except 1 and themselves. - Let learners draw a 50 chart and explain how to identify prime numbers.		
Teacher's Note	The method to identify prime numbers are called the "Sieve of Eratosthenes". Learners are NOT expected to memorise the name.		

<Mental Maths>

- a) $50 + 90 = 140$ b) $80 + 90 = 170$ c) $150 - 80 = 70$
d) $160 - 80 = 80$ e) $170 - 90 = 80$

<Homework>

Circle even numbers on the number line below.



Take prime numbers from [1].

L14: Even, odd prime numbers

Even numbers...Multiples of 2s.

Odd numbers...Non-even numbers.

[1] Starting from 2, cross out all multiples (except the number itself).

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

The numbers which are not crossed out are prime numbers.

[2A] Write down all the prime numbers up to 50.

2, 3, 5, 7, 11, 13, 17, 19, 23, 29,
31, 37, 41, 43, 47

[2B] Answer yes or no.

- a) Is 14 an even number? **Yes**
b) Is 24 an odd number? **No**
c) Is 14 a prime number? **No**
d) Is 37 a prime number? **Yes**
e) Is 100 prime number? **No**

[R] Write in Roman numerals.

- a) 42 = **XLII** b) 56 = **LVI**
c) 79 = **LXXIX** d) 100 = **C**

Even numbers except 2 are not prime numbers.

Lesson	15 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L11, [2]: L12, [3]: L13, [4]: L13, [5]: L14.		

<Mental Maths>

a) $60 + 90 = 150$ b) $90 + 90 = 180$ c) $150 - 90 = 60$
d) $160 - 90 = 70$ e) $180 - 90 = 90$

<Homework>

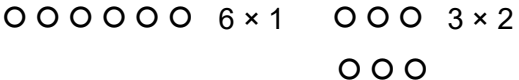
*No homework.

L15: Review

- [1]
- a) Round up 134,583 to the nearest ten. **134,590**
- b) Round down 252,681 to the nearest hundred. **252,600**
- c) Round off 148,500 to the nearest thousand. **149,000**
- [2] Estimate the answer by rounding off.
- a) $5,720 + 6,210$
 $6,000 + 6,000 = 12,000$
- b) $9,290 - 2,714$
 $9,000 - 3,000 = 6,000$
- c) $51,340 + 17,820$
 $50,000 + 20,000 = 70,000$
- d) $76,520 - 39,310$
 $80,000 - 40,000 = 40,000$
- [3] Write in numbers.
- a) XXVI = **26** b) XLV = **45**
- c) XCIX = **99**
- [4] Write in Roman numerals.
- a) $36 = \text{XXXVI}$ b) $54 = \text{LIV}$
- c) $100 = \text{C}$

[5] Answer yes or no.

- a) Is 45 an odd number? **Yes**
- b) Is 11 a prime number? **Yes**
- c) Is 100 a prime number? **No**

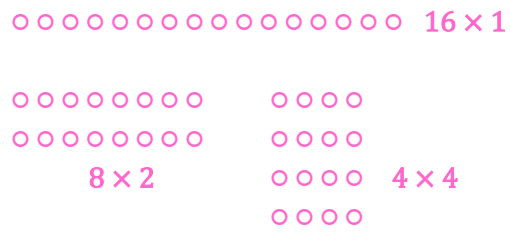
Lesson	17 /120	Curriculum	B5.1.1.3.1 (p.60) e.g.1,2; B5.1.1.3.2. (p.61) e.g.1
Teaching Tips	Encourage learners to write in their exercise books. The more they write, the better their writing skills will become.		
Objective	Understand factors using array diagrams.		
Introduction (sample)	- Show the different arrangements of arrays of 6 circles.  - Identify the factors of 6 from the diagram. {1, 2, 3, 6}		
Teacher's Note	Consider two arrangements are the same if they are identical when rotated by 90 degrees.		

<Mental Maths>

- a) $2 \times 3 = 6$ b) $2 \times 6 = 12$ c) $2 \times 9 = 18$
d) $3 \times 5 = 15$ e) $3 \times 8 = 24$

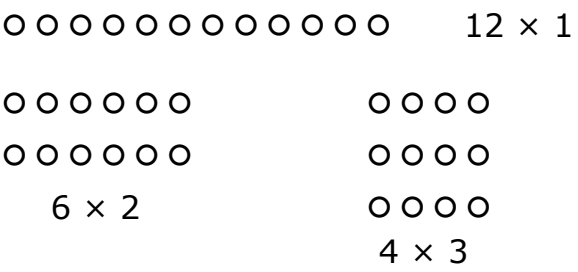
<Homework>

Draw all arrangements of arrays of 16 circles.



L17: Understand factors and arrays

[1] a) Draw all arrangements of arrays of 12 circles.



b) Find the factors of 12.

{1, 2, 3, 4, 6, 12}



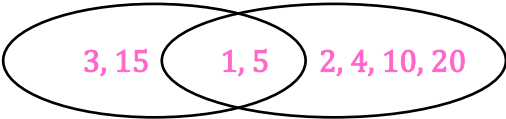
[2] Fill in the table below.

Numbers	Factors	Number of factors
5	1, 5	2
9	1, 3, 9	3
14	1, 2, 7, 14	4
16	1, 2, 4, 8, 16	5
20	1, 2, 4, 5, 10, 20	6

Confirm that by multiplying from both ends, all the answers become the original number.

[R] Find the multiples of:

- a) 4 up to 30.
{4, 8, 12, 16, 20, 24, 28}
b) 6 up to 30.
{6, 12, 18, 24, 30}
c) 8 up to 30.
{8, 16, 24}
d) Find the LCM of 4, 6, 8? **24**

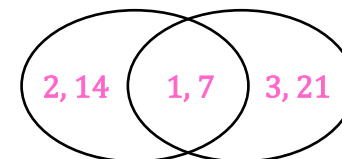
Lesson	18 /120	Curriculum	B5.1.1.3.4 (p.63) e.g.4
Teaching Tips	Have learners read the sentences, pointing to each word with your finger. Support learners if they have difficulty reading any of the words.		
Objective	Be able to find HCF.		
Introduction (sample)	Show how to find the HCF using a Venn diagram, e.g. 15 and 20. 		
Teacher's Note	- A Venn diagram is useful to find HCF. However, it may be difficult for some learners. In that case, learners can list the factors and circle the common factors. - This Venn diagram is from B4. Another type will be taught in the lesson 114.		

<Mental Maths>

- a) $2 \times 4 = 8$ b) $2 \times 7 = 14$ c) $3 \times 3 = 9$
d) $3 \times 6 = 18$ e) $3 \times 9 = 27$

<Homework>

Find the common factors of 14 and 21 using a Venn diagram.

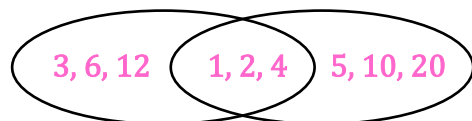


Let learners refer to the list of factors in [1B] in a) and b).

L18: Understand HCF

Highest Common Factor

[1A] Find the common factors of 12 and 20 using a Venn diagram.



[1B] Find the factors of:

- a) 8 {1, 2, 4, 8}
b) 12. {1, 2, 3, 4, 6, 12}
c) 16. {1, 2, 4, 8, 16}
d) 24. {1, 2, 3, 4, 6, 8, 12, 24}

.....
[2A] Find the HCF of:

- a) 8 and 12. 4
b) 12 and 16. 4
c) 16 and 24. 8

[2B] There are 21 white and 28 pink flowers. Ama shares them equally with some people.

How many each can she share?

White: 3, Pink: 4

[R] Fill in the table below

Numbers	Factors	Number of factors
6	1, 2, 3, 6	4
7	1, 7	2
15	1, 3, 5, 15	4
16	1, 2, 4, 8, 16	5
24	1, 2, 3, 4, 6, 8, 12, 24	8

Lesson	19 /120	Curriculum	B5.1.1.3.4 (p.63) e.g.4; B5.1.2.3.1 (p.69) e.g. 1, 2
Teaching Tips	Encourage learners to memorise as many words as possible (not just 1 or 2 letters) when copying from the board.		
Objective	Understand the meaning of divisible and factor trees.		
Introduction (sample)	- Write the rule of divisible (divisibility test) as shown on the board. - Show how to prime factorise $20=2\times 2\times 5$, $24=2\times 2\times 2\times 3$, $36=2\times 2\times 3\times 3$ by factor trees. $\begin{array}{c} 20 \\ \swarrow \quad \searrow \\ 2 \quad 10 \\ \quad \swarrow \quad \searrow \\ \quad 2 \quad 5 \end{array}$ $\begin{array}{c} 24 \\ \swarrow \quad \searrow \\ 4 \quad 6 \\ \swarrow \quad \searrow \quad \swarrow \quad \searrow \\ 2 \quad 2 \quad 2 \quad 3 \end{array}$ $\begin{array}{c} 36 \\ \swarrow \quad \searrow \\ 6 \quad 6 \\ \swarrow \quad \searrow \quad \swarrow \quad \searrow \\ 2 \quad 3 \quad 2 \quad 3 \end{array}$		
Teacher's Note	- Explain the term "divisible". "12 is divisible by 4" means "4 is a multiple of 12". - Numbers divisible by 2 is the same as even numbers.		

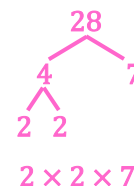
<Mental Maths>

- a) $4 \times 4 = 16$ b) $4 \times 7 = 28$ c) $5 \times 5 = 25$
d) $5 \times 8 = 40$ e) $6 \times 7 = 42$

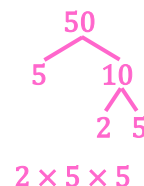
<Homework>

Answer as [1B].

a) 28.



b) 50.



Divisibility test was taught in B4, so this is a review.

L19: Understand divisible and a factor tree

A number is divisible by:

3 if the sum of all its digits is a multiple of 3.

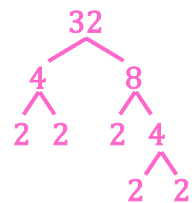
4 if its last two digits is divisible by 4.

5 if its ones place is 5 or 0.

[1A] Circle multiples of:

- a) 3 in 33, 58, 92, 103 or 108.
b) 4 in 10, 14, 24, 32 or 37.
c) 5 in 14, 43, 65, 106 or 110.

[1B] Use a factor tree to prime factorise 32.



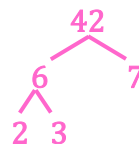
[2A] Circle numbers divisible by:

- a) 3 in 31, 57, 95, 105 or 112.
b) 4 in 14, 16, 26, 34 or 40.
c) 5 in 11, 45, 64, 90 or 111.

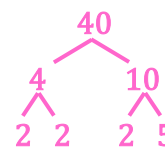
[2B] Answer as [1B].

a) 42.

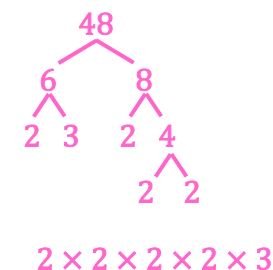
$2 \times 3 \times 7$



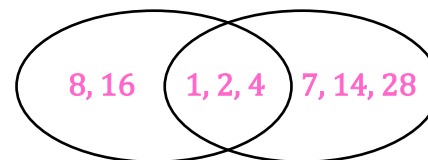
b) 40.



c) 48.



[R] Find the common factors of 16 and 28 using a Venn diagram.



Lesson	20 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L16, [2]: L16, [3]: L17, [4]: L18, [5]: L19.		

<Mental Maths>

- a) $4 \times 5 = 20$ b) $4 \times 8 = 32$ c) $5 \times 6 = 30$
d) $5 \times 9 = 45$ e) $6 \times 8 = 48$

<Homework>

*No homework.

L20: Review

[1] Find the multiples of:

a) 4 up to 40.

$\{4, 8, 12, 16, 20, 24, 28, 32, 36, 40\}$

b) 5 up to 40.

$\{5, 10, 15, 20, 25, 30, 35, 40\}$

c) 6 up to 40.

$\{6, 12, 18, 24, 30, 36\}$

[2] Find the LCM of:

a) 4 and 5. **20**

b) 4 and 6. **12**

[3] Find the factors of:

a) 12. $\{1, 2, 3, 4, 6, 12\}$

b) 18. $\{1, 2, 3, 6, 9, 18\}$

c) 32. $\{1, 2, 4, 8, 16, 32\}$

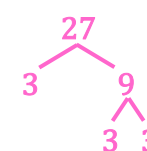
[4] Find the HCF of:

a) 12 and 18. **6**

b) 12, 18 and 32. **2**

[5] Use factor trees to prime factorise:

a) 27.



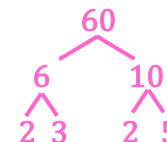
$$3 \times 3 \times 3$$

b) 28.



$$2 \times 2 \times 7$$

c) 60.



$$2 \times 2 \times 3 \times 5$$

Lesson	22 /120	Curriculum	B5.1.2.2.1 (p.67) e.g.1-3
Teaching Tips	While you are writing on the board, let learners copy it in their exercise books.		
Objective	Be able to solve (2-digit) × (1-digit) using the column method.		
Introduction (sample)	- Show how to solve 25×3 by drawing 3 sets of $\phi 25$ and column method. Explain that it multiplies ones place and tens place, respectively, as shown on the board. - Then, show how to solve 23×4 by column method as shown on the board (no need to draw a picture).		
Teacher's Note	- Column method is the most effective and general algorithm of multiplying numbers. From this lesson, learners learn it step by step. - There are three method to show the number carried to the next place. 1. Write an auxiliary number (small number) 2. Use fingers 3. Memorise Select the best method for your learners.		

<Mental Maths>

a) $7 \times 7 = 49$ b) $8 \times 8 = 64$ c) $4 \times 2 = 8$

d) $4 \times 3 = 12$ e) $8 \times 2 = 16$

<Homework>

Solve:

a) 23×3 b) 27×3 c) 36×2 d) 19×4

$$\begin{array}{r} 23 \\ \times 3 \\ \hline 69 \end{array} \quad \begin{array}{r} 27 \\ \times 3 \\ \hline 81 \end{array} \quad \begin{array}{r} 36 \\ \times 2 \\ \hline 72 \end{array} \quad \begin{array}{r} 19 \\ \times 4 \\ \hline 76 \end{array}$$

*"as shown on the board" in the introduction part is written here.
Let learners copy it during introduction time.*

L22: Solve (2-digit) × (1-digit) (1)

$$\begin{array}{r} 3 \times 20 = 60 \\ 3 \times 5 = 15 \\ \hline 75 \end{array} \quad \begin{array}{r} \text{T O} \\ 25 \\ \times 3 \\ \hline 75 \end{array} \quad \begin{array}{r} \text{T O} \\ 23 \\ \times 4 \\ \hline 92 \end{array}$$

[1] Solve:

$$\begin{array}{r} \text{a) } \begin{array}{r} \text{T O} \\ 21 \\ \times 3 \\ \hline 63 \end{array} \quad \text{b) } \begin{array}{r} \text{T O} \\ 32 \\ \times 3 \\ \hline 96 \end{array} \quad \text{c) } \begin{array}{r} \text{T O} \\ 24 \\ \times 2 \\ \hline 48 \end{array} \end{array}$$

$$\begin{array}{r} \text{d) } \begin{array}{r} \text{T O} \\ 17 \\ \times 5 \\ \hline 85 \end{array} \quad \text{e) } \begin{array}{r} \text{T O} \\ 23 \\ \times 4 \\ \hline 92 \end{array} \end{array}$$

.....

[2] Solve:

a) 33×3 b) 42×2 c) 20×3

$$\begin{array}{r} 33 \\ \times 3 \\ \hline 99 \end{array} \quad \begin{array}{r} 42 \\ \times 2 \\ \hline 84 \end{array} \quad \begin{array}{r} 20 \\ \times 3 \\ \hline 60 \end{array}$$

d) 28×3 e) 45×2 f) 12×8

$$\begin{array}{r} 28 \\ \times 3 \\ \hline 84 \end{array} \quad \begin{array}{r} 45 \\ \times 2 \\ \hline 90 \end{array} \quad \begin{array}{r} 12 \\ \times 8 \\ \hline 96 \end{array}$$

[R] Solve:

a) $5 \times 70 = 350$

b) $30 \times 300 = 9,000$

c) $400 \times 2000 = 800,000$

d) $600 \times 800 = 480,000$

Lesson	23 /120	Curriculum	B5.1.2.2.1 (p.67) e.g.1-3
Teaching Tips	Have learners repeat what you said to check their understanding.		
Objective	Be able to solve (2-digit) × (1-digit) using the column method.		
Introduction (sample)	Show how to solve multiplication problems using the column method as shown on the board. Do not draw the dotted line for place value in the last one.		
Teacher's Note	- This lesson involves solving three types of tasks. (i) (tens) × (ones) is 2-digit, but (ones) × (ones) is 1-digit. (ii) The products of both tens and ones places are 2-digit. The sum of products of tens and ones place does not include regrouping. (iii) The products of both tens and ones places are 2-digit. The sum of products of tens and ones place includes regrouping.		

<Mental Maths>

- a) $7 \times 8 = 56$ b) $8 \times 9 = 72$ c) $5 \times 2 = 10$
d) $7 \times 2 = 14$ e) $9 \times 2 = 18$

<Homework>

Solve:

- a) 42×3 b) 78×5 c) 68×8 d) 76×7

$$\begin{array}{r} 42 \\ \times 3 \\ \hline 126 \end{array} \quad \begin{array}{r} 78 \\ \times 5 \\ \hline 390 \end{array} \quad \begin{array}{r} 68 \\ \times 8 \\ \hline 544 \end{array} \quad \begin{array}{r} 76 \\ \times 7 \\ \hline 532 \end{array}$$

This dotted line separates exercise part 1 and 2.

Write all the black parts up to this line in exercise part 1.

L23: Solve (2-digit) × (1-digit) (2)

$$\begin{array}{r} \text{T} \quad \text{O} \\ 42 \\ \times 3 \\ \hline 126 \end{array} \quad \begin{array}{r} \text{T} \quad \text{O} \\ 65 \\ \times 3 \\ \hline 195 \end{array} \quad \begin{array}{r} 49 \\ \times 7 \\ \hline 343 \end{array}$$

[1] Solve:

$$\begin{array}{r} \text{T} \quad \text{O} \\ 64 \\ \times 2 \\ \hline 128 \end{array} \quad \begin{array}{r} \text{T} \quad \text{O} \\ 73 \\ \times 3 \\ \hline 219 \end{array} \quad \begin{array}{r} \text{T} \quad \text{O} \\ 54 \\ \times 3 \\ \hline 162 \end{array}$$

$$\begin{array}{r} \text{T} \quad \text{O} \\ 36 \\ \times 7 \\ \hline 252 \end{array} \quad \begin{array}{r} \text{T} \quad \text{O} \\ 38 \\ \times 9 \\ \hline 342 \end{array}$$

[2] Solve:

- a) 53×3 b) 90×2 c) 64×3

$$\begin{array}{r} 53 \\ \times 3 \\ \hline 159 \end{array} \quad \begin{array}{r} 90 \\ \times 2 \\ \hline 180 \end{array} \quad \begin{array}{r} 64 \\ \times 3 \\ \hline 192 \end{array}$$

- d) 37×8 e) 59×7 f) 38×9

$$\begin{array}{r} 37 \\ \times 8 \\ \hline 296 \end{array} \quad \begin{array}{r} 59 \\ \times 7 \\ \hline 413 \end{array} \quad \begin{array}{r} 38 \\ \times 9 \\ \hline 342 \end{array}$$

[R] Solve:

- a) 21×4 b) 35×2 c) 14×6

$$\begin{array}{r} 21 \\ \times 4 \\ \hline 84 \end{array} \quad \begin{array}{r} 35 \\ \times 2 \\ \hline 70 \end{array} \quad \begin{array}{r} 14 \\ \times 6 \\ \hline 84 \end{array}$$

Draw dotted line to show the place in exercise part 1.

Lesson	24 /120	Curriculum	B5.1.2.2.1 (p.67) e.g.1-3
Teaching Tips	Select some learners to distribute exercise books before the lesson begins.		
Objective	Be able to solve (3-digit)×(1-digit) using the column method.		
Introduction (sample)	Show how to solve multiplication problems using the column method as shown on the board. Do not draw the dotted line for place value in the last one.		
Teacher's Note	- This lesson involves solving three types of tasks. (i) The products of all places are 1-digit. (ii) (tens) × (ones) is 2-digit and the other places are 1-digit. The sum of products of does not include regrouping. (iii) Both (tens) × (ones) and (ones) × (ones) are 2-digit, and (hundreds) × (ones) is 1-digit. The sum of products of does not include regrouping.		

<Mental Maths>

a) $7 \times 9 = 63$ b) $9 \times 9 = 81$ c) $6 \times 2 = 12$

d) $5 \times 3 = 15$ e) $6 \times 3 = 18$

<Homework>

Solve:

a) 413×2 b) 181×5 c) 234×4 d) 259×3

$$\begin{array}{r} 413 \\ \times 2 \\ \hline 826 \end{array} \quad \begin{array}{r} 181 \\ \times 5 \\ \hline 905 \end{array} \quad \begin{array}{r} 234 \\ \times 4 \\ \hline 936 \end{array} \quad \begin{array}{r} 259 \\ \times 3 \\ \hline 777 \end{array}$$

L24: Solve (3-digit)×(1-digit) (1)

$$\begin{array}{r} \text{H} \text{ T} \text{ O} \\ 2 \ 5 \ 3 \\ \times 3 \\ \hline 7 \ 5 \ 9 \end{array} \quad \begin{array}{r} \text{H} \text{ T} \text{ O} \\ 3 \ 1 \ 2 \\ \times 3 \\ \hline 9 \ 3 \ 6 \end{array}$$

$$\begin{array}{r} 2 \ 5 \ 3 \\ \times 3 \\ \hline 7 \ 5 \ 9 \end{array}$$

[1] Solve:

a) $\begin{array}{r} \text{H} \text{ T} \text{ O} \\ 2 \ 6 \ 3 \\ \times 3 \\ \hline 7 \ 8 \ 9 \end{array}$ b) $\begin{array}{r} \text{H} \text{ T} \text{ O} \\ 2 \ 3 \ 1 \\ \times 4 \\ \hline 9 \ 2 \ 4 \end{array}$

c) $\begin{array}{r} \text{H} \text{ T} \text{ O} \\ 2 \ 4 \ 8 \\ \times 3 \\ \hline 7 \ 4 \ 4 \end{array}$

.....

[2] Solve:

a) 132×3

$$\begin{array}{r} 1 \ 3 \ 2 \\ \times 3 \\ \hline 3 \ 9 \ 6 \end{array}$$

b) 463×2

$$\begin{array}{r} 4 \ 6 \ 3 \\ \times 2 \\ \hline 9 \ 2 \ 6 \end{array}$$

c) 140×6

$$\begin{array}{r} 1 \ 4 \ 0 \\ \times 6 \\ \hline 8 \ 4 \ 0 \end{array}$$

d) 168×4

$$\begin{array}{r} 1 \ 6 \ 8 \\ \times 4 \\ \hline 6 \ 7 \ 2 \end{array}$$

[R] Solve:

a) 57×3

$$\begin{array}{r} 5 \ 7 \\ \times 3 \\ \hline 1 \ 7 \ 1 \end{array}$$

b) 27×6

$$\begin{array}{r} 2 \ 7 \\ \times 6 \\ \hline 1 \ 6 \ 2 \end{array}$$

c) 79×8

$$\begin{array}{r} 7 \ 9 \\ \times 8 \\ \hline 6 \ 3 \ 2 \end{array}$$

Lesson	25 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. - After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L21, [2]: L22 & L23, [3]: L24.		

<Mental Maths>

- a) $5 \times 4 = 20$ b) $6 \times 4 = 24$ c) $6 \times 5 = 30$
d) $9 \times 4 = 36$ e) $9 \times 5 = 45$

<Homework>

*No homework.

L25: Review

[1] Solve:

- a) $500 \times 3 = 1,500$
b) $6 \times 6,000 = 36,000$
c) $60 \times 90 = 5,400$
d) $800 \times 40 = 32,000$

[2] Solve:

- a) 23×3 b) 19×5

$$\begin{array}{r} 23 \\ \times 3 \\ \hline 69 \end{array}$$

$$\begin{array}{r} 19 \\ \times 5 \\ \hline 95 \end{array}$$

c) 31×6

$$\begin{array}{r} 31 \\ \times 6 \\ \hline 186 \end{array}$$

d) 27×6

$$\begin{array}{r} 27 \\ \times 6 \\ \hline 162 \end{array}$$

e) 38×9

$$\begin{array}{r} 38 \\ \times 9 \\ \hline 342 \end{array}$$

f) 47×7

$$\begin{array}{r} 47 \\ \times 7 \\ \hline 329 \end{array}$$

[3] Solve:

a) 223×3

$$\begin{array}{r} 223 \\ \times 3 \\ \hline 669 \end{array}$$

b) 273×3

$$\begin{array}{r} 273 \\ \times 3 \\ \hline 819 \end{array}$$

c) 173×5

$$\begin{array}{r} 173 \\ \times 5 \\ \hline 865 \end{array}$$

Lesson	26 /120	Curriculum	B5.1.2.2.1 (p.67) e.g.1-3
Teaching Tips	Have learners recall what they learned in previous lessons.		
Objective	Be able to solve (3-digit)×(1-digit) using the column method.		
Introduction (sample)	Show how to solve multiplication problems using the column method as shown on the board. Do not draw the dotted line for place value in the last one.		
Teacher's Note	- This lesson involves solving three types of tasks. (i) (hundreds) × (ones) is 2-digit, but the other places are 1-digit. (ii) The products of all places are 2-digit. The sum of products includes regrouping. (iii) The tens place of the 3-digit number is zero.		

<Mental Maths>

a) $7 \times 3 = 21$ b) $9 \times 3 = 27$ c) $8 \times 4 = 32$

d) $8 \times 5 = 40$ e) $8 \times 6 = 48$

<Homework>

Solve:

a) 731×3 b) 763×5 c) 508×7 d) 237×9

$$\begin{array}{r} 731 \\ \times 3 \\ \hline 2193 \end{array} \quad \begin{array}{r} 763 \\ \times 5 \\ \hline 3815 \end{array} \quad \begin{array}{r} 508 \\ \times 2 \\ \hline 1016 \end{array} \quad \begin{array}{r} 237 \\ \times 9 \\ \hline 2133 \end{array}$$

L26: Solve (3-digit)×(1-digit) (2)

$$\begin{array}{r} \text{H T O} \\ 412 \\ \times 4 \\ \hline 1648 \end{array} \quad \begin{array}{r} \text{H T O} \\ 378 \\ \times 4 \\ \hline 1512 \end{array}$$

$$\begin{array}{r} 302 \\ \times 8 \\ \hline 2416 \end{array}$$

[1] Solve:

a) $\begin{array}{r} \text{H T O} \\ 523 \\ \times 3 \\ \hline 1569 \end{array}$ b) $\begin{array}{r} \text{H T O} \\ 763 \\ \times 5 \\ \hline 3815 \end{array}$

c) $\begin{array}{r} \text{H T O} \\ 208 \\ \times 7 \\ \hline 1456 \end{array}$

.....

[2] Solve:

a) 621×3

b) 237×9

$$\begin{array}{r} 621 \\ \times 3 \\ \hline 1863 \end{array}$$

$$\begin{array}{r} 237 \\ \times 9 \\ \hline 2133 \end{array}$$

c) 427×8

d) 308×4

$$\begin{array}{r} 427 \\ \times 8 \\ \hline 3416 \end{array}$$

$$\begin{array}{r} 308 \\ \times 4 \\ \hline 1232 \end{array}$$

[R] Solve:

a) 374×2

b) 263×3

c) 148×6

$$\begin{array}{r} 374 \\ \times 2 \\ \hline 748 \end{array}$$

$$\begin{array}{r} 263 \\ \times 3 \\ \hline 789 \end{array}$$

$$\begin{array}{r} 148 \\ \times 6 \\ \hline 888 \end{array}$$

Lesson	30 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. - After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L26, [2]: L27 & L28, [3]: L29.		

<Mental Maths>

a) $6 \times 6 = 36$ b) $6 \times 9 = 54$ c) $7 \times 9 = 63$
d) $9 \times 9 = 81$ e) $9 \times 8 = 72$

<Homework>

*No homework.

L30: Review

[1] Solve:

a) 631×3

$$\begin{array}{r} 631 \\ \times 3 \\ \hline 1893 \end{array}$$

b) 579×4

$$\begin{array}{r} 579 \\ \times 4 \\ \hline 2316 \end{array}$$

c) 709×6

$$\begin{array}{r} 709 \\ \times 6 \\ \hline 4254 \end{array}$$

[2] Solve:

a) 21×13 b) 14×24 c) 17×43

$$\begin{array}{r} 21 \\ \times 13 \\ \hline 63 \\ 21 \\ \hline 273 \end{array}$$

$$\begin{array}{r} 14 \\ \times 24 \\ \hline 56 \\ 28 \\ \hline 336 \end{array}$$

$$\begin{array}{r} 17 \\ \times 43 \\ \hline 51 \\ 68 \\ \hline 731 \end{array}$$

d) 56×14 e) 27×47 f) 76×60

$$\begin{array}{r} 56 \\ \times 14 \\ \hline 224 \\ 56 \\ \hline 784 \end{array}$$

$$\begin{array}{r} 27 \\ \times 47 \\ \hline 189 \\ 27 \\ \hline 1269 \end{array}$$

$$\begin{array}{r} 76 \\ \times 60 \\ \hline 00 \\ 456 \\ \hline 4760 \end{array}$$

[3] Solve:

a) $8000 \div 4 = 2000$

b) $5600 \div 8 = 700$

c) $28 \div 2 = 14$

d) $69 \div 3 = 23$

Lesson	32 /120	Curriculum	B5.1.2.3.1 (p.69) e.g. 1
Teaching Tips	Encourage learners to write in their exercise books. The more they write, the better their writing skills will become.		
Objective	Understand the meaning of division with remainder.		
Introduction (sample)	- Show how to solve: There are 23 eggs. a) Akosua shares them with 4 friends. How many eggs can each friend get? b) Akosua put 4 eggs in each bag. How many bags does she need? - Both number sentences are $23 \div 4 = 5 \text{ R } 3$. However, the answer for a) is 5 eggs while the answer for b) is 6 bags because she needs 1 more bag to put the remaining eggs.		
Teacher's Note	- Division with remainder is an important concept in long division. - Let learners confirm the remainder should be smaller than the divisor. - How to deal with a remainder is different depending on the word problems.		

<Mental Maths>

- a) $6 \div 2 = 3$ b) $8 \div 4 = 2$ c) $10 \div 5 = 2$
 d) $12 \div 4 = 3$ e) $14 \div 7 = 2$

<Homework>

Akosua shares 45 apples
with 6 friends equally.

How many apples does each friend get?

$45 \div 6 = 7 \text{ R } 3$, 7 apples

L32: Division with remainder (2)

[1A] There are 17 bananas.
Akua shares them with 5 friends.
How many bananas can each friend get?

$17 \div 5 = 3 \text{ R } 2$, 3 bananas

[1B] There are 13 oranges.
Kofi puts 3 oranges in each box.
How many boxes does he need?

$13 \div 3 = 4 \text{ R } 1$, 5 boxes

Kofi needs 1 more box to put the remaining orange.

.....

[2A] Ama shares 44 mangoes with
7 friends equally.
How many mangoes does each friend get?

$44 \div 7 = 6 \text{ R } 2$, 6 mangoes

[2B] Kofi has 32 eggs.
He puts 6 eggs in each case.
How many cases does he need?

$32 \div 6 = 5 \text{ R } 2$, 6 cases

[R] Check the answer of:

a) $37 \div 4 = 9 \text{ R } 2$

$4 \times 9 + 2 = 36 + 2 = 38$, Wrong

b) $60 \div 7 = 8 \text{ R } 4$

$7 \times 8 + 4 = 56 + 4 = 60$, Correct

Lesson	33 /120	Curriculum	B5.1.2.4.1 (p.70) e.g. 1
Teaching Tips	Have learners read the sentences, pointing to each word with your finger. Support learners if they have difficulty reading any of the words.		
Objective	Be able to solve long division with or without a remainder for (2-digit) ÷ (1-digit).		
Introduction (sample)	- Show how to solve division tasks using long division. Do not draw the dotted line for place value in the second one. - Check the answer as shown on the board. You need to calculate using a column method.		
Teacher's Note	- Explain long division step by step. - This lesson involves solving two types of tasks. Long division with and without remainder.		

<Mental Maths>

- a) $8 \div 2 = 4$ b) $10 \div 2 = 5$ c) $12 \div 3 = 4$
d) $14 \div 2 = 7$ e) $15 \div 5 = 3$

<Homework>

Solve:

- a) $78 \div 6$ b) $75 \div 3$ c) $92 \div 7$ d) $91 \div 4$

$$\begin{array}{r}
 13 \\
 6 \overline{) 78} \\
 \underline{6} \\
 18 \\
 \underline{18} \\
 0
 \end{array}
 \quad
 \begin{array}{r}
 25 \\
 3 \overline{) 75} \\
 \underline{6} \\
 15 \\
 \underline{15} \\
 0
 \end{array}
 \quad
 \begin{array}{r}
 13 \\
 7 \overline{) 92} \\
 \underline{7} \\
 22 \\
 \underline{21} \\
 1
 \end{array}
 \quad
 \begin{array}{r}
 21 \\
 4 \overline{) 91} \\
 \underline{8} \\
 11 \\
 \underline{8} \\
 3
 \end{array}$$

Let learners refer to the worked example.

L33: Solve by long division (1)

$$\begin{array}{r}
 17 \\
 3 \overline{) 51} \\
 \underline{3} \\
 21 \\
 \underline{21} \\
 0
 \end{array}
 \quad
 \begin{array}{r}
 23 \\
 4 \overline{) 94} \\
 \underline{8} \\
 14 \\
 \underline{12} \\
 2
 \end{array}$$

$3 \times 17 = 51$ $4 \times 23 + 2 = 94$

[1] Solve:

$$\begin{array}{r}
 14 \\
 4 \overline{) 56} \\
 \underline{4} \\
 16 \\
 \underline{16} \\
 0
 \end{array}
 \quad
 \begin{array}{r}
 27 \\
 3 \overline{) 81} \\
 \underline{6} \\
 21 \\
 \underline{21} \\
 0
 \end{array}$$

$$\begin{array}{r}
 12 \\
 5 \overline{) 63} \\
 \underline{5} \\
 13 \\
 \underline{10} \\
 3
 \end{array}
 \quad
 \begin{array}{r}
 14 \\
 6 \overline{) 86} \\
 \underline{6} \\
 26 \\
 \underline{24} \\
 2
 \end{array}$$

[2A] Solve:

- a) $54 \div 3$ b) $97 \div 8$ c) $99 \div 4$

$$\begin{array}{r}
 18 \\
 3 \overline{) 54} \\
 \underline{3} \\
 24 \\
 \underline{24} \\
 0
 \end{array}
 \quad
 \begin{array}{r}
 12 \\
 8 \overline{) 97} \\
 \underline{8} \\
 17 \\
 \underline{16} \\
 1
 \end{array}
 \quad
 \begin{array}{r}
 24 \\
 4 \overline{) 99} \\
 \underline{8} \\
 19 \\
 \underline{16} \\
 3
 \end{array}$$

[2B] Solve and check the answer.

- a) $96 \div 7$ b) $80 \div 3$

$$\begin{array}{r}
 13 \\
 7 \overline{) 96} \\
 \underline{7} \\
 26 \\
 \underline{21} \\
 5
 \end{array}
 \quad
 \begin{array}{r}
 26 \\
 3 \overline{) 80} \\
 \underline{6} \\
 20 \\
 \underline{18} \\
 2
 \end{array}$$

$7 \times 13 + 5 = 96$ $3 \times 26 + 2 = 80$

[R] Adwoa has 25 eggs.

He puts 4 eggs in each case.

How many cases does he need?

$25 \div 4 = 6 \text{ R } 1, 7 \text{ cases}$

Lesson	34 /120	Curriculum	B5.1.2.4.1 (p.70) e.g. 1
Teaching Tips	Encourage learners to memorise as many words as possible (not just 1 or 2 letters) when copying from the board.		
Objective	Be able to solve long division with a remainder for (2-digit) ÷ (1-digit) with a special cases.		
Introduction (sample)	Show how to solve division tasks using long division.		
Teacher's Note	- This lesson involves a task that requires solving long division in which the tens place of the dividend is a multiple of the divisor. - Learners can write zero in the tens place if they want to.		

<Mental Maths>

- a) $16 \div 2 = 8$ b) $18 \div 2 = 9$ c) $18 \div 9 = 2$
d) $21 \div 3 = 7$ e) $24 \div 4 = 6$

<Homework>

Solve:

- a) $68 \div 6$ b) $95 \div 3$ c) $75 \div 7$ d) $62 \div 3$

$$\begin{array}{r} 11 \\ 6 \overline{) 68} \\ \underline{6} \\ 8 \\ \underline{6} \\ 2 \end{array} \quad \begin{array}{r} 31 \\ 3 \overline{) 95} \\ \underline{9} \\ 5 \\ \underline{3} \\ 2 \end{array} \quad \begin{array}{r} 10 \\ 7 \overline{) 75} \\ \underline{7} \\ 5 \end{array} \quad \begin{array}{r} 20 \\ 3 \overline{) 62} \\ \underline{6} \\ 2 \end{array}$$

L34: Solve by long division (2)

$$\begin{array}{r} 21 \\ 4 \overline{) 85} \\ \underline{8} \\ 5 \\ \underline{4} \\ 1 \end{array} \quad \begin{array}{r} 20 \\ 6 \overline{) 62} \\ \underline{6} \\ 2 \end{array}$$

Zero is omitted here.

[1] Solve:

a) $\begin{array}{r} 12 \\ 4 \overline{) 49} \\ \underline{4} \\ 9 \\ \underline{8} \\ 1 \end{array}$ b) $\begin{array}{r} 22 \\ 3 \overline{) 68} \\ \underline{6} \\ 8 \\ \underline{6} \\ 2 \end{array}$

c) $\begin{array}{r} 10 \\ 6 \overline{) 65} \\ \underline{6} \\ 5 \end{array}$ d) $\begin{array}{r} 20 \\ 2 \overline{) 41} \\ \underline{4} \\ 1 \end{array}$

[2] Solve:

- a) $69 \div 6$ b) $85 \div 2$ c) $98 \div 3$

$$\begin{array}{r} 11 \\ 6 \overline{) 69} \\ \underline{6} \\ 9 \\ \underline{6} \\ 3 \end{array} \quad \begin{array}{r} 42 \\ 2 \overline{) 85} \\ \underline{8} \\ 5 \\ \underline{4} \\ 1 \end{array} \quad \begin{array}{r} 32 \\ 3 \overline{) 98} \\ \underline{9} \\ 8 \\ \underline{6} \\ 2 \end{array}$$

- d) $32 \div 3$

$$\begin{array}{r} 10 \\ 3 \overline{) 32} \\ \underline{3} \\ 2 \end{array}$$

- e) $61 \div 3$

$$\begin{array}{r} 20 \\ 3 \overline{) 61} \\ \underline{6} \\ 1 \end{array}$$

[R] Solve:

- a) $78 \div 2$ b) $99 \div 8$ c) $86 \div 3$

$$\begin{array}{r} 39 \\ 2 \overline{) 78} \\ \underline{6} \\ 18 \\ \underline{18} \\ 0 \end{array} \quad \begin{array}{r} 12 \\ 8 \overline{) 99} \\ \underline{8} \\ 19 \\ \underline{16} \\ 3 \end{array} \quad \begin{array}{r} 28 \\ 3 \overline{) 86} \\ \underline{6} \\ 26 \\ \underline{24} \\ 2 \end{array}$$

Lesson	35 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L31, [2]: L32, [3]: L33 & L34.		

<Mental Maths>

a) $16 \div 4 = 4$ b) $18 \div 3 = 6$ c) $20 \div 4 = 5$

d) $21 \div 7 = 3$ e) $24 \div 6 = 4$

<Homework>

*No homework.

L35: Review

[1] Solve:

a) $17 \div 3 = 5 \text{ R } 2$ b) $37 \div 4 = 9 \text{ R } 1$

c) $41 \div 5 = 8 \text{ R } 1$ d) $66 \div 8 = 8 \text{ R } 2$

[2] There are 19 oranges.

Kofi puts 4 oranges in each box.

How many boxes does he need?

$19 \div 4 = 4 \text{ R } 3$, 5 boxes

[3] Solve:

a) $69 \div 3$ b) $92 \div 7$ c) $98 \div 4$

$$\begin{array}{r} 23 \\ 3 \overline{) 69} \\ \underline{6} \\ 9 \\ \underline{9} \\ 0 \end{array}$$

$$\begin{array}{r} 13 \\ 7 \overline{) 92} \\ \underline{7} \\ 22 \\ \underline{21} \\ 1 \end{array}$$

$$\begin{array}{r} 24 \\ 4 \overline{) 98} \\ \underline{8} \\ 18 \\ \underline{16} \\ 2 \end{array}$$

d) $65 \div 3$ e) $94 \div 3$ f) $81 \div 4$

$$\begin{array}{r} 21 \\ 3 \overline{) 65} \\ \underline{6} \\ 5 \\ \underline{3} \\ 2 \end{array}$$

$$\begin{array}{r} 31 \\ 3 \overline{) 94} \\ \underline{9} \\ 4 \\ \underline{3} \\ 1 \end{array}$$

$$\begin{array}{r} 20 \\ 4 \overline{) 81} \\ \underline{8} \\ 1 \\ \underline{0} \\ 1 \end{array}$$

Lesson	36 /120	Curriculum	B5.1.2.4.1 (p.70) e.g. 1
Teaching Tips	When a learner presents, repeat exactly what they said. Do not summarise or rephrase.		
Objective	Be able to solve long division for (3-digit) ÷ (1-digit) with a remainder.		
Introduction (sample)	Show how to solve division tasks using long division. Do not draw the dotted line for place value in the second one.		
Teacher's Note	- This lesson involves solving three types of tasks. (i) (3-digit) ÷ (1-digit) where the hundreds place of the dividend is not a multiple of the divisor. (ii) (3-digit) ÷ (1-digit) where the hundreds place of the dividend is a multiple of the divisor. (iii) (3-digit) ÷ (1-digit) where the hundreds place of the dividend is a multiple of the divisor, and the tens place of the quotient is zero.		

<Mental Maths>

- a) $16 \div 8 = 2$ b) $18 \div 6 = 3$ c) $20 \div 5 = 4$
d) $24 \div 3 = 8$ e) $24 \div 8 = 3$

<Homework>

Solve:

a) $797 \div 6$
$$\begin{array}{r} 132 \\ 6 \overline{) 797} \\ \underline{6} \\ 19 \\ \underline{18} \\ 17 \\ \underline{12} \\ 5 \end{array}$$

$$\begin{array}{r} 221 \\ 4 \overline{) 887} \\ \underline{8} \\ 8 \\ \underline{8} \\ 7 \\ \underline{4} \\ 3 \end{array}$$

$$\begin{array}{r} 105 \\ 9 \overline{) 952} \\ \underline{9} \\ 5 \\ \underline{5} \\ 2 \\ \underline{0} \\ 2 \end{array}$$

b) $887 \div 4$
$$\begin{array}{r} 19 \\ 4 \overline{) 887} \\ \underline{8} \\ 8 \\ \underline{8} \\ 7 \\ \underline{4} \\ 3 \end{array}$$

$$\begin{array}{r} 221 \\ 9 \overline{) 1987} \\ \underline{18} \\ 18 \\ \underline{18} \\ 7 \\ \underline{6} \\ 1 \end{array}$$

c) $952 \div 9$
$$\begin{array}{r} 105 \\ 9 \overline{) 952} \\ \underline{9} \\ 5 \\ \underline{5} \\ 2 \\ \underline{0} \\ 2 \end{array}$$

$$\begin{array}{r} 105 \\ 9 \overline{) 952} \\ \underline{9} \\ 5 \\ \underline{5} \\ 2 \\ \underline{0} \\ 2 \end{array}$$

L36: Solve (3-digit) ÷ (1-digit) (1)

[1] Solve:

a)
$$\begin{array}{r} 146 \\ 5 \overline{) 734} \\ \underline{5} \\ 23 \\ \underline{20} \\ 34 \\ \underline{30} \\ 4 \end{array}$$
 b)
$$\begin{array}{r} 206 \\ 3 \overline{) 619} \\ \underline{6} \\ 0 \\ \underline{0} \\ 19 \\ \underline{18} \\ 1 \end{array}$$

a)
$$\begin{array}{r} 238 \\ 3 \overline{) 715} \\ \underline{6} \\ 11 \\ \underline{9} \\ 25 \\ \underline{24} \\ 1 \end{array}$$
 b)
$$\begin{array}{r} 114 \\ 6 \overline{) 689} \\ \underline{6} \\ 8 \\ \underline{6} \\ 29 \\ \underline{24} \\ 5 \end{array}$$
 c)
$$\begin{array}{r} 306 \\ 2 \overline{) 613} \\ \underline{6} \\ 1 \\ \underline{0} \\ 13 \\ \underline{12} \\ 1 \end{array}$$

[2] Solve:

a) $625 \div 4$

$$\begin{array}{r} 156 \\ 4 \overline{) 625} \\ \underline{4} \\ 22 \\ \underline{20} \\ 25 \\ \underline{24} \\ 1 \end{array}$$

b) $883 \div 3$

$$\begin{array}{r} 294 \\ 3 \overline{) 883} \\ \underline{6} \\ 28 \\ \underline{27} \\ 13 \\ \underline{12} \\ 1 \end{array}$$

c) $867 \div 4$

$$\begin{array}{r} 216 \\ 4 \overline{) 867} \\ \underline{8} \\ 6 \\ \underline{4} \\ 27 \\ \underline{24} \\ 3 \end{array}$$

d) $762 \div 7$

$$\begin{array}{r} 108 \\ 7 \overline{) 762} \\ \underline{7} \\ 6 \\ \underline{0} \\ 62 \\ \underline{56} \\ 6 \end{array}$$

[R] Solve:

a) $68 \div 6$ b) $94 \div 3$ c) $62 \div 3$

a)
$$\begin{array}{r} 11 \\ 6 \overline{) 68} \\ \underline{6} \\ 8 \\ \underline{6} \\ 2 \end{array}$$
 b)
$$\begin{array}{r} 31 \\ 3 \overline{) 94} \\ \underline{9} \\ 4 \\ \underline{3} \\ 1 \end{array}$$
 c)
$$\begin{array}{r} 20 \\ 3 \overline{) 62} \\ \underline{6} \\ 2 \\ \underline{0} \\ 2 \end{array}$$

Lesson	40 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L36 & L37, [2]: L38, [3]: L39.		

<Mental Maths>

a) $40 \div 8 = 5$ b) $48 \div 8 = 6$ c) $54 \div 9 = 6$
d) $63 \div 7 = 9$ e) $72 \div 8 = 9$

<Homework>

*No homework.

L40: Review

[1] Solve:

a) $814 \div 6$

$$\begin{array}{r} 135 \\ 6 \overline{)814} \\ \underline{6} \\ 21 \\ \underline{18} \\ 34 \\ \underline{30} \\ 4 \end{array}$$

b) $709 \div 3$

$$\begin{array}{r} 236 \\ 3 \overline{)709} \\ \underline{6} \\ 10 \\ \underline{9} \\ 19 \\ \underline{18} \\ 1 \end{array}$$

c) $862 \div 8$

$$\begin{array}{r} 107 \\ 8 \overline{)862} \\ \underline{8} \\ 6 \\ \underline{0} \\ 62 \\ \underline{56} \\ 6 \end{array}$$

d) $754 \div 5$

$$\begin{array}{r} 150 \\ 5 \overline{)754} \\ \underline{5} \\ 25 \\ \underline{25} \\ 4 \end{array}$$

e) $483 \div 4$

$$\begin{array}{r} 120 \\ 4 \overline{)483} \\ \underline{4} \\ 8 \\ \underline{8} \\ 3 \end{array}$$

f) $239 \div 3$

$$\begin{array}{r} 79 \\ 3 \overline{)239} \\ \underline{21} \\ 29 \\ \underline{27} \\ 2 \end{array}$$

[2] Kwame bought 4 avocados for ₵8 each. He paid ₵40.

How much change did he get?

$4 \times 8 = 32, 40 - 32 = 8, \text{ ₵}8$

[3] There are 92 eggs.

Kwaku places them in a case designed with 3 rows and 2 columns. How many cases does he need?

A Case: $2 \times 3 = 6, 92 \div 6 = 15 \text{ R } 2$
16 cases.

Lesson	43 /120	Curriculum	B5.1.3.1.2 (p.72) e.g.1
Teaching Tips	If more than half of the learners cannot solve the first task, explain how to solve it using it.		
Objective	Be able to compare fractions by making the denominators the same.		
Introduction (sample)	Compare fractions in the following steps. 1. Compare fractions with the same denominators such as $\frac{3}{4}$ and $\frac{2}{4}$, $\frac{5}{3}$ and $\frac{7}{3}$. We can compare the numerators. 2. Compare fractions with different denominators such as $\frac{2}{3}$ and $\frac{3}{5}$. We can't compare directly. 3. How can we compare? Make the denominators the same. 4. How can we do that? Review yesterday's topic. • Show how to compare the fractions and its rule as shown on the board.		
Teacher's Note	• Learners learnt how to compare fractions in B4. This lesson is a review including improper fractions.		

<Mental Maths>

- a) $18 \div 9 = 2$ b) $21 \div 3 = 7$ c) $24 \div 4 = 6$
d) $25 \div 5 = 5$ e) $45 \div 5 = 9$

<Homework>

Answer as [1A].

- a) $\frac{1}{2} \frac{3}{4} \frac{3}{8}$ $\frac{3}{8} \frac{1}{2} \frac{3}{4}$ b) $\frac{2}{3} \frac{3}{5} \frac{5}{6}$ $\frac{3}{5} \frac{2}{3} \frac{5}{6}$
 $\frac{4}{8} \frac{6}{8}$ $\frac{20}{30} \frac{18}{30} \frac{25}{30}$
c) $\frac{3}{2} \frac{7}{5} \frac{9}{8}$ $\frac{60}{40} \frac{56}{40} \frac{45}{40}$ $\frac{9}{8} \frac{7}{5} \frac{3}{2}$

L43: Compare fractions

a) $\frac{1}{3} < \frac{1}{2}$ b) $\frac{2}{3} > \frac{3}{5}$
 $\frac{2}{6} \frac{3}{6}$ $\frac{10}{15} \frac{9}{15}$

Make the denominators the same to compare fractions.

[1A] Write <, > or =.

a) $\frac{3}{4} < \frac{4}{5}$ b) $\frac{3}{7} > \frac{2}{5}$
 $\frac{15}{20} \frac{16}{20}$ $\frac{15}{35} \frac{14}{35}$

c) $\frac{6}{4} = \frac{9}{6}$
 $\frac{18}{12} \frac{18}{12}$

[1B] Order from small to big.

a) $\frac{1}{2} \frac{2}{3} \frac{1}{4}$ $\frac{1}{4} \frac{1}{2} \frac{2}{3}$ b) $\frac{1}{2} \frac{3}{4} \frac{5}{8}$ $\frac{1}{2} \frac{5}{8} \frac{3}{4}$
 $\frac{6}{12} \frac{8}{12} \frac{4}{12}$ $\frac{4}{8} \frac{6}{8}$

[2A] Order from big to small.

a) $\frac{1}{4} \frac{1}{2} \frac{1}{3}$ $\frac{1}{2} \frac{1}{3} \frac{1}{4}$ b) $\frac{1}{2} \frac{3}{4} \frac{5}{8}$ $\frac{3}{4} \frac{5}{8} \frac{1}{2}$
 $\frac{3}{12} \frac{6}{12} \frac{4}{12}$ $\frac{4}{8} \frac{6}{8}$

c) $\frac{1}{2} \frac{3}{5} \frac{5}{8}$ $\frac{5}{8} \frac{3}{5} \frac{1}{2}$ d) $\frac{4}{3} \frac{7}{5} \frac{7}{6}$ $\frac{7}{5} \frac{4}{3} \frac{7}{6}$
 $\frac{20}{40} \frac{24}{40} \frac{25}{40}$ $\frac{40}{30} \frac{42}{30} \frac{35}{30}$

e) $\frac{3}{2} \frac{8}{5} \frac{5}{3}$ $\frac{5}{3} \frac{8}{5} \frac{3}{2}$
 $\frac{45}{30} \frac{48}{30} \frac{50}{30}$

[R] Make the denominators the same.

a) $\frac{3}{2} \frac{5}{4} \frac{9}{7}$ {7, 14, 21, 28} $\frac{42}{28} \frac{35}{28} \frac{36}{28}$
b) $\frac{4}{2} \frac{9}{5} \frac{7}{3}$ {5, 10, 15, 20, 25, 30} $\frac{60}{30} \frac{54}{30} \frac{70}{30}$

Lesson	44 /120	Curriculum	B5.1.3.1.3 (p.73) e.g.1,2
Teaching Tips	Have learners copy everything from the board into their exercise books.		
Objective	Be able to solve additions and subtractions of improper fractions with the same denominators.		
Introduction (sample)	- Prepare four A4 papers and write $\frac{1}{6}$ in each paper. Invite two learners and let one of them show two of A4 papers which is $\frac{2}{6}$. The other learner show an A4 paper. Merge the two which means three $\frac{1}{6}$ which is $\frac{3}{6}$. - Show how to add and subtract improper fractions as shown on the board.		
Teacher's Note	- The first activity is to confirm that we can add fractions if the denominators are the same. - If the answer is an improper fraction, it should be converted to a mixed fraction. However, we leave it as it is up to L47 to focus on the objective of each lesson.		

<Mental Maths>

- a) $20 \div 4 = 5$ b) $21 \div 7 = 3$ c) $24 \div 6 = 4$
d) $27 \div 3 = 9$ e) $45 \div 9 = 5$

<Homework>

Solve:

- a) $\frac{2}{5} + \frac{6}{5} = \frac{8}{5}$ b) $\frac{8}{3} - \frac{4}{3} = \frac{4}{3}$
c) $\frac{5}{4} + \frac{9}{4} = \frac{7}{2}$ d) $\frac{11}{7} - \frac{4}{7} = 1$

Let learners simplify the answer if possible.

L44: Add and subtract improper fractions

$$\frac{3}{6} + \frac{7}{6} = \frac{10}{6} = \frac{5}{3} \quad \frac{7}{4} - \frac{1}{4} = \frac{6}{4} = \frac{3}{2}$$

[1] Solve:

- a) $\frac{1}{5} + \frac{3}{5} = \frac{4}{5}$ b) $\frac{5}{7} - \frac{2}{7} = \frac{3}{7}$
c) $\frac{5}{9} + \frac{8}{9} = \frac{13}{9}$ d) $\frac{11}{8} - \frac{4}{8} = \frac{7}{8}$
e) $\frac{4}{6} + \frac{5}{6} = \frac{9}{6} = \frac{3}{2}$ f) $\frac{7}{3} - \frac{1}{3} = \frac{6}{3} = 2$

[2] Solve:

- a) $\frac{7}{3} + \frac{4}{3} = \frac{11}{3}$ b) $\frac{7}{5} - \frac{3}{5} = \frac{4}{5}$
c) $\frac{3}{7} + \frac{5}{7} = \frac{8}{7}$ d) $\frac{11}{4} - \frac{6}{4} = \frac{5}{4}$
e) $\frac{5}{6} + \frac{10}{6} = \frac{15}{6} = \frac{5}{2}$ f) $\frac{11}{8} - \frac{5}{8} = \frac{6}{8} = \frac{3}{4}$
g) $\frac{5}{12} + \frac{9}{12} = \frac{14}{12} = \frac{7}{6}$
h) $\frac{27}{15} - \frac{7}{15} = \frac{20}{15} = \frac{4}{3}$

[R] Order from big to small.

- a) $\frac{1}{2}, \frac{3}{5}, \frac{5}{8}$ $\frac{5}{8}, \frac{3}{5}, \frac{1}{2}$
 $\frac{20}{40}, \frac{24}{40}, \frac{25}{40}$
b) $\frac{4}{3}, \frac{7}{5}, \frac{7}{6}$ $\frac{7}{5}, \frac{4}{3}, \frac{7}{6}$
 $\frac{40}{30}, \frac{42}{30}, \frac{35}{30}$

Lesson	45 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. - After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L41, [2]: L42 [3]: L43, [4]: L44.		

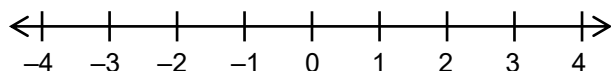
<Mental Maths>

- a) $20 \div 5 = 4$ b) $24 \div 3 = 8$ c) $24 \div 8 = 3$
d) $27 \div 9 = 3$ e) $48 \div 6 = 8$

<Homework>

*No homework.

L45: Review



[1] Solve by using the number line.

- a) $2 - 4 = -2$ b) $-2 + 4 = 2$
c) $-3 + 3 = 0$

[2] Make the denominators the same.

- a) $\frac{1}{2} \frac{1}{3} \frac{1}{4}$
 $\{4, 8, 12\}$ $\frac{6}{12} \frac{4}{12} \frac{3}{12}$

b) $\frac{7}{6} \frac{4}{3} \frac{6}{5}$

$\{6, 12, 18, 24, 30\}$ $\frac{35}{30} \frac{40}{30} \frac{36}{30}$

c) $\frac{5}{3} \frac{15}{10} \frac{8}{5}$

$\{5, 10, 15, 20, 25, 30\}$ $\frac{50}{30} \frac{45}{30} \frac{48}{30}$

[3] Order [2] from small to big.

a) $\frac{1}{4} \frac{1}{3} \frac{1}{2}$

b) $\frac{7}{6} \frac{6}{5} \frac{4}{3}$

c) $\frac{3}{2} \frac{8}{5} \frac{5}{3}$

[4] Solve:

a) $\frac{5}{3} + \frac{5}{3} = \frac{10}{3}$

b) $\frac{13}{4} - \frac{6}{4} = \frac{7}{4}$

c) $\frac{5}{8} + \frac{9}{8} = \frac{14}{8} = \frac{7}{4}$

d) $\frac{34}{15} - \frac{9}{15} = \frac{25}{15} = \frac{5}{3}$

Explain that this task uses numbers in [2].

Lesson	46 /120	Curriculum	B5.1.3.1.3 (p.73) e.g.1,2
Teaching Tips	Divide the board into two parts and copy the teacher manual as it is. Once learners have copied it, erase the left part to write the right part of the teacher manual.		
Objective	Be able to solve additions and subtractions of improper fractions whose denominator is the multiple of the other.		
Introduction (sample)	Show how to add and subtract common fractions by making the denominators the same as shown on the board.		
Teacher's Note	- It is possible to add or subtract mixed fractions without changing to improper fractions, however we recommend to change them because the same strategy is used in multiplication. - In B5, one of the denominators is a multiple of the other.		

*This dotted line separates exercise part 1 and 2.
Write all the black parts up to this line in exercise part 1.*

L46: Add and subtract improper fractions with different denominators

$$\frac{6}{5} + \frac{8}{10} = \frac{12}{10} + \frac{8}{10} = \frac{20}{10_1} = 2$$

$$\frac{5}{3} - \frac{7}{6} = \frac{10}{6} - \frac{7}{6} = \frac{3}{6_2} = \frac{1}{2}$$

[1] Solve:

$$\text{a) } \frac{2}{5} + \frac{3}{10} = \frac{4}{10} + \frac{3}{10} = \frac{7}{10}$$

$$\text{b) } \frac{7}{8} - \frac{1}{4} = \frac{7}{8} - \frac{2}{8} = \frac{5}{8}$$

$$\text{c) } \frac{5}{3} + \frac{11}{9} = \frac{15}{9} + \frac{11}{9} = \frac{26}{9}$$

$$\text{d) } \frac{23}{10} + \frac{1}{5} = \frac{23}{10} + \frac{2}{10} = \frac{25}{10_2} = \frac{5}{2}$$

$$\text{e) } \frac{7}{3} - \frac{2}{6} = \frac{14}{6} - \frac{2}{6} = \frac{12}{6_1} = 2$$

[2] Solve:

$$\text{a) } \frac{2}{3} + \frac{4}{9} = \frac{6}{9} + \frac{4}{9} = \frac{10}{9}$$

$$\text{b) } \frac{9}{14} - \frac{2}{7} = \frac{9}{14} - \frac{4}{14} = \frac{5}{14}$$

$$\text{c) } \frac{19}{15} - \frac{4}{5} = \frac{19}{15} - \frac{12}{15} = \frac{7}{15}$$

$$\text{d) } \frac{10}{8} + \frac{3}{2} = \frac{10}{8} + \frac{12}{8} = \frac{22}{8_4} = \frac{11}{4}$$

<Mental Maths>

$$\text{a) } 3 \times 6 = 18 \quad \text{b) } 4 \times 5 = 20 \quad \text{c) } 5 \times 5 = 25$$

$$\text{d) } 6 \times 6 = 36 \quad \text{e) } 7 \times 8 = 56$$

<Homework>

Solve:

$$\text{a) } \frac{7}{8} + \frac{11}{4} = \frac{29}{8} \quad \text{b) } \frac{6}{5} - \frac{11}{15} = \frac{7}{15}$$

$$\text{c) } \frac{12}{10} + \frac{9}{5} = 3 \quad \text{d) } \frac{7}{4} - \frac{5}{12} = \frac{4}{3}$$

$$\text{e) } \frac{7}{6} - \frac{5}{12} = \frac{14}{12} - \frac{5}{12} = \frac{9}{12_4} = \frac{3}{4}$$

$$\text{f) } \frac{11}{4} + \frac{2}{8} = \frac{22}{8} + \frac{2}{8} = \frac{24}{8_1} = 3$$

$$\text{g) } \frac{26}{10} - \frac{3}{5} = \frac{26}{10} - \frac{6}{10} = \frac{20}{10_1} = 2$$

[R] Solve:

$$\text{a) } \frac{4}{3} + \frac{7}{3} = \frac{11}{3} \quad \text{b) } \frac{2}{5} + \frac{6}{5} = \frac{8}{5}$$

$$\text{c) } \frac{9}{4} + \frac{9}{4} = \frac{18}{4_2} = \frac{9}{2} \quad \text{d) } \frac{10}{7} + \frac{11}{7} = \frac{21}{7_1} = 3$$

Lesson	48 /120	Curriculum	B5.1.3.1.4 (p.73) e.g.1-3
Teaching Tips	Have learners read the sentences, pointing to each word with your finger. Support learners if they have difficulty reading any of the words.		
Objective	Be able to solve additions and subtractions of mixed fractions whose denominator is the multiple of the other.		
Introduction (sample)	Show how to subtract mixed fractions by converting mixed fractions to improper fractions as shown on the board.		
Teacher's Note	- This lesson is the integration of L44-47. Learners must convert improper fractions to mixed fractions when they answer in this lesson and in the exams. - Memorising multiplication table up to 9×9 is important to solve fractions.		

<Mental Maths>

- a) $3 \times 8 = 24$ b) $4 \times 7 = 28$ c) $5 \times 7 = 35$
d) $6 \times 8 = 48$ e) $8 \times 8 = 64$

<Homework>

Solve:

- a) $2\frac{2}{3} + 1\frac{1}{6} = 2\frac{5}{6}$ b) $3\frac{2}{10} - 2\frac{1}{5} = 1$
c) $1\frac{9}{10} + 2\frac{3}{5} = 3\frac{9}{10}$ d) $3\frac{2}{6} - 1\frac{2}{3} = 1\frac{2}{3}$

Improper fractions should be converted to mixed fractions.

L48: Add and subtract mixed fractions with different denominators

$$4\frac{1}{3} - 1\frac{5}{6} = \frac{13}{3} - \frac{11}{6} = \frac{26}{6} - \frac{11}{6} = \frac{15}{6} = \frac{5}{2} = 2\frac{1}{2}$$

[1] Solve:

$$\begin{aligned} \text{a) } 1\frac{1}{2} + 2\frac{1}{4} &= \frac{3}{2} + \frac{9}{4} \\ &= \frac{6}{4} + \frac{9}{4} = \frac{15}{4} = 3\frac{3}{4} \end{aligned}$$

$$\begin{aligned} \text{b) } 3\frac{3}{4} - 2\frac{1}{2} &= \frac{15}{4} - \frac{5}{2} \\ &= \frac{15}{4} - \frac{10}{4} = \frac{5}{4} = 1\frac{1}{4} \end{aligned}$$

$$\begin{aligned} \text{c) } 1\frac{2}{5} + 1\frac{1}{10} &= \frac{7}{5} + \frac{11}{10} \\ &= \frac{14}{10} + \frac{11}{10} = \frac{25}{10} = 2\frac{1}{2} \end{aligned}$$

[2] Solve:

$$\begin{aligned} \text{a) } 2\frac{3}{4} + 2\frac{1}{2} &= \frac{11}{4} + \frac{5}{2} \\ &= \frac{11}{4} + \frac{10}{4} = \frac{21}{4} = 5\frac{1}{4} \end{aligned}$$

$$\begin{aligned} \text{b) } 2\frac{2}{5} - 1\frac{1}{10} &= \frac{12}{5} - \frac{11}{10} \\ &= \frac{24}{10} - \frac{11}{10} = \frac{13}{10} = 1\frac{3}{10} \end{aligned}$$

$$\begin{aligned} \text{c) } 2\frac{1}{3} + 1\frac{1}{6} &= \frac{7}{3} + \frac{7}{6} \\ &= \frac{14}{6} + \frac{7}{6} = \frac{21}{6} = 3\frac{1}{2} \end{aligned}$$

$$\begin{aligned} \text{d) } 3\frac{6}{8} - 1\frac{3}{4} &= \frac{30}{8} - \frac{7}{4} \\ &= \frac{30}{8} - \frac{14}{8} = \frac{16}{8} = 2 \end{aligned}$$

[R] Solve:

$$\text{a) } 1\frac{4}{5} - 1\frac{2}{5} = \frac{9}{5} - \frac{7}{5} = \frac{2}{5}$$

$$\text{b) } 3\frac{2}{3} + 1\frac{1}{3} = \frac{11}{3} + \frac{4}{3} = \frac{15}{3} = 5$$

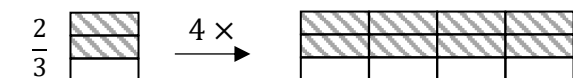
$$\text{c) } 2\frac{4}{6} - 1\frac{1}{6} = \frac{16}{6} - \frac{7}{6} = \frac{9}{6} = 1\frac{1}{2}$$

Lesson	49 /120	Curriculum	B5.1.3.1.5 (p.74) e.g.1
Teaching Tips	Encourage learners to memorise as many words as possible (not just 1 or 2 letters) when copying from the board.		
Objective	Understand how to multiply (whole number) $\times$ (fraction) including improper fractions.		
Introduction (sample)	Draw a square whose $\frac{2}{3}$ parts are shaded and a diagram to show the $4 \times \frac{2}{3}$. Explain how many $\frac{1}{3}$ are in total in two ways, i.e. repeated addition and multiplication as shown on the board.		
Teacher's Note	- If the answer is an improper fraction, it should be converted to a mixed fraction. However, we leave it as it is up to L52 to focus on the objective of each lesson. - Link the idea of repeated addition. But encourage learners to use multiplication because repeated addition is not applicable in the later grade.		

Each rectangle shows $\frac{1}{3}$ of a square. There are 8 parts of $\frac{1}{3}$.

L49: Solve

(Whole number) $\times$ (fraction)



$$4 \times \frac{2}{3} \rightarrow \frac{2}{3} + \frac{2}{3} + \frac{2}{3} + \frac{2}{3} = \frac{8}{3}$$

$$4 \times \frac{2}{3} = \frac{4 \times 2}{3} = \frac{8}{3}$$

[1] Solve:

a) $3 \times \frac{1}{2} = \frac{3 \times 1}{2} = \frac{3}{2}$ b) $2 \times \frac{3}{5} = \frac{2 \times 3}{5} = \frac{6}{5}$
c) $5 \times \frac{2}{3} = \frac{5 \times 2}{3} = \frac{10}{3}$ d) $6 \times \frac{4}{5} = \frac{6 \times 4}{5} = \frac{24}{5}$

e) $5 \times \frac{7}{4} = \frac{5 \times 7}{4} = \frac{35}{4}$ f) $8 \times \frac{5}{3} = \frac{8 \times 5}{3} = \frac{40}{3}$

[2] Solve:

a) $5 \times \frac{1}{3} = \frac{5 \times 1}{3} = \frac{5}{3}$ b) $4 \times \frac{3}{5} = \frac{4 \times 3}{5} = \frac{6}{5}$
c) $5 \times \frac{3}{4} = \frac{5 \times 3}{4} = \frac{15}{4}$ d) $3 \times \frac{3}{7} = \frac{3 \times 3}{7} = \frac{9}{7}$
e) $4 \times \frac{5}{3} = \frac{4 \times 5}{3} = \frac{20}{3}$ f) $3 \times \frac{5}{2} = \frac{3 \times 5}{2} = \frac{15}{2}$

<Mental Maths>

a) $3 \times 9 = 27$ b) $4 \times 8 = 32$ c) $5 \times 8 = 40$
d) $6 \times 9 = 54$ e) $8 \times 9 = 72$

<Homework>

Solve:

a) $5 \times \frac{1}{4} = \frac{5}{4}$ b) $3 \times \frac{3}{5} = \frac{9}{5}$
c) $7 \times \frac{4}{3} = \frac{28}{3}$ d) $6 \times \frac{7}{5} = \frac{42}{5}$

g) $8 \times \frac{4}{3} = \frac{8 \times 4}{3} = \frac{32}{3}$ h) $9 \times \frac{8}{5} = \frac{9 \times 8}{5} = \frac{72}{5}$

[R] Solve:

a) $3\frac{5}{6} - 1\frac{3}{6} = \frac{23}{6} - \frac{9}{6} = \frac{14}{6} = \frac{7}{3} = 2\frac{1}{3}$

b) $2\frac{3}{5} + 2\frac{2}{10} = \frac{13}{5} + \frac{22}{10}$
 $= \frac{26}{10} + \frac{22}{10} = \frac{48}{10} = \frac{24}{5} = 4\frac{4}{5}$

c) $2\frac{4}{8} - 1\frac{1}{4} = \frac{20}{8} - \frac{5}{4}$
 $= \frac{20}{8} - \frac{10}{8} = \frac{10}{8} = \frac{5}{4} = 1\frac{1}{4}$

Lesson	50 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - In [4], converting the answers to mixed fractions are not compulsory at this stage. It will be done in L54. - The tasks corresponding to each lesson are as follows: [1]: L46, [2]: L47, [3]: L48, [4]: L49.		

<Mental Maths>

a) $4 \times 4 = 16$ b) $4 \times 9 = 36$ c) $5 \times 9 = 45$

d) $7 \times 7 = 49$ e) $9 \times 9 = 81$

<Homework>

*No homework.

Improper fractions should be converted to mixed fractions.

L50: Review

[1] Solve:

a) $\frac{3}{10} + \frac{3}{5} = \frac{3}{10} + \frac{6}{10} = \frac{9}{10}$

b) $\frac{5}{4} - \frac{3}{8} = \frac{10}{8} - \frac{3}{8} = \frac{7}{8}$

c) $\frac{19}{10} + \frac{3}{5} = \frac{19}{10} + \frac{6}{10} = \frac{25}{10} = 2\frac{1}{2}$

[2] Solve:

a) $\frac{22}{6} - \frac{2}{3} = \frac{22}{6} - \frac{4}{6} = \frac{18}{6} = 3$

b) $3\frac{1}{6} + 1\frac{3}{6} = \frac{19}{6} + \frac{9}{6} = \frac{28}{6} = 4\frac{2}{3}$

[3] Solve:

a) $1\frac{3}{4} + 3\frac{1}{2} = \frac{7}{4} + \frac{7}{2} = \frac{7}{4} + \frac{14}{4} = \frac{21}{4} = 5\frac{1}{4}$

b) $3\frac{1}{8} - 1\frac{1}{4} = \frac{25}{8} - \frac{5}{4} = \frac{25}{8} - \frac{10}{8} = \frac{15}{8} = 1\frac{7}{8}$

c) $2\frac{3}{4} + 1\frac{2}{8} = \frac{11}{4} + \frac{10}{8} = \frac{22}{8} + \frac{10}{8} = \frac{32}{8} = 4$

d) $2\frac{2}{10} - 1\frac{1}{5} = \frac{22}{10} - \frac{6}{5} = \frac{22}{10} - \frac{12}{10} = \frac{10}{10} = 1$

[4] Solve:

a) $4 \times \frac{1}{3} = \frac{4 \times 1}{3} = \frac{4}{3}$

b) $3 \times \frac{3}{5} = \frac{3 \times 3}{5} = \frac{9}{5}$

c) $2 \times \frac{7}{3} = \frac{2 \times 7}{3} = \frac{14}{3}$

d) $3 \times \frac{7}{2} = \frac{3 \times 7}{2} = \frac{21}{2}$

Lesson	51 /120	Curriculum	B5.1.3.1.6 (p.74) e.g.2
Teaching Tips	When a learner presents, repeat exactly what they said. Do not summarise or rephrase.		
Objective	Be able to simplify before multiplication		
Introduction (sample)	- Compare the following two calculations. $3 \times \frac{8}{15} = \frac{\cancel{24}^8}{\cancel{15}_5} = \frac{8}{5}$ $3 \times \frac{8}{15} = \frac{\cancel{3}^1 \times 8}{\cancel{15}_5} = \frac{8}{5}$ - Solve: $8 \times \frac{9}{4} = \frac{\cancel{8}^2 \times 9}{\cancel{4}_1} = 18$		
Teacher's Note	- It is important to simplify before multiplying. - Like d) and e) in [1], it helps to simplify the fractions first to make the calculation easier.		

<Mental Maths>

- a) $6 \times 2 = 12$ b) $9 \times 2 = 18$ c) $6 \times 4 = 24$
d) $7 \times 5 = 35$ e) $8 \times 6 = 48$

<Homework>

Solve:

- a) $2 \times \frac{1}{6} = \frac{1}{3}$ b) $12 \times \frac{5}{8} = \frac{15}{2}$
c) $8 \times \frac{6}{4} = 12$ d) $25 \times \frac{9}{15} = 15$

L51: Simplify before multiplying

[1] Solve:

- a) $6 \times \frac{1}{4} = \frac{\cancel{6}^3 \times 1}{\cancel{4}_2} = \frac{3}{2}$
b) $10 \times \frac{3}{4} = \frac{\cancel{10}^5 \times 3}{\cancel{4}_2} = \frac{15}{2}$
c) $10 \times \frac{3}{12} = \frac{\cancel{10}^5 \times \cancel{3}_1}{\cancel{12}_4} = \frac{5}{2}$
d) $9 \times \frac{2}{6} = \frac{\cancel{9}^3 \times 1}{\cancel{6}_2} = 3$
e) $12 \times \frac{4}{6} = \frac{\cancel{12}^4 \times 2}{\cancel{6}_3} = 8$

[2] Solve:

- a) $8 \times \frac{1}{6} = \frac{\cancel{8}^4 \times 1}{\cancel{6}_3} = \frac{4}{3}$
b) $4 \times \frac{3}{8} = \frac{\cancel{4}^1 \times 3}{\cancel{8}_2} = \frac{3}{2}$
c) $15 \times \frac{2}{9} = \frac{\cancel{15}^5 \times 2}{\cancel{9}_3} = \frac{10}{3}$
d) $18 \times \frac{5}{6} = \frac{\cancel{18}^3 \times 1}{\cancel{6}_1} = 15$
e) $15 \times \frac{2}{12} = \frac{\cancel{15}^5 \times 1}{\cancel{12}_4} = \frac{5}{2}$

f) $6 \times \frac{3}{4} = \frac{\cancel{6}^3 \times 3}{\cancel{4}_2} = 9$

g) $10 \times \frac{14}{4} = \frac{\cancel{10}^5 \times 7}{\cancel{4}_2} = 35$

[R] Solve:

- a) $5 \times \frac{4}{7} = \frac{5 \times 4}{7} = \frac{20}{7}$
b) $6 \times \frac{2}{5} = \frac{6 \times 2}{5} = \frac{12}{5}$
c) $5 \times \frac{3}{2} = \frac{5 \times 3}{2} = \frac{15}{2}$
d) $5 \times \frac{5}{4} = \frac{5 \times 5}{4} = \frac{25}{4}$

Lesson	52 /120	Curriculum	B5.1.3.1.6 (p.74) e.g.1,2
Teaching Tips	While you are writing on the board, let learners copy it in their exercise books.		
Objective	Ba able to solve (whole number) × (improper fraction).		
Introduction (sample)	Show how to solve (whole number) × (improper fraction) by swapping the order as shown on the board. The order of numbers has been swapped to build on the content covered in the previous lesson.		
Teacher's Note	- Let learners remember that order of numbers in multiplication can be swapped. - Teach by swapping the order of multiplication first to help learners grasp the concept. However, to prevent mistakes, let learners solve problems without changing the order of multiplication. $\frac{2}{3} \times 4$ means $\frac{2}{3}$ groups of 4 which does not make sense. Hence, we swap them.		

<Mental Maths>

- a) $4 \times 3 = 12$ b) $6 \times 3 = 18$ c) $9 \times 3 = 27$
d) $9 \times 4 = 36$ e) $9 \times 6 = 54$

<Homework>

Solve:

- a) $\frac{1}{4} \times 3 = \frac{3}{4}$ b) $\frac{5}{6} \times 5 = \frac{25}{6}$
c) $\frac{7}{4} \times 6 = \frac{21}{2}$ d) $\frac{4}{6} \times 15 = 10$

Confirm that it is the same without swapping the order as shown on the board.

L52: Solve

(Improper fraction) × (Whole number)

$$\frac{2}{3} \times 4 = 4 \times \frac{2}{3} = \frac{4 \times 2}{3} = \frac{8}{3}$$

$$\frac{3}{4} \times 4 = \frac{3 \times 4}{4} = \frac{12}{4} = 3$$

[1] Solve:

a) $\frac{2}{5} \times 3 = \frac{2 \times 3}{5} = \frac{6}{5}$ b) $\frac{2}{3} \times 4 = \frac{2 \times 4}{3} = \frac{8}{3}$

c) $\frac{1}{6} \times 3 = \frac{1 \times 3}{6} = \frac{3}{6} = \frac{1}{2}$

d) $\frac{5}{4} \times 6 = \frac{5 \times 6}{4} = \frac{30}{4} = \frac{15}{2}$

e) $\frac{4}{3} \times 12 = \frac{4 \times 12}{3} = \frac{48}{3} = 16$

f) $\frac{9}{6} \times 8 = \frac{9 \times 8}{6} = \frac{72}{6} = 12$

[2] Solve:

a) $\frac{1}{3} \times 4 = \frac{1 \times 4}{3} = \frac{4}{3}$ b) $\frac{1}{4} \times 7 = \frac{1 \times 7}{4} = \frac{7}{4}$

c) $\frac{3}{5} \times 2 = \frac{3 \times 2}{5} = \frac{6}{5}$ d) $\frac{4}{3} \times 2 = \frac{4 \times 2}{3} = \frac{8}{3}$

e) $\frac{5}{4} \times 6 = \frac{5 \times 6}{4} = \frac{30}{4} = \frac{15}{2}$

f) $\frac{5}{6} \times 12 = \frac{5 \times 12}{6} = \frac{60}{6} = 10$

g) $\frac{8}{20} \times 5 = \frac{8 \times 5}{20} = \frac{40}{20} = 2$

h) $\frac{6}{4} \times 6 = \frac{6 \times 6}{4} = \frac{36}{4} = 9$

[R] Solve:

a) $4 \times \frac{5}{6} = \frac{4 \times 5}{6} = \frac{20}{6} = \frac{10}{3}$

b) $8 \times \frac{9}{4} = \frac{8 \times 9}{4} = \frac{72}{4} = 18$

c) $18 \times \frac{10}{4} = \frac{18 \times 10}{4} = \frac{180}{4} = 45$

Lesson	54 /120	Curriculum	B5.1.4.1.1 (p.76) e.g.2, 4
Teaching Tips	Select some learners to distribute exercise books before the lesson begins.		
Objective	Understand decimal fractions of thousandth.		
Introduction (sample)	- Prepare 10×10 square. Assume each square is 0.001. - Colour a left-top cell to show 0.001. Colour the first row to show 0.01. Colour the 5 squares of the second row to show 0.015. Continue colouring to show e.g. 0.023, 0.05 and 0.065.		
Teacher's Note	- In HTO structure, tens place is shown in capital letter and tenths place is shown in small letter. The same applies to the hundredths and thousandths place. - Clearly explain the difference between the decimal point and the thousands separator.		

<Mental Maths>

- a) $5 \times 3 = 15$ b) $7 \times 3 = 21$ c) $6 \times 5 = 30$
d) $7 \times 6 = 42$ e) $9 \times 7 = 63$

<Homework>

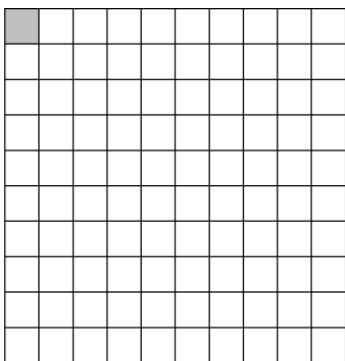
Answer as [1A].

- a) 0.006? **6** b) 0.09? **90**
c) 0.5? **500** d) 2.35? **2350**

Explain briefly what to answer.

Add zeros so that there are three numbers after the decimal point.

L54: Understand thousandth



$$0.012 = 12 \times 0.001$$

$$0.05 = 0.050 = 50 \times 0.001$$

[1A] How many thousandths are in:

- a) 0.004? **4** b) 0.013? **13**
c) 0.03? **30** d) 0.37? **370**

[1B] In 0.387,
what is the place value of:

- a) 3? 0.3 b) 8? **0.08**
c) 7? **0.007**

[2A] In 1.807,
what is the place value of:

- a) 8? **0.8** b) 7? **0.007**

[2B] Answer as [1A].

- a) 0.007? **7** b) 0.05? **50**
c) 0.23? **230** d) 0.3? **300**
e) 1.25? **1250** f) 4.01? **4010**

[R] Solve:

$$a) 3 \times 1\frac{1}{2} = 3 \times \frac{3}{2} = \frac{3 \times 3}{2} = \frac{9}{2}$$

$$b) 6 \times 1\frac{3}{4} = 6 \times \frac{7}{4} = \frac{6^3 \times 7}{4_2} = \frac{21}{2}$$

$$c) 2\frac{3}{8} \times 4 = \frac{19}{8} \times 4 = \frac{19 \times 4^1}{8_2} = \frac{19}{2}$$

$$d) 2\frac{2^1}{4_2} \times 12 = \frac{5}{2} \times 12 = \frac{5 \times 12^6}{2_1} = 30$$

Lesson	55 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. - After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L51, [2]: L52, [3]: L53, [4]: L54.		

<Mental Maths>

a) $8 \times 2 = 16$ b) $8 \times 3 = 24$ c) $8 \times 4 = 32$
d) $9 \times 5 = 45$ e) $9 \times 8 = 72$

<Homework>

*No homework.

L55: Review

[1] Solve:

$$a) 6 \times \frac{3}{4} = \frac{6^3 \times 3}{4_2} = \frac{9}{2} = 4\frac{1}{2}$$

$$b) 8 \times \frac{5}{12} = \frac{8^2 \times 5}{12_3} = \frac{10}{3} = 3\frac{1}{3}$$

$$c) 8 \times \frac{5}{4} = \frac{8^2 \times 5}{4_1} = 10$$

[2] Solve:

$$a) \frac{3}{4} \times 7 = \frac{3 \times 7}{4} = \frac{21}{4} = 5\frac{1}{4}$$

$$b) \frac{7}{20} \times 5 = \frac{7 \times 5^1}{20_4} = \frac{7}{4} = 1\frac{3}{4}$$

$$c) \frac{4}{3} \times 9 = \frac{4 \times 9^3}{3_1} = 12$$

[3] Solve:

$$a) 4 \times 1\frac{2}{3} = 4 \times \frac{5}{3} = \frac{4 \times 5}{3} = \frac{20}{3} = 6\frac{2}{3}$$

$$b) 1\frac{3}{5} \times 3 = \frac{8}{5} \times 3 = \frac{8 \times 3}{5} = \frac{24}{5} = 4\frac{4}{5}$$

$$c) 3\frac{2^1}{4_2} \times 6 = \frac{7}{2} \times 6 = \frac{7 \times 6^3}{2_1} = 21$$

[4] How many thousandths are in:

a) 0.005? 5 b) 0.017? 17
c) 0.04? 40

Lesson	56 /120	Curriculum	B5.1.4.1.1 (p.76) e.g.1
Teaching Tips	Have learners recall what they learned in previous lessons.		
Objective	Understand decimal fractions of thousandth on the number line.		
Introduction (sample)	- Draw a number line as shown on the board. - Count the numbers on the two number lines.		
Teacher's Note	Counting on the number line help learners understand relative size of decimal numbers.		

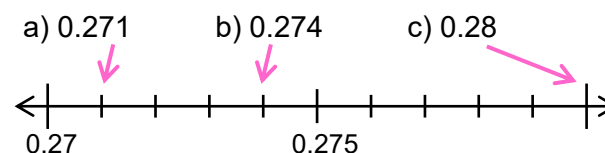
<Mental Maths>

a) $32 \div 8 = 4$ b) $36 \div 9 = 4$ c) $45 \div 5 = 9$

d) $54 \div 6 = 9$ e) $63 \div 9 = 7$

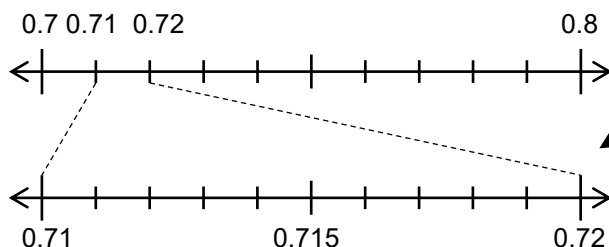
<Homework>

Answer as [1A].

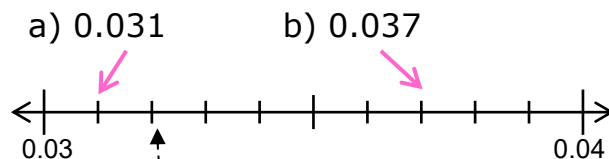


Let learners realise that thousandth are in between hundredth.

L56: Thousandth on the number line

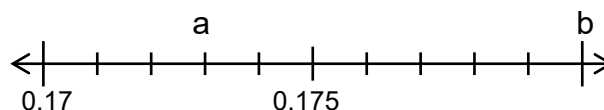


[1A] Show the numbers on the number line.



Let learners show the answer by drawing an arrow.

[1B] What is the value below?

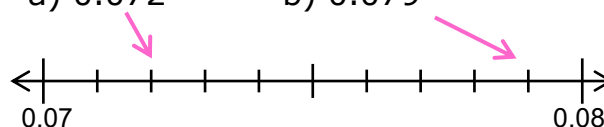


a) 0.173 b) 0.18

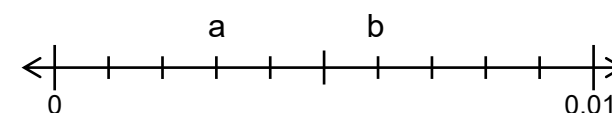
.....

[2A] Answer as [1A].

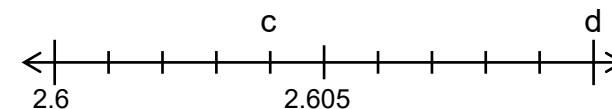
a) 0.072 b) 0.079



[2B] Answer as [1B].



a) 0.003 b) 0.006



c) 2.604 d) 2.61

[R] How many thousandths are in:

a) 0.009? 9 b) 0.023? 23

c) 0.03? 30 d) 0.4? 400

Lesson	58 /120	Curriculum	B5.1.4.1.2 (p.78) e.g.1; B5.1.4.1.3 (p.79) e.g.3
Teaching Tips	If more than half of the learners cannot solve the first task, explain how to solve it using it.		
Objective	Be able to compare common and decimal fractions.		
Introduction (sample)	- Show how to convert a common fraction to a decimal fraction by long division. a) $\frac{3}{8} = 3 \div 8 = 0.375$ b) $\frac{2}{3} = 2 \div 3 = 0.666\dots$ - Note that a) is a terminating decimal, whereas b) is a non-terminating decimal.		
Teacher's Note	- Learners learnt long division in B4 and L33-37 of B5. - In some cases, it is better to compare by converting decimal fractions to common fractions. However, converting to decimal fractions is more widely applicable.		

<Mental Maths>

- a) $35 \div 7 = 5$ b) $40 \div 8 = 5$ c) $48 \div 6 = 8$
 d) $56 \div 7 = 8$ e) $72 \div 8 = 9$

<Homework>

Answer as [1B].

- a) $\frac{5}{8} > 0.62$ b) $\frac{1}{3} < 0.4$
 c) $\frac{2}{9} > 0.22$ d) $\frac{8}{7} < 1.15$

Use the result of [1A] in a).

L58: Compare common and decimal fractions

To compare common and decimal fractions, convert the common fraction to decimal fraction.

[1A] Convert $\frac{1}{8}$ to decimal fractions.

$$\begin{array}{r} 0.125 \\ 8 \overline{) 1.000} \\ \underline{8} \\ 20 \\ \underline{16} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

[1B] Write $>$, $<$ or $=$.

- a) $\frac{1}{8} > 0.123$ b) $\frac{2}{3} < 0.7$
 0.125 0.66...

- c) $\frac{1}{6} > 0.16$
 0.166...

[2A] Convert $\frac{5}{8}$ to decimal fractions.

$$\begin{array}{r} 0.625 \\ 8 \overline{) 5.000} \\ \underline{4} \\ 10 \\ \underline{8} \\ 20 \\ \underline{16} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

[2B] Answer as [1B].

- a) $\frac{5}{8} < 0.65$ b) $\frac{1}{3} > 0.3$
 0.625 0.33...
 c) $\frac{2}{9} < 0.23$ d) $\frac{8}{7} > 1.14$
 0.22... 1.142...

[R] Fill in the blanks.

- a) $0.007\text{L} = \underline{7}\text{mL}$
 b) $75\text{g} = \underline{0.075}\text{kg}$
 c) $276\text{mL} = \underline{0.276}\text{L}$
 d) $1.069\text{kg} = \underline{1069}\text{g}$

Lesson	59 /120	Curriculum	B5.1.3.1.2 (p.72) e.g.2; B5.1.4.1.2 (p.78) e.g.1,2
Teaching Tips	Have learners copy everything from the board into their exercise books.		
Objective	Be able to compare common and decimal fractions.		
Introduction (sample)	- Show how to order the following by converting to decimal fractions. $\frac{5}{8}, 0.6, \frac{6}{9}, 0.65, 0.7$ $0.6, \frac{5}{8}, 0.65, \frac{6}{9}, 0.7$ $\frac{5}{8} = 5 \div 8 = 0.625$ $\frac{6}{9} = \frac{2}{3} = 2 \div 3 = 0.666 \dots$ - Write the rule as shown on the board.		
Teacher's Note	- Comparing numbers by hiding some numbers is a useful method. - When ordering, you need to compare numbers. Hence, comparing and ordering are not two different topics.		

<Mental Maths>

- a) $36 \div 4 = 9$ b) $42 \div 6 = 7$ c) $48 \div 8 = 6$
d) $56 \div 8 = 7$ e) $72 \div 9 = 8$

<Homework>

Answer as [2A].

$$0.63 \quad \frac{5}{8} \quad \frac{3}{5} \quad 0.61 \quad \frac{3}{5} \quad 0.61 \quad \frac{5}{8} \quad 0.63$$

$$0.625 \quad 0.6$$

$$\frac{7}{8} \quad 0.9 \quad 0.8 \quad \frac{3}{3} \quad \frac{3}{3} \quad 0.9 \quad \frac{7}{8} \quad 0.8$$

$$0.875 \quad 1$$

L59: Order common and decimal fractions

Hide the same decimal places to compare the numbers.

[1] Order from small to big.

a) $\frac{1}{2} \quad 0.4 \quad 0.3 \quad \frac{1}{4}$ **$\frac{1}{4} \quad 0.3 \quad 0.4 \quad \frac{1}{2}$**
0.5 0.25

b) $0.25 \quad \frac{3}{10} \quad \frac{1}{5} \quad 0.23$ **$\frac{1}{5} \quad 0.23 \quad 0.25 \quad \frac{3}{10}$**
0.3 0.2

c) $0.88 \quad \frac{7}{8} \quad \frac{18}{20} \quad 0.87$ **$0.87 \quad \frac{7}{8} \quad 0.88 \quad \frac{18}{20}$**
0.875 0.9

.....

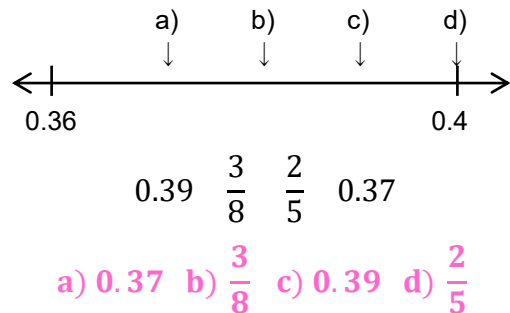
[2A] Order from big to small.

a) $0.2 \quad \frac{3}{4} \quad 0.6 \quad \frac{1}{3}$ **$\frac{3}{4} \quad 0.6 \quad \frac{1}{3} \quad 0.2$**
0.75 0.33...

b) $0.65 \quad \frac{3}{5} \quad \frac{10}{15} \quad 0.67$ **$0.67 \quad \frac{10}{15} \quad 0.65 \quad \frac{3}{5}$**
0.6 0.666...

c) $\frac{5}{6} \quad 0.83 \quad \frac{12}{15} \quad 0.835$ **$0.835 \quad \frac{5}{6} \quad 0.83 \quad \frac{12}{15}$**
0.833... 0.8

[2B] Select the values on the number line.



[R] Write <, > or =.

a) $\frac{1}{8} = 0.125$ b) $\frac{1}{3} < 0.4$
c) $\frac{5}{6} > 0.83$

Simplify before converting to decimal fractions.

Lesson	60 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L51, [2]: L52, [3]: L53, [4]: L54.		

<Mental Maths>

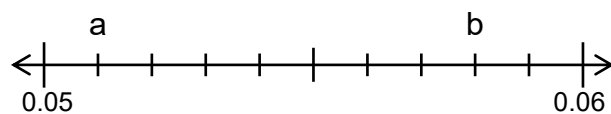
- a) $36 \div 6 = 6$ b) $42 \div 7 = 6$ c) $49 \div 7 = 7$
d) $63 \div 7 = 9$ e) $81 \div 9 = 9$

<Homework>

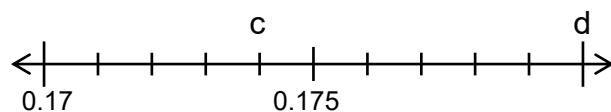
*No homework.

L60: Review

[1] What is the value below?



- a) **0.051** b) **0.058**



- c) **0.174** d) **0.18**

[2] Fill in the blanks

- a) $0.006\text{kg} = \underline{6}\text{ g}$
b) $37\text{mL} = \underline{0.037}\text{ L}$
c) $264\text{g} = \underline{0.264}\text{ kg}$
d) $2.345\text{L} = \underline{2345}\text{ mL}$

[3] Write $>$, $<$ or $=$.

- a) $\frac{1}{8} = 0.125$ b) $\frac{2}{3} > 0.6$
0.125 **0.66...**
c) $\frac{5}{6} < 0.84$
0.83

[4] Order from big to small.

- a) 0.2 $\frac{1}{4}$ 0.5 $\frac{1}{3}$ **0.5 $\frac{1}{3}$ $\frac{1}{4}$ 0.2**
0.25 **0.33...**
b) $\frac{2}{3}$ 0.67 $\frac{9}{15}$ 0.65 **0.67 $\frac{2}{3}$ 0.65 $\frac{9}{15}$**
0.66... **0.6**

Lesson	61 /120	Curriculum	B5.1.4.1.3 (p.79) e.g.1-3
Teaching Tips	Divide the board into two parts and copy the teacher manual as it is. Once learners have copied it, erase the left part to write the right part of the teacher manual.		
Objective	Be able to round off decimal fractions to the nearest tenth and hundredth.		
Introduction (sample)	- Review the term "round off" and write the rule as shown on the board. - Round off $\frac{11}{8}$ as shown on the board. Use long division to convert $\frac{11}{8} = 1.375$.		
Teacher's Note	- Refer to L9 for rounding whole numbers. - B4 learners learnt rounding decimals to the nearest tenth.		

<Mental Maths>

- a) $1 - 0.7 = 0.3$ b) $0.9 + 0.2 = 1.1$ c) $0.6 + 0.5 = 1.1$
d) $0.3 + 0.8 = 1.1$ e) $1.1 - 0.2 = 0.9$

<Homework>

Round 23.495 to the nearest:

- a) whole number. **23**
b) nearest tenth. **23.5**
c) nearest hundredth. **23.5**

When rounding off, if the answer is carrying to the next place, rewrite the answer next to it.

L61: Round decimal fractions

Round off 0, 1, 2, 3, 4 → 0

5, 6, 7, 8, 9 → 10

Round off $\frac{11}{8}$ to the nearest:

- a) whole number. **1.357** **1**
b) tenth. **1.357** **1.4**
c) hundredth. **1.357** **1.36**

[1A] Round off 2.365 to the nearest:

- a) whole number. **2.365** **2**
b) tenth. **2.365** **2.4**
c) hundredth. **2.365** **2.37**

[1B] Convert to decimal fractions and round it off to the nearest hundredth.

- a) $\frac{5}{8} = 0.625$ **0.63** b) $\frac{1}{3} = 0.333...$

.....
[2] Answer as [1B].

- a) $\frac{2}{3} = 0.666...$ **0.67** b) $\frac{1}{7} = 0.142...$
c) $\frac{9}{8} = 1.125$ **1.13** d) $\frac{10}{3} = 3.333...$
e) $\frac{22}{14} = \frac{11}{7} = 1.571...$

f) $\frac{42}{16} = \frac{21}{8} = 2.625$ **2.63**

[R] Order from big to small.

- a) 0.4, $\frac{2}{3}$, $\frac{1}{3}$, 0.7 **0.7, $\frac{2}{3}$, 0.4, $\frac{1}{3}$**
0.66... 0.33...
b) $0.12, \frac{1}{8}, \frac{1}{9}, 0.11$ **$\frac{1}{8}, 0.12, \frac{1}{9}, 0.11$**
0.125 0.11...
c) $0.57, \frac{4}{7}, \frac{5}{8}, 0.62$ **$\frac{5}{8}, 0.62, \frac{4}{7}, 0.57$**
0.571 0.625

Lesson	62 /120	Curriculum	B5.1.4.1.4 (p.80) e.g.1
Teaching Tips	Encourage learners to write in their exercise books. The more they write, the better their writing skills will become.		
Objective	Be able to add decimal fractions of thousandth with no regrouping or regrouping once.		
Introduction (sample)	- Explain the concept of adding thousandths as shown on the board. - Show how to add decimal numbers using column method as shown on the board.		
Teacher's Note	In the mental math, learners need to add and subtract decimal fractions which is the content of B4. Since some learners may forget it, please let them remember it.		

*"as shown on the board" in the introduction part is written here.
Let learners copy it during introduction time.*

L62: Add thousandth

$$0.025 + 0.013 = 0.038$$

$$\begin{array}{r} 25 \\ 1000 \end{array} \quad \begin{array}{r} 13 \\ 1000 \end{array} \quad \begin{array}{r} 38 \\ 1000 \end{array}$$

$$\begin{array}{r} 0.074 \\ + 0.053 \\ \hline 0.127 \end{array} \quad \begin{array}{r} 0.134 \\ + 0.349 \\ \hline 0.483 \end{array}$$

[1] Solve:

$$\begin{array}{r} \text{a)} \\ 0.015 \\ + 0.034 \\ \hline 0.049 \end{array} \quad \begin{array}{r} \text{b)} \\ 0.072 \\ + 0.053 \\ \hline 0.125 \end{array}$$

$$\text{c) } 0.247 + 0.435 \quad \text{d) } 0.465 + 0.053$$

$$\begin{array}{r} 0.247 \\ + 0.435 \\ \hline 0.682 \end{array} \quad \begin{array}{r} 0.465 \\ + 0.053 \\ \hline 0.518 \end{array}$$

[2] Solve:

$$\text{a) } 0.068 + 0.029 \quad \text{b) } 0.083 + 0.075$$

$$\begin{array}{r} 0.068 \\ + 0.029 \\ \hline 0.097 \end{array} \quad \begin{array}{r} 0.083 \\ + 0.075 \\ \hline 0.158 \end{array}$$

$$\text{c) } 0.659 + 0.223 \quad \text{d) } 0.365 + 0.251$$

$$\begin{array}{r} 0.659 \\ + 0.223 \\ \hline 0.882 \end{array} \quad \begin{array}{r} 0.365 \\ + 0.251 \\ \hline 0.616 \end{array}$$

<Mental Maths>

$$\text{a) } 1 - 0.8 = 0.2 \quad \text{b) } 0.8 + 0.3 = 1.1 \quad \text{c) } 0.5 + 0.6 = 1.1$$

$$\text{d) } 0.2 + 0.9 = 1.1 \quad \text{e) } 1.1 - 0.3 = 0.8$$

<Homework>

Solve:

$$\text{a) } 0.041 + 0.035 = 0.076$$

$$\text{b) } 0.075 + 0.041 = 0.116$$

$$\text{c) } 0.412 + 0.053 = 0.465$$

$$\text{d) } 0.241 + 0.319 = 0.56$$

0.390 means 0.39.

$$\text{e) } 0.048 + 0.235 \quad \text{f) } 0.358 + 0.032$$

$$\begin{array}{r} 0.048 \\ + 0.235 \\ \hline 0.283 \end{array} \quad \begin{array}{r} 0.358 \\ + 0.032 \\ \hline 0.390 \end{array}$$

[R] Round 3.499 to the nearest:

$$\begin{array}{ll} \text{a) whole number.} & 3.499 \quad 3 \\ \text{b) tenth.} & 3.499 \quad 3.5 \\ \text{c) hundredth.} & 3.499 \quad 3.5 \end{array}$$

Give [R] if you have time; skip it if not.

Lesson	63 /120	Curriculum	B5.1.4.1.4 (p.80) e.g.2
Teaching Tips	Have learners read the sentences, pointing to each word with your finger. Support learners if they have difficulty reading any of the words.		
Objective	Be able to subtract decimal fractions of thousandth with no regrouping or regrouping once.		
Introduction (sample)	- Explain the concept of adding thousandths as shown on the board. - Show how to solve the following using column method as shown on the board.		
Teacher's Note	Use column method to subtract decimal fractions.		

<Mental Maths>

- a) $1 - 0.9 = 0.1$ b) $0.7 + 0.4 = 1.1$ c) $0.4 + 0.7 = 1.1$
d) $0.9 + 0.3 = 1.2$ e) $1.1 - 0.4 = 0.7$

<Homework>

Solve:

- a) $0.058 - 0.014 = 0.044$
b) $0.127 - 0.097 = 0.03$
c) $0.735 - 0.252 = 0.483$
d) $0.574 - 0.032 = 0.542$

*This dotted line separates exercise part 1 and 2.
Write all the black parts up to this line in exercise part 1.*

L63: Subtract thousandth

$$0.025 - 0.013 = 0.012$$

$$\begin{array}{r} 25 \\ \hline 1000 \end{array} \quad \begin{array}{r} 13 \\ \hline 1000 \end{array} \quad \begin{array}{r} 12 \\ \hline 1000 \end{array}$$

$$\begin{array}{r} 0.156 \\ - 0.021 \\ \hline 0.135 \end{array} \quad \begin{array}{r} 0.483 \\ - 0.249 \\ \hline 0.234 \end{array}$$

[1] Solve:

a)
$$\begin{array}{r} 0.035 \\ - 0.014 \\ \hline 0.021 \end{array}$$

b)
$$\begin{array}{r} 0.154 \\ - 0.063 \\ \hline 0.091 \end{array}$$

c) $0.635 - 0.253$ d) $0.375 - 0.046$

$$\begin{array}{r} 0.635 \\ - 0.253 \\ \hline 0.382 \end{array} \quad \begin{array}{r} 0.375 \\ - 0.046 \\ \hline 0.329 \end{array}$$

[2] Solve:

a) $0.054 - 0.029$ b) $0.089 - 0.069$

$$\begin{array}{r} 0.054 \\ - 0.029 \\ \hline 0.025 \end{array} \quad \begin{array}{r} 0.089 \\ - 0.069 \\ \hline 0.020 \end{array}$$

c) $0.752 - 0.425$ d) $0.729 - 0.253$

$$\begin{array}{r} 0.752 \\ - 0.425 \\ \hline 0.327 \end{array} \quad \begin{array}{r} 0.729 \\ - 0.253 \\ \hline 0.476 \end{array}$$

e) $0.665 - 0.306$ f) $0.293 - 0.046$

$$\begin{array}{r} 0.665 \\ - 0.306 \\ \hline 0.359 \end{array} \quad \begin{array}{r} 0.293 \\ - 0.046 \\ \hline 0.247 \end{array}$$

[R] Solve:

a) $0.092 + 0.054$ b) $0.347 + 0.415$

$$\begin{array}{r} 0.092 \\ + 0.054 \\ \hline 0.146 \end{array} \quad \begin{array}{r} 0.347 \\ + 0.415 \\ \hline 0.762 \end{array}$$

c) $0.352 + 0.366$ d) $0.065 + 0.425$

$$\begin{array}{r} 0.352 \\ + 0.366 \\ \hline 0.718 \end{array} \quad \begin{array}{r} 0.065 \\ + 0.425 \\ \hline 0.490 \end{array}$$

Lesson	65 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. - After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L56, [2]: L57, [3]: L58, [4]: L59.		

<Mental Maths>

a) $0.7 + 0.5 = 1.2$ b) $0.4 + 0.8 = 1.2$ c) $1.1 - 0.6 = 0.5$
d) $1.1 - 0.9 = 0.2$ e) $1.2 - 0.5 = 0.7$

<Homework>

*No homework.

L65: Review

[1] Convert to decimal fractions and round it off to the nearest hundredth.

a) $\frac{7}{8} = 0.875$ **0.88** b) $\frac{1}{6} = 0.166...$ **0.17**

[2] Solve: a) $0.058 + 0.029$

$$\begin{array}{r} 0.058 \\ + 0.029 \\ \hline 0.087 \end{array}$$

b) $0.456 + 0.383$ c) $0.068 + 0.223$

$$\begin{array}{r} 0.456 \\ + 0.383 \\ \hline 0.839 \end{array}$$

$$\begin{array}{r} 0.068 \\ + 0.223 \\ \hline 0.291 \end{array}$$

[3] Solve:

a) $0.074 - 0.029$ b) $0.452 - 0.124$

$$\begin{array}{r} 0.074 \\ - 0.029 \\ \hline 0.045 \end{array}$$

$$\begin{array}{r} 0.452 \\ - 0.124 \\ \hline 0.328 \end{array}$$

c) $0.845 - 0.408$

$$\begin{array}{r} 0.845 \\ - 0.408 \\ \hline 0.437 \end{array}$$

[4] Solve:

a) $0.245 + 0.287$ b) $0.426 - 0.169$

$$\begin{array}{r} 0.245 \\ + 0.287 \\ \hline 0.532 \end{array}$$

$$\begin{array}{r} 0.426 \\ - 0.169 \\ \hline 0.257 \end{array}$$

c) $0.158 + 0.378$

$$\begin{array}{r} 0.158 \\ + 0.378 \\ \hline 0.536 \end{array}$$

Lesson	67 /120	Curriculum	B5.1.4.1.5 (p.81) e.g.1,2
Teaching Tips	While you are writing on the board, let learners copy it in their exercise books.		
Objective	Understand how to multiply and divide a decimal fraction by 10 and 100.		
Introduction (sample)	- Show how to calculate 10×0.34 as shown on the board. - Explain the relationship between decimal points and $\times 10$ ($\div 10$) as shown on the board.		
Teacher's Note	- Multiplying 10 (100) moves the decimal point 1 (2) places left. - Dividing by 10 (100) moves the decimal point 1 (2) places right.		

<Mental Maths>

- a) $0.9 + 0.4 = 1.3$ b) $0.6 + 0.7 = 1.3$ c) $1.2 - 0.7 = 0.5$
d) $1.3 - 0.4 = 0.9$ e) $1.3 - 0.7 = 0.6$

<Homework>

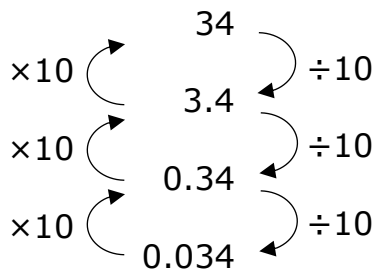
Solve:

- a) $10 \times 0.68 = 6.8$ b) $100 \times 0.145 = 14.5$
c) $0.23 \times 10 = 2.3$ d) $0.56 \times 100 = 56$
e) $0.2 \div 10 = 0.02$ f) $5.6 \div 100 = 0.056$

L67: Solve

(whole number) $\times$ (decimal fraction)

$$10 \times 0.34 = 10 \times \frac{34}{100} = \frac{34}{10} = 3.4$$



$\times 10$ moves decimal point right

$\div 10$ moves decimal point left

[1] Solve:

- a) $10 \times 0.2 = 2$ b) $100 \times 0.15 = 15$
c) $1.72 \times 10 = 17.2$
d) $0.253 \times 100 = 25.3$
e) $0.2 \div 10 = 0.02$
f) $27 \div 100 = 0.27$

[2] Solve:

- a) $10 \times 0.5 = 5$ b) $100 \times 0.015 = 1.5$
c) $0.17 \times 100 = 17$
d) $0.132 \times 100 = 13.2$

- e) $4 \div 10 = 0.4$ f) $2.3 \div 10 = 0.23$
g) $4.6 \div 100 = 0.046$
h) $18.3 \div 100 = 0.183$

[R] Solve:

- a) $0.6 + 0.073 = 0.673$
b) $0.28 - 0.155 = 0.125$
c) $0.325 + 0.49 = 0.815$
d) $0.4 - 0.037 = 0.363$

Lesson	68 /120	Curriculum	B5.1.4.1.5 (p.81) e.g.3
Teaching Tips	Have learners repeat what you said to check their understanding.		
Objective	Be able to solve (whole number)×(decimal fraction) and vice versa.		
Introduction (sample)	- Show how to calculate 4×0.3 by converting to the common fraction as shown on the board. - Show how to solve the following by swapping the order. a) $0.6 \times 3 = 3 \times 0.6 = 1.8$ b) $0.4 \times 5 = 5 \times 0.4 = 2$		
Teacher's Note	- In the introduction, show (whole number) × (decimal fraction) by converting to (whole number) × (common fraction). However, they are expected to solve (whole number) × (decimal fraction) by applying the rule. - The procedure will also be used in the later grade.		

<Mental Maths>

- a) $0.8 + 0.5 = 1.3$ b) $0.5 + 0.8 = 1.3$ c) $1.2 - 0.8 = 0.4$
 d) $1.3 - 0.5 = 0.8$ e) $1.3 - 0.8 = 0.5$

<Homework>

Solve:

- a) $0.6 \times 3 = 1.8$ b) $0.7 \times 6 = 4.2$
 c) $0.08 \times 9 = 0.72$ d) $0.5 \times 6 = 3$
 e) $3 \times 0.3 = 0.9$ f) $5 \times 0.7 = 3.5$
 g) $9 \times 0.07 = 0.63$ h) $8 \times 0.05 = 4$

Although, the notation of moving decimals is not correct, this idea helps learners.

L68: Solve

(decimal fraction)×(whole number)

$$\begin{array}{rcl}
 4 \times 0.3 & 1.2 \\
 \downarrow \times 10 & \uparrow \div 10 \\
 4 \times 3 = 12
 \end{array}$$

- Calculate as whole number.
- Move the decimal point.

[1] Solve:

- a) $2 \times 0.3 = 6. = 0.6$
 b) $4 \times 0.6 = 24. = 2.4$
 c) $5 \times 0.07 = 35. = 0.35$

- d) $4 \times 0.5 = 20. = 2$
 e) $0.04 \times 4 = 16. = 0.16$
 f) $0.05 \times 7 = 35. = 0.35$
 g) $0.5 \times 8 = 40. = 4$
 h) $0.06 \times 5 = 30. = 0.3$

.....

[2] Solve:

- a) $3 \times 0.7 = 2.1$ b) $8 \times 0.8 = 6.4$
 c) $5 \times 0.4 = 2$ d) $9 \times 0.08 = 0.72$
 e) $8 \times 0.05 = 0.4$ f) $0.3 \times 6 = 1.8$

- g) $0.7 \times 8 = 5.6$ h) $0.09 \times 9 = 0.81$
 i) $0.05 \times 2 = 0.1$ j) $6 \times 0.05 = 0.3$

[R] Solve:

- a) $10 \times 0.03 = 0.3$
 b) $100 \times 0.75 = 75$
 c) $0.65 \times 10 = 6.5$
 d) $0.346 \times 100 = 34.6$
 e) $4 \div 10 = 0.4$
 f) $45 \div 100 = 0.45$

Move the decimal point as many as the original number sentence.

Lesson	70 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. - After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L66, [2]: L67, [3]: L68, [4]: L69.		

<Mental Maths>

a) $0.9 + 0.5 = 1.4$ b) $0.6 + 0.8 = 1.4$ c) $0.8 + 0.7 = 1.5$
d) $1.4 - 0.5 = 0.9$ e) $1.4 - 0.8 = 0.6$

<Homework>

*No homework.

L70: Review

[1] Solve:

a) $0.19 - 0.064$ b) $0.215 + 0.7$

$$\begin{array}{r} 0.19 \\ - 0.064 \\ \hline 0.126 \end{array}$$

$$\begin{array}{r} 0.215 \\ + 0.7 \\ \hline 0.915 \end{array}$$

c) $0.4 - 0.065$

$$\begin{array}{r} 0.4 \\ - 0.065 \\ \hline 0.335 \end{array}$$

[2] Solve:

- a) $0.27 \times 10 = 2.7$
b) $0.253 \times 100 = 25.3$
c) $27 \div 10 = 2.7$
d) $253 \div 100 = 2.53$

[3] Solve:

- a) $6 \times 0.6 = 3.6$
b) $6 \times 0.5 = 3$
c) $0.07 \times 7 = 0.49$
d) $0.05 \times 8 = 0.4$

[4] What is:

a) 50% of 42?

$$\frac{50}{100} \times 42 = \frac{1 \times 42}{2} = 21$$

b) 25% of 120?

$$\frac{25}{100} \times 120 = \frac{1 \times 120}{4} = 30$$

Lesson	71 /120	Curriculum	B5.1.5.1.3 (p.83) e.g.1
Teaching Tips	Have learners recall what they learned in previous lessons.		
Objective	Be able to solve word problems with discounting price.		
Introduction (sample)	Tell the difference between 40% of 50 and 40% off of 50 as shown on the board.		
Teacher's Note	Simplifying twice is necessary in this lesson.		

<Mental Maths>

- a) $0.8+0.6=$ **1.4** b) $0.5+0.9=$ **1.4** c) $0.7+0.8=$ **1.5**
d) $1.4 - 0.6 =$ **0.8** e) $1.4 - 0.9 =$ **0.5**

<Homework>

Akua get 80% correct out of 35 questions in Math. How many questions did she get correct?

$$\frac{80}{100} \times 35 = 28, 28 \text{ questions}$$

L71: Word problems of percentage

40% of 50 is

$$\frac{40}{100} \times 50 = \frac{2 \times 50}{5} = 20$$

40% off of 50 means you subtract

40% of 50 from 50. $50 - 20 = 30$.

[1A] A bag is sold for ₦150 at a store.

It is 30% off today.

How much does it cost?

$$\frac{30}{100} \times 150 = \frac{3 \times 150}{10} = 45$$

$$150 - 45 = 105, \text{ ₦}105.$$

[1B] In a factory, 15% of the items are defective. If the factory produces 280 items, how many are defective?

$$\frac{15}{100} \times 280 = \frac{3 \times 280}{20} = 42, 42 \text{ items}$$

[2A] A T-shirt is sold for ₦160 at a store. It is 35% off today.

How much does it cost?

$$\frac{35}{100} \times 160 = \frac{7 \times 160}{20} = 56$$

$$160 - 56 = 104, \text{ ₦}104.$$

[2B] Adowa get 55% correct out of 40 questions in English.

How many questions did she get correct?

$$\frac{55}{100} \times 40 = \frac{11 \times 40}{20} = 22$$

22 questions

[R] What is:

a) 20% of 35? $\frac{20}{100} \times 35 = \frac{1 \times 35}{5} = 7$

b) 75% of 24? $\frac{75}{100} \times 24 = \frac{3 \times 24}{4} = 18$

c) 45% of 80? $\frac{45}{100} \times 80 = \frac{9 \times 80}{20} = 36$

Lesson	72 /120	Curriculum	B5.1.5.1.3 (p.83) e.g.2
Teaching Tips	Organise the board so that others can understand the lesson content just by looking at it.		
Objective	Be able to interpret circle graphs.		
Introduction (sample)	Show how to find the value in a circle graph. There are 80 learners in a class. How many learners are: a) 11 years old? $\frac{50}{100} \times 80 = 40$ b) 13 years old? $\frac{10}{100} \times 80 = 8$ c) 10 and 12 years old? $25 + 15 = 40, \frac{40}{100} \times 80 = 32$ 13 years 10% 12 years 15% 10 years 25%		
Teacher's Note	In [2], d) is to confirm that if we add all types, it becomes the total number. This idea is useful for checking the solution.		

<Mental Maths>

- a) $0.7 + 0.7 = 1.4$ b) $0.9 + 0.6 = 1.5$ c) $0.6 + 0.9 = 1.5$
d) $1.4 - 0.7 = 0.7$ e) $1.5 - 0.6 = 0.9$

<Homework>

Use the graph of [2].

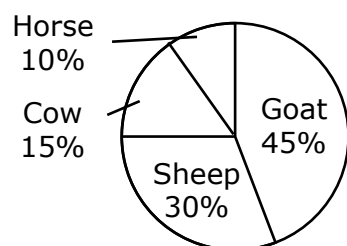
How many of them come by:

- a) bike? $\frac{20}{100} \times 60 = 12$
b) car? $\frac{5}{100} \times 60 = 3$

The total becomes 60.

L72: Interpret circle graph

[1] There are 140 animals.



How many of them are:

a) sheeps?

$$\frac{30}{100} \times 140 = \frac{3 \times 140}{10} = 42, 42 \text{ sheeps}$$

b) cows?

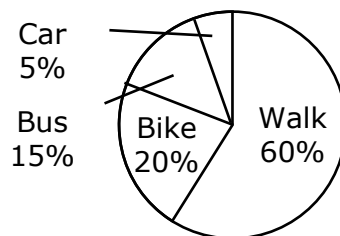
$$\frac{15}{100} \times 140 = \frac{3 \times 140}{20} = 21, 21 \text{ cows}$$

c) goats and horses altogether?

$$45 + 10 = 55\%$$

$$\frac{55}{100} \times 140 = \frac{11 \times 140}{20} = 77, 77 \text{ altogether}$$

[2] 60 learners are in a class.



How many of them come by: a) walk?

$$\frac{60}{100} \times 60 = \frac{3 \times 60}{5} = 36, 36 \text{ learners}$$

b) bus?

$$\frac{15}{100} \times 60 = \frac{3 \times 60}{20} = 9, 9 \text{ learners}$$

c) bike and car altogether?

$$20 + 5 = 25\%$$

$$\frac{25}{100} \times 60 = \frac{1 \times 60}{4} = 15, 15 \text{ learners}$$

d) Add all the answers in a) to c).

$$36 + 9 + 15 = 60, 60 \text{ learners}$$

[R] A book is sold for ₦180 at a store. It is 30% off today.

How much does it cost?

$$\frac{30}{100} \times 180 = \frac{3 \times 180}{10} = 54$$

$$180 - 54 = 126, \text{ ₦126.}$$

Lesson	73 /120	Curriculum	B5.1.1.1.6 (p.59) e.g.1,2; B5.2.1.1.1 (p.84) e.g.1,2
Teaching Tips	If more than half of the learners cannot solve the first task, explain how to solve it using it.		
Objective	- Understand the base-ten number system by practising skip counting in 500s and 1000s up to 100,000. - Be able to extend a pattern.		
Introduction (sample)	- Make a group of 3 to 4 learners. Skip count in turn. a) start from 120, skip count in 20 up to 280. c) start from 300, skip count in 50 up to 900. d) start from 2000, skip count in 500 up to 8000.		
Teacher's Note	Explain the term, diagonally, in the homework.		

<Mental Maths>

- a) $0.9 + 0.7 = 1.6$ b) $0.9 + 0.8 = 1.7$ c) $1.5 - 0.7 = 0.8$
 d) $1.6 - 0.7 = 0.9$ e) $1.7 - 0.8 = 0.9$

<Homework>

Answer using [2]. Find the pattern if you look:

- a) lower right diagonally. **Add 110**
 b) upper right diagonally. **Subtract 90**

L73: Identify patterns in a chart

[1] Fill in the blanks.

a) Increase by 10.

10 20 30 40 50

b) Decrease by 20.

100 80 60 40 20

c) Increase by 50.

200 250 300 350 400

d) Decrease by 1000.

22,000 21,000 20,000 19,000

e) Increase by 500.

1,500 2,000 2,500 3,000 3,500

.....

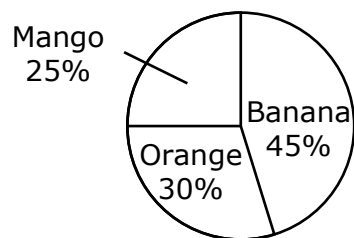
[2] a) Fill in the chart.

610	620	630	640	650	660	670	680	690	700
710	720	730	740	750	760	770	780	790	800
810	820	830	840	850	860	870	880	890	900
910	920	930	940	950	960	970	980	990	1000

Find the pattern if you look from:

- b) right to left. **Subtract 10**
 c) up to down. **Add 100**

[R] There are 180 fruits.



How many of them are:

a) oranges?

$$\frac{30}{100} \times 180 = \frac{3 \times 180}{10} = 54, 54 \text{ oranges}$$

b) mangoes?

$$\frac{25}{100} \times 180 = \frac{1 \times 180}{4} = 45, 45 \text{ mangoes}$$

Lesson	74 /120	Curriculum	B5.2.1.1.2 (p.85) e.g.1,2											
Teaching Tips	Have learners copy everything from the board into their exercise books.													
Objective	Identify rules of geometric patterns													
Introduction (sample)	Draw geometric patterns below. 													
	Show how to solve the followings. a) Fill in the table. <table><tr><td>No. of squares</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>No. of edges</td><td>4</td><td>7</td><td>10</td><td>13</td><td>16</td></tr></table> b) Find the rule. Add 3 c) Find the number of edges in No.8. 16 + 3 + 3 + 3 = 25, 25 edges.			No. of squares	1	2	3	4	5	No. of edges	4	7	10	13
No. of squares	1	2	3	4	5									
No. of edges	4	7	10	13	16									
Teacher's Note	It is important to create a table first to identify the pattern.													

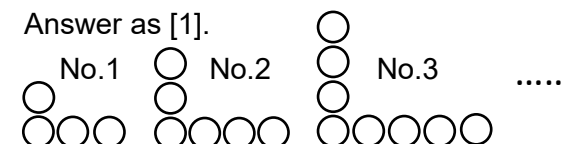
<Mental Maths>

a) $0.8 + 0.8 = 1.6$ b) $0.8 + 0.9 = 1.7$ c) $1.5 - 0.8 = 0.7$

d) $1.6 - 0.8 = 0.8$ e) $1.7 - 0.9 = 0.8$

<Homework>

Answer as [1].



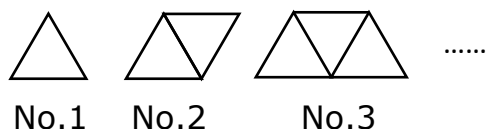
Fill in the table.

Design No.	1	2	3	4	5
No. of circles	4	6	8	10	12

b) Find the rule. **Add 2**

L74: Identify geometric patterns

[1]



a) Fill in the table.

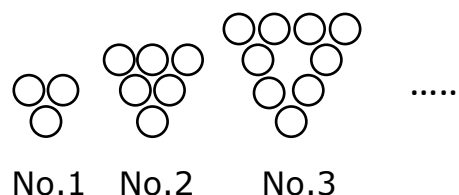
No. of triangles	1	2	3	4	5
No. of edges	3	5	7	9	11

b) Find the rule. **Add 2**

c) Find the number of edges in No.7.
 $11 + 2 + 2 = 15$, 15 edges.

No. means number.

[2]



a) Fill in the table.

Design No.	1	2	3	4	5
No. of circles	3	6	9	12	15

b) Find the rule. **Add 3**

c) Find the number of circles in No.8.
 $15 + 3 + 3 + 3 = 24$, 24 circles.

[R] Fill in the blanks.

a) Increase by 50.

10 20 30 40 50

b) Decrease by 50.

500 450 400 350 300

c) Increase by 1000.

37,000 38,000 39,000 40,000

d) Decrease by 500.

4,500 4,000 3,500 3,000 2,500

Lesson	75 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. - After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L71, [2]: L72, [3]: L73, [4]: L74.		

<Mental Maths>

- a) $0.7 + 0.9 = 1.6$ b) $0.9 + 0.9 = 1.8$ c) $1.5 - 0.9 = 0.6$
d) $1.6 - 0.9 = 0.7$ e) $1.8 - 0.9 = 0.9$

<Homework>

*No homework.

L75: Review

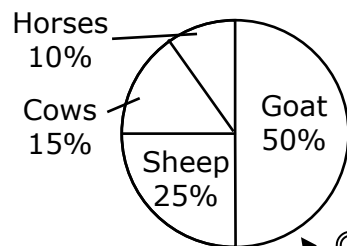
[1] A bag is sold for ₦180 at a store.
It is 30% off today.

How much does it cost?

$$\frac{30}{100} \times 180 = \frac{3 \times 180}{10} = 54$$

$$180 - 54 = 126, \text{ ₦}126.$$

[2] There are 160 animals.



a) sheeps? $\frac{25}{100} \times 160 = \frac{1 \times 160}{4} = 40$

b) goats and horses altogether?

$$50 + 10 = 60\%$$

$$\frac{60}{100} \times 160 = \frac{3 \times 160}{5} = 96, 96 \text{ altogether}$$

[3] Fill in the blanks.

a) Increase by 10.

$$60 \quad 70 \quad 80 \quad 90 \quad 100$$

b) Decrease by 20.

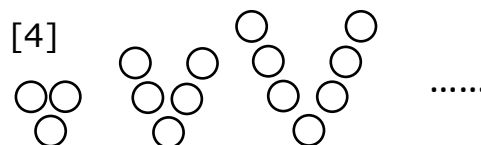
$$120 \quad 100 \quad 80 \quad 60 \quad 40$$

c) Increase by 500.

$$3,000 \quad 3,500 \quad 4,000 \quad 4,500 \quad 5,000$$

d) Decrease by 1000.

$$42,000 \quad 41,000 \quad 40,000 \quad 39,000$$



No.1 No.2 No.3

a) Fill in the table.

Design No.	1	2	3	4	5
No. of circles	3	5	7	9	11

b) Find the rule. **Add 2**

No need to copy the pie chart in this lesson due to time constraints.

Lesson	76 /120	Curriculum	B5.2.1.1.3 (p.86) e.g.1-3; B5.2.1.1.5 (p.88) e.g. 2														
Teaching Tips	Divide the board into two parts and copy the teacher manual as it is. Once learners have copied it, erase the left part to write the right part of the teacher manual.																
Objective	Be able to identify patterns of addition and subtraction.																
Introduction (sample)	• Fill in the blanks and find the rule.																
	a)	<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td>2.5</td><td>5</td><td>7.5</td><td>10</td><td>12.5</td><td>15</td></tr></table>	1	2	3	4	5	6	2.5	5	7.5	10	12.5	15	Add 2.5		
1	2	3	4	5	6												
2.5	5	7.5	10	12.5	15												
b)	<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td>50</td><td>47</td><td>44</td><td>41</td><td>38</td><td>35</td></tr></table>	1	2	3	4	5	6	50	47	44	41	38	35	Subtract 3			
1	2	3	4	5	6												
50	47	44	41	38	35												
Teacher's Note	• This lesson focuses on patterns of adding or subtracting numbers including decimal fractions.																

<Mental Maths>

- a) $30 \times 6 = 180$ b) $40 \times 5 = 200$ c) $50 \times 5 = 250$
d) $60 \times 6 = 360$ e) $70 \times 8 = 560$

<Homework>

Answer as [1B].

- a) Add 50 450 500 550 600 650
b) Subtract 0.5 11.5 11 10.5 10 9.5
c) Add 0.5 8.5 9 9.5 10 10.5

L76: Identify patterns (1)

[1A] Fill in the blanks and find the rules.

- a) 4 4.5 5 5.5 6 6.5 Add 0.5
b) 60 57 54 51 48 45 Subtract 3
c) 1 1.25 1.5 1.75 2 2.25 Add 0.25

[1B] Fill in the blanks based on the rules.

- a) Add 50 850 900 950 1000
b) Subtract 0.5 7 6.5 6 5.5 5

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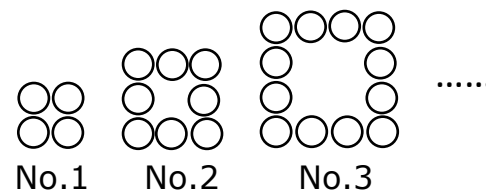
[2A] Answer as [1B].

- a) Subtract 5 105 100 95 90
b) Add 1.5 4 5.5 7 8.5 10
c) Subtract 0.5 9 8.5 8 7.5 7

[2B] Answer as [1A].

- a) 25 50 75 100 125 150 Add 5
b) 24 20 16 12 8 4 Subtract 4
c) 2.5 5 7.5 10 12.5 15 Add 2.5
d) 20 17.5 15 12.5 10 7.5 Subtract 2.5

[R]



a) Fill in the table.

Design No.	1	2	3	4	5
No. of circles	4	8	12	16	20

b) Find the rule. Add 4

Lesson	78 /120	Curriculum	B5.2.1.1.6 (p.88) e.g.1
Teaching Tips	Have learners read the sentences, pointing to each word with your finger. Support learners if they have difficulty reading any of the words.		
Objective	Be able to correct mistakes in patterns.		
Introduction (sample)	• Draw tables below and ask rules. Then, find the mistakes.		
	1 2 3 4 5 6 3 6 9 12 14 18 Add 3 1 2 3 4 5 6 4 9 14 18 23 29 Add 5		
Teacher's Note	• Before finding mistakes, it is important to find the rule.		

<Mental Maths>

- a) $30 \times 8 = 240$ b) $40 \times 7 = 280$ c) $50 \times 7 = 350$
d) $60 \times 8 = 480$ e) $80 \times 8 = 640$

<Homework>

Answer as [1A].

a)	1	2	3	4	5	6
	8	16	24	32	40	48
b)	1	2	3	4	5	6
	22	28	34	40	46	52

L78: Correct mistakes in patterns

[1A] Fill in the table.

a)	1	2	3	4	5	6
	5	10	15	20	25	30
b)	1	2	3	4	5	6
	3	7	11	15	19	23

[1B] Find the rule and correct errors.

a)	1	2	3	4	5	6
	7	14	21	28	34 35	42
						Add 7
b)	1	2	3	4	5	6
	2	8	14	22 20	28 26	32
						Add 6

.....

[2A] Answer as [1B].

a)	1	2	3	4	5	6
	11	16	21	26	30 31	36
						Add 5
b)	1	2	3	4	5	6
	8	15	22	29	35 36	42 43
						Add 7
c)	1	2	3	4	5	6
	9	18	27	35 36	44 45	54
						Add 9

[2B] Answer as [1A].

a)	1	2	3	4	5	6
	7	14	21	28	35	42
b)	1	2	3	4	5	6
	21	25	29	33	37	41
c)	1	2	3	4	5	6
	3	11	19	27	35	43

[R] Fill in the blanks and find the rule.

- a) 1 4 16 64 256 Multiply by 4
b) 560 280 140 70 35 Divide by 2
c) 0.03 0.3 3 30 300 Multiply by 10

Lesson	80 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. - After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L76, [2]: L77, [3]: L78, [4]: L79.		

<Mental Maths>

- a) $40 \times 4 = 160$ b) $40 \times 9 = 360$ c) $50 \times 9 = 450$
d) $70 \times 7 = 490$ e) $90 \times 9 = 810$

<Homework>

*No homework.

L80: Review

[1] Fill in the blanks and find the rules.

- a) 3 3.5 4 4.5 5 5.5 Add 0.5
b) 68 64 60 56 52 48 Subtract 4
c) 2 2.25 2.5 2.75 3 3.25 Add 0.25

[2] Fill in the blanks based on the rules.

- a) Multiply by 4 2 8 32 128
b) Divide by 3 162 54 18 6

Let learners use long division.

[3] Find the rule and correct errors.

- a)

1	2	3	4	5	6
6	12	18	24	32	36

 Add 6
30
- b)

1	2	3	4	5	6
4	9	14	20	25	29

 Add 5
19 24

[4] Simplify:

- a) $3k + 5k = 8k$
b) $-2n + 5n = 3n$
c) $8k + 3 - 4k = 4k + 3$

Lesson	81 /120	Curriculum	B5.2.2.1.1 (p.90, 91) e.g.1,2
Teaching Tips	When a learner presents, repeat exactly what they said. Do not summarise or rephrase.		
Objective	Be able to represent in algebraic expressions.		
Introduction (sample)	Write the rule of omission of multiplication sign as shown on the board.		
Teacher's Note	From this lesson, learners use a letter instead of $\square$ to show an unknown. The letters can be a, b, m, n, etc. However, k and n are mainly used to avoid confusion. (If you use b, learners may confuse with 6 in some cases.)		

<Mental Maths>

- a) $150 \div 3 = 50$ b) $180 \div 2 = 90$ c) $200 \div 5 = 40$
d) $240 \div 6 = 40$ e) $280 \div 4 = 70$

<Homework>

Answer as [1A].

- a) Sum of k and 6 $k + 6$
b) Add 4 to n $n + 4$
c) Take away 3 from 5 times k $5k - 3$

L81: Express by algebraic expressions

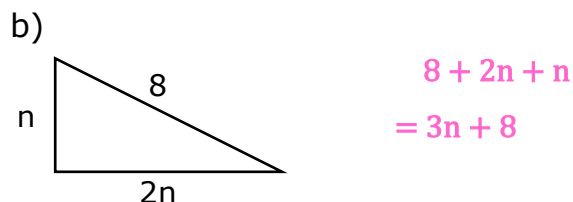
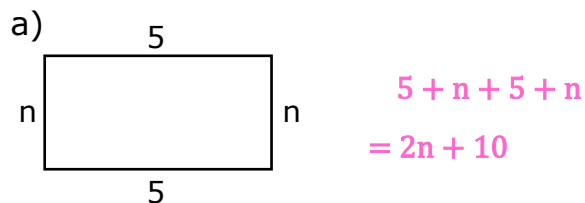
Multiplication sign can be omitted.

$$3c = 3 \times c$$

[1A] Write algebraic expressions.

- a) Sum of 8 and n $8 + n$
b) Take away 4 from k $k - 4$

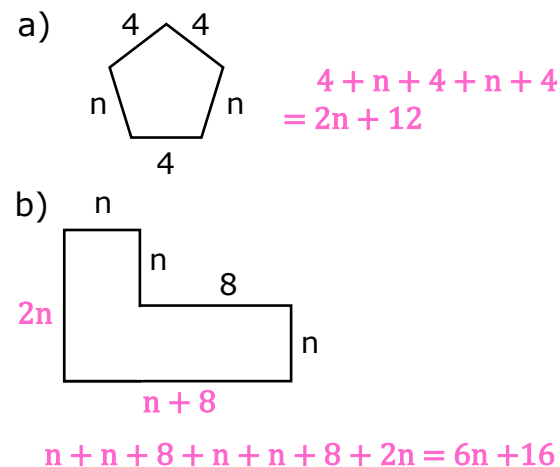
[1B] Find the perimeter.



[2A] Answer as [1A].

- a) Add 5 to 3 times n $3n + 5$
b) Sum of k, 4 and k $k + 4 + k = 2k + 4$
c) Difference between 7 and k
(k is greater than 7) $k - 7$

[2B] Answer as [1B].



[R] Simplify:

- a) $8k - 7k = k$
b) $k - 4n + 2n + 2k = 3k - 2n$

Lesson	83 /120	Curriculum	B5.2.1.1.7 (p.88) e.g.1
Teaching Tips	Have learners repeat what you said to check their understanding.		
Objective	Be able to show rules for patterns in expressions.		
Introduction (sample)	- Explain how to find the rules for patterns. - The difference is 6. Substitute 1 to $6n$ and check if it is the same as the first term which is 6. - The difference is 5. Substitute 1 to $5n$ and check if it is the same as the first term. To make it equal to the first term, 4, subtract 1 which is $5n - 1$. - Explain c) and d) in the same way.		
Teacher's Note	n and k are used because they are easily distinguishable from each other.		

<Mental Maths>

- a) $160 \div 2 = 80$ b) $180 \div 6 = 30$ c) $210 \div 7 = 30$
 d) $250 \div 5 = 50$ e) $300 \div 5 = 60$

<Homework>

Answer as [1B].

1	2	3	4	5	6
8	16	24	32	40	48

$8n$

1	2	3	4	5	6
2	7	12	17	22	27

$5n - 3$

L83: Show rules in algebra

- a) 6, 12, 18, ... $6n$
 b) 4, 9, 14, ... $5n - 1$
 c) 5, 8, 11, ... $3n + 2$
 d) 0, 4, 8, ... $4n - 4$

[1A] Fill in the blanks and write the rule in expressions.

- a) 4, 8, 12, 16, 20, 24 $4n$
 b) 4, 7, 10, 13, 16, 19 $3n + 1$
 c) 0, 4, 8, 12, 16, 20 $4n - 4$

[1B] Fill in the table and write the rule in expressions.

1	2	3	4	5	6
5	11	17	23	29	35

$6n - 1$

.....

[2A] Answer as [1A].

- a) 7, 14, 21, 28, 35, 42 $7n$
 b) 7, 12, 17, 22, 27, 32 $5n + 2$
 c) 1, 5, 9, 13, 17, 21 $4n - 3$

[2B] Answer as [1B].

- a)

1	2	3	4	5	6
1	7	13	19	25	31

 $6n - 5$
- b)

1	2	3	4	5	6
9	16	23	30	37	44

 $7n + 2$

[R] Substitute $k = 6$ and $n = 3$ into:

- a) $2k + 4 = 2(6) + 4$
 $= 12 + 4 = 16$
 b) $k - 2n - 5 = 6 - 2(3) - 5$
 $= 6 - 6 - 5 = -5$

Tell the learners what the n means. n represents the n -th number.

Give [R] if you have time; skip it if not.

Lesson	84 /120	Curriculum	B5.2.1.1.8 (p.89) e.g.1,2
Teaching Tips	Select some learners to distribute exercise books before the lesson begins.		
Objective	Be able to describe the relationship in a table and find the answer.		
Introduction (sample)	- A pineapple costs ₺5. (i) Draw a table as shown on the board. Let learners answer the cost for 2 or more pineapples. (ii) Ama bought some and the total cost was ₺150. How many pineapples did she buy?		
Teacher's Note	No need to write the word problem on the board in the introduction.		

<Mental Maths>

- a) $160 \div 4 = 40$ b) $180 \div 9 = 20$ c) $240 \div 3 = 80$
d) $270 \div 3 = 90$ e) $300 \div 6 = 50$

<Homework>

Refer to [2B].

How many boxes were ordered if the cost is:

- a) ₺60. **20 boxes**
b) ₺120. **40 boxes**

*This dotted line separates exercise part 1 and 2.
Write all the black parts up to this line in exercise part 1.*

L84: Describe the relationship in a table

No.	1	2	3	4	...	30
cost	5	10	15	20	...	150

$5n = 150$, $n = 30$, 30 pineapples

[1A] Solve by guess and check.

- a) $4n = 8$ **$n = 2$** b) $3n = 60$ **$n = 20$**
c) $6n = 300$ **$n = 50$**

[1B]

1	2	3	4	...	20
4	8	12	16	...	80

- a) Write the rule using n . **$4n$**
b) Fill in the blanks. **$4n = 80$, $n = 20$.**

[2] The table shows cost of boxed lunches on a field trip.

Box	1	2	3	...
Cost (₺)	3	6	9	...

- a) Write the rule using n . **$3n$**
How many boxes were ordered if the cost is:
b) ₺90? **$3n = 90$, $n = 30$, 30 boxes**

- c) ₺300? **$3n = 300$, $n = 100$, 100 boxes**

[R] Fill in the blanks and write the rule in expressions.

- a) 5, 10, 15, 20, 25, 30 **$5n$**
b) 5, 8, 11, 14, 17, 20 **$3n + 2$**
c) 0, 6, 12, 18, 24, 30 **$6n - 6$**

Lesson	85 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L81, [2]: L82, [3]: L83, [4]: L84.		

<Mental Maths>

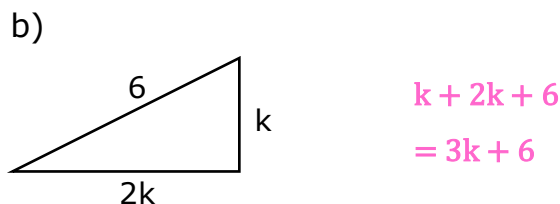
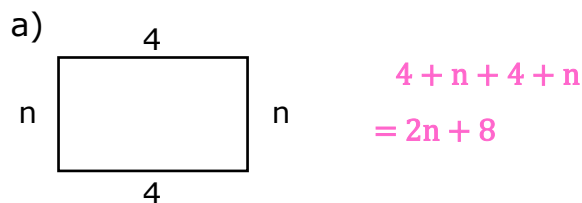
- a) $160 \div 8 = 20$ b) $200 \div 4 = 50$ c) $240 \div 4 = 60$
d) $270 \div 9 = 30$ e) $320 \div 4 = 80$

<Homework>

*No homework.

L85: Review

[1] Write algebraic expressions for the perimeter of the following shapes.



[2] Substitute $k = 4$ and $n = 2$ into:

- a) $3n + 1 = 3 \times 2 + 1$
 $= 6 + 1 = 7$
b) $7k - 3n = 7 \times 4 - 3 \times 2$
 $= 28 - 6 = 22$

[3] Fill in the blanks and write the rule in expressions.

- a) 6, 12, 18, 24, 30, 36 $6n$
b) 8, 13, 18, 23, 28, 33 $5n + 3$
c) 2, 6, 10, 14, 18, 22 $4n - 2$

[4] Find the answer.

1	2	3	...	10
3	6	9	...	30

- a) Write the rule using n . $3n$
b) Fill in the blanks. $3n = 30$, $n = 10$.

Lesson	89 /120	Curriculum	B5.3.1.1.1 (p.94) e.g.1; B5.3.1.1.2 (p.95) e.g.1
Teaching Tips	Have learners copy everything from the board into their exercise books.		
Objective	Be able to identify the characteristics of quadrilaterals.		
Introduction (sample)	- Draw a diagram to explain the difference between the quadrilaterals. - Explain the term "congruent".		
Teacher's Note	- Congruent sides: Sides with equal length. - Learners learnt right angles and parallel in B3. However, please briefly explain these terms for learners to remember what they have learnt in the previous grade.		

<Mental Maths>

- a) $360 \div 4 = 90$ b) $420 \div 6 = 70$ c) $480 \div 8 = 60$
d) $560 \div 8 = 70$ e) $720 \div 9 = 80$

<Homework>

Which shape has:

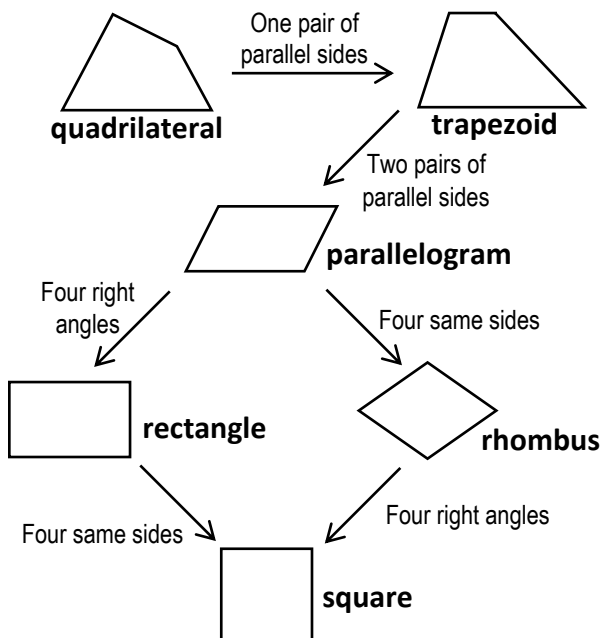
- a) two pairs of parallel sides?

Parallelogram, Rhombus, Square, Rectangle

- b) no pairs of parallel sides?

Quadrilateral

L89: Characteristics of quadrilaterals



[1] Which shape has:

- a) all sides congruent?

Rhombus, Square

- b) opposite sides congruent?

Parallelogram, Rectangle, Rhombus, Square

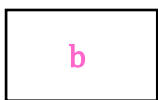
- c) one pair of parallel sides?

Trapezoid

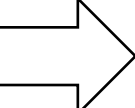
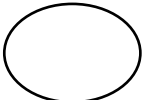
.....

[2] Identify:

- a) Squares



- b) Rectangles



[R] $20 - 3 \times \square$ if $\square - 4 + \square = 8$.

$$2 \times \square - 4 = 8$$

$$2 \times \square = 12, \square = 6$$

$$20 - 3 \times \square = 20 - 3 \times 6 \\ = 20 - 18 = 2$$

Lesson	90 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L86, [2]: L87, [3]: L88, [4]: L89.		

<Mental Maths>

a) $360 \div 6 = 60$ b) $420 \div 7 = 60$ c) $490 \div 7 = 70$
d) $630 \div 7 = 90$ e) $810 \div 9 = 90$

<Homework>

*No homework.

L90: Review

[1] Find the answer.

a) $4 + k = 12$ $k = 12 - 4 = 8$

b) $n - 6 = 7$ $n = 7 + 6 = 13$

c) $3k = 240$ $k = 80$

[2] The product of two numbers is 120. If one of the numbers is 20, what is the other number?

$20n = 120, n = 6$

[3] What is $4 + k \times 5$

if $3 + k + k = 9$?

$2k + 3 = 9$ $2k = 6, k = 3$

$4 + k \times 5 = 4 + 3 \times 5$

$= 4 + 15 = 19$

[4] Which shape has:

a) all sides congruent?

Rhombus, Square

b) opposite sides congruent?

Parallelogram, Rectangle, Rhombus, Square

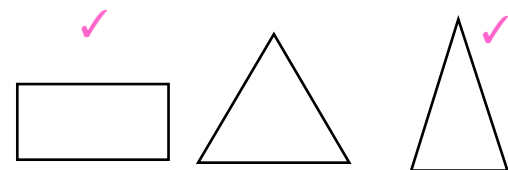
Lesson	91 /120	Curriculum	B5.3.1.1.2 (p.95) e.g.1; B5.3.1.1.3 (p.96) e.g.1
Teaching Tips	Divide the board into two parts and copy the teacher manual as it is. Once learners have copied it, erase the left part to write the right part of the teacher manual.		
Objective	Be able to identify the characteristics of quadrilaterals and regular shapes.		
Introduction (sample)	• Draw diagrams to explain diagonal and bisect as shown on the board. • Make groups of four. Prepare pieces of papers in the shape of a parallelogram, a rhombus, a rectangle, and a square. Fold one corner of each shape to bisect the angle. Ask learners to draw the diagonals. • In the rectangle and parallelogram, the fold line does not match the diagonal. In the rhombus and square, the fold line and the diagonal overlap.		
Teacher's Note	• Congruent diagonals: Diagonals with equal length. • Congruent angles: Angles with equal measure. • Bisect an angle: Divide an angle into two equal parts.		

<Mental Maths>

- a) $150 \div 30 = 5$ b) $180 \div 20 = 9$ c) $200 \div 50 = 4$
d) $240 \div 60 = 4$ e) $280 \div 40 = 7$

<Homework>

Answer as [2B].

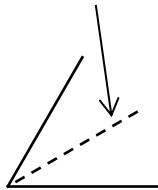
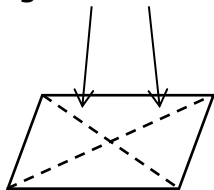


Show the diagonal lines and a bisect line in dotted line.

L91: Different quadrilaterals

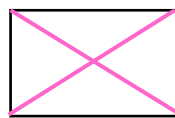
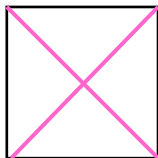
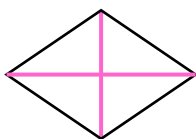
diagonal lines

bisect line



Parallelogram

[1]



Rhombus

Square

Rectangle

Which shape has:

a) diagonals that bisect the angles?

Rhombus, Square

b) congruent diagonals?

Rectangle, Square

c) diagonals that meet at right angles?

Rhombus, Square



[2A] Which shape has:

a) opposite angles congruent?

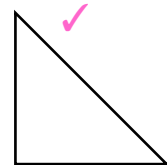
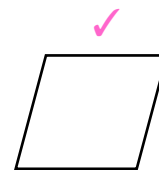
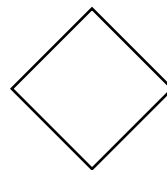
Rectangle, Rhombus, Square, Parallelogram

b) all angles right angles?

Rectangle, Square

This is a square rotated 45°.

[2B] Tick irregular shapes.



[R] Which shape has:

a) all sides congruent?

Rhombus, Square

b) opposite sides congruent?

Parallelogram, Rectangle, Rhombus, Square

Lesson	92 /120	Curriculum	B5.3.2.1.1 (p.97) e.g.1
Teaching Tips	Encourage learners to write in their exercise books. The more they write, the better their writing skills will become.		
Objective	Be able to estimate and find the perimeter of objects around us.		
Introduction (sample)	- Draw 1cm² and 1m² on the board. Let learners estimate the size of board, ruler, door, smartphone, etc. - Draw 1m² square on the floor. Try how many learners can stand inside the square.		
Teacher's Note	It is important for learners to understand which unit is appropriate to use when they measure.		

<Mental Maths>

- a) $150 \div 50 = 3$ b) $180 \div 30 = 6$ c) $210 \div 30 = 7$
d) $240 \div 80 = 3$ e) $280 \div 70 = 4$

<Homework>

Answer as [1A].

- a) Classroom m^2
b) House m^2
c) Chair cm^2
d) Textbook cm^2

L92: Estimate perimeter

[1A] Which unit is appropriate to measure the area, cm² or m²?

- a) Classroom m^2
b) Desk cm^2
c) Chalkboard m^2
d) Exercise book cm^2

[1B] Use the area of an exercise book as a referent to measure the following.

- a) Desk **6 exercise books (sample)**
b) Chair

.....

[2A] Answer as [1A].

- a) Eraser cm^2
b) House m^2
c) Door m^2
d) Smartphone cm^2

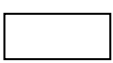
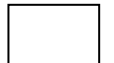
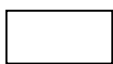
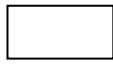
[2B] If the exercise book in [1B] is 400cm², how large is the desk?

$$6 \times 400 = 2400, 2400 \text{ cm}^2 \text{ (sample)}$$

[R] Which shape has:

- a) diagonals that bisect the angles?
Rectangle, Rhombus, Square
b) congruent diagonals?
Rectangle, Square

Write your own answers.

Lesson	93 /120	Curriculum	B5.3.2.1.2 (p.98) e.g.1
Teaching Tips	Have learners read the sentences, pointing to each word with your finger. Support learners if they have difficulty reading any of the words.		
Objective	Be able to draw a polygon with a given perimeter.		
Introduction (sample)	Draw three rectangles with a perimeter of 20cm. Their widths are 3cm, 4cm and 5cm. Explain how to find the length from the perimeter and width. 7cm 3cm  6cm 4cm  5cm 		
Teacher's Note	Check if the longer side is drawn longer than the shorter side. <NG> 4cm 8cm  <OK> 8cm 4cm 		

<Mental Maths>

- a) $160 \div 20 = 8$ b) $180 \div 60 = 3$ c) $210 \div 70 = 3$
d) $250 \div 50 = 5$ e) $300 \div 50 = 6$

<Homework>

Draw two rectangles with a perimeter of 24cm.
The widths are 5cm and 3cm, respectively.



L93: Draw 2-D shapes with a given perimeter

[1A] Find the length of missing side.

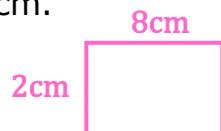
a) A square whose perimeter is 28cm.

$$28 \div 4 = 7, 7 \text{ cm}$$

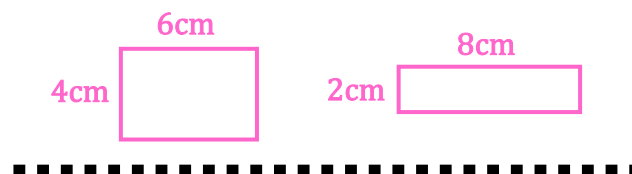
b) A rectangle whose perimeter is 20cm and the width is 2cm.

$$20 \div 2 = 10$$

$$10 - 2 = 8, 8 \text{ cm}$$



[1B] Draw two rectangles with a perimeter of 20cm. The width is 4cm and 2cm, respectively.



[2] a) Draw two rectangles with a perimeter of 14cm. The lengths are 4cm and 6cm, respectively.



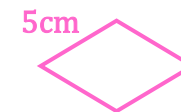
b) Draw a square whose perimeter is 12cm.

$$12 \div 4 = 3$$



c) Draw a rhombus whose perimeter is 20cm.

$$20 \div 4 = 5$$



[R] Which unit is appropriate to measure the area, cm^2 or m^2 ?

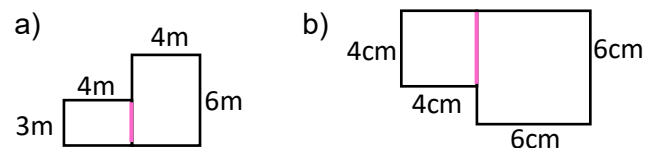
- a) Table cm^2
b) Classroom m^2
c) Textbook cm^2
d) Chalkboard m^2

Lesson	94 /120	Curriculum	B5.3.2.1.3 (p.99) e.g.1
Teaching Tips	Encourage learners to memorise as many words as possible (not just 1 or 2 letters) when copying from the board.		
Objective	Be able to find the area of rectangle and combined ones.		
Introduction (sample)	- Draw a rectangles with an area of 12cm^2 whose width are 2cm. Let learners find $2 \times \square = 12$. The length is $12 \div 2 = 6$, 6cm. - Let learners draw two rectangles with the same area whose width are 1cm and 3cm. The length are 12cm and 4cm, respectively.		
Teacher's Note	- Learners need to separate the L shape into two or more rectangles. - This lesson is the same as B4 lesson. However, please do as a review.		

<Mental Maths>

- a) $160 \div 40 = 4$ b) $180 \div 90 = 2$ c) $240 \div 30 = 8$
d) $270 \div 30 = 9$ e) $300 \div 60 = 5$

<Homework> Answer as [1B].



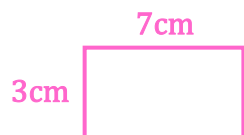
a) $4 \times 3 + 6 \times 4 = 12 + 24 = 36, 36\text{m}^2$

b) $4 \times 4 + 6 \times 6 = 16 + 36 = 52, 52\text{cm}^2$

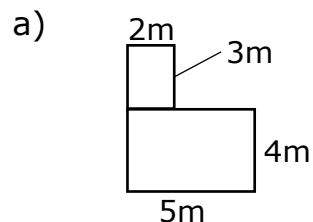
Let learners draw a line to divide the L shapes into rectangles.

L94: Find the area of rectangles

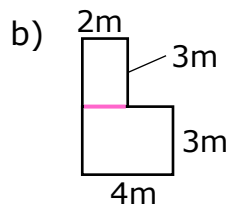
[1A] Draw a rectangle whose width is 3cm and the area is 21cm^2 .



[1B] Find the area.



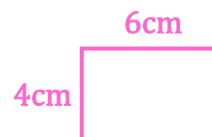
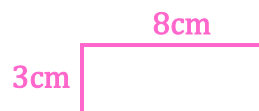
$3 \times 2 + 5 \times 4$
 $= 6 + 20 = 26$
 26m^2



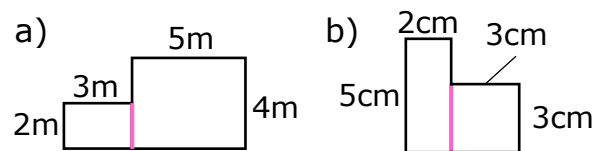
b) $3 \times 2 + 4 \times 3 = 6 + 12 = 18, 18\text{m}^2$



[2A] Draw two rectangles with an area of 24cm^2 . Their width are 3cm and 4cm, respectively.



[2B] Answer as [1B].



a) $3 \times 2 + 5 \times 4 = 6 + 20 = 26, 26\text{m}^2$

b) $5 \times 2 + 3 \times 3 = 10 + 9 = 19, 19\text{cm}^2$

[R] Draw a square whose perimeter is 20cm.

$20 \div 4 = 5$



Lesson	95 /120	Curriculum	Review Lesson
Teaching Tips	Divide the board into two parts and copy the teacher manual as it is. Once learners have copied it, erase the left part to write the right part of the teacher manual.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. - After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L91, [2]: L92, [3]: L93, [4]: L94.		

<Mental Maths>

- a) $160 \div 80 = 2$ b) $200 \div 40 = 5$ c) $240 \div 40 = 6$
d) $270 \div 90 = 3$ e) $320 \div 40 = 8$

<Homework>

*No homework.

L95: Review

[1] Which shape has diagonals that bisect the angles?

Square, Rhombus

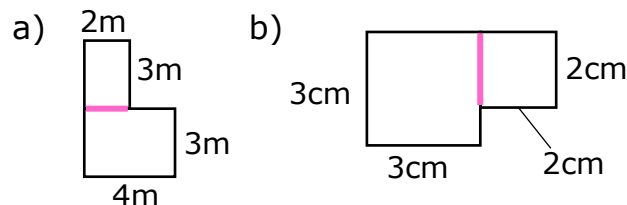
[2] Which unit is appropriate to measure the area, cm^2 or m^2 ?

- a) School **m^2**
b) Chair **cm^2**
c) Whiteboard **m^2**
d) Textbook **cm^2**

[3] Draw two rectangles with a perimeter of 14cm. The lengths are 4cm and 5cm, respectively.



[4] Find the area



a) $3 \times 2 + 4 \times 3 = 6 + 12 = 18, 18 \text{ m}^2$

b) $3 \times 3 + 2 \times 2 = 9 + 4 = 13, 13 \text{ cm}^2$

Lesson	96 /120	Curriculum	B5.3.2.2.1 (p.100) e.g.1-4
Teaching Tips	When a learner presents, repeat exactly what they said. Do not summarise or rephrase.		
Objective	Foster a sense of quantity related to 1cm^3 and 1m^3 .		
Introduction (sample)	- Make a 1m^3 cube (you need twelve 1m ropes or sticks) and let learners join in the cube. - Prepare 1cm^3 cubes to show to learners. (e.g. a cube sugar, an eraser or a dice). - Let learners remember that $1\text{L} = 1,000\text{cm}^3$ as shown on the board.		
Teacher's Note	- It is important to foster sense of quantity. We expect learners to understand how big or small is each unit represent. - You can shave an eraser to make 1cm^3 cubes.		

<Mental Maths>

- a) $320 \div 80 = 4$ b) $360 \div 90 = 4$ c) $450 \div 50 = 9$
d) $540 \div 60 = 9$ e) $630 \div 90 = 7$

<Homework>

Answer as [1A].

- a) a glass of water. cm^3
b) an office building. m^3
c) a water tank. m^3

L96: Use referents for cm^3 or m^3

$$1\text{L} = 1,000\text{cm}^3$$

$$= 10\text{cm} \times 10\text{cm} \times 10\text{cm}$$

[1A] Which unit is appropriate to measure the volume, m^3 or cm^3 ?

- a) Eraser. cm^3
b) Classroom. m^3
c) Pack of water. cm^3
d) House. m^3

[1B] Fill in the blanks.

$$1\text{m}^3 = \underline{100}\text{ cm} \times \underline{100}\text{ cm} \times \underline{100}\text{ cm}$$

$$= \underline{1,000,000}\text{cm}^3$$

.....

[2A] Answer as [1A].

- a) Large bin. m^3
b) Chalk. cm^3

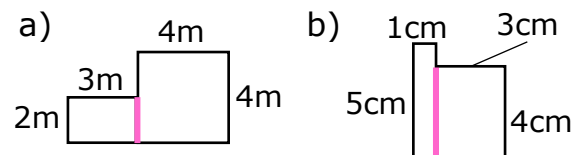
[2B] Answer as [1B].

$$1,000,000\text{cm}^3 = \underline{1,000} \times 1,000\text{cm}^3$$

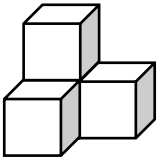
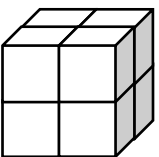
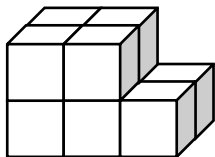
$$= \underline{1,000} \times 1\text{L}$$

$$= \underline{1,000} \text{ L}$$

[R] Answer as [1B].



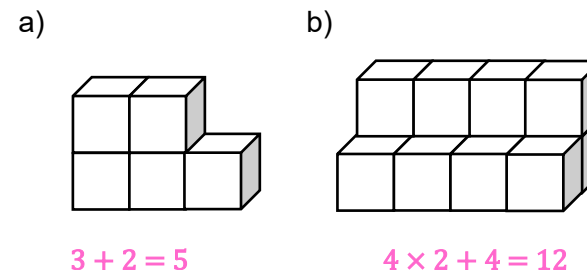
- a) $3 \times 2 + 4 \times 4 = 6 + 16 = 22, 22\text{ m}^2$
b) $5 \times 1 + 4 \times 3 = 5 + 12 = 17, 17\text{ cm}^2$

Lesson	97 /120	Curriculum	B5.3.2.2.2 (p.101) e.g.1-3
Teaching Tips	While you are writing on the board, let learners copy it in their exercise books.		
Objective	Be able to find the volume of 3-D shapes by counting the number of cubes.		
Introduction (sample)	- Show how to find the number of 1cm³ below. a)  $1 + 2 + 1 = 4$ b)  $2 \times 2 \times 2 = 8$ c)  $2 \times 2 \times 2 + 2 = 10$ - It is better to show how many cubes are used with real cubes such as cube snacks.		
Teacher's Note	Learners need to imagine the number of cubes that cannot be seen.		

<Mental Maths>

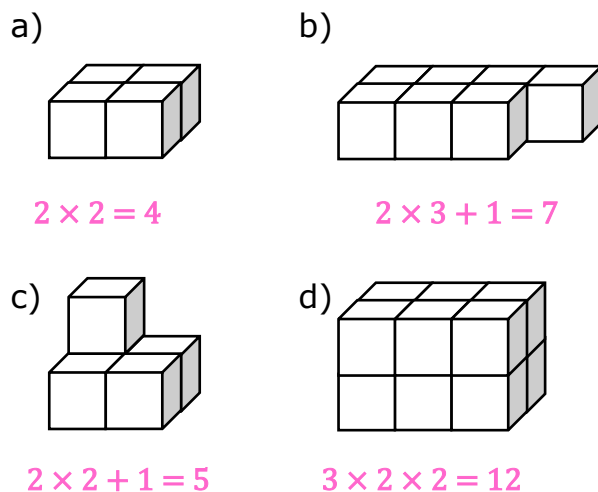
- a) $350 \div 50 = 7$ b) $400 \div 50 = 8$ c) $450 \div 90 = 5$
d) $540 \div 90 = 6$ e) $640 \div 80 = 8$

<Homework> Answer as [1].



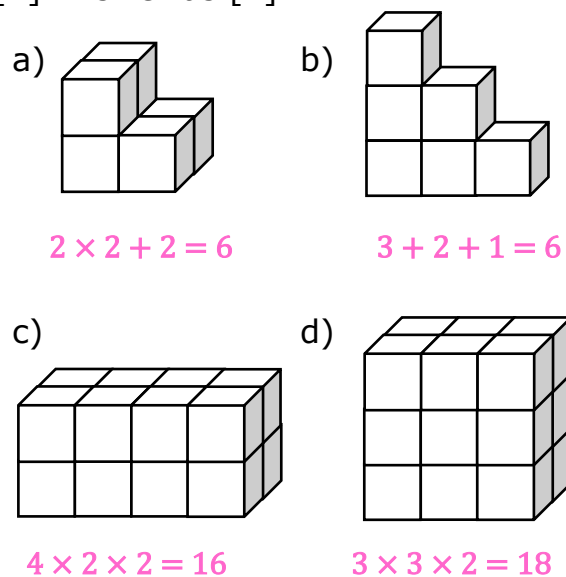
L97: Find volume of a box (1)

[1] Find the volume.



.....

[2] Answer as [1].



[R] Which unit is appropriate to measure the volume, m³ or cm³?

- a) Book. cm³
b) Building. m³
c) Pack of milk. cm³

Lesson	98 /120	Curriculum	B5.3.3.2.4 (p.102) e.g.1,2
Teaching Tips	Have learners repeat what you said to check their understanding.		
Objective	Be able to find the volume of 3-D shapes by the formula.		
Introduction (sample)	- Compare the following two rectangular prisms. a) $3\text{cm} \times 3\text{cm} \times 3\text{cm}$ b) $2\text{cm} \times 3\text{cm} \times 4\text{cm}$ - Write the formula for volume as shown on the board. Find the volume above. a) $3 \times 3 \times 3 = 27, 27\text{cm}^3$ b) $2 \times 3 \times 4 = 24, 24\text{cm}^3$		
Teacher's Note	- Learners feel why the formula of volume is necessary by the introduction. - Height refers to the vertical dimension, while the other two dimensions are length and width. Length is longer than width. - Try an activity in the curriculum B5.3.3.2.4 if you can prepare in the introduction.		

This dotted line separates exercise part 1 and 2.

Write all the black parts up to this line in exercise part 1.

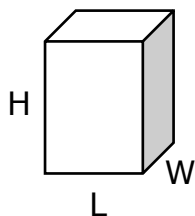
L98: Find volume of a box (2)

(Volume) = $L \times W \times H$

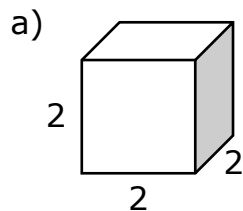
L: Length

W: Width

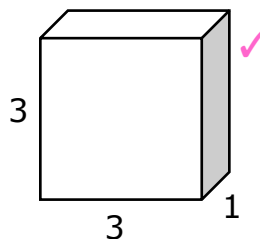
H: Height



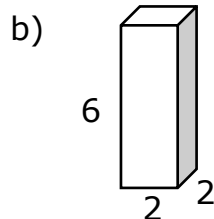
[1] Which is bigger?



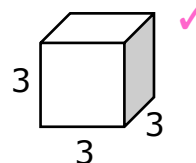
$$2 \times 2 \times 2 = 8$$



$$3 \times 1 \times 3 = 9$$

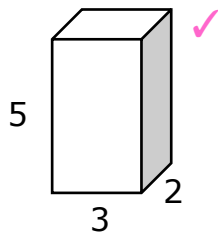


$$2 \times 2 \times 6 = 24$$

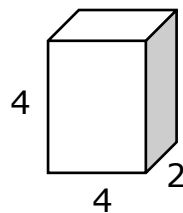


$$3 \times 3 \times 3 = 27$$

[2A] Which is smaller?



$$3 \times 2 \times 5 = 30$$



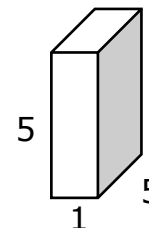
$$4 \times 2 \times 4 = 32$$

<Mental Maths>

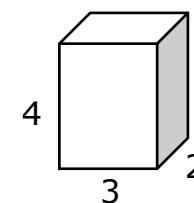
a) $350 \div 70 = 5$ b) $400 \div 80 = 5$ c) $480 \div 60 = 8$

d) $560 \div 70 = 8$ e) $720 \div 80 = 9$

<Homework> Answer as [2A].



$$5 \times 1 \times 5 = 25$$



$$3 \times 2 \times 4 = 24$$

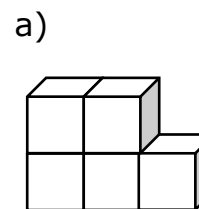
Let learners check L96.

[2B] How many litres is:

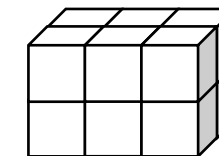
a) $1,000\text{cm}^3$. **1L**

b) $20,000\text{cm}^3$. **20L**

[R] Find the volume.



$$3 + 2 = 5$$



$$3 \times 2 \times 2 = 12$$

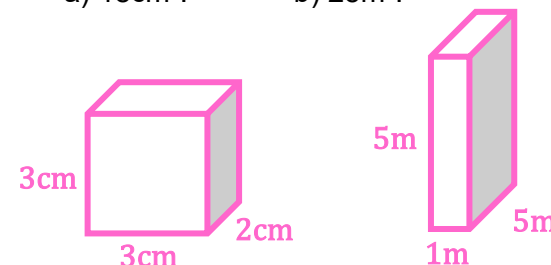
Lesson	99 /120	Curriculum	B5.3.2.2.3 (p.102) e.g.1
Teaching Tips	Select some learners to distribute exercise books before the lesson begins.		
Objective	Be able to find the combination of three numbers whose product is already given.		
Introduction (sample)	- Let learners find the three numbers whose product is 36. e.g. $36 = 2 \times 3 \times 6$, $3 \times 3 \times 4$ - Draw a rectangular prism of the number above. Teach the term a "product" as an answer of multiplication.		
Teacher's Note	- Factor tree in L19 is useful to find the answer. - There are many different answers for [1A] and [2A]. $12 = 1 \times 2 \times 6$, $1 \times 3 \times 4$ $20 = 1 \times 2 \times 10$, $1 \times 4 \times 5$ $24 = 1 \times 2 \times 12$, $1 \times 3 \times 8$, $1 \times 4 \times 6$, $2 \times 3 \times 4$ $30 = 1 \times 2 \times 15$, $1 \times 3 \times 10$, $1 \times 5 \times 6$, $2 \times 3 \times 5$		

<Mental Maths>

- a) $360 \div 40 = 9$ b) $420 \div 60 = 7$ c) $480 \div 80 = 6$
d) $560 \div 80 = 7$ e) $720 \div 90 = 8$

<Homework> Answer as [1B].

- a) 18cm^3 . b) 25m^3 .



Let learners refer to [1A].

L99: Find volume of a box (3)

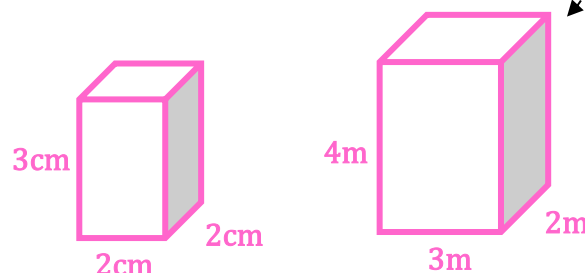
[1A] Find three numbers whose product is:

- a) 12. b) 24.

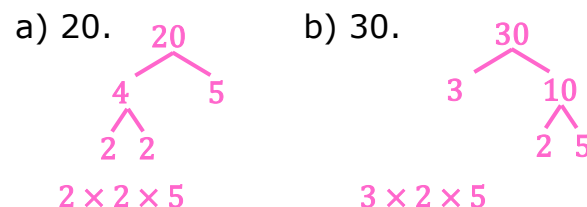


[1B] Draw a rectangular prism whose volume is:

- a) 12cm^3 . b) 24m^3 .

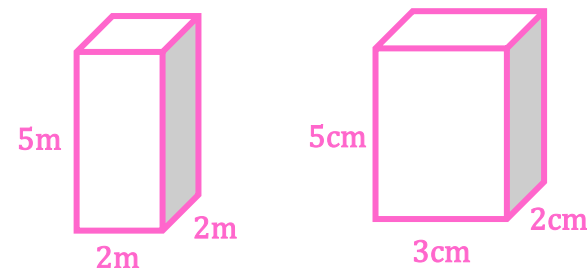


[2A] Answer as [1A].

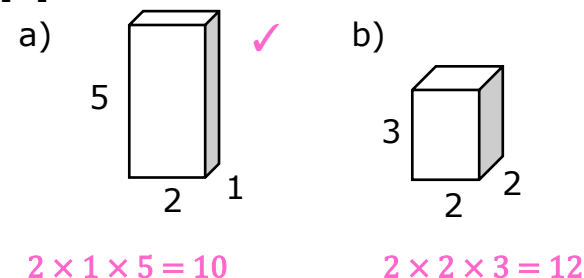


[2B] Answer as [1B].

- a) 20m^3 . b) 30cm^3 .



[R] Which is smaller?



Lesson	100 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L96, [2]: L97, [3]: L98, [4]: L99.		

<Mental Maths>

- a) $360 \div 60 = 6$ b) $420 \div 70 = 6$ c) $490 \div 70 = 7$
d) $630 \div 70 = 9$ e) $810 \div 90 = 9$

<Homework>

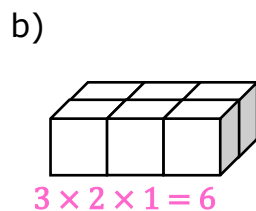
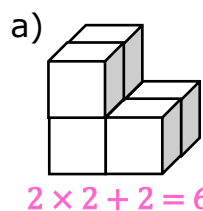
*No homework.

L100: Review

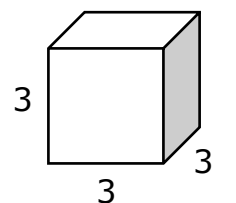
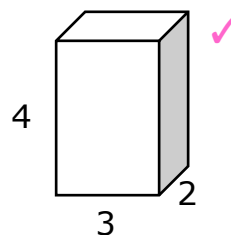
[1] Which unit is appropriate to measure the volume, m^3 or cm^3 ?

- a) Book. cm^3
b) School building. m^3
c) Pack of water. cm^3
d) Classroom. m^3

[2] Find the volume.

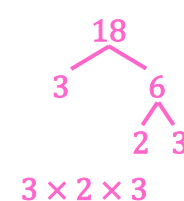


[3] Which is smaller?

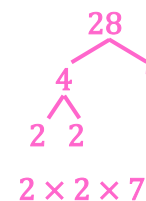


[4] Find three numbers whose product is:

a) 18.



b) 28.



Other possible answers are:
a) $1 \times 2 \times 9$, $1 \times 3 \times 6$ etc. b) $1 \times 2 \times 14$, $1 \times 4 \times 7$ etc.

Lesson	101 /120	Curriculum	B5.3.3.3.1 (p.103) e.g.1,2
Teaching Tips	Have learners recall what they learned in previous lessons.		
Objective	Be able to identify types of angles.		
Introduction (sample)	- Write the definition of the names of angles as shown on the board. - Let learners find the angles around them (e.g. door, a pair of scissors). - Demonstrate changes in angles using scissors, explaining acute, right, and obtuse angles.		
Teacher's Note	Right angle was learnt in B3, but acute and obtuse angles are new terms.		

<Mental Maths>

- a) $150 \div 3 = 50$ b) $180 \div 2 = 90$ c) $200 \div 5 = 40$
d) $240 \div 6 = 40$ e) $280 \div 4 = 70$

<Homework>

Answer as [1B].

- a) 9 a.m? **right**
b) 2 p.m? **acute**
c) 7 p.m? **obtuse**

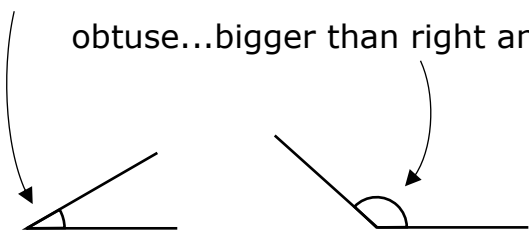
*"as shown on the board" in the introduction part is written here.
Let learners copy it during introduction time.*

Let learners draw a clock and answer narrower angle.

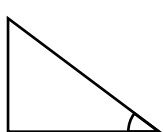
L101: Identify types of angles

acute...smaller than right angle

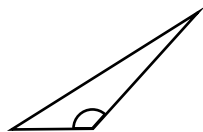
obtuse...bigger than right angle



[1A] Which type of angle is this?



acute



obtuse

[1B] Draw the hands.

What type of angle is:

a) 2 a.m?



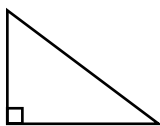
acute

b) 5 p.m?

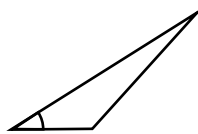


obtuse

[2A] Answer as [1A].



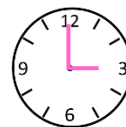
right



acute

[2B] Answer as [1B].

a) 3 a.m?



right

b) 8 p.m?

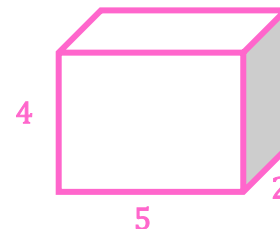
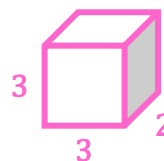


obtuse

[R] Draw a rectangular prism whose volume is:

a) 18m^3 .

b) 40cm^3 .



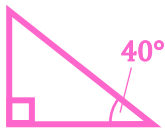
Lesson	102 /120	Curriculum	B5.3.3.3.2 (p.104) e.g.1-5
Teaching Tips	Organise the board so that others can understand the lesson content just by looking at it.		
Objective	Be able to draw angles by a protractor.		
Introduction (sample)	- Let learners draw a triangle and measure each angles. Show how to measure the size of angles using a protractor. - Show how to draw angles such as 30°, 90°, 135°.		
Teacher's Note	- Learners do not have to memorise the fact that the sum of each angle of a triangle is 180° at this level. [1A] is the same activity as the introduction. However, they will find the sum of the interior angles are always 180° in any triangles.		

<Mental Maths>

- a) $150 \div 5 = 30$ b) $180 \div 3 = 60$ c) $210 \div 3 = 70$
d) $240 \div 8 = 30$ e) $280 \div 7 = 40$

<Homework>

Draw a triangle whose angles are 40° and 90°.



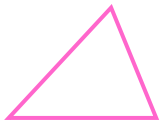
Measure the other angle. **50°**

There may be a measurement error, so angles between 177° and 183° are acceptable.

L102: Measure angles

- [1A] Draw a triangle and measure each angle.
Find the sum of each angle.

The sum is 180°.



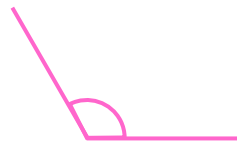
- [1B] Draw an angle of:

- a) 30°. b) 45°.



- [2A] Answer as [1B].

- a) 75°. b) 120°.



- c) 150°.



Note that $180^\circ - 60^\circ - 90^\circ = 30^\circ$.

- [2B] a) Draw a triangle whose angles are 60° and 90°.

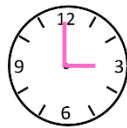


- b) Measure the other angle. **30°**

- [R] Draw the hands.

What type of angle is:

- a) 3 a.m? b) 4 p.m?



right



obtuse

Lesson	103 /120	Curriculum	B5.3.4.1.1 (p.105) e.g.1-3
Teaching Tips	If more than half of the learners cannot solve the first task, explain how to solve it using it.		
Objective	Be able to describe the position and direction of objects.		
Introduction (sample)	- Draw a diagram as shown on the board. - Ask learners, from home (H), where is the: a) factory (F)? 2 steps north b) airport (A)? 2 steps south and 1 step west c) market (M)? 2 steps north and 1 step east		
Teacher's Note	- No need to write the questions and answers in the introduction. - The diagram is also used in [1].		

<Mental Maths>

- a) $160 \div 2 = 80$ b) $180 \div 6 = 30$ c) $210 \div 7 = 30$
d) $250 \div 5 = 50$ e) $300 \div 5 = 60$

<Homework>

From school (S), where is the:

- a) home (H)? **3 steps west**
b) church (C)? **1 step north, 2 steps west**
c) post office (P)? **2 steps south, 3 steps west**

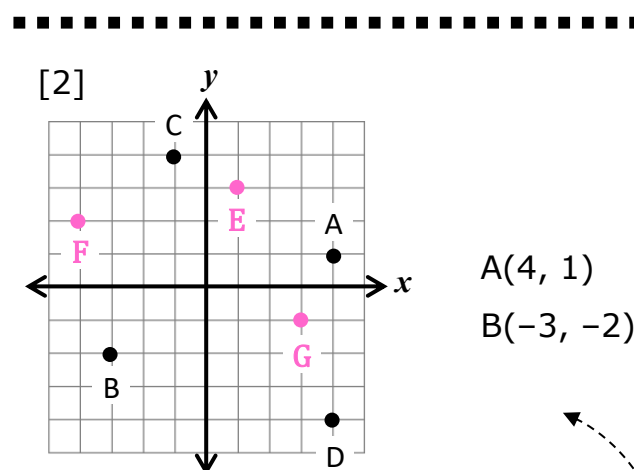
The alphabet on the map stands for the initials of the buildings, e.g. "S" stands for a school.

L103: Tell the position of objects

		F		M	K
			C		
		H			S
B					
	A	P			

[1] From home (H), where is the:

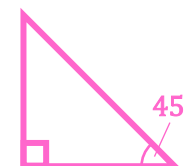
- a) school (S)? **3 steps east**
b) post office (P)? **2 steps south**
c) bus stop (B)? **1 step south, 2 steps west**
d) kiosk (K)? **2 steps north, 3 steps east**



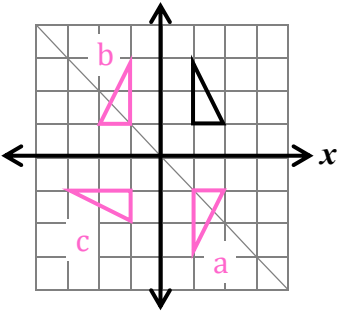
- a) Find the coordinates of the points. C(-1, 4), D(4, -4)
b) Locate E(1,3), F(-4, 2), G(3, -1).

[R] Draw a triangle whose angles are 45° and 90° .

Measure the other angle. **45°**



This task is learnt in B4. But explain if necessary. Points A and B are examples.

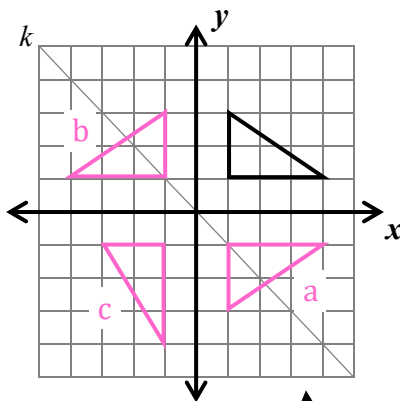
Lesson	104 /120	Curriculum	B5.3.4.2.2 (p.106) e.g.1
Teaching Tips	Have learners copy everything from the board into their exercise books.		
Objective	Be able to identify reflected image of an object.		
Introduction (sample)	- Show how to draw the reflection of a triangle. It is important that each point of the triangle is reflected to the opposite side of the mirror line. a) x-axis. b) y-axis. c) line k. 		
Teacher's Note	This is the same concept as symmetry in B4.3.1.1. The mirror line is the same as the line of symmetry.		

Let learners rotate their exercise book so that the mirror line becomes a vertical line.

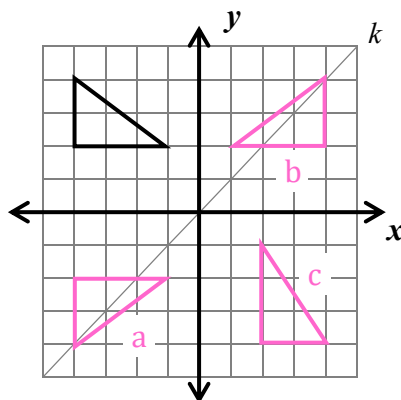
L104: Identify reflected image

[1] Draw the reflection of a triangle across:

- x-axis.
- y-axis.
- line k .



[2] Answer as [1].



If grid paper is not available, there is no need to draw grid lines.

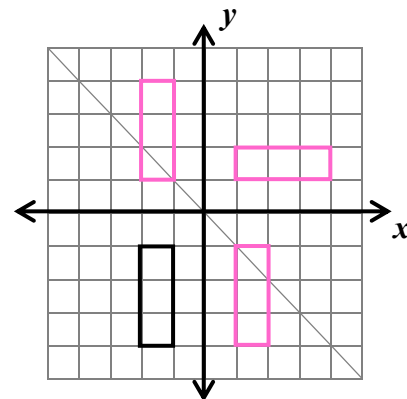
<Mental Maths>

- $160 \div 4 = 40$
- $180 \div 9 = 20$
- $240 \div 3 = 80$
- $270 \div 3 = 90$
- $300 \div 6 = 50$

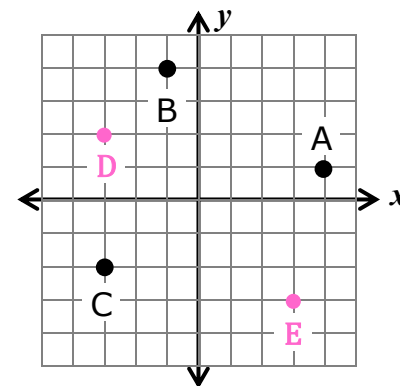
<Homework>

Answer as [1].

- x-axis.
- y-axis.
- line k .



[R]



a) Find the coordinates of the points.

A(4, 1), B(-1, 4), C(-3, -2)

b) Locate D(-3, 2), E(3, -3).

Lesson	105 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L101, [2]: L102, [3]: L103, [4]: L104.		

<Mental Maths>

- a) $160 \div 8 = 20$ b) $200 \div 4 = 50$ c) $240 \div 4 = 60$
d) $270 \div 9 = 30$ e) $320 \div 4 = 80$

<Homework>

*No homework.

Due to time constraints, grid lines are omitted.

L105: Review

[1] Draw the hands.

What type of angle is:

a) 1 a.m?

b) 7 p.m?



acute

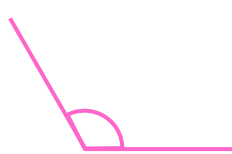
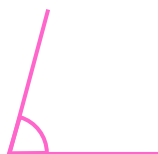


obtuse

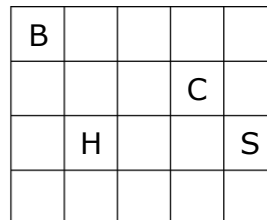
[2] Draw an angle of:

a) 75° .

b) 120° .



[3] From home (H), where is the:



a) school (S)? 3 steps east

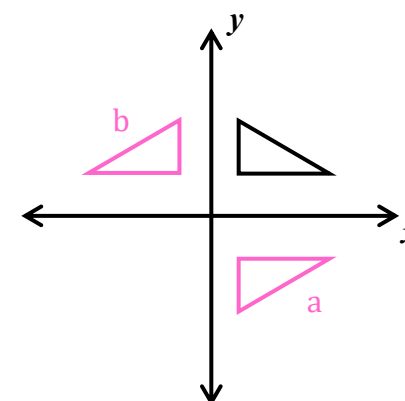
b) church (C)? 1 step north, 2 steps east

c) bus stop (B)?
2 steps north, 1 step west

[4] Draw the reflection of
a triangle across:

a) x-axis.

b) y-axis.



Lesson	106 /120	Curriculum	B5.4.1.1.1 (p.107) e.g.1,2; B5.4.1.1.2 (p.107) e.g. 1-3
Teaching Tips	Divide the board into two parts and copy the teacher manual as it is. Once learners have copied it, erase the left part to write the right part of the teacher manual.		
Objective	Be able to interpret a table		
Introduction (sample)	- Explain the difference between first-hand and second-hand data. - Draw a league table as shown on the board. Show how to find the number they lost, i.e. (played) – (win) – (draw).		
Teacher's Note	The league table is often used in football.		

Explain what the initials stands for.
P: played, W: win, D: draw, L: lose, Pts: points.

L106: Interpret a table

	P	W	D	L	Pts
Hearts	2	2	0	0	6
Kotoko	2	1	1	0	4
Dwafts	2	0	1	1	1
Fields	2	0	0	2	0

[1] Which team has:

a) won only one match? **Kotoko**

b) not lost a single match?

Hearts, Kotoko

c) Fill in the table if win is 3 points, draw is 1 point and lose is 0 point.



[2] The table shows the means to the school.

	B4	B5	B6
Walk	25	23	18
Bike	11	10	13
Bus	8	7	6

How many learners:

a) take a bus in B5? **7 learners**

b) ride a bike to the school in B4-6?

11 + 10 + 13 = 34, 34 learners

c) are there in B4?

25 + 11 + 8 = 44, 44 learners

<Mental Maths>

a) $320 \div 8 = 40$ b) $360 \div 9 = 40$ c) $450 \div 5 = 90$

d) $540 \div 6 = 90$ e) $630 \div 9 = 70$

<Homework>

Refer to [2]. How many learners:

a) ride a bike in B6? **13 learners.**

b) walk to school in B5 and B6?

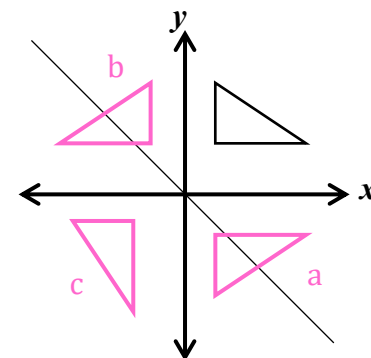
23 + 18 = 41, 41 learners.

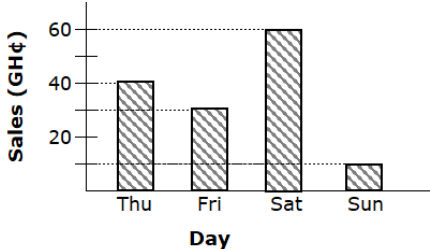
c) are there in B5?

23 + 10 + 7 = 40, 40 learners.

[R] Draw the reflection of a triangle across:

a) x-axis. b) y-axis. c) line k .



Lesson	107 /120	Curriculum	B5.4.1.2.1 (p.108) e.g.1
Teaching Tips	Encourage learners to write in their exercise books. The more they write, the better their writing skills will become.		
Objective	Be able to interpret and draw a bar graph.		
Introduction (sample)	- Show some graphs used in a printed media such as newspapers or magazines. Discuss the information. (Use the following task if you cannot get printed media.) - The bar graph shows the sales of a shop. How much did the shop earn: a) on Thursday? ¢40 b) on Friday? ¢30 c) Which day is the least sale? Sunday 		
Teacher's Note	This topic is a review of B4, which is also a preparation for understanding double bar graphs.		

<Mental Maths>

- a) $350 \div 5 = 70$ b) $400 \div 5 = 80$ c) $450 \div 9 = 50$
d) $540 \div 9 = 60$ e) $640 \div 8 = 80$

<Homework>

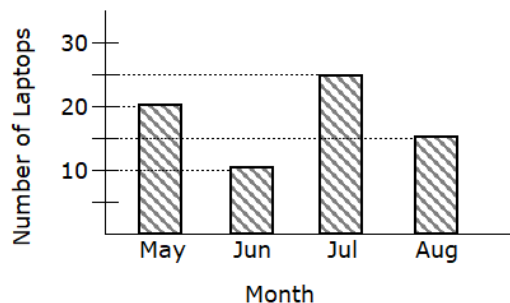
Refer to [2].

How many learners like:

- a) wakye? **10 learners**
b) fufu? **20 learners**
c) Which food is the least popular? **Waakye**

L107: Interpret and draw a bar graph

[1] How many laptops did the shop sell:

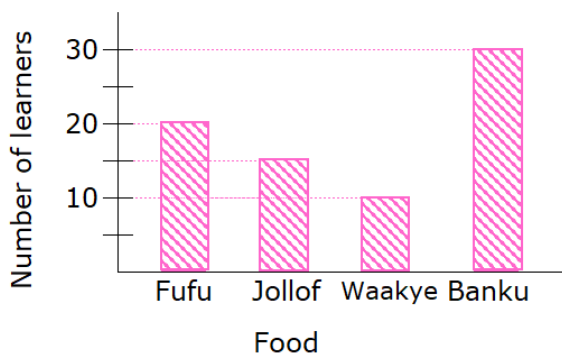


- a) in May? **20 laptops**
b) in June and August?
 $10 + 15 = 25$, 25 laptops
c) in the four months?
 $20 + 10 + 25 + 15 = 70$, 70 laptops

.....

[2] a) Draw a bar graph from the table.

	Fufu	Jollof	Wakye	Banku
Learners	20	15	10	30



- b) How many learners like jollof?
15 learners
c) Which food is the most popular?
Banku

[R] Refer to L106 [1].

Which team has:

- a) lost two matches? **Fields**
b) not won a single match?
Dwarts, Fields

Give [R] if you have time; skip it if not.

Lesson	108 /120	Curriculum	B5.4.1.2.1 (p.110) e.g.2, 3
Teaching Tips	Have learners read the sentences, pointing to each word with your finger. Support learners if they have difficulty reading any of the words.		
Objective	Be able to interpret a double bar graph.		
Introduction (sample)	- Draw a double bar graph as shown on the board. Explain how to interpret it by the following questions. - How much rainfall did: a) Kumasi get in March? 30mm b) Oda get in April? 35mm - When and where did: c) the maximum amount of rain occur? In April, in Kumasi d) 40mm rain occur? In March, in Oda		
Teacher's Note	- A double bar graph is useful to compare two sets of data side by side. - Some of the titles and labelled axes are omitted because of the space constraints. However, do not omit the legend, or we will not be able to interpret the data.		

<Mental Maths>

- a) $350 \div 7 = 50$ b) $400 \div 8 = 50$ c) $480 \div 6 = 80$
 d) $560 \div 7 = 80$ e) $720 \div 8 = 90$

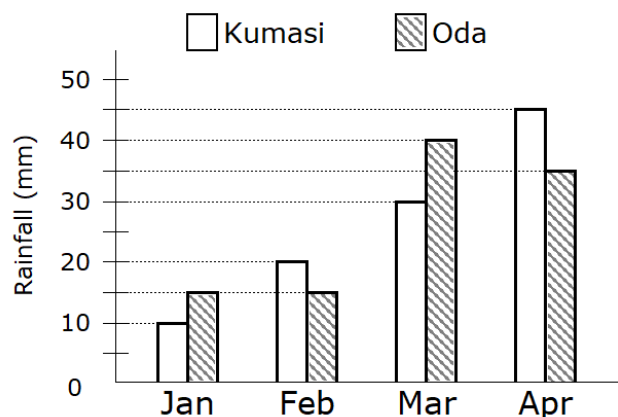
<Homework>

Refer to [2].

Which subject and who got the highest score?

Fusena got the highest score in Ghanaian Language.

L108: Interpret a double bar graph



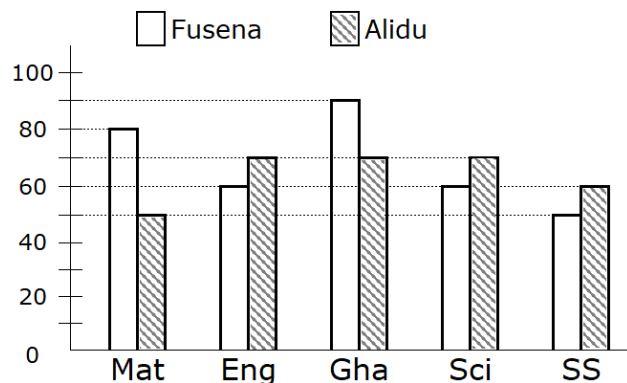
[1] a) Fill in the table.

	Jan	Feb	Mar	Apr
Kumasi	10	20	30	45
Oda	15	15	40	35

b) When and where did the minimum amount of rain occur?

In January, in Kumasi.

[2] The graph shows the test scores.



a) Fill in the table.

	Mat	Eng	Gha	Sci	SS
Fusena	80	60	90	60	50
Alidu	50	70	70	70	60

b) In which subject did Fusena perform the worst?

Social studies

[R] Refer to L107 [1].

How many laptops did the shop sell:

a) in August? **15 laptops**

b) in June and July? **$10 + 25 = 35$
35 laptops**

Gha: Ghanaian language, SS: Social studies

Lesson	110 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L108, [2]: L109.		

<Mental Maths>

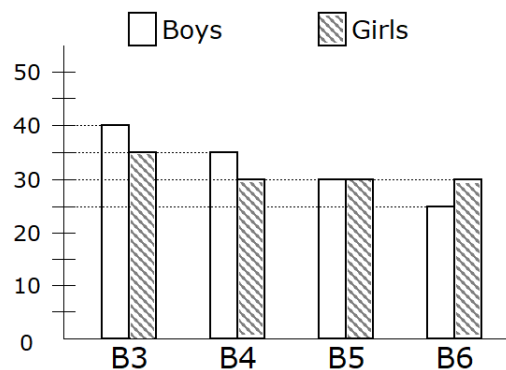
a) $360 \div 6 = 60$ b) $420 \div 7 = 60$ c) $490 \div 7 = 70$
d) $630 \div 7 = 90$ e) $810 \div 9 = 90$

<Homework>

*No homework.

L110: Review

[1] The graph shows the number of learners in each class.



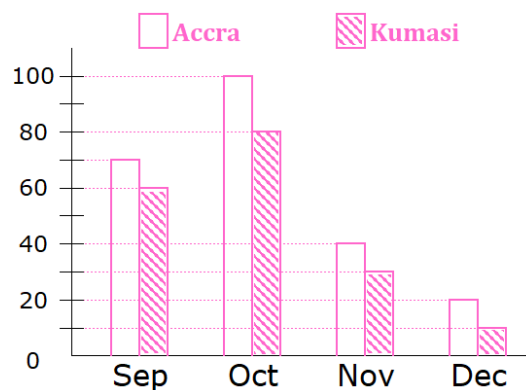
Fill in the table.

	B3	B4	B5	B6
Boys	40	35	30	25
Girls	35	30	30	35

[2] The table shows the rainfall of two cities.

	Sep	Oct	Nov	Dec
Accra	70	100	40	20
Kumasi	60	80	30	10

a) Draw a double bar graph.



b) Which city and month have the highest rainfall?

In October, in Accra

Lesson	111 /120	Curriculum	B5.4.1.2.2 (p.111) e.g.1
Teaching Tips	When a learner presents, repeat exactly what they said. Do not summarise or rephrase.		
Objective	Be able to interpret different types of graphs.		
Introduction (sample)	Provide opportunities for learners to access, read and interpret examples of double bar graphs used in a variety of print and electronic media, such as newspapers, magazines and the internet.		
Teacher's Note	All the title, labelled axes and legends are written in this graph. This is the complete version.		

<Mental Maths>

- a) $150 \div 30 = 5$ b) $180 \div 20 = 9$ c) $200 \div 50 = 4$
d) $240 \div 60 = 4$ e) $280 \div 40 = 7$

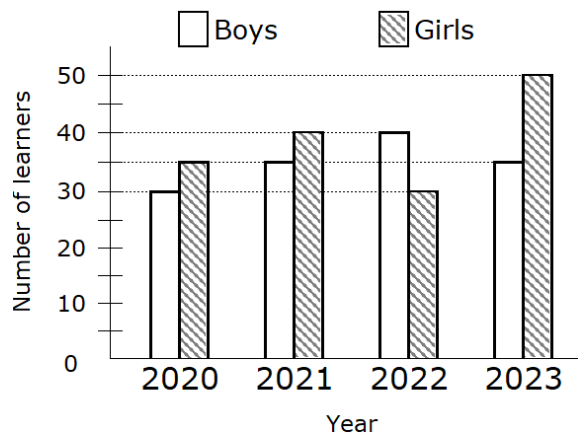
<Homework>

Refer to [2].

- a) How much is the minimum score? **60**
b) What is the total score of class B?
 $80 + 90 + 70 = 240$

L111: Graphs in daily life

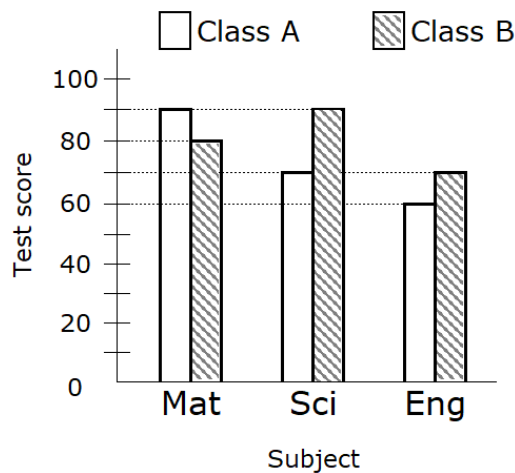
[1] Participants in sports.



Fill in the table.

	2020	2021	2022	2023
Boys	30	35	40	35
Girls	35	40	30	50

[2] Average score of an exam.



Which class:

- a) get better score in Math? **Class A**
b) Fill in the table.

	Class A	Class B
Maths	90	80
Science	70	90
English	60	70

[R] Refer to L109 [1].

- a) Which grade is the minimum number of learners in Roman? **B1**
b) How many learners are in total in B5?
 $35 + 45 = 80$, 80 learners

Lesson	114 /120	Curriculum	B5.1.1.3.4 (p.64) e.g.5
Teaching Tips	Select some learners to distribute exercise books before the lesson begins.		
Objective	Find common factors of three numbers.		
Introduction (sample)	Find the HCF and LCM of 12, 20 and 30 as shown on the board.		
Teacher's Note	- Learners will learn perfect numbers in B8, so this is just an introduction. - Numbers whose factors added up to the number is called perfect numbers. This is very specific case. (In [1], 6 is a perfect number.)		

This diagram is omitted in the rest of the tasks due to space constraints.

L114: Common factors

2	12	20	30
2	6	10	15
3	3	5	15
5	1	5	5
	1	1	1

$$\text{HCF} = 2, \text{LCM} = 2 \times 2 \times 3 \times 5$$

[1] a) Find the factors of 6, 9 and 12.

$$6: \{1, 2, 3, 6\}$$

$$9: \{1, 3, 9\}$$

$$12: \{1, 2, 3, 4, 6, 12\}$$

b) Add each factors of 6, 9 and 12 except for the number itself.

$$6: 1 + 2 + 3 = 6$$

$$9: 1 + 3 = 4$$

$$12: 1 + 2 + 3 + 4 + 6 = 16$$

[2] In 6, 9 and 12, find:

a) the multiples of each numbers up to 40.

$$\{6, 12, 18, 24, 30, 36\}$$

$$\{9, 18, 27, 36\}$$

$$\{12, 24, 36\}$$

Learners can use factor trees if the above method is too difficult.

<Mental Maths>

$$a) 160 \div 40 = 4 \quad b) 180 \div 90 = 2 \quad c) 240 \div 30 = 8$$

$$d) 270 \div 30 = 9 \quad e) 300 \div 60 = 5$$

<Homework>

a) Find the factors of 4, 8 and 12.

$$4: \{1, 2, 4\}$$

$$8: \{1, 2, 4, 8\}$$

$$12: \{1, 2, 3, 4, 6, 12\}$$

b) Find the HCF. **4**

This is another solution.

b) the HCF. **3**

c) the LCM. **36**

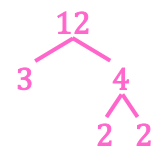
$$6 = 2 \times 3$$

$$9 = 3 \times 3$$

$$12 = 2 \times 2 \times 3$$

$$\text{HCF: } 3$$

$$\text{LCM: } 2 \times 2 \times 3 \times 3 = 36$$



[R] Ama tosses a coin three times. What is the likelihood of getting:

a) head three times? **Possible (unlikely)**

b) head twice and tail twice?

Impossible

Lesson	115 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L111, [2]: L112 & L113, [3]: L114.		

<Mental Maths>

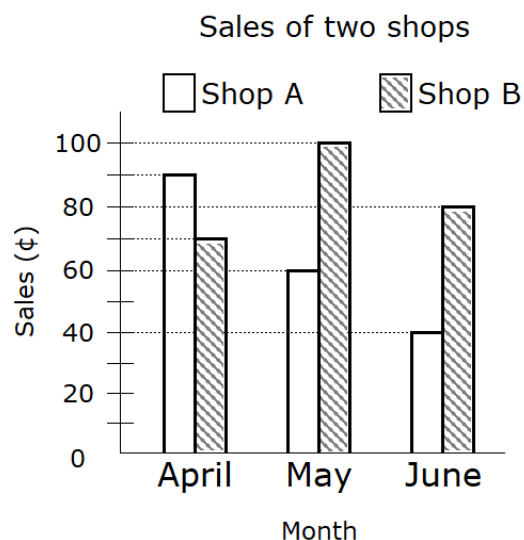
- a) $160 \div 80 = 2$ b) $200 \div 40 = 5$ c) $240 \div 40 = 6$
d) $270 \div 90 = 3$ e) $320 \div 40 = 8$

<Homework>

*No homework.

L115: Review

[1]



a) When and which shop is the maximum sales? **In May, in shop B.**

b) What are the total sales of shop A?
 $90 + 60 + 40 = 190$, ¢190

[2] A bag contains 10 pink,
5 green and 1 black bottle tops.
What is the likelihood of picking:

- a) black? **Possible (unlikely)**
b) red? **Impossible**
c) pink? **Possible (likely)**

[3] In 4, 6 and 12, find:

a) the multiples of each numbers up to 30.

{4, 8, 12, 16, 20, 24, 28}

{6, 12, 18, 24, 30}

{12, 24}

b) the LCM. **12**

Lesson	116 /120	Curriculum	B5.1.2.2.1 (p.67) e.g.1,5
Teaching Tips	Have learners recall what they learned in previous lessons.		
Objective	Be able to solve (2-digit)×(2-digit) whose sum is (2-digit) + (2-digit).		
Introduction (sample)	Show how to solve e.g. $12 \times 43 = 516$ by box method and column method. Explain each of them step by step.		
Teacher's Note	- This lesson focus on (2-digit) × (2-digit) with no carrying or carrying once. - At least, learners need to master column method.		

<Mental Maths>

- a) $320 \div 80 = 4$ b) $360 \div 90 = 4$ c) $450 \div 50 = 9$
d) $540 \div 60 = 9$ e) $630 \div 90 = 7$

<Homework>

Solve:

- a) $34 \times 5 = 170$
b) $14 \times 28 = 392$
c) $18 \times 24 = 432$
d) $35 \times 16 = 560$

L116: Solve by box method

[1] Solve by box method and column method.

a) 24×6

$$\begin{array}{r|rr} \times & 20 & 4 \\ \hline 6 & 120 & 24 \\ \hline \end{array} \rightarrow 144 \qquad \begin{array}{r} 24 \\ \times 6 \\ \hline 144 \end{array}$$

b) 16×23

$$\begin{array}{r|rr} \times & 10 & 6 \\ \hline 20 & 200 & 120 \\ \hline 3 & 30 & 18 \\ \hline \end{array} \begin{array}{l} \rightarrow 320 \\ \rightarrow 48 \\ \hline 368 \end{array} \qquad \begin{array}{r} 16 \\ \times 23 \\ \hline 48 \\ 32 \\ \hline 368 \end{array}$$

c) 21×34

$$\begin{array}{r|rr} \times & 20 & 1 \\ \hline 30 & 600 & 30 \\ \hline 4 & 80 & 4 \\ \hline \end{array} \begin{array}{l} \rightarrow 630 \\ \rightarrow 84 \\ \hline 714 \end{array} \qquad \begin{array}{r} 21 \\ \times 34 \\ \hline 84 \\ 63 \\ \hline 714 \end{array}$$

.....

[2A] Solve:

32×28

$$\begin{array}{r|rr} \times & 30 & 2 \\ \hline 20 & 600 & 40 \\ \hline 8 & 240 & 16 \\ \hline \end{array} \begin{array}{l} \rightarrow 640 \\ \rightarrow 256 \\ \hline 896 \end{array} \qquad \begin{array}{r} 32 \\ \times 28 \\ \hline 16 \\ 56 \\ \hline 896 \end{array}$$

[2B] Kofi buys 12 bags of onions.

Each bag cost ₵42.

How much is the total cost?

$12 \times 42 = 504$. The cost is ₵504.

[R] a) In 2, 3 and 4, find the multiples of each numbers up to 20.

{2, 4, 6, 8, 10, 12, 14, 16, 18, 20}

{3, 6, 9, 12, 15, 18}

{4, 8, 12, 16, 20}

b) What is LCM? 12

Lesson	117 /120	Curriculum	B5.1.2.2.1 (p.68) e.g.4
Teaching Tips	Organise the board so that others can understand the lesson content just by looking at it.		
Objective	Understand lattice method to solve (2-digit) × (2-digit).		
Introduction (sample)	Show how to solve $28 \times 43 = 1,204$ by lattice method and column method. Explain each of them step by step.		
Teacher's Note	- Lattice method for (2-digit) × (2-digit) has more complex rules. Make sure which direction to read the numbers. - At least, learners need to master column method.		

<Mental Maths>

- a) $350 \div 50 = 7$ b) $400 \div 50 = 8$ c) $450 \div 90 = 5$
d) $540 \div 90 = 6$ e) $640 \div 80 = 8$

<Homework>

Solve:

- a) $13 \times 13 = 169$
b) $22 \times 23 = 506$
c) $33 \times 32 = 1,056$

L117: Solve by lattice method

[1] Solve by column method and lattice method.

a) 23×8

$$\begin{array}{r} 23 \\ \times 8 \\ \hline 184 \end{array}$$

$$\begin{array}{|c|c|} \hline 2 & 3 \\ \hline 1 & 2 \\ \hline 6 & 4 \\ \hline 8 & 4 \\ \hline \end{array}$$

b) 31×13

$$\begin{array}{r} 31 \\ \times 13 \\ \hline 93 \\ 31 \\ \hline 403 \end{array}$$

$$\begin{array}{|c|c|} \hline 3 & 1 \\ \hline 0 & 0 \\ \hline 3 & 1 \\ \hline 0 & 0 \\ \hline 9 & 3 \\ \hline 0 & 3 \\ \hline \end{array}$$

c) 43×28

$$\begin{array}{r} 43 \\ \times 28 \\ \hline 344 \\ 86 \\ \hline 1204 \end{array}$$

$$\begin{array}{|c|c|} \hline 4 & 3 \\ \hline 0 & 0 \\ \hline 8 & 6 \\ \hline 0 & 4 \\ \hline \end{array}$$

[2A] Solve:

43×52

$$\begin{array}{r} 43 \\ \times 52 \\ \hline 86 \\ 215 \\ \hline 2236 \end{array}$$

$$\begin{array}{|c|c|} \hline 4 & 3 \\ \hline 2 & 1 \\ \hline 0 & 5 \\ \hline 0 & 0 \\ \hline 8 & 6 \\ \hline 3 & 6 \\ \hline \end{array}$$

[2B] Ama buys 37 packs of eggs.
Each pack holds 12 eggs.
How many eggs in total?

$$37 \times 12 = 444, 444 \text{ eggs.}$$

[R] Solve by box method and column method.

- a) $54 \times 17 = 918$
b) $73 \times 26 = 1,898$

The calculation process is omitted due to space constraints.

Lesson	118 /120	Curriculum	B5.1.2.1.1 (p.65) e.g.1,2; B5.1.2.1.2 (p.66) e.g.2,3
Teaching Tips	If more than half of the learners cannot solve the first task, explain how to solve it using it.		
Objective	Understand strategies to solve multiplication effectively.		
Introduction (sample)	Show how to solve 24×5 and 25×16 as shown on the board. Explain step by step.		
Teacher's Note	- Doubling and halving is important in [1A], [1B] and [2A]. - In [1B] b) and [2A] c), repeated doubling and halving are used to find answers for complex multiplication tasks. [2B] is using a distributive property. We do not use this term at this level.		

<Mental Maths>

- a) $350 \div 70 = 5$ b) $400 \div 80 = 5$ c) $480 \div 60 = 8$
d) $560 \div 70 = 8$ e) $720 \div 80 = 9$

<Homework>

Solve:

- a) $64 \times 5 = 320$
b) $5 \times 58 = 290$
c) $14 \times 15 = 210$
d) $25 \times 56 = 1400$

(even numbers) $\times$ (multiples of 5) = (multiples of 10).

The calculation process is omitted due to space constraints.

L118: Understand multiplication strategies

$$24 \times 5 = 12 \times 2 \times 5$$

$$= 12 \times 10 = 120$$

$$25 \times 16 = 25 \times 2 \times 8$$

$$= 50 \times 8 = 400$$

[1A] Fill in the blanks.

- a) $26 \times 5 = \underline{13} \times \underline{2} \times 5$
 $= \underline{13} \times \underline{10} = \underline{130}$
b) $5 \times 24 = 5 \times \underline{2} \times \underline{12}$
 $= \underline{10} \times \underline{12} = \underline{120}$

[1B] Solve:

- a) $42 \times 5 = \underline{21} \times 2 \times 5$
 $= \underline{21} \times 10 = 210$
b) $25 \times 48 = \underline{25} \times 2 \times 24$
 $= \underline{50} \times 2 \times 12$
 $= \underline{100} \times 12 = 1200$

[2A] Solve:

- a) $12 \times 15 = \underline{6} \times 2 \times 15$
 $= \underline{6} \times 30 = 180$
b) $34 \times 5 = \underline{17} \times 2 \times 5$
 $= \underline{17} \times 10 = 170$

c) $25 \times 64 = \underline{25} \times 2 \times 32$
 $= \underline{50} \times 2 \times 16$
 $= \underline{100} \times 16 = 1600$

[2B] Fill in the blanks.

- a) $29 \times 7 = 30 \times \underline{7} - \underline{7} = \underline{203}$
b) $19 \times 8 = 20 \times \underline{8} - \underline{8} = \underline{152}$
c) $6 \times 18 = 6 \times (10 + \underline{8})$
 $= 6 \times \underline{10} + 6 \times \underline{8} = \underline{108}$

[R] Solve by column method and lattice method.

- a) $52 \times 18 = 936$
b) $63 \times 24 = 1,512$

Lesson	119 /120	Curriculum	B5.2.1.1.4 (p.87) e.g.1; B5.2.1.1.5 (p.88) e.g. 1
Teaching Tips	Have learners copy everything from the board into their exercise books.		
Objective	Be able to find complex patterns.		
Introduction (sample)	Explain the following patterns. Focus on the difference between the two consecutive terms. a) 1, 3, 7, 13, <u>21</u>, <u>31</u>, <u>43</u>, ... Each difference increases by 2. b) 1, 4, 3, 6, 5, 8, 7, <u>10</u>, <u>9</u>, <u>12</u>, <u>11</u>, ... Add 3, then subtract 1. c) 27, 20, 14, 9, <u>5</u>, <u>2</u>, <u>0</u> Each difference decreases by 1. d) 2, 4, 3, 6, 5, 10, 9, <u>18</u>, <u>17</u>, <u>34</u>, ... Multiply 2, then subtract 1.		
Teacher's Note	- Complex patterns in this lesson means the followings. a) Quadratic sequence. b) Number patterns where the rules differ between even and odd terms. - This lesson is of higher difficulty, but it is included because it is in the curriculum.		

<Mental Maths>

- a) $360 \div 40 = 9$ b) $420 \div 60 = 7$ c) $480 \div 80 = 6$
d) $560 \div 80 = 7$ e) $720 \div 90 = 8$

<Homework>

Answer as [1A].

- a) 2, 4, 8, 14, 22, 32, 44, 58

Each difference increases by 2.

- b) 2, 6, 4, 8, 6, 10, 8, 12, 10

Add 4, then subtract 2.

L119: Solve complex patterns

[1A] Extend patterns and find the rule.

- a) 2, 4, 7, 11, 16, 22, 29, 37
- 2 3 4 5 6 7 8

Each difference increases by 1.

- b) 2, 5, 3, 6, 4, 7, 5, 8, 6
- +3 -2 +3 -2 +3 -2 +3 -2

Add 3, then subtract 2.

[1B] Use the following rule to fill in the blanks.

- a) Each difference increases by 2.

- 6, 7, 10, 15, 22, 31, 42
- 1 3 5 7 9 11

- b) Multiply 2, then subtract 1.

- 2, 4, 3, 6, 5, 10, 9
- $\times 2$ -1 $\times 2$ -1 $\times 2$ -1

[2A] Answer as [1A].

- a) 10, 12, 16, 22, 30, 40, 52, 66
- 2 4 6 8 10 12 14

Each difference increases by 2.

- b) 3, 6, 7, 14, 15, 30, 31, 62, 63
- $\times 2$ $+1$ $\times 2$ $+1$ $\times 2$ $+1$ $\times 2$ $+1$

Multiply 2, then add 1.

[2B] Answer as [1B].

- a) Each difference decreases by 1.

- 26, 20, 15, 11, 8, 6, 5
- 6 5 4 3 2 1

- b) Add 2, then subtract 4.

- 12, 14, 10, 12, 8, 10, 6
- +2 -4 +2 -4 +2 -4

[R] Solve:

- a) $28 \times 5 = 14 \times 2 \times 5$
 $= 14 \times 10 = 140$
- b) $5 \times 36 = 5 \times 2 \times 18$
 $= 10 \times 18 = 180$

Lesson	120 /120	Curriculum	Review Lesson
Teaching Tips	Have learners solve exercises independently. The more they practise, the better they will understand the content.		
Objective	Ensure the understanding of the topic.		
Introduction (sample)	*No introduction in a review lesson.		
Teacher's Note	- Please write all the questions on the board and give learners 30 minutes to answer them. - After 30 minutes, please conduct peer marking. - You can skip this lesson if you are behind the scheme of work. - The tasks corresponding to each lesson are as follows: [1]: L116 & L117, [2]: L118, [3]: L119.		

<Mental Maths>

- a) $360 \div 60 = 6$ b) $420 \div 70 = 6$ c) $490 \div 70 = 7$
d) $630 \div 70 = 9$ e) $810 \div 90 = 9$

<Homework>

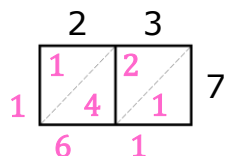
*No homework.

L120: Review

[1] Solve by box method and lattice method.

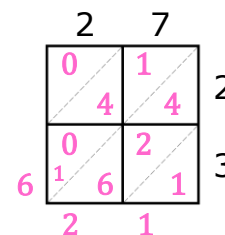
a) 23×7

$$\begin{array}{r|rr} \times & 20 & 3 \\ 7 & 140 & 21 \\ \hline & 161 & \end{array} \rightarrow 161$$



b) 27×23

$$\begin{array}{r|rr} \times & 20 & 7 \\ 20 & 400 & 140 \\ 3 & 60 & 21 \\ \hline & 621 & \end{array} \rightarrow 621$$



[2] Solve:

a) $34 \times 5 = 17 \times 2 \times 5$
 $= 17 \times 10 = 170$

b) $12 \times 15 = 6 \times 2 \times 15$
 $= 6 \times 30 = 180$

[3] Extend patterns and find the rule.

a) 1, 3, 6, 10, 15, 21, 28, 36

Each difference increases by 1.

b) 7, 10, 6, 9, 5, 8, 4, 7, 3

Add 3, then subtract 4.

Lesson	Review 1	Curriculum	Annual Review Lesson
Teaching Tips	*No teaching tips.		
Objective	Ensure the understanding of the topics learnt in B5.		
Introduction (sample)	- Show how to solve the following by column method. a) $36 \times 47 = 1,692$ b) $72 \times 30 = 2,160$		
Teacher's Note	- This lesson is a review of L27 and L28. - Column method is the most effective and general algorithm of multiplying numbers.		

The following five lessons are review of B5 for those who have done all the 120 allocated lessons.

<Mental Maths>

*No mental maths.

<Homework>

Solve:

a) 23×12 b) 15×34 c) 52×70 d) 87×36

$$\begin{array}{r} 23 \\ \times 12 \\ \hline 46 \\ 230 \\ \hline 276 \end{array}$$

$$\begin{array}{r} 15 \\ \times 34 \\ \hline 60 \\ 450 \\ \hline 510 \end{array}$$

$$\begin{array}{r} 52 \\ \times 70 \\ \hline 00 \\ 360 \\ \hline 3640 \end{array}$$

$$\begin{array}{r} 87 \\ \times 36 \\ \hline 522 \\ 2610 \\ \hline 3132 \end{array}$$

Review of B5

[1] Solve:

a) 28×23

$$\begin{array}{r} 28 \\ \times 23 \\ \hline 84 \\ 560 \\ \hline 644 \end{array}$$

b) 13×24

$$\begin{array}{r} 13 \\ \times 24 \\ \hline 52 \\ 260 \\ \hline 312 \end{array}$$

c) 56×14

$$\begin{array}{r} 56 \\ \times 14 \\ \hline 224 \\ 560 \\ \hline 784 \end{array}$$

d) 65×47

$$\begin{array}{r} 65 \\ \times 47 \\ \hline 455 \\ 2600 \\ \hline 3055 \end{array}$$

[2] Solve:

a) 16×43

$$\begin{array}{r} 16 \\ \times 43 \\ \hline 48 \\ 640 \\ \hline 688 \end{array}$$

b) 16×45

$$\begin{array}{r} 16 \\ \times 45 \\ \hline 80 \\ 640 \\ \hline 720 \end{array}$$

c) 42×24

$$\begin{array}{r} 42 \\ \times 24 \\ \hline 168 \\ 840 \\ \hline 1008 \end{array}$$

d) 86×40

$$\begin{array}{r} 86 \\ \times 40 \\ \hline 00 \\ 3440 \\ \hline 3440 \end{array}$$

[R] Use the following rule to fill in the blanks.

a) Each difference decreases by 1.

$$27, 21, \underline{16}, \underline{12}, \underline{9}, \underline{7}, \underline{4}$$

$\xleftarrow{6} \xleftarrow{5} \xleftarrow{4} \xleftarrow{3} \xleftarrow{2} \xleftarrow{1}$

b) Add 3, then subtract 5.

$$12, 15, \underline{10}, \underline{13}, \underline{8}, \underline{11}, \underline{6}$$

$\xleftarrow{+3} \xleftarrow{-5} \xleftarrow{+3} \xleftarrow{-5} \xleftarrow{+3} \xleftarrow{-5}$

Lesson	Review 2	Curriculum	Annual Review Lesson
Teaching Tips	*No teaching tips.		
Objective	Ensure the understanding of the topics learnt in B5.		
Introduction (sample)	- Show how to solve the following by long division. a) $619 \div 3 = 206 \text{ R } 1$ b) $214 \div 6 = 35 \text{ R } 4$		
Teacher's Note	- This lesson is a review of L36 and L37. - Long division is the most effective and general algorithm of dividing numbers.		

<Mental Maths>

*No mental maths.

<Homework>

Solve:

a) $796 \div 6 = 132 \text{ R } 4$

b) $885 \div 4 = 221 \text{ R } 1$

c) $923 \div 4 = 230 \text{ R } 3$

d) $236 \div 6 = 39 \text{ R } 2$

Review of B5

[1] Solve:

a) $575 \div 4$

$$\begin{array}{r} 143 \\ 4 \overline{) 575} \\ \underline{4} \\ 17 \\ \underline{16} \\ 15 \\ \underline{12} \\ 3 \end{array}$$

b) $863 \div 3$

$$\begin{array}{r} 287 \\ 3 \overline{) 863} \\ \underline{6} \\ 26 \\ \underline{24} \\ 23 \\ \underline{21} \\ 2 \end{array}$$

c) $392 \div 3$

$$\begin{array}{r} 130 \\ 3 \overline{) 392} \\ \underline{3} \\ 9 \\ \underline{9} \\ 2 \end{array}$$

d) $985 \div 7$

$$\begin{array}{r} 140 \\ 7 \overline{) 985} \\ \underline{7} \\ 28 \\ \underline{28} \\ 5 \end{array}$$

[2] Solve:

a) $857 \div 4$

$$\begin{array}{r} 214 \\ 4 \overline{) 857} \\ \underline{8} \\ 5 \\ \underline{4} \\ 17 \\ \underline{16} \\ 1 \end{array}$$

b) $741 \div 7$

$$\begin{array}{r} 105 \\ 7 \overline{) 741} \\ \underline{7} \\ 4 \\ \underline{0} \\ 41 \\ \underline{35} \\ 6 \end{array}$$

c) $193 \div 5$

$$\begin{array}{r} 38 \\ 5 \overline{) 193} \\ \underline{15} \\ 43 \\ \underline{40} \\ 3 \end{array}$$

d) $515 \div 6$

$$\begin{array}{r} 85 \\ 6 \overline{) 515} \\ \underline{48} \\ 35 \\ \underline{30} \\ 5 \end{array}$$

[R] Solve:

a) 13×46

$$\begin{array}{r} 13 \\ \times 46 \\ \hline 78 \\ 52 \\ \hline 598 \end{array}$$

b) 18×25

$$\begin{array}{r} 18 \\ \times 25 \\ \hline 90 \\ 36 \\ \hline 450 \end{array}$$

c) 43×34

$$\begin{array}{r} 43 \\ \times 34 \\ \hline 172 \\ 129 \\ \hline 1462 \end{array}$$

d) 84×30

$$\begin{array}{r} 84 \\ \times 30 \\ \hline 00 \\ 252 \\ \hline 2520 \end{array}$$

Lesson	Review 3	Curriculum	Annual Review Lesson
Teaching Tips	*No teaching tips.		
Objective	Ensure the understanding of the topics learnt in B5.		
Introduction (sample)	Show how to solve the following. a) $2\frac{3}{5} + 3\frac{2}{5} = \frac{13}{5} + \frac{17}{5} = \frac{30}{5} = 6$ b) $4\frac{1}{3} - 1\frac{5}{6} = \frac{13}{3} - \frac{11}{6} = \frac{26}{6} - \frac{11}{6} = \frac{15}{6} = \frac{5}{2} = 2\frac{1}{2}$		
Teacher's Note	This lesson is a review of L47 and L48.		

<Mental Maths>

*No mental maths.

<Homework>

Solve:

a) $2\frac{1}{5} + 1\frac{2}{5} = \frac{18}{5}$

b) $2\frac{1}{3} - \frac{2}{3} = \frac{5}{3}$

c) $1\frac{1}{6} + 2\frac{2}{3} = \frac{23}{6}$

d) $4\frac{2}{10} - 3\frac{1}{5} = 1$

Review of B5

[1] Solve:

a) $1\frac{2}{5} + 3\frac{2}{5} = \frac{7}{5} + \frac{17}{5} = \frac{24}{5} = 4\frac{4}{5}$

b) $2\frac{1}{4} - 1\frac{2}{4} = \frac{9}{4} - \frac{6}{4} = \frac{3}{4}$

c) $2\frac{1}{4} + 1\frac{1}{2} = \frac{9}{4} + \frac{3}{2}$
 $= \frac{9}{4} + \frac{6}{4} = \frac{15}{4} = 3\frac{3}{4}$

d) $2\frac{3}{4} - 1\frac{1}{2} = \frac{11}{4} - \frac{3}{2}$
 $= \frac{11}{4} - \frac{6}{4} = \frac{5}{4} = 1\frac{1}{4}$

.....

[2] Solve:

a) $1\frac{1}{4} + 3\frac{1}{4} = \frac{5}{4} + \frac{13}{4} = \frac{18}{4} = \frac{9}{2} = 4\frac{1}{2}$

b) $3 - 2\frac{2}{6} = \frac{18}{6} - \frac{14}{6} = \frac{4}{6} = \frac{2}{3}$

c) $1\frac{1}{6} + 2\frac{1}{3} = \frac{7}{6} + \frac{7}{3}$
 $= \frac{7}{6} + \frac{14}{6} = \frac{21}{6} = 3\frac{1}{2}$

d) $4\frac{6}{8} - 2\frac{3}{4} = \frac{38}{8} - \frac{11}{4}$
 $= \frac{38}{8} - \frac{22}{8} = \frac{16}{8} = 2$

[R] Solve:

a) $457 \div 2$

$$\begin{array}{r} 228 \\ 2 \overline{) 457} \\ \underline{4} \\ 5 \\ \underline{4} \\ 17 \\ \underline{16} \\ 1 \end{array}$$

$$\begin{array}{r} 108 \\ 5 \overline{) 541} \\ \underline{5} \\ 4 \\ \underline{4} \\ 1 \end{array}$$

b) $541 \div 5$

$$\begin{array}{r} 108 \\ 5 \overline{) 541} \\ \underline{5} \\ 4 \\ \underline{4} \\ 1 \end{array}$$

$$\begin{array}{r} 108 \\ 5 \overline{) 541} \\ \underline{5} \\ 4 \\ \underline{4} \\ 1 \end{array}$$

c) $184 \div 5$

$$\begin{array}{r} 36 \\ 5 \overline{) 184} \\ \underline{15} \\ 34 \\ \underline{30} \\ 4 \end{array}$$

$$\begin{array}{r} 36 \\ 7 \overline{) 126} \\ \underline{21} \\ 6 \\ \underline{56} \\ 10 \\ \underline{7} \\ 3 \end{array}$$

d) $612 \div 7$

$$\begin{array}{r} 87 \\ 7 \overline{) 612} \\ \underline{56} \\ 52 \\ \underline{49} \\ 3 \end{array}$$

Lesson	Review 4	Curriculum	Annual Review Lesson
Teaching Tips	*No teaching tips.		
Objective	Ensure the understanding of the topics learnt in B5.		
Introduction (sample)	Show how to solve the following. a) $1\frac{2}{5} \times 3 = \frac{7}{5} \times 3 = \frac{7 \times 3}{5} = \frac{21}{5} = 4\frac{1}{5}$ b) $2 \times 2\frac{1}{4} = 2 \times \frac{9}{4} = \frac{2^1 \times 9}{4_2} = \frac{9}{2} = 4\frac{1}{2}$		
Teacher's Note	- This lesson is a review of L52 and L53. - Simplifying the fraction before converting the mixed fraction to the improper fraction is faster.		

<Mental Maths>

*No mental maths.

<Homework>

Solve:

a) $\frac{1}{5} \times 3 = \frac{3}{5}$ b) $\frac{5}{4} \times 5 = \frac{25}{4}$
c) $3\frac{1}{7} \times 14 = 44$ d) $2\frac{2}{4} \times 8 = 20$

Review of B5

[1] Solve:

a) $\frac{5}{6} \times 8 = \frac{5 \times 8^4}{6_3} = \frac{20}{3} = 6\frac{2}{3}$

b) $\frac{4}{3} \times 9 = \frac{4 \times 9^3}{3_1} = 12$

c) $10 \times 2\frac{1}{5} = 10 \times \frac{11}{5} = \frac{10^2 \times 11}{5_1} = 22$

d) $2\frac{3^1}{6_2} \times 6 = \frac{5}{2} \times 6 = \frac{5 \times 6^3}{2_1} = 15$

e) $8 \times 2\frac{2^1}{4_2} = 8 \times \frac{5}{2} = \frac{8^4 \times 5}{2_1} = 20$

.....

[2] Solve:

a) $\frac{5}{6} \times 9 = \frac{5 \times 9^3}{6_2} = \frac{15}{2} = 7\frac{1}{2}$

b) $\frac{15^3}{10_2} \times 6 = \frac{3 \times 6^3}{2_1} = 9$

c) $4 \times 2\frac{5}{6} = 4 \times \frac{17}{6} = \frac{4^2 \times 17}{6_3} = \frac{34}{3} = 11\frac{1}{3}$

d) $1\frac{2}{3} \times 6 = \frac{5}{3} \times 6 = \frac{5 \times 6^2}{3_1} = 10$

e) $4 \times 3\frac{4^1}{8_2} = 4 \times \frac{7}{2} = \frac{4^2 \times 7}{2_1} = 14$

f) $2\frac{10^5}{12_6} \times 6 = \frac{17}{6} \times 6 = \frac{17 \times 6^1}{6_1} = 17$

[R] Solve:

a) $1\frac{1}{4} + 2\frac{1}{4} = 3\frac{1}{2}$

b) $4 - 2\frac{2}{6} = 1\frac{2}{3}$

c) $2\frac{1}{6} + 2\frac{1}{3} = 4\frac{1}{2}$

d) $5\frac{6}{8} - \frac{3}{4} = 5$

Lesson	Review 5	Curriculum	Annual Review Lesson
Teaching Tips	*No teaching tips.		
Objective	Ensure the understanding of the topics learnt in B5.		
Introduction (sample)	Show how to solve the addition and subtraction of decimal fractions as shown on the board.		
Teacher's Note	- This lesson is a review of L64 and L66. - The tasks include regrouping. Take enough time to explain how to do it.		

<Mental Maths>

*No mental maths.

<Homework>

Solve:

a) $0.235 + 0.278 = 0.513$

b) $0.831 - 0.453 = 0.378$

c) $0.265 + 0.3 = 0.565$

d) $0.6 - 0.233 = 0.367$

Review of B5

$$\begin{array}{r} \overset{1}{0}.\overset{1}{1}56 \\ + 0.085 \\ \hline 0.241 \end{array} \quad \begin{array}{r} \overset{4}{0}.\overset{11}{5}\overset{13}{2}3 \\ - 0.349 \\ \hline 0.174 \end{array}$$

[1] Solve:

a) $0.352 + 0.169$ b) $0.631 - 0.247$

$$\begin{array}{r} \overset{1}{0}.\overset{1}{3}52 \\ + 0.169 \\ \hline 0.521 \end{array} \quad \begin{array}{r} \overset{5}{0}.\overset{12}{6}\overset{11}{3}1 \\ - 0.247 \\ \hline 0.384 \end{array}$$

c) $0.345 + 0.6$ d) $0.4 - 0.053$

$$\begin{array}{r} 0.345 \\ + 0.6 \\ \hline 0.945 \end{array} \quad \begin{array}{r} \overset{2}{0}.\overset{9}{4}\overset{10}{5}3 \\ - 0.053 \\ \hline 0.347 \end{array}$$

[2] Solve:

a) $0.472 + 0.368$ b) $0.534 - 0.286$

$$\begin{array}{r} \overset{1}{0}.\overset{1}{4}72 \\ + 0.368 \\ \hline 0.840 \end{array} \quad \begin{array}{r} \overset{4}{0}.\overset{12}{5}\overset{14}{3}4 \\ - 0.286 \\ \hline 0.248 \end{array}$$

c) $0.294 + 0.569$ d) $0.4 - 0.238$

$$\begin{array}{r} \overset{1}{0}.\overset{1}{2}94 \\ + 0.569 \\ \hline 0.863 \end{array} \quad \begin{array}{r} \overset{3}{0}.\overset{9}{4}\overset{10}{5} \\ - 0.238 \\ \hline 0.162 \end{array}$$

e) $0.5 + 0.207$ f) $0.604 - 0.228$

$$\begin{array}{r} 0.5 \\ + 0.207 \\ \hline 0.707 \end{array} \quad \begin{array}{r} \overset{5}{0}.\overset{9}{6}\overset{14}{0}4 \\ - 0.228 \\ \hline 0.376 \end{array}$$

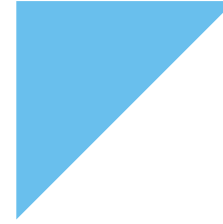
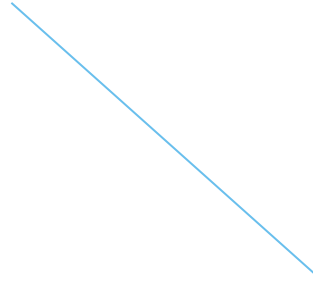
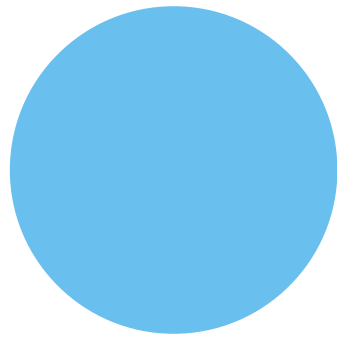
[R] Solve:

a) $\frac{3}{4} \times 6 = \frac{3 \times \cancel{6}^3}{\cancel{4}_2} = \frac{9}{2} = 4\frac{1}{2}$

b) $\frac{12}{8} \times 4 = \frac{\cancel{12}^3 \times 4^2}{\cancel{8}_1} = 6$

c) $6 \times 2\frac{1}{4} = 6 \times \frac{9}{4} = \frac{\cancel{6}^3 \times 9}{\cancel{4}_2} = \frac{27}{2} = 13\frac{1}{2}$

d) $1\frac{1}{3} \times 6 = \frac{4}{3} \times 6 = \frac{4 \times \cancel{6}^2}{\cancel{3}_1} = 8$



About the Book

This book has been written in alignment with the new GES curriculum developed by the National Council for Curriculum and Assessment (NaCCA). It aims to provide learners with a strong foundation in Mathematics. The book is designed to be user-friendly for teachers, enabling them to deliver high-quality lessons effectively. It also includes a variety of questions and activities to make learning more engaging, easier to understand, and easier to remember.