JICA Primary Mathematics

Teacher Manual

B3

Ghana Education Service (GES)

JICA

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.

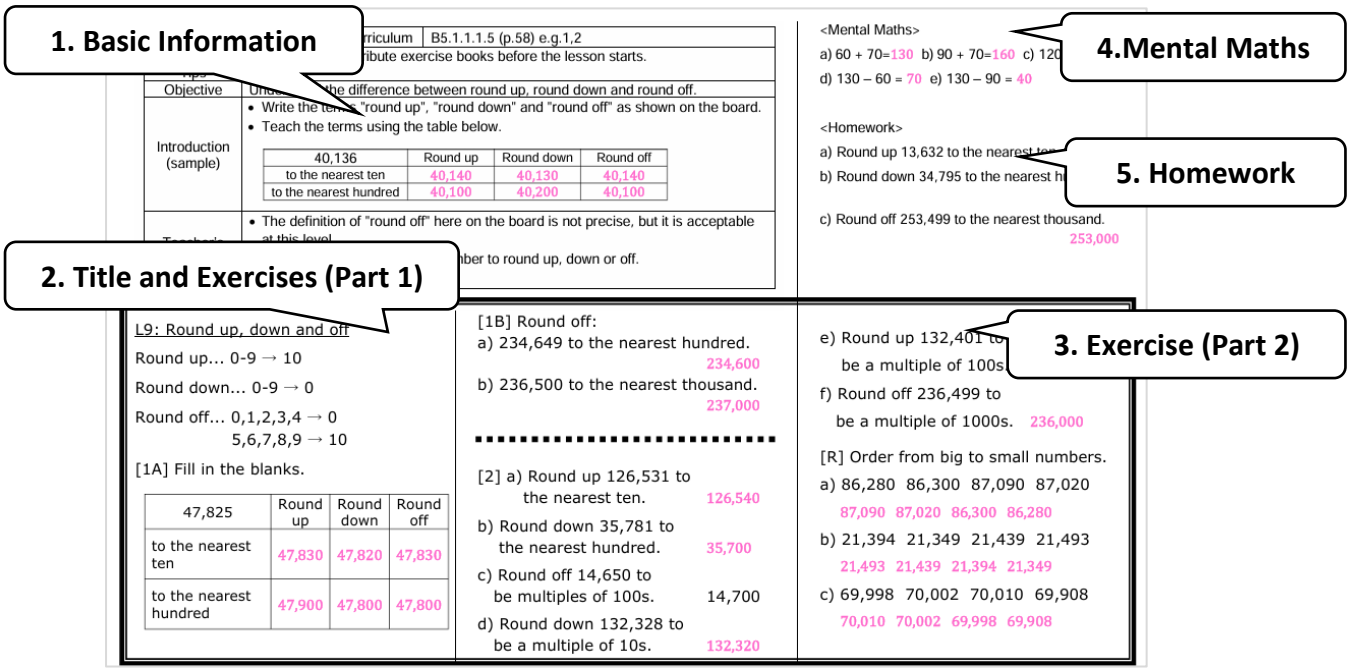
1. Normal lessons (learning new topics in the curriculum)
2. Review lessons (reviewing the previous four lessons)
   *Lesson numbers are multiples of 5 for review lessons.

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

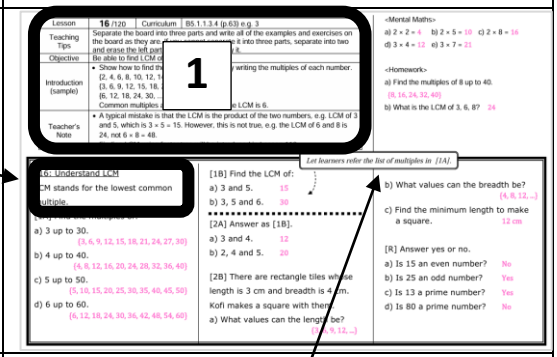
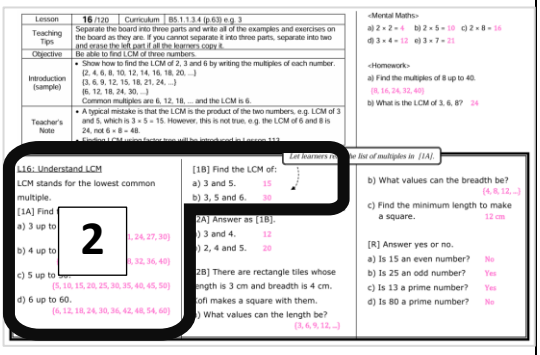
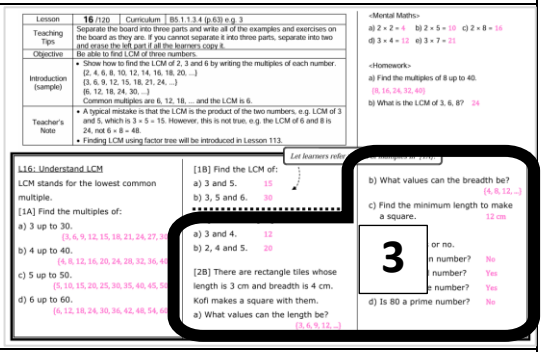
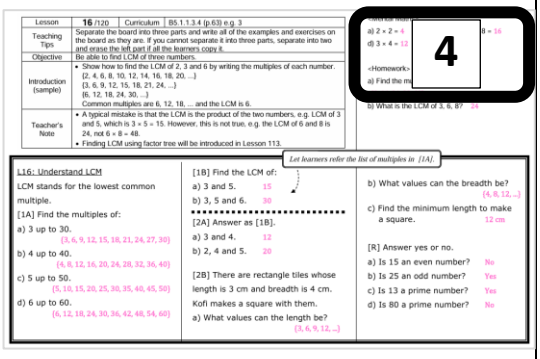
Lesson structure of the teacher manual

The teacher manual is designed for one lesson per page. Each page consists of five parts.

1. **Basic information about the lesson**
   - This part shows the lesson number, corresponding curriculum page, lesson objective, sample activities for 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 the lesson.
2. **Title and exercise (Part 1)**
   - The title is the lesson objective for learners.
   - Tasks in part 1 are shown in [1], [1A] or [1B]. Tasks that have answers in black are examples.
   - The first sub-task should be used for the evaluation of learners' understanding. If more than half of the learners cannot solve the first sub-task, please explain it again to the whole class.
   - The pink part is the answer, and you are expected to write it after learners have worked on it.
   - The lesson is divided in half by the dotted line. Exercise part 1 is up to the dotted line.
3. **Exercise (Part 2)**
   - Tasks in part 2 are shown by [2], [2A] or [2B].
   - [R] means a task from the previous lesson for review.
4. **Mental Maths**
   - This is practice for mental calculations. Learners need to memorise the answers.
5. **Homework**
   - If you want to give homework to the learners, you can use the tasks.



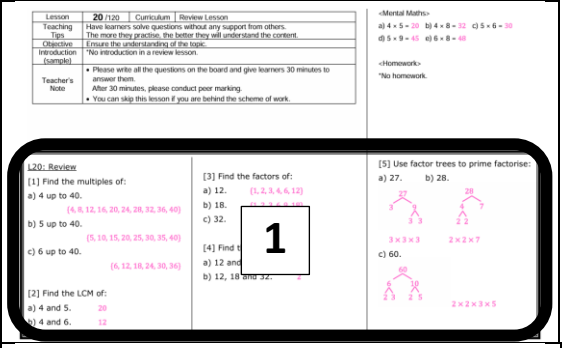
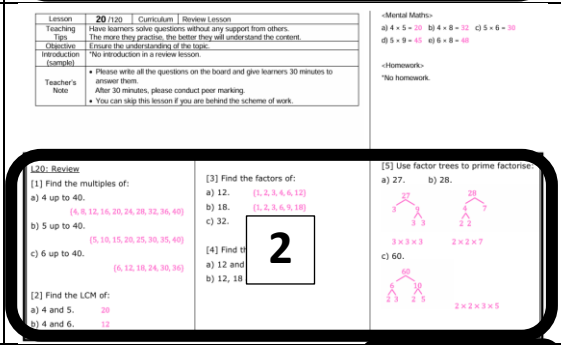
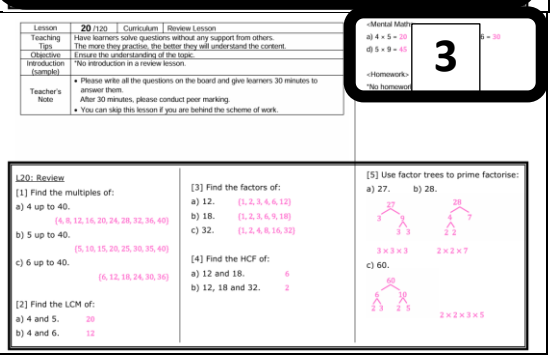
How to conduct the main lesson

	Procedure	Teacher manual
Introduction (15 min.)	• Explain today's topic. • The introduction is a sample activity related to today's lesson objective. • See if it is written "as shown on the board". *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.)> • **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**. • Have learners swap their exercise books and conduct peer marking.	This is a speech bubble. 
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. *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.	

Lesson Flow Diagram

The above diagram shows the lesson flow. In the introduction part, teacher's support is the most, but as you move on to the exercise part I and part II, learners do the exercise by themselves. In the exercise part I, number of tasks are less than part II so that you can have more time to explain it.

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**.	
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.	
Mental Maths (5 min.)	• Do it in the same way as the normal lesson.	

FAQ

Time Management and Lesson Coverage

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

A. Please adhere to the time limits for each step. Some content is intentionally designed to be slightly more than the average learner can complete within the designated time.

Q. What should I do if I finish the teacher manual?

A. Please review the lessons that learners struggled with. The teacher manual is designed to cover all the curriculum topics in 120 hours, which is fewer than the total number of lessons you are expected to conduct.

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

A. Prepare thoroughly to avoid this issue. Over-explanation does not help learners understand. Instead, give Exercise 1 and explain it after allowing some time so that learners can realise what should be answered.

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 address learners who are consistently unable to complete tasks within the given time frame?

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

Lesson Implementation

Q. What is the role of the teacher?

A. The teacher is expected to be aware of the following three points:
1. Write the content correctly and clearly on the board.
2. Give learners sufficient time to work on exercises rather than over-explaining.
3. Provide feedback to assist learners.

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

A. No. Please complete all the exercises as they are unless there is an obvious mistake. If you skip any content, you will not cover the full curriculum. If it is easy, add some tasks. If it is too difficult, give some hints to support learners.

Q. Which part of the board should the learners copy?

A. Learners should copy all the content written on the board. It is an opportunity for learners to practise writing sentences.

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

A. Look around the classroom to check the first sub-task. It serves as an evaluation task for the lesson. If more than half of the learners cannot solve it, explain the concept again using the first sub-task.

Q. Why are some answers written in black?

A. They serve as a hint (or an example) to help learners solve other tasks. Write all the pink parts after 15 minutes.

Q. Should I write the lesson objective?

A. No. The lesson objective is for teachers. It contains some difficult terminologies that learners do not have to know. It also takes time to write it. The tile of the lesson works as an lesson objective for learners.

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

A. You can do pair or group work during the introduction part. Remember, the introduction is a sample activity that you can change accordingly. Peer marking is also an opportunity for pair work, as learners can discuss the solution. In the feedback session during review lessons, group work is encouraged for better understanding.

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

A. This teacher manual includes many tasks to keep all learners engaged and promote inclusivity. The teacher must present all exercises. Fast learners are encouraged to solve all of them, while slower learners do not need to complete every task. Please provide appropriate guidance based on each learner's level.

Mental Maths Instructions

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

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

Q. Why do learners have to stand up in correction time of mental maths?

A. If the learners stand up, you can easily see who is practising and who is not. If a learner does not make any mistakes, they do not have to stand up.

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

A. Erase the answer on the board (do not erase the tasks) before correction. They need to read the tasks on the board because if they just read the answers in their exercise book, they won't memorise them effectively. Tell the correct answer verbally 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.

Sample scheme of work

This sample scheme of work is developed for pacing. You can adjust it depending on your school situation.

If you are behind the following schedule, please skip the review lesson. Do NOT skip normal lessons.

For example, if you teach lesson 5 on 27th September or before, do not skip lesson 5. If you teach it after 27th September, skip lesson 5 to catch up.

Lesson	Date	Lesson	Date	Lesson	Date
5	27 September	45	10 December	85	19 March
10	8 October	50	15 January	90	28 March
15	17 October	55	24 January	95	16 May
20	26 October	60	2 February	100	25 May
25	4 November	65	11 February	105	3 June
30	13 November	70	20 February	110	12 June
35	22 November	75	1 March	115	21 June
40	1 December	80	10 March	120	30 June

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 a video from the QR code below.

File download	Watch video

Lesson Observation Sheet

The following is a tentative lesson observation sheet.

Name of the School _____ Name of Observer:_____

Date: _____ Lesson: _____ in term ____ Basic _____

Checklist

		Yes	No
1	Did the teacher measure time in each step?		
2	Did the teacher check all the learner's first sub-task and give the learners the necessary feedback?		
3	Did the teacher write the pink parts in the teacher manual after 15 minutes?		
4	Was the board at the end of the lesson the same as the teacher manual?		
5	Did learners write the contents of their exercise book on the board?		

Note for Observers:

- Check the learners' exercise books for the first sub-task of [1]. If more than half of the learners can solve it, the teacher does not need further explanation. If not, the teacher must explain the first sub-task.
- Check some of the learners' exercise books for the past lessons. It will show you the information about the lessons you did not observe.

Memo:

Lesson	**1** /120	Curriculum	B3.1.1.1.1 (p.42) 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	Understand the base-ten number system by practising skip counting up to 10,000		
Introduction (sample)	• Skip count forwards and backwards from 0 to 10,000 by 10s, 50s, 100s, 500s and 1,000s starting at any point. • Write the tips to find patterns as shown on the board.		
Teacher's Note	• Learners learnt "skip count forwards and backwards to and from 1000 respectively by 2s, 5s and 10s" in B2. • By hiding zeros, you can easily find patterns, e.g. 3,300 3,200 3,100 → 32, 31, 30. • In decreasing pattern, have learners read from right to left.		

<Mental Maths>

a) 9 + 2 = 11 b) 7 + 4 = 11 c) 6 + 5 = 11

d) 9 + 5 = 14 e) 7 + 6 = 13

<Homework>

How many:

a) more from 500 to 1000? 500

b) less from 1,000 to 600? 400

c) more from 3,000 to 10,000? 7,000

d) less from 10,000 to 4,000? 6,000

Find the patterns or answers by hiding zeros.

L1: Practise skip counting to 10,000

Hide some of the last digits to find the pattern.

3,300 3,200 3,100 3,000 2,900

[1A] Fill in the blanks, then read aloud.

a) 430 440 450 460 470

b) 2,400 2,500 2,600 2,700 2,800

c) 5,000 6,000 7,000 8,000 9,000

d) 4,800 4,750 4,700 4,650 4,600

[1B] How many:

a) more from 700 to 1,000? 300

b) less from 10,000 to 4,000? 6,000

[2A] Answer as [1A].

a) 6,000 6,500 7,000 7,500 8,000

b) 5,850 5,900 5,950 6,000 6,050

c) 2,700 2,600 2,500 2,400 2,300

d) 2,500 2,000 1,500 1,000 500

e) 7,250 7,150 7,050 6,950 6,850

[2B] Correct the errors.

a) 3,000 4000 4500 6,000 7,000

5,000

b) 5,000 4050, 4,000 3,500 3,000

4,500

[R] How many:

a) more from 800 to 1,000? 200

b) less from 1,000 to 600? 400

c) more from 4,000 to 10,000 6,000

d) less from 10,000 to 5,000? 5,000

Skip review task if you don't have time.

Lesson	**2** /120	Curriculum	B3.1.1.1.1 (p.42) e.g.2-4
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 write the number name of a numeral or vice versa.		
Introduction (sample)	• Show a typical mistake (i.e. write 20030 for two hundred and thirty) as shown on the board. • Say multiples of 10s or 100s (e.g. 340, 680, 2530, 5600, 7500, 9900) and have learners write them in their exercise book.		
Teacher's Note	• Utilise the experience of money to foster number sense. • The numbers are limited to multiples of 10s or 100s.		

<Mental Maths>

a) 8 + 3 = 11 b) 8 + 4 = 12 c) 7 + 5 = 12

d) 5 + 6 = 11 e) 8 + 6 = 14

<Homework>

Answer as [1B].

a) 560 Five hundred and sixty

b) 7,200 Seven thousand two hundred

c) 1,030 One thousand and thirty

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

L2: Write number names

Two hundred and thirty 230 ✓

20030 ×

[1A] Write words in a number.

a) Five hundred and ninety 590

b) One thousand two hundred and fifty 1,250

c) Three thousand nine hundred 3,900

d) Eight thousand and twenty 8,020

[1B] Write a number in words.

a) 340 Three hundred and forty

b) 480 Four hundred and eighty

c) 6,200 Six thousand two hundred

d) 7,010 Seven thousand and ten

[2A] Answer as [1A].

a) Seven hundred and ten 710

b) Four thousand five hundred 4,500

c) Six thousand and eighty 6,080

[2B] Correct the errors.

a) 2,000 3,000 4,000 ~~5,500~~ 5000, 6,000

b) 8,500 8,000 7,500 7,000 ~~6,050~~ 6,500

c) 3,050 ~~310~~ 3100 3,150 3,200 3,250

d) ~~5,050~~ 5500 5,000 4,500 4,000 3,500

[R] Fill in the blanks.

a) 2,800 2,900 3,000 3,100 3,200

b) 6,850 6,900 6,950 7,000 7,050

c) 3,250 3,150 3,050 2,950 2,850

d) 3,500 3,000 2,500 2,000 1,500

Lesson	**3** /120	Curriculum	B3.1.1.1.2 (p.43) e.g.1; B3.1.1.1.3 (p.43, 44) 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 model the numbers by multi-base diagrams. • Be able to identify different position in a number chart.		
Introduction (sample)	• Show numbers (e.g. 410 1,520 3,210) using multi-base material and diagrams and explain the relationship between the mutli-base material and the diagrams as shown on the board. • Show collections of objects and let learners estimate the number.		
Teacher's Note	• Simplify multi-base blocks 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.		

<Mental Maths>

a) 9 + 3 = 12 b) 9 + 4 = 13 c) 8 + 5 = 13

d) 6 + 6 = 12 e) 9 + 6 = 15

<Homework>

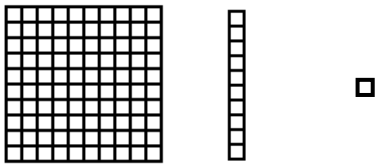
Answer as [1].

a) 1,320

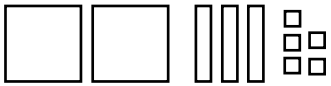
b) 2,040

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

L3: Model numbers up to 10,000



1000 100 10



2,350

[1] Model the number.

a) 320

b) 540

c) 3,270

d) 2,030

[2A] Answer as [1].

a) 460

b) 5,040

[2B] Answer the questions.

450	342	2478
990	452	6520
5600	2598	451

What number is:

a) above 452? 342

b) below 452? 2598

c) to the right of 452? 6,520

[R] Write words in a number.

a) Two hundred and thirty 230

b) Five hundred and sixty 560

c) Three thousand and forty 3,040

Lesson	**4** /120	Curriculum	B3.1.1.1.3 (p.44) e.g.3-5
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 place value using a place value table.		
Introduction (sample)	• Draw a place value chart as shown on the board. Then, ask: In 2345, what is the value of: a) 5? 5 b) 4? 40 c) 3? 300 d) 2? 2,000 In 2345, how many: a) ones are there? 5 b) tens are there? 4 c) hundreds are there? 3 d) thousands are there? 2 • Write the meaning of place value as shown on the board.		
Teacher's Note	• Although the topic of money is covered in later lessons, allowing learners to solve [2B] at this stage is useful because it connects their daily life to mathematics. • Let learners explain what the value of a digit depends upon its placement. (345 is not three, four, five, but 3 hundreds and 4 tens and 5 ones.)		

<Mental Maths>

a) 4 + 7 = 11 b) 7 + 7 = 14 c) 3 + 8 = 11

d) 6 + 8 = 14 e) 9 + 8 = 17

<Homework>

In 3,659,
what is the value of:

a) 6? 600 b) 3? 3,000

how many:

c) tens are there? 5

d) hundreds are there? 6

L4: Show numbers in place value table

Th	H	T	O
2	3	4	5

5 means 5 5 ones

4 means 40 4 tens

3 means 300 3 hundreds

2 means 2000 2 thousands

[1A] In 4873, what is the value of:

a) 3? 3 b) 7? 70

c) 8? 800 d) 4? 4,000

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

[1B] In 3456, how many:

a) ones are there? 3

b) tens are there? 5

c) hundreds are there? 4

[2A] In 8642,

what is the value of:

a) 4? 40 b) 8? 8,000

how many:

c) ones are there? 2

d) hundred are there? 6

The worked example heldps learners understand how to answer the task.

[2B] How much is:

a) five ¢100 and two ¢10? ¢520

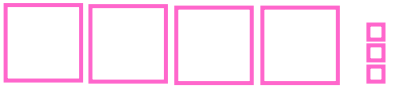
b) three ¢100 and four ¢10? ¢340

c) ten ¢100 and five ¢10? ¢1,050

[R] Model the numbers
when a cube is 10.

a) 350 

b) 2,340 

c) 4,030 

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.		

<Mental Maths>

a) 50 + 20 = 70 b) 70 + 20 = 90 c) 60 – 30 = 30

d) 70 – 20 = 50 e) 70 – 60 = 10

<Homework>

*No homework.

L5: Review

[1] Fill in the blanks.

a) 750 800 850 900 950

b) 3,500 4,000 4,500 5,000 5,500

c) 7,200 7,100 7,000 6,900 6,800

d) 3,500 3,000 2,500 2,000 1,500

[2] Write a number in words.

a) 420 Four hundred and twenty

b) 570 Five hundred and seventy

c) 8,900 Eight thousand nine hundred

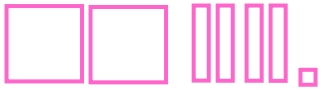
d) 3,030 Three thousand and thirty

[3] Model the numbers when a cube is 10.

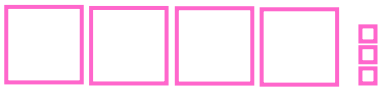
a) 230

b) 450

c) 2,410



d) 4,030



[4] In 8,732,

what is the value of:

a) 3? 30 b) 7? 700

how many:

c) tens are there? 3

d) thousands are there? 8

Lesson	**6** /120	Curriculum	B3.1.1.1.3 (p.43, 44) e.g.1,3
Teaching Tips	When a learner presents, repeat exactly what they said. Do not summarise or rephrase.		
Objective	Be able to decompose numbers up to 10,000 without multi-base diagrams.		
Introduction (sample)	• Write the numbers and ask how to decompose it as shown on the board.		
Teacher's Note	• Drawing a multi-base diagrams in the graph sheet help learners feel how big are 100, 10 compared with 1. • [1A] is the practice for [1B] and [2A]. • [2B] is the relative size of numbers using multiples. This is an application of L4.		

<Mental Maths>

a) 5 + 7 = 12 b) 8 + 7 = 15 c) 4 + 8 = 12

d) 7 + 8 = 15 e) 2 + 9 = 11

<Homework>

Answer as [1B].

a) 325 = 300 + 20 + 5

b) 4,789 = 4,000 + 700 + 80 + 9

c) 8,205 = 8,000 + 200 + 5

d) 6,018 = 6,000 + 10 + 8

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

L6: Decompose numbers up to 10,000

1,234 = 1,000 + 200 + 30 + 4

2,045 = 2,000 + 40 + 5

3,406 = 3,000 + 400 + 6

[1A] Fill in the blanks.

a) 4613 = 4,000 + 600 + 10 + 3

b) 460 = 400 + 60

c) 6,420 = 6,000 + 400 + 20

[1B] Decompose the numbers.

a) 749 = 700 + 40 + 9

b) 1,500 = 1,000 + 500

c) 3,801 = 3,000 + 800 + 1

[2A] Answer as [1B].

a) 5,430 = 5,000 + 400 + 30

b) 6,009 = 6,000 + 9

c) 4,080 = 4,000 + 80

[2B] How many:

a) tens make 100? 10

b) hundreds make 1,000? 10

c) tens make 1000? 100

d) hundreds make 10,000? 100

[R] In 9532,

what is the value of:

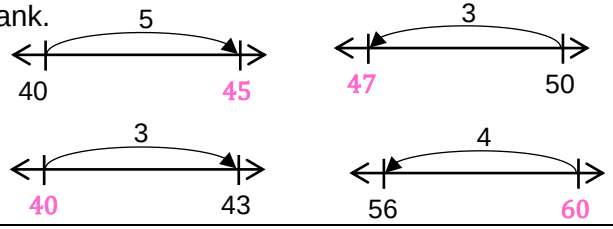
a) 5? 500 b) 9? 9,000

how many:

c) tens are there? 3

d) thousands are there? 9

Remind learners of what 10 tens is in multi base diagram.

Lesson	**7** /120	Curriculum	B3.1.1.1.4 (p.45) e.g.1,4,5
Teaching Tips	While you are writing on the board, let learners copy it in their exercise books.		
Objective	Understand the relative size of numbers by finding the start and end values.		
Introduction (sample)	• Draw a number line to fill in the blank. a) 45 is 5 more than 40. b) 47 is 3 less than 50. c) 43 is 3 more than 40. d) 56 is 4 less than 60. 		
Teacher's Note	• Relative size means comparing a number to a certain number 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) 6 + 7 = 13 b) 9 + 7 = 16 c) 5 + 8 = 13

d) 8 + 8 = 16 e) 3 + 9 = 12

<Homework>

Answer as [1].

a) 254 is 4 more than 250.

b) 357 is 3 less than 360.

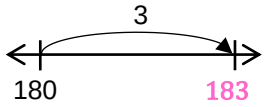
c) 426 is 6 more than 420.

d) 685 is 5 less than 690.

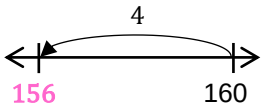
L7: Find relative size of numbers (1)

[1] Fill in the blanks.

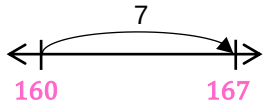
a) 183 is 3 more than 180.



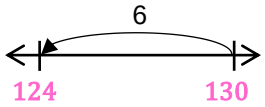
b) 156 is 4 less than 160.



c) 167 is 7 more than 160.

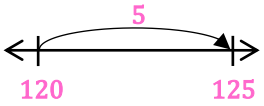


d) 124 is 6 less than 130.

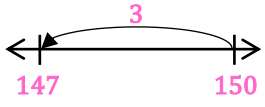


[2] Answer as [1].

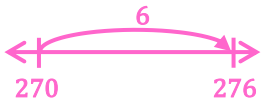
a) 125 is 5 more than 120.



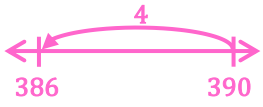
b) 147 is 3 less than 150.



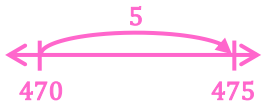
c) 276 is 6 more than 270.



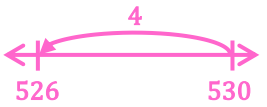
d) 386 is 4 less than 390.



e) 475 is 5 more than 470.



f) 526 is 4 less than 530.

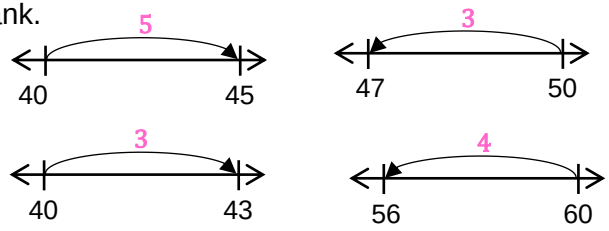


[R] How many:

a) tens make 100? 10

b) hundreds make 1,000? 10

c) tens make 1,000? 100

Lesson	**8** /120	Curriculum	B3.1.1.1.4 (p.45) e.g.1,4,5
Teaching Tips	Have learners repeat what you said to check their understanding.		
Objective	Understand the relative size of numbers by finding the start and end values.		
Introduction (sample)	• Draw a number line to fill in the blank. a) 45 is 5 more than 40. b) 47 is 3 less than 50. c) 43 is 3 more than 40. d) 56 is 4 less than 60. 		
Teacher's Note	• Draw number lines so that they can see the relationship visually. The bigger number comes right on the nuber line.		

<Mental Maths>

a) 4 + 9 = 13 b) 7 + 9 = 16 c) 11 – 2 = 9

d) 11 – 5 = 6 e) 11 – 8 = 3

<Homework>

Answer as [1].

a) 126 is 6 more than 120.

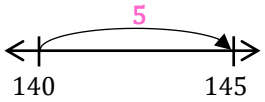
b) 185 is 5 less than 190.

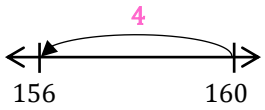
c) 426 is 6 more than 420.

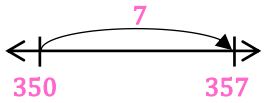
d) 586 is 4 less than 590.

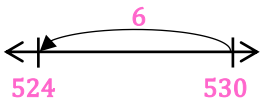
L8: Find relative size of numbers (2)

[1] Fill in the blanks.

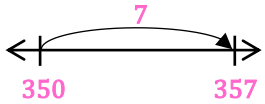
a) 145 is 5 more than 140. 

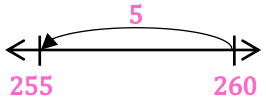
b) 156 is 4 less than 160. 

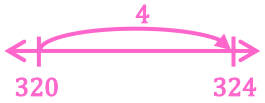
c) 357 is 7 more than 350. 

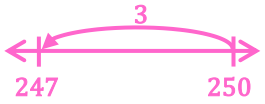
d) 524 is 6 less than 530. 

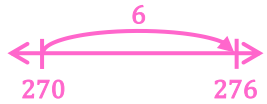
[2] Answer as [1].

a) 357 is 7 more than 350. 

b) 255 is 5 less than 260. 

c) 324 is 4 more than 320. 

d) 247 is 3 less than 250. 

e) 276 is 6 more than 270. 

f) 386 is 4 less than 390. 

[R] Answer as [1].

a) 183 is 3 more than 180.

b) 248 is 2 less than 250.

c) 167 is 7 more than 160.

d) 424 is 6 less than 430.

Lesson	**9** /120	Curriculum	B3.1.1.1.4 (p.45) e.g.1
Teaching Tips	Select some learners to distribute exercise books before the lesson begins.		
Objective	Be able to compare and order numbers using the rule of place value.		
Introduction (sample)	• Compare two numbers (e.g. 320 and 410, 312 and 321) by showing a multi-base material or diagram. • Write the rule to compare two numbers as shown on the board.		
Teacher's Note	• At first, learners should compare numbers using a mutli-base material so that learners can visually see which is more. Then, write the rule to compare. • It is better to hide some digits that is unnecessary for comparing. e.g. when comparing 348 __ 351, hide the last two digits. Both of them are 3, so move to the next digit. Hide the last digit and compare. 34 and 35, hence 348 is bigger. • When ordering, you need to compare numbers. Hence, comparing and ordering are not two different topics.		

<Mental Maths>

a) 5 + 9 = 14 b) 8 + 9 = 17 c) 11 – 3 = 8

d) 11 – 6 = 5 e) 11 – 9 = 2

<Homework>

Answer as [1B].

a) 674 746 467 476
467 476 674 746

b) 6,328 6,410 6,409 6,402
6,328 6,402 6,409 6,410

c) 8,020 7,997 7,908 8,003
7,908 7,997 8,003 8,020

L9: Compare and order numbers

Hide some of the last digits on each side and compare.

[1A] Write < or >.

a) 420 > 390 b) 635 < 729

c) 503 > 499 d) 678 < 687

[1B] Order from small to big numbers.

a) 339, 341, 350, 298
298, 339, 341, 350

b) 1,234 1,432 1,324 1,243
1,234 1,243 1,324 1,432

c) 7,891 8,791 8,784 7,889
7,889 7,891 8,784 8,791

[2A] Order from big to small numbers.

a) 594 549 459 495
594 549 495 459

b) 7,329 7,330 7,409 7,402
7,409 7,402 7,330 7,329

c) 5,010 4,998 4,908 5,002
5,010 5,002 4,998 4,908

[2B] Akoswa has four cards,
4, 5, 8, and 3.
Use all the cards in the questions.

What is:

a) the biggest number? 8,543

b) the smallest number? 3,458

c) numbers larger than 5,400.
5,438 5,483

[R] Fill in the blanks.

a) 126 is 6 more than 120.

b) 147 is 3 less than 150.

c) 174 is 4 more than 170.

d) 185 is 5 less than 190.

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) 20 + 50 = 70 b) 20 + 70 = 90 c) 60 – 40 = 20

d) 70 – 30 = 40 e) 80 – 10 = 70

<Homework>

*No homework.

L10: Review

[1] Decompose the numbers.

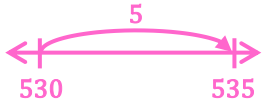
a) 4,320 = 4,000 + 300 + 20

b) 6,007 = 6,000 + 7

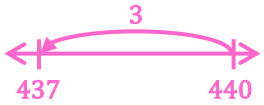
c) 4,029 = 4,000 + 20 + 9

[2] Fill in the blanks.

a) 535 is 5 more than 530.

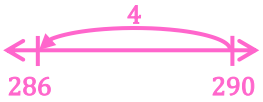


b) 437 is 3 less than 440.

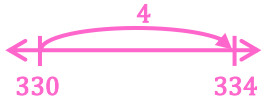


c) 437 is 7 more than 430.

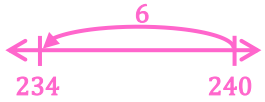
d) 286 is 4 less than 290.



e) 334 is 4 more than 330.



f) 234 is 6 less than 240.



[3] Order from big to small numbers.

a) 349 394 259 295

394 349 295 259

b) 1,876 1,768 1,678 1,786

1,876 1,786 1,768 1,678

c) 6,010 5,998 5,908 6,002

6,010 6,002 5,998 5,908

Lesson	**11** /120	Curriculum	B3.1.1.1.4 (p.45) e.g.1
Teaching Tips	Have learners recall what they learned in previous lessons.		
Objective	Be able to compare and order whole numbers up to 10,000 by a number line.		
Introduction (sample)	• Fill in the blanks on the number lines. 10 20 30 40 50 150 200 250 300 350 • Explain how to draw number lines with a correct calibration as shown on the board.		
Teacher's Note	• Do NOT calibrate in ones. Calibration should be as less as possible. • If the difference between the numbers are the same, the length on the number line should be the same. (see the example below)		

<Mental Maths>

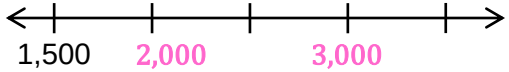
a) 6 + 9 = 15 b) 9 + 9 = 18 c) 11 – 4 = 7

d) 11 – 7 = 4 e) 12 – 3 = 9

<Homework>

Answer as [1B].

a) 2,000 3,000

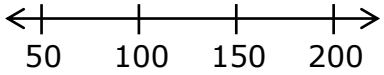


b) 1,800 2,000

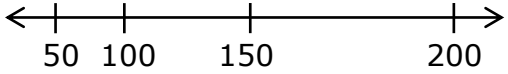
Determine the calibration first. Make sure the spaces between the marks are all the same size.

L11: Order numbers on a number line

Good: Divide equally



Bad: Divided unequally

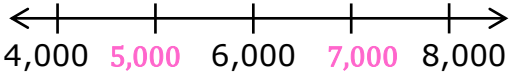


[1A] Fill in the blanks.

a)

b)

c)

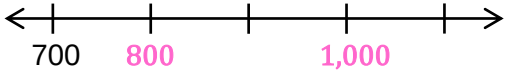


[1B] Show the numbers on the number lines.

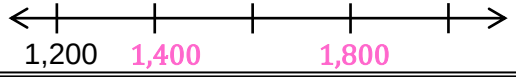
2,500 3,000

[2] Answer as [1B].

a) 800, 1000



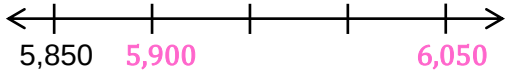
b) 1400, 1800



First, have learners consider how much one unit represents.

c) 1,500 2,000

d) 5,900 6,050



[R] Order from small to big numbers.

a) 1,234 1,423 1,342 1,243

1,234 1,243 1,342 1,423

b) 5,130 5,129 5,209 5,202

5,129 5,130 5,202 5,209

Lesson	**12** /120	Curriculum	B3.1.1.2.1 (p.46) e.g.1,2; B3.1.1.2.2. (p.46) e.g. 3
Teaching Tips	Organise the board so that others can understand the lesson content just by looking at it.		
Objective	Understand opposite direction and negative numbers.		
Introduction (sample)	• Invite pairs of learners to play the "opposite game (or mirror game)" (i.e. a learner performs an action and the partner does the opposite). • Draw a picture of a mountain and sea to show the below and above sea level to introduce negative sign.		
Teacher's Note	• Explain the term "opposite", "negative" and "positive". • "Negative" is used to show a value while "minus" is used to show an operation.		

<Mental Maths>

a) 12 – 4 = 8 b) 12 – 7 = 5 c) 13 – 4 = 9

d) 13 – 7 = 6 e) 14 – 5 = 9

<Homework>

What is:

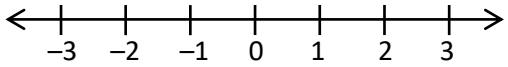
a) 7 less than 0? – 7

b) 10 more than 0? +10

c) 10 less than 0? – 10

The initial sentence ("What is") applies to all subsequent statements.

L12: Understand opposite direction and negative numbers



– 3 is read as "negative three"

[1A] What is the opposite of:

a) right? left b) above? below

c) up? down d) forward? backward

[1B] What is:

a) 3 more than 0? +3

b) 4 less than 0? – 4

c) 5 more than 0? +5

d) 2 less than 0? –2

[2A] What is:

a) 8 less than 0? – 8

b) 20 more than 0? +20

c) 10 less than 0? –10

[2B] Tick the negative numbers.

a) The temperature in a fridge ×

b) Below the sea level ✓

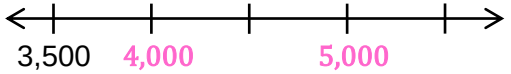
c) The temperature of a freezer ✓

d) Above the sea level ×

[R] Show the numbers on the number lines.

a) 600 800

b) 4,000 5,000



c) 1,350 1,400

Lesson	**13** /120	Curriculum	B3.1.1.3.1 (p.47) e.g.1; B3.1.1.3.2. (p.47) 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	Understand negative values on the number line.		
Introduction (sample)	• Draw three number lines which have calibrations by 1, 5, and 10 as shown on the board. Let learners count forwards and backwards.		
Teacher's Note	• Learners need to know that the calibration of number lines are not always 1. It can be 5 or 10. • Draw a long number line on the board. Say positive or negative values randomly and let a learner move to the value if you have time.		

<Mental Maths>

a) 12 – 5 = 7 b) 12 – 8 = 4 c) 13 – 5 = 8

d) 13 – 8 = 5 e) 14 – 6 = 8

<Homework>

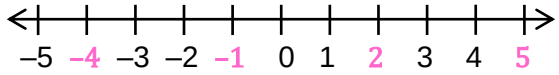
Fill in the blanks.

a)

b)

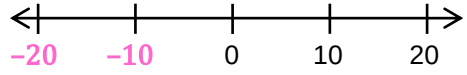
L13: Understand negative values

a)



b)

c)



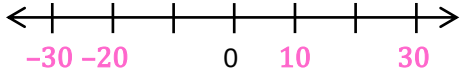
[1A] Fill in the blanks above.

[1B] Draw a number line with the numbers.

a) –3, –1, 2

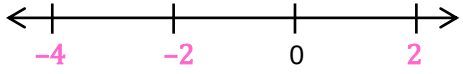
b) –10, –5, 5

c) –30, –20, 10, 30

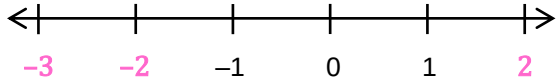


[2A] Answer as [1B].

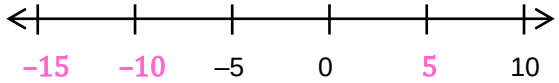
a) –4, –2, 2.



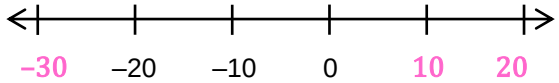
b) –3, –2, 2



c) –15, –10, 5



d) –30, 10, 20



[R] What is:

a) 6 less than 0? –6

b) 30 more than 0? +30

c) 20 less than 0? –20

Draw a number line whose calibration is 2.

Lesson	**14** /120	Curriculum	B3.1.2.3.1 (p.49-51) e.g.1
Teaching Tips	Have learners copy everything from the board into their exercise books.		
Objective	Be able to solve (multiple of 10) ± (multiple of 10) mentally.		
Introduction (sample)	• Explain addition as "get" and subtraction as "give" and write it on the board. • Let learners add and subtract using play money. Prepare ten of ¢10 for each pair. 20 + 30 = 50, 40 – 30 = 10, 60 + 40 = 100, 100 – 30 = 70, etc.		
Teacher's Note	• B3.1.2.1 and B3.1.2.2 were moved to lesson 33 onwards because B3.1.2.3 and B3.1.2.4 are the prior knowledge for solving them. • Utilise the experience of money. Calculation appears in this lesson is necessary for daily life. • Make play money from paper and write ¢1, ¢10 or ¢100. ¢1, ¢100 will be used in lesson 16. (No need to make ¢2 or ¢5)		

<Mental Maths>

a) 12 – 6 = 6 b) 12 – 9 = 3 c) 13 – 6 = 7

d) 13 – 9 = 4 e) 14 – 7 = 7

<Homework>

Solve:

a) 90 + 30 = 120 b) 140 – 50 = 90

c) 50 + 80 = 130 d) 130 – 60 = 70

e) 90 + 70 = 160 f) 180 – 90 = 90

This symbol represents both addition (+) and subtraction (–) simultaneously.

L14:(multiple of 10)±(multiple of 10)

+ (addition) is "get"

– (subtraction) is "give"

20 + 30 means

"I have ¢20 and get ¢30".

[1] Solve:

a) 30 + 20 = 50 b) 30 – 20 = 10

c) 50 + 30 = 80 d) 50 – 30 = 20

e) 60 + 10 = 70 f) 60 – 10 = 50

g) 80 + 20 = 100 h) 80 – 20 = 60

[2] Solve:

a) 50 + 20 = 70 b) 60 – 20 = 40

c) 50 + 50 = 100 d) 100 – 60 = 40

e) 80 + 30 = 110 f) 120 – 30 = 90

g) 40 + 90 = 130 h) 140 – 60 = 80

i) 50 + 70 = 120 j) 160 – 80 = 80

k) 80 + 70 = 150 l) 170 – 90 = 80

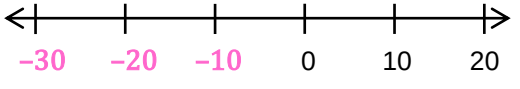
Solve the task mentally, without relying on counting with fingers or sticks.

[R] Fill in the blanks.

a)

b)

c)



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]: L14.		

<Mental Maths>

a) 60 + 20 = 80 b) 30 + 30 = 60 c) 60 – 50 = 10

d) 70 – 40 = 30 e) 80 – 20 = 60

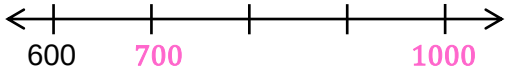
<Homework>

*No homework.

L15: Review

[1] Show the numbers on the number line.

a) 700 1,000



b) 7,500 8,000

c) 4,450 4,500

[2] What is:

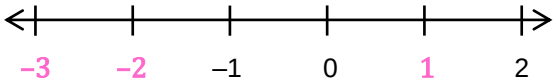
a) 7 less than 0? – 7

b) 10 more than 0? +10

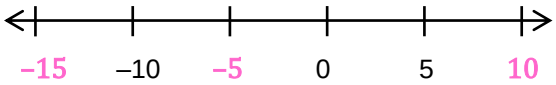
c) 20 less than 0? – 20

[3] Fill in the blanks.

a) –3, –2, 1



b) –15, –5, 10



c) –20, –10, 20

[4] Solve:

a) 60 + 30 = 90 b) 70 – 30 = 40

c) 60 + 40 = 100 d) 100 – 30 = 70

e) 60 + 70 = 130 f) 140 – 70 = 70

Lesson	**16** /120	Curriculum	B3.1.2.3.1 (p. 49-51) 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 solve (multiple of 100) ± (multiple of 100) mentally.		
Introduction (sample)	• Let learners add and subtract using play money. Prepare ten of ¢1, ¢10 and ¢100 for each pair. 200 + 300 = 500, 400 – 300 = 100, 600 + 400 = 1000, 1000 – 300 = 700, 20 + 3 = 23, 42 – 2 = 40, 50 + 6 = 56, 63 – 3 = 60.		
Teacher's Note	• Utilise the experience of money. Calculation appears in this lesson is necessary for daily life. • The critical idea is that 2 + 3, 20 + 30 and 200 + 300 have similar structure where the unit is one, ten and hundred respectively. This is the basis for other strategies.		

<Mental Maths>

a) 14 – 5 = 9 b) 14 – 8 = 6 c) 15 – 7 = 8

d) 16 – 7 = 9 e) 17 – 8 = 9

<Homework>

Solve:

a) 300 + 400 = 700 b) 600 – 200 = 400

c) 300 + 700 = 1000 d) 1,000 – 800 = 200

e) 60 + 8 = 68 f) 56 – 6 = 50

L16:(multiple of 100)±(multiple of 100)

[1] Solve:

a) 200 + 400 = 600

b) 500 – 200 = 300

c) 500 + 500 = 1,000

d) 1,000 – 300 = 700

e) 30 + 5 = 35 f) 24 – 4 = 20

g) 60 + 3 = 63 h) 53 – 3 = 50

[2A] Solve:

a) 500 + 400 = 900

b) 600 – 400 = 200

c) 100 + 900 = 1,000

d) 1,000 – 700 = 300

e) 80 + 4 = 84 f) 79 – 9 = 70

[2B] How much?

a) Akua has ¢300 and gets ¢400.

¢700

b) Kofi has ¢900 and gives ¢500.

¢400

[R] Solve:

a) 70 + 50 = 120 b) 130 – 50 = 80

c) 50 + 90 = 140 d) 150 – 60 = 90

e) 80 + 80 = 160 f) 180 – 90 = 90

Solve the tasks mentally,without relying on counting with fingers or sticks.

Lesson	**17** /120	Curriculum	B3.1.2.3.1 (p.49-51) 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 solve (2-digit) ± (1-digit) or (2-digit) ± (multiples of 10) mentally.		
Introduction (sample)	• Show addition and subtraction using play money (¢1 and ¢10) to solve: a) 45 + 3 = 48 b) 27 – 4 = 23 c) 45 + 20 = 65 d) 47 – 20 = 27 Let learners realise that the is no change in the other place.		
Teacher's Note	• In [1], a) – e) only change the ones place while f) – j) only changes the tens place (no regrouping). • Utilise the experience of money.		

<Mental Maths>

a) 14 – 6 = 8 b) 14 – 9 = 5 c) 15 – 8 = 7

d) 16 – 8 = 8 e) 17 – 9 = 8

<Homework>

Solve:

a) 51 + 6 = 57 b) 69 – 4 = 65

c) 75 – 4 = 71 d) 63 + 30 = 93

e) 98 – 30 = 68 f) 77 – 60 = 17

L17: (2-digit) ± (1-digit), (2-digit) ± (multiples of 10)

[1] Solve:

a) 45 + 3 = 48 b) 27 – 4 = 23

c) 3 + 62 = 65 d) 89 – 7 = 82

e) 77 – 5 = 72 f) 45 + 20 = 65

g) 47 – 20 = 27 h) 30 + 52= 82

i) 79 – 30 = 49 j) 86 – 50 = 36

[2] Solve:

a) 32 + 7 = 39 b) 46 – 4 = 42

c) 52 + 6 = 58 d) 84 – 3 = 81

e) 71 + 8 = 79 f) 97 – 5 = 92

g) 25 + 50 = 75 h) 47 – 30 = 17

i) 54 + 20 = 74 j) 78 – 50 = 28

k) 48 + 40 = 88 l) 98 – 40 = 58

[R] Solve:

a) 300 + 400 = 700

b) 600 – 200 = 400

c) 200 + 800 = 1,000

d) 1,000 – 500 = 500

e) 80 + 3 = 83 f) 75 – 5 = 70

Solve the tasks mentally, without relying on counting with fingers or sticks.

Lesson	**18** /120	Curriculum	B3.1.2.3.1 (p.49-51) 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	Understand part-part-whole relations with addition and subtraction.		
Introduction (sample)	• Explain part-part-whole method using a number bond chart. Use a diagram shown on the board. Then, let learners draw a number board chart of 6 + 2 = 8.		
Teacher's Note	• Part-part-whole method is useful for expressing the relationship between addition, subtraction and the answers. • This lesson is to prepare for the next lesson. Learners need to understand part-part-whole to make 10s. • The right diagram shows 6 + ☐ = 8, 8 – 6 = ☐ or 8 – ☐ = 6		

8	
6	

<Mental Maths>

a) 14 – 7 = 7 b) 15 – 6 = 9 c) 15 – 9 = 6

d) 16 – 9 = 7 e) 18 – 9 = 9

<Homework>

Answer as [1].

a)

10	
4	6

b)

10	
8	2

c)

10	
9	1

d)

10	
7	3

e)

10	
5	5

f)

10	
6	4

L18: Understand part-part-whole

The number bond chart shows the following relations.

4 & 2 is 6 4 + 2 = 6

6 – 4 = 2 6 – 2 = 4

6	
4	2

[1] Fill in the blanks.

a)

9	
6	3

b)

7	
2	5

c)

7	
4	3

d)

8	
3	5

e)

9	
7	2

f)

8	
2	6

[2] Write a number sentence and answer.

a)

7	
3	4

3 + 4 = 7

b)

8	
5	3

5 + 3 = 8

c)

9	
7	2

9 – 2 = 7

d)

8	
3	5

8 – 5 = 3

e)

6	
4	2

6 – 4 = 2

f)

7	
3	4

7 – 3 = 4

[R] Solve:

a) 52 + 6 = 58 b) 76 – 3 = 73

c) 24 + 40 = 64 d) 87 – 40 = 47

Lesson	**19** /120	Curriculum	B3.1.2.3.1 (p.49-51) e.g.3,5
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 addition and subtraction by making 10s.		
Introduction (sample)	• Ask the questions below to explain the meaning of blanks. a) 6 + 4 = 10 b) 2 + 8 = 10 c) 27 + 3 = 30 d) 35 + 5 = 40 • Ask learners the next multiples of tens (e.g. The closest multiples of tens to 46 is 50) which helps understand [2B].		
Teacher's Note	• This lesson support understanding of addition and subtraction in number line and regrouping. • No need to draw a number bond chart in the questions in this lesson.		

<Mental Maths>

a) 70 + 40=110 b) 60 + 50=110 c) 110 – 20=90

d) 110 – 50 = 60 e) 110 – 80 = 30

<Homework>

Answer as [1].

a) 44 + 6 = 50 b) 53 + 7 = 60

c) 69 + 1 = 70 d) 91 + 9 = 100

L19: Add and subtract by making 10s

[1] Fill in the blanks.

a) 6 + 4 = 10 b) 3 + 7 = 10

c) 26 + 4 = 30 d) 43 + 7 = 50

e) 58 + 2 = 60 f) 62 + 8 = 70

g) 75 + 5 = 80 h) 84 + 6 = 90

i) 97 + 3 = 100 j) 91 + 9 = 100

Solve the tasks mentally, without relying on counting with fingers or sticks.

[2A] Answer as [1].

a) 46 + 4 = 50 b) 63 + 7 = 70

c) 77 + 3 = 80 d) 92 + 8 = 100

[2B] Add a single-digit number to make a multiples of 10.

a) 54 54 + 6 = 60

b) 17 17 + 3 = 20

c) 36 36 + 4 = 40

d) 67 67 + 3 = 70

e) 94 94 + 6 = 100

[R] Write a number sentence and answer.

a)

	6
2	4

2 + 4 = 6

b)

	9
6	3

6 + 3 = 9

c)

	7
5	2

7 – 2 = 5

d)

	9
3	6

9 – 6 = 3

e)

	6
3	3

6 – 3 = 3

f)

	9
4	5

9 – 4 = 5

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 & L17, [2]: L18, [3]: L19.		

<Mental Maths>

a) 20 + 60 = 80 b) 40 + 30 = 70 c) 70 – 10 = 60

d) 70 – 50 = 20 e) 80 – 30 = 50

<Homework>

*No homework.

L20: Review

[1] Solve:

a) 200 + 300 = 500

b) 800 – 200 = 600

c) 40 + 5 = 45 d) 37 – 7 = 30

e) 23 + 6 = 29 f) 48 – 2 = 46

g) 65 + 3 = 68 h) 86 – 5 = 81

i) 35 + 50 = 85 j) 47 – 30 = 17

k) 67 + 30 = 97 l) 83 – 50 = 33

[2] Write a number sentence and answer.

a)

10	
6	4

$6 + 4 = 10$

b)

10	
5	5

$10 - 5 = 5$

c)

10	
9	1

$10 - 9 = 1$

[3] Fill in the blanks.

a) 36 + 4 = 40 b) 43 + 7 = 50

c) 65 + 5 = 70 d) 91 + 9 = 100

Lesson	**21** /120	Curriculum	B3.1.2.1.1 (p.48) e.g.4
Teaching Tips	When a learner presents, repeat exactly what they said. Do not summarise or rephrase.		
Objective	Solve addition and subtraction by decomposition.		
Introduction (sample)	• Show how to solve a) 234 + 615, b) 546 – 312 by decomposition. 234 = 200 + 30 + 4 546 = 500 + 40 + 6 615 = 600 + 10 + 5 312 = 300 + 10 + 2 800 + 40 + 9 = 849 200 + 30 + 4 = 234		
Teacher's Note	• To add and subtract by decomposition is closely related to the column method. • Learners are expected to solve questions in column method, but decomposition may assist learners understand the column method better. • Subtraction by decomposition may confuse learners. Do not force them to use decomposition method in that case.		

<Mental Maths>

a) 80 + 40=120 b) 70 + 50=120 c) 110 – 30=80

d) 110 – 60 = 50 e) 110 – 90 = 20

<Homework>

Solve:

a) 43 + 54 = 97 b) 84 – 63 = 21

c) 512 + 352 = 864 d) 672 – 312 = 360

e) 232 + 505 = 737 f) 673 – 270 = 403

L21: Decompose to add and subtract

[1] Solve by decomposition.

a) 24 + 32

$24 = 20 + 4$

$35 = 30 + 2$

$50 + 6 = 56$

b) 34 – 11

$34 = 30 + 4$

$11 = 10 + 1$

$20 + 3 = 23$

c) 261 + 328

$261 = 200 + 60 + 1$

$328 = 300 + 20 + 8$

$500 + 80 + 9 = 589$

d) 476 – 261

$476 = 400 + 70 + 6$

$261 = 200 + 60 + 1$

$200 + 10 + 5 = 215$

[2] Answer as [1]. a) 74 + 53

$74 = 70 + 4$

$53 = 50 + 3$

$120 + 7 = 127$

b) 97 – 35

$97 = 90 + 7$

$35 = 30 + 5$

$60 + 2 = 62$

c) 284 + 305

$284 = 200 + 80 + 4$

$305 = 300 + 0 + 5$

$500 + 80 + 9 = 589$

Write 0 at the tens place.

d) 687 – 260

$687 = 600 + 80 + 7$

$260 = 200 + 60 + 0$

$400 + 20 + 7 = 427$

[R] Fill in the blanks.

a) 6 + 4 = 10 b) 15 + 5 = 20

c) 67 + 3 = 70 d) 93 + 7 = 100

Lesson	**22** /120	Curriculum	B3.1.2.4.1 (p.50) e.g.1
Teaching Tips	While you are writing on the board, let learners copy it in their exercise books.		
Objective	Be able to solve addition by column method without regrouping in ones.		
Introduction (sample)	• Compare column method and multi-base materials (or play money) to see the correspondence. a) 31 + 42 = 73 b) 123 + 234 = 357		
Teacher's Note	• Addition in column is the most important and it is the basis for column method of multiplication in B5. • Avoid counting fingers or sticks.		

<Mental Maths>

a) 90 + 40=130 b) 80 + 50=130 c) 110 – 40=70

d) 110 – 70 = 40 e) 120 – 30 = 90

<Homework>

Solve:

a) 351 + 25 = 376

b) 523 + 54 = 577

c) 213 + 426 = 639

d) 323 + 513 = 836

Draw dotted lines to separate each place.

L22: Addition in column

[1] Solve:

a)
	T	O
	2	7
+	3	1
	5	8

b)
	T	O
	6	2
+	3	4
	9	6

c)
	T	O
	5	6
+	2	3
	7	9

d)
	T	O
	1	4
+	7	2
	8	6

e)
	H	T	O
	1	4	3
+	2	5	1
	3	9	4

Align numbers vertically.

[2] Solve:

a)
	T	O
	6	4
+	3	1
	9	5

b)
	T	O
	3	8
+	4	0
	7	8

c)
	H	T	O
	3	5	1
+	2	2	5
	5	7	6

d)
	H	T	O
	4	2	3
+		5	4
	4	7	7

e)
	H	T	O
	2	1	3
+	4	2	6
	6	3	9

f)
	H	T	O
	6	2	4
+	3	0	2
	9	2	6

[R] Solve by decomposition.

a) 53 + 32

$53 = 50 + 3$

$32 = 30 + 2$

$80 + 5 = 85$

b) 76 – 25

$76 = 70 + 6$

$25 = 20 + 5$

$50 + 1 = 51$

c) 304 + 432

$304 = 300 + 0 + 4$

$432 = 400 + 30 + 2$

$700 + 30 + 6 = 736$

Skip review task if you don't have time.

Lesson	**23** /120	Curriculum	B3.1.2.4.1 (p.50) e.g.1
Teaching Tips	Have learners repeat what you said to check their understanding.		
Objective	Be able to solve addition by column method with regrouping.		
Introduction (sample)	• Solve 35 + 48 = 83 by column method and multi-base materials (or play money) to see the correspondence. • Show how to solve the following by column method. a) 76 + 58 = 134 b) 123 + 639 = 762		
Teacher's Note	• Regrouping is one of the most difficult part in column method. • This lesson focues on regrouping once. • Have learners write 1 which is carried to the next place. • Avoid counting fingers or sticks.		

<Mental Maths>

a) 90 + 50=140 b) 70 + 60=130 c) 120 – 40=80

d) 120 – 70 = 50 e) 130 – 40 = 90

<Homework>

Solve:

a) 56 + 82 = 138

b) 64 + 19 = 83

c) 132 + 374 = 506

d) 409 + 209 = 618

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

L23: Addition with regrouping (1)

[1] Solve:

a)

T	O
7	1
+ 5	5
1	2	6

b)

T	O
1	
6	8
+ 2	9
9	7

c)

	6	0
+	7	6
1	3	6

d)

	1	
	2	7
+	5	6
	8	3

e)

H	T	O
	1	
2	3	7
+ 1	4	5
3	8	2

[2] Solve:

a)

	4	5
+	8	3
1	2	8

b) 45 + 62

	4	5
+	6	2
1	0	7

c)

	1	
	4	8
+	3	9
	8	7

d) 25 + 69

	1	
	2	5
+	6	9
	9	4

e) 329 + 563

	1		
	3	2	9
+	5	6	3
	8	9	2

f) 371 + 253

	1		
	3	7	1
+	2	5	3
	6	2	4

[R] Solve:

a)

	6	4
+	2	2
	8	6

b)

	5	7
+	4	1
	9	8

c)

	4	1	4
+	2	1	5
	6	2	9

d)

	3	7	3
+	2	2	5
	5	9	8

Lesson	**24** /120	Curriculum	B3.1.2.4.1 (p.50) e.g.1
Teaching Tips	Select some learners to distribute exercise books before the lesson begins.		
Objective	Be able to solve addition and subtraction by column method with regrouping twice.		
Introduction (sample)	• Show how to solve the following by column method. T O: 1 / 8 6 + 3 7 = 1 2 3 H T O: 1 1 / 1 6 7 + 3 4 5 = 5 1 2		
Teacher's Note	• This lesson focus on addition with regrouping twice. • It is good to explain the algorithm (procedure) of column method.		

<Mental Maths>

a) 50 + 60=110 b) 80 + 60=140 c) 120 – 50=70

d) 120 – 80 = 40 e) 130 – 50 = 80

<Homework>

Solve:

a) 96 + 58 = 154

b) 64 + 47 = 111

c) 372 + 249 = 621

d) 345 + 387 = 732

L24: Addition with regrouping (2)

[1] Solve:

a) T O: 1 / 7 8 + 4 5 = 1 2 3

b) 1 / 8 5 + 7 9 = 1 6 4

c) H T O: 1 1 / 2 2 8 + 3 9 5 = 6 2 3

d) 1 1 / 3 7 8 + 5 4 3 = 9 2 1

[2] Solve:

a) 1 / 6 9 + 7 4 = 1 4 3

b) 65 + 49: 1 / 6 5 + 4 9 = 1 1 4

c) 57 + 45: 1 / 5 7 + 4 5 = 1 0 2

d) 1 1 / 1 9 7 + 3 7 8 = 5 7 5

e) 474 + 236: 1 1 / 4 7 4 + 2 3 6 = 7 1 0

f) 363 + 247: 1 1 / 3 6 3 + 2 4 7 = 6 1 0

[R] Solve:

a) 6 3 + 5 2 = 1 1 5

b) 1 / 5 7 + 3 5 = 9 2

c) 1 / 4 1 7 + 3 1 5 = 7 3 2

d) 1 / 3 6 0 + 2 6 1 = 6 2 1

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] a), f): L22, [2] b), c), g): L23, [2] d), e), h): L24.		

<Mental Maths>

a) 30 + 40 = 70 b) 30 + 60 = 90 c) 80 – 40 = 40

d) 90 – 10 = 80 e) 90 – 50 = 40

<Homework>

*No homework.

L25: Review

[1] Solve by decomposition.

a) 261 + 328

$261 = 200 + 60 + 1$

$328 = 300 + 20 + 8$

$500 + 80 + 9 = 589$

b) 476 – 261

$476 = 400 + 70 + 6$

$261 = 200 + 60 + 1$

$200 + 10 + 5 = 215$

[2] Solve:

a) 42 + 35

$$\begin{array}{r} 42 \\ +\ 35 \\ \hline 77 \end{array}$$

b) 85 + 64

$$\begin{array}{r} 85 \\ +\ 64 \\ \hline 149 \end{array}$$

c) 58 + 37

$$\begin{array}{r} {\scriptstyle 1\ \ } \\ 58 \\ +\ 37 \\ \hline 95 \end{array}$$

d) 75 + 59

$$\begin{array}{r} {\scriptstyle 1\ \ } \\ 75 \\ +\ 59 \\ \hline 134 \end{array}$$

e) 64 + 56

$$\begin{array}{r} {\scriptstyle 1\ \ } \\ 64 \\ +\ 56 \\ \hline 120 \end{array}$$

f) 325 + 133

$$\begin{array}{r} 325 \\ +\ 133 \\ \hline 458 \end{array}$$

g) 642 + 283

$$\begin{array}{r} {\scriptstyle 1\ \ } \\ 642 \\ +\ 283 \\ \hline 925 \end{array}$$

h) 642 + 288

$$\begin{array}{r} {\scriptstyle 1\ 1\ } \\ 642 \\ +\ 288 \\ \hline 930 \end{array}$$

Lesson	**26** /120	Curriculum	B3.1.2.4.1 (p.50) e.g.1
Teaching Tips	Have learners recall what they learned in previous lessons.		
Objective	Be able to solve subtraction by column method without regrouping.		
Introduction (sample)	• Compare column method and multi-base materials (or play money) to see the correspondence. a) 75 – 43 = 32 b) 354 – 123 = 231		
Teacher's Note	• Subtraction in column is the most important, and it is the basis for long division in B6. • Avoid counting fingers or sticks.		

<Mental Maths>

a) 60 + 60=120 b) 90 + 60=150 c) 120 – 60=60

d) 120 – 90 = 30 e) 130 – 60 = 70

<Homework>

Solve:

a) 67 – 41 = 26

b) 96 – 55 = 41

c) 636 – 212 = 424

d) 799 – 565 = 234

L26: Subtraction in column

[1] Solve:

a)

	T	O
	5	6
–	2	1
	3	5

b)

	T	O
	7	3
–	5	2
	2	1

c)

	6	4
–	2	1
	4	3

d)

	9	7
–	5	3
	4	4

e)

	H	T	O
	6	7	8
–	2	4	3
	4	3	5

Align numbers vertically.

[2] Solve:

a)

	3	7
–	2	4
	1	3

b) 95 – 64

	9	5
–	6	4
	3	1

c)

	H	T	O
	5	7	6
–	3	4	1
	2	3	5

d)

	H	T	O
	4	8	5
–		5	3
	4	3	2

e)

	7	3	6
–	3	2	4
	4	1	2

f) 529 – 205

	5	2	9
–	2	0	5
	3	2	4

[R] Solve:

a)

		1	
	8	9	
+	7	5	
	1	6	4

b)

		1	
	6	6	
+	4	7	
	1	1	3

c)

	1	1	
	1	9	7
+	2	6	7
	4	6	4

d)

	1	1	
	4	7	5
+	3	3	5
	8	1	0

Lesson	**27** /120	Curriculum	B3.1.2.4.1 (p.50) e.g.1
Teaching Tips	Organise the board so that others can understand the lesson content just by looking at it.		
Objective	Be able to solve subtraction by column method with regrouping once.		
Introduction (sample)	• Compare column method and multi-base materials (or play money) to see the correspondence. a) 134 – 71 = 63 b) 342 – 214 = 128.		
Teacher's Note	• Regrouping is one of the most difficult part in column method. • This lesson focues on regrouping once.		

<Mental Maths>

a) 40 + 70=110 b) 70 + 70=140 c) 30 + 80=110

d) 130 – 70 = 60 e) 140 – 50 = 90

<Homework>

Solve:

a) 147 – 82 = 65

b) 92 – 38 = 54

c) 462 – 217 = 245

d) 409 – 173 = 236

L27: Subtraction with regrouping (1)

[1] Solve:

a)

H	T	O
1	2	7
–	5	1
	7	6

b)

T	O
~~7~~ 7	~~4~~ 14
8	4
– 3	9
4	5

c)

1	3	6
–	7	2
	6	4

d)

	~~6~~ 6	~~2~~ 12
	~~7~~ 7	~~2~~ 12
–	3	5
	3	7

e)

H	T	O
	~~5~~ 5	~~4~~ 14
3	~~6~~ 6	~~4~~ 14
– 2	3	6
1	2	8

Cancel both the tens and ones places and write the numbers.

[2] Solve:

a) 124 – 63

	1	2 4
–		6 3
		6 1

b) 81 – 54

	~~8~~ 7	~~1~~ 11
–	5	4
	2	7

c)

H	T	O
	~~5~~ 4	~~1~~ 11
3	5	1
– 2	1	5
1	3	6

d)

H	T	O
	~~3~~ 2	~~7~~ 12
3	2	7
–	3	4
2	9	3

e) 463 – 238

	~~5~~	~~13~~
4	~~6~~	~~3~~
– 2	3	8
2	2	5

f) 708 – 468

	~~6~~	~~10~~
7	~~0~~	8
– 4	6	8
2	4	0

[R] Solve:

a)

	4	9
–	2	5
	2	4

b)

	7	8
–	3	7
	4	1

c)

3	9	7
– 2	6	7
1	3	0

d)

6	4	5
– 3	4	2
3	0	3

Lesson	**28** /120	Curriculum	B3.1.2.4.1 (p.50) 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 solve subtraction by column method with regrouping twice.		
Introduction (sample)	• Show how to solve the following by column method. H T O 1 2 5 – 5 6 6 9 H T O 2 3 6 – 6 8 1 6 8		
Teacher's Note	• Let learners avoid counting fingers or sticks because they cannot deal with questions in the later grade. • This lesson focus on subtraction with regrouping twice.		

<Mental Maths>

a) 50 + 70=120 b) 80 + 70=150 c) 40 + 80=120

d) 130 – 80 = 50 e) 140 – 60 = 80

<Homework>

Solve:

a) 124 – 38 = 86

b) 150 – 93 = 57

c) 932 – 548 = 384

d) 530 – 282 = 248

L28: Subtraction with regrouping (2)

[1] Solve:

a) H T O

1 4 2

– 5 7

8 5

b)

1 6 3

– 8 4

7 9

c) H T O

3 6 2

– 1 7 3

1 8 9

d)

5 2 3

– 3 5 6

1 6 7

[2] Solve:

a)

1 2 3

– 5 8

6 5

b) 174 – 95

1 7 4

– 9 5

7 9

c) 130 – 88

1 3 0

– 8 8

4 2

d)

4 2 3

– 1 6 5

2 5 8

e) 630 – 282

6 3 0

– 2 8 2

3 4 8

[R] Solve:

a) 1 4 6

– 7 2

7 4

b) 8 2

– 5 4

2 8

c) 4 5 2

– 2 6 1

1 9 1

d) 6 5 7

– 8 4

5 7 3

Lesson	**29** /120	Curriculum	B3.1.2.4.1 (p.50) e.g.1
Teaching Tips	Have learners copy everything from the board into their exercise books.		
Objective	Be able to solve any type of addition and subtraction by column method.		
Introduction (sample)	• Let learners work in pairs and explain the following each other. H T O 1 1 4 2 5 + 1 7 7 6 0 2 H T O 3 9 17 4 0 7 – 2 5 8 1 4 9		
Teacher's Note	• This lesson reviews the different types of addition and subtraction learnt in the previous lessons. • Subtraction with 0 in the tens place is one of the most difficult calculations.		

<Mental Maths>

a) 60 + 70=130 b) 90 + 70=160 c) 50 + 80=130

d) 130 – 90 = 40 e) 140 – 70 = 70

<Homework>

Solve:

a) 52 + 49 = 101

b) 103 – 45 = 58

c) 173 + 329 = 502

d) 702 – 508 = 194

L29:Add and subtract in column

[1] Solve:

a) 23 + 45 = 68

b) 86 – 34 = 52

c) 35 + 58 = 93

d) 94 – 65 = 29

e) 653 + 328 = 981

f) 871 – 254 = 627

[2] Solve:

a) 34 + 69 = 103

b) 131 – 53 = 78

c) 243 + 462 = 705

d) 808 – 421 = 387

e) 463 + 238 = 701

f) 801 – 308 = 493

[R] Solve:

a) 146 – 68 = 78

b) 170 – 75 = 95

c) 534 – 259 = 275

d) 940 – 384 = 556

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] a), e): L26, [1] b) - d), f), g): L27, [1] h) : L28, [1] i), j): L29.		

<Mental Maths>

a) 50 + 30 = 80 b) 40 + 40 = 80 c) 80 – 50 = 30

d) 90 – 20 = 70 e) 90 – 60 = 30

<Homework>

*No homework.

L30: Review

[1] Solve:

a) 37 – 24

$$\begin{array}{r} 3\ 7 \\ -\ 2\ 4 \\ \hline 1\ 3 \end{array}$$

b) 165 – 84

$$\begin{array}{r} 1\ 6\ 5 \\ -\ \ 8\ 4 \\ \hline 8\ 1 \end{array}$$

c) 86 – 67

$$\begin{array}{r} {\scriptstyle 7}\ {\scriptstyle 16} \\ 8\ \not{6} \\ -\ 6\ 7 \\ \hline 1\ 9 \end{array}$$

d) 153 – 67

$$\begin{array}{r} {\scriptstyle 4}\ {\scriptstyle 13} \\ 1\ \not{5}\ \not{3} \\ -\ \ 6\ 7 \\ \hline 8\ 6 \end{array}$$

e) 579 – 144

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

f) 754 – 226

$$\begin{array}{r} {\scriptstyle 4}\ {\scriptstyle 14} \\ 7\ \not{5}\ \not{4} \\ -\ 2\ 2\ 6 \\ \hline 5\ 2\ 8 \end{array}$$

g) 344 – 174

$$\begin{array}{r} {\scriptstyle 2}\ {\scriptstyle 14} \\ 3\ \not{4}\ 4 \\ -\ 1\ 7\ 4 \\ \hline 1\ 7\ 0 \end{array}$$

h) 726 – 257

$$\begin{array}{r} {\scriptstyle 6}\ {\scriptstyle 11}\ {\scriptstyle 16} \\ 7\ \not{2}\ \not{6} \\ -\ 2\ 5\ 7 \\ \hline 4\ 6\ 9 \end{array}$$

i) 478 + 422

$$\begin{array}{r} {\scriptstyle 1}\ {\scriptstyle 1} \\ 4\ 7\ 8 \\ +\ 4\ 2\ 2 \\ \hline 9\ 0\ 0 \end{array}$$

j) 505 – 309

$$\begin{array}{r} {\scriptstyle 4}\ {\scriptstyle 9}\ {\scriptstyle 15} \\ 5\ \not{0}\ \not{5} \\ -\ 3\ 0\ 9 \\ \hline 1\ 9\ 6 \end{array}$$

Lesson	**31** /120	Curriculum	B3.1.2.4.2 (p.52) e.g.3,4,7,8
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 addition by making 10s.		
Introduction (sample)	• Show the following by compensation method using bottle tops (or drawing circles). a) 12 + 9 = 11 + 10 = 21 b) 8 + 15 = 10 + 13 = 23. • Write the rule and number sentence as shown on the board.		
Teacher's Note	• Compensation method will help learners calculate mentally. • Paste bottle tops on the wall so that each learner can see the move. • Learners do not have to know the term "compensation". • The prior knowledge is addition of multiples of 10s in L17.		

<Mental Maths>

a) 60 + 80=140 b) 90 + 80=170 c) 40 + 90=130

d) 140 – 80 = 60 e) 150 – 70 = 80

<Homework>

Solve:

a) 5 + 28 = 3 + 30 = 33

b) 29 + 34 = 30 + 33 = 63

c) 254 + 39 = 253 + 40 = 293

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

L31:Add by making 10s

To make a multiple of 10s, shift some from one number to the other.

12 + 9 = 11 + 10 = 21

shift 1

8 + 15 = 10 + 13 = 23

shift 2

[1] Solve:

a) 42 + 9 = 41 + 10 = 51

b) 7 + 68 = 10 + 65 =75

c) 48 + 34 = 50 + 32 = 82

d) 23 + 69 = 22 + 70 = 92

e) 245 + 18 = 243 + 20 = 263

[2] Solve:

a) 25 + 8 = 23 + 10 = 33

b) 9 + 47 = 10 + 46 = 56

c) 28 + 54 = 30 + 52 = 82

d) 25 + 49 = 24 + 50 = 74

e) 228 + 54 = 230 + 52 = 282

f) 38 + 316 = 40 + 314 = 354

[R] Solve:

a)
$$\begin{array}{r} {\scriptstyle 1} \\ 44 \\ +\ 57 \\ \hline 101 \end{array}$$

b)
$$\begin{array}{r} {\scriptstyle 0\ 9\ 11} \\ 1\not{0}\not{1} \\ -\ \ 78 \\ \hline 23 \end{array}$$

c)
$$\begin{array}{r} {\scriptstyle 1} \\ 243 \\ +\ 462 \\ \hline 705 \end{array}$$

d)
$$\begin{array}{r} {\scriptstyle 7\ 10} \\ \not{8}\not{0}8 \\ -\ 421 \\ \hline 387 \end{array}$$

Lesson	**32** /120	Curriculum	B3.1.2.4.2 (p.52) e.g.3,4,7,8
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 solve addition and subtraction by making 10s.		
Introduction (sample)	• Show the following by compensation method using bottle tops (or drawing circles). a) 13 – 9 = 14 – 10 = 4 b) 12 – 7 = 15 – 10 = 15. • Write the rule as shown on the board.		
Teacher's Note	• The prior knowledge is subtraction of multiples of 10s in L17. • Subtracting the same number from both terms can be another pattern, but it is not included in this lesson to avoid confusion.		

<Mental Maths>

a) 70 + 80=150 b) 20 + 90=110 c) 50 + 90=140

d) 140 – 90 = 50 e) 150 – 80 = 70

<Homework>

Solve:

a) 35 – 8 = 37 – 10 = 27

b) 54 – 36 = 58 – 40 = 18

c) 254 – 39 = 255 – 40 = 215

L32: Subtract by making 10s

To make a multiple of 10s, add the same numbers to both terms.

24 – 7 = 27 – 10 = 17

add 3

[1] Solve:

a) 22 – 9 = 23 – 10 = 13

b) 37 – 8 = 39 – 10 = 29

c) 58 – 19 = 59 – 20 = 39

d) 43 – 28 = 45 – 30 = 15

e) 252 – 38 = 254 – 40 = 214

[2] Solve:

a) 25 – 8 = 27 – 10 = 17

b) 84 – 47 = 87 – 50 = 37

c) 55 – 29 = 56 – 30 = 26

d) 81 – 47 = 84 – 50 = 34

e) 265 – 18 = 267 – 20 = 247

f) 385 – 97 = 388 – 100 = 288

[R] Solve:

a) 45 + 9 = 44 + 10 = 54

b) 26 + 68 = 24 + 70 = 94

c) 247 + 14 = 250 + 11 = 261

Lesson	**33** /120	Curriculum	B3.1.2.4.3 (p.53) 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 estimate the answer in addition and subtraction		
Introduction (sample)	• Teach "round off" (e.g. 432 → 400, 581 → 600) and "estimation". • Write the definition and an example of estimation as shown on the board.		
Teacher's Note	• Teach "round off" which is to find the closest number. The difference between round up, down and off will be learnt in B4. • Estimation is useful in daily life.		

<Mental Maths>

a) 80 + 80=160 b) 30 + 90=120 c) 60 + 90=150

d) 150 – 60 = 90 e) 150 – 90 = 60

<Homework>

Answer as [1B].

a) 57 + 72 $60 + 70 = 130$

b) 102 – 49 $100 - 50 = 50$

c) 587 + 442 $600 + 400 = 1{,}000$

d) 954 – 193 $1{,}000 - 200 = 800$

Round off the tens place in 3-digit numbers.

e) 137 + 242 $100 + 200 = 300$

f) 275 + 153 $300 + 200 = 500$

g) 443 – 192 $400 - 200 = 200$

h) 488 – 142 $500 - 100 = 400$

[R] Solve:

a) 34 – 9 = $35 - 10 = 25$

b) 58 – 39 = $59 - 40 = 19$

c) 172 – 27 = $175 - 30 = 145$

L33: Estimate the answer of addition and subtraction

Round off... 0,1,2,3,4 → 0,

5,6,7,8,9 → 10

432 + 561= 993

Estimation 400 + 600 = 1,000

[1A] Round off the number to be multiples of 10s or 100s.

a) 56 60 b) 34 30

c) 85 90 d) 234 200

e) 382 400

Confirm that the precise answer is not exacly the same as the estimated answer.

[1B] Estimate the answer by rounding off.

a) 62 – 37 60 – 40 = 20

b) 52 + 35 $50 + 40 = 90$

c) 87 – 24 $90 - 20 = 70$

[2] Answer as [1B].

a) 37 + 42 $40 + 40 = 80$

b) 75 + 53 $80 + 50 = 130$

c) 43 – 19 $40 - 20 = 20$

d) 88 – 42 $90 - 40 = 50$

Lesson	**34** /120	Curriculum	B3.1.2.4.3 (p.53) 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 word problems of addition and subtraction.		
Introduction (sample)	• Write the cost of items as shown on the board. • Solve the following. Estimate the answer first, then, find the correct answers as shown on the board. How much is: a) 2 case of eggs and 1 pack of salt? b) 2 bottles oil?		
Teacher's Note	• Estimation is good for avoiding mistakes. If the answer is far from the estimation, learners can realise that they may make mistakes in the calculation.		

<Mental Maths>

a) 80 + 60=140 b) 70 + 90=160 c) 110 – 80=30

d) 160 – 70 = 90 e) 170 – 80 = 90

<Homework>

Answer as [2].

Kwasi bought a bag of onions for ¢75

and a bag of carrots for ¢49.

How much are they in total?

$80 + 50 = 130, 75 + 49 = 124$, ¢124

The correct way of writing is GH¢. But it is omitted to reduce time.

Estimate the answer, then find the exact answer in this lesson.

L34: Solve word problems

The list shows the price of items.

1 case of eggs... ¢32

1 pack of salt...¢19

1 bottle of Oil...¢189

1 bag of flour...¢314

a) 30 + 30 + 20 = 80

32 + 32 + 19 = 83, ¢83

b) 200 + 200 = 400

189 + 189 = 378, ¢378

Use column method to answer.

[1] How much is:

a) 1 case of eggs and 1 pack of salt?

$30 + 20 = 50,\ 32 + 19 = 51$, ¢51

b) 2 bags of flour?

$300 + 300 = 600, 314 + 314 = 628$, ¢628

c) 1 bottle of oil and 1 bag of flour?

$200 + 300 = 500, 189 + 314 = 503$, ¢503

[2] Estimate, then find the answer.

a) Kwasi bought a bag of onions for ¢82 and a bag of carrots for ¢59. How much are they in total?

$80 + 60 = 140, 82 + 59 = 141$, ¢141

b) Adoa bought a pack of chicken for ¢549 and a pack of beef for ¢382. How much are they in total?

$500 + 400 = 900, 549 + 382 = 931$, ¢931

[R] Estimate the answer by rounding off.

a) 32 + 49 $30 + 50 = 80$

b) 53 – 19 $50 - 20 = 30$

c) 147 + 342 $100 + 300 = 400$

d) 649 – 152 $600 - 200 = 400$

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 & L32, [2]: L33, [3]: L34.		

<Mental Maths>

a) 30 + 50 = 80 b) 50 + 40 = 90 c) 80 – 60 = 20

d) 90 – 30 = 60 e) 90 – 70 = 20

<Homework>

*No homework.

L35: Review

[1] Solve:

a) 9 + 37 = $10 + 36 = 46$

b) 25 + 57 = $22 + 60 = 82$

c) 148 + 24 = $150 + 22 = 172$

d) 32 – 7 = $35 - 10 = 25$

e) 48 – 19 = $49 - 20 = 29$

f) 162 – 17 = $165 - 20 = 145$

[2] Estimate the answer by rounding off.

a) 17 + 42 $20 + 40 = 60$

b) 82 – 32 $80 - 30 = 50$

c) 137 + 442 $100 + 400 = 500$

d) 643 – 292 $600 - 300 = 300$

[3] Estimate, then find the answer.

a) Kofi bought a bag of onions for ¢89 and a bag of carrots for ¢63. How much are they in total?

$90 + 60 = 150, 89 + 63 = 152$, ¢152

b) Akosua bought a pack of chicken for ¢430 and a pack of beef for ¢273. How much are they in total?

$400 + 300 = 900, 430 + 273 = 703$, ¢703

Lesson	**36** /120	Curriculum	B3.1.2.4.4 (p.53) e.g.1
Teaching Tips	When a learner presents, repeat exactly what they said. Do not summarise or rephrase.		
Objective	Understand commutative property of addition.		
Introduction (sample)	• Prepare two tapes (or ropes) of different length. Add the length and confirm that the total length is the same if the position changes. • Calculate 45 + 37 = 82 and 37 + 45 = 82 by column method. • Write the commutative property as shown on the board.		
Teacher's Note	• Length is useful for showing the relationship of addition visually. • [2B] is a review of L34.		

Calculate both of them to confirm if the answers are the same.
Once they understand it, they will not forget it.

<Mental Maths>

a) 90 + 60=150 b) 80 + 90=170 c) 110 – 90=20

d) 160 – 80 = 80 e) 170 – 90 = 80

<Homework>

Answer as [1B].

a) 63 + 12 = 83 62 + 12 = 74

b) 23 + 49 = 72 correct

c) 6 + 38 = 98 6 + 38 = 44

d) 23 + 78 = 101 correct

L36: Understand commutative property of addition

<Commutative property>
The answers of addition are the same even if you change the order.

[1A] Solve and compare the answers.

a) 32 + 48 48 + 32

```
  1          1
  3 2        4 8
+ 4 8      + 3 2
  8 0        8 0
```

b) 192 + 243 243 + 192

```
    1          1
  1 9 2      2 4 3
+ 2 4 3    + 1 9 2
  4 3 5      4 3 5
```

[1B] Check if the answer is correct.

a) 42 + 39 = 71 b) 87 – 24 = 63

```
  1          8 7
  4 2      – 2 4
+ 3 9        6 3
  8 1
```

wrong correct

[2A] Answer as [1A].

235 + 529 529 + 235

```
    1          1
  2 3 5      5 2 9
+ 5 2 9    + 2 3 5
  7 6 4      7 6 4
```

[2B] Akosua bought a pack of meat for ¢385 and a pack of fish for ¢287. How much are they in total?

385 + 287 = 672, ¢672

[R] Estimate, then find the answer.
Kwadwo bought
a box of oranges for ¢282 and
a box of lemons for ¢159.
How much are they in total?

300 + 200 = 500, 282 + 159 = 441, ¢441

Lesson	**37** /120	Curriculum	B3.1.2.1.1 (p.48) e.g.1
Teaching Tips	While you are writing on the board, let learners copy it in their exercise books.		
Objective	Be able to solve addition and subtraction with an unknown by subtraction.		
Introduction (sample)	• Explain part-part-whole method using a number bond chart which is useful for expressing the relationship between addition, subtraction and the answers. Let learners write a number sentence to each question.		
Teacher's Note	• Let learners check L18. • The difference from this lesson to L18 is that learners need to calculate the answer. (L18 is limited to single-digit number). • It is important to write a number sentence in each question in [1] so that they can solve questions in bigger numbers like e) and f) in [2].		

<Mental Maths>

a) 40 + 70=110 b) 90 + 90=180 c) 120 – 30=90

d) 160 – 90 = 70 e) 180 – 90 = 90

<Homework>

Answer as [1].

a) ☐ + 32 = 54 ☐ = 54 – 32 = 22

b) 62 – ☐ = 34 ☐ = 62 – 34 = 28

c) 25 + ☐ = 65 ☐ = 65 – 25 = 40

L37: Calculate with an unknown (1)

4 + 2 = 6

6 – 4 = 2, 6 – 2 = 4

6	
4	2

[1] Fill in the blanks.

a) 12 + ☐ = 35 b) 12 + ☐ = 26

35	
12	

26	
12	

☐ = 35 – 12 = 23 ☐ = 26 – 12 = 14

c) 43 – ☐ = 21 d) 35 – ☐ = 12

43	
21	

35	
12	

☐ = 43 – 21 = 22 ☐ = 35 – 12 = 23

[2] Answer as [1].

a) 21 + ☐ = 55 b) 76 – ☐ = 41

55	
21	

76	
41	

☐ = 55 – 21 = 34 ☐ = 76 – 41 = 35

c) ☐ + 54 = 126 d) 147 – ☐ = 83

126	
	54

147	
83	

☐ = 126 – 54 = 72 ☐ = 147 – 83 = 64

e) ☐ + 38 = 94 f) 82 – ☐ = 24

94	
	38

82	
24	

☐ = 94 – 38 = 56 ☐ = 82 – 24 = 58

[R] Check if the answer is correct.

a) 72 + 25 = 97 correct

b) 14 + 58 = 62 14 + 58 = 72

c) 5 + 33 = 83 5 + 33 = 38

d) 13 + 87 = 90 13 + 87 = 100

Use column method to solve if necessary.

Lesson	**38** /120	Curriculum	B3.1.2.1.1 (p.48) e.g.1,2,3
Teaching Tips	Have learners repeat what you said to check their understanding.		
Objective	Be able to solve addition and subtraction with an unknown by addition.		
Introduction (sample)	• Let learners work in pairs. Let them explain how to solve questions similar to [1]. a) ☐ – 6 = 9, b) ☐ – 27 = 16, then let a learner create a question of addition or subtraction with an unknown and the other learner solve it. b) Show how to check the solution by substituting the answer to the unknown.		
Teacher's Note	• This is a part-part whole method. Draw a diagram to identify the number sentence to find the unknow. Don't draw the diagram after writing the number sentence. • [2] b) - d) is the mix of questions in L37 and this lesson. Learners need to identify which operation is necessary.		

<Mental Maths>

a) 50 + 70=120 b) 70 + 70=140 c) 120 – 40=80

d) 120 – 60 = 60 e) 120 – 80 = 40

<Homework>

Answer as [1].

a) ☐ – 53 = 44 ☐ = 44 + 53 = 97

b) ☐ – 18 = 52 ☐ = 52 + 18 = 70

c) ☐ – 123 = 108 ☐ = 108 + 123 = 231

L38: Calculate with an unknown (2)

[1] Fill in the blanks, then check the answer.

a) ☐ – 53 = 14 b) ☐ – 18 = 38

14	53

38	18

☐ = 14 + 53 = 67 ☐ = 38 + 18 = 56

67 – 53 = 14 56 – 18 = 38

c) ☐ – 56 = 81

56	81

☐ = 56 + 81 = 137

137 – 56 = 81

Check if the answer is correct by substituting the answer to the unknown.

[2] Answer as [1].

a) ☐ – 41 = 93 b) ☐ + 19 = 53

93	41

53	
	19

☐ = 93 + 41 = 134 ☐ = 53 – 19 = 34

134 – 41 = 93 34 + 19 = 53

c) ☐ – 43 = 29 d) 82 – ☐ = 24

29	43

82	
24	

Use column method to solve if necessary.

☐ = 29 + 43 = 72 ☐ = 82 – 24 = 58

72 – 43 = 29 82 – 58 = 24

[R] Fill in the blanks

a) ☐ + 62 = 154 b) 132 – ☐ = 51

154	
	62

132	
51	

☐ = 154 – 62 = 92 ☐ = 132 – 51 = 81

Lesson	**39** /120	Curriculum	B3.1.2.1.1 (p.48) e.g.3
Teaching Tips	Select some learners to distribute exercise books before the lesson begins.		
Objective	Solve word problems with an unknown in different types.		
Introduction (sample)	• Give a word problem with 1-digit numbers and let learners write a number sentence. Kofi had some bofrots. He gave 5 bofrots to Ama. He has 7 bofrots now. How many bofrots did he give? 5 + ☐ = 7, 7 – 5 = 2, 2 bofrots.		
Teacher's Note	• By practising solving word problems with 1-digit numbers will help learners understand the relationship between the word problem and a number sentence.		

<Mental Maths>

a) 60 + 70=130 b) 80 + 70=150 c) 120 – 50=70

d) 120 – 70 = 50 e) 120 – 90 = 30

<Homework>

Kwame had 44 eggs.
He gave some eggs to Ama.
He has 16 eggs now.
How many eggs did he give?

44 – ☐ = 16

44 – 16 = 28, 28 eggs

Due to the space constraints, part-part-whole diagram is omitted in this lesson.

L39: Word problems with an unknown

[1A] Akua had 34 lemons.
She gave some lemons to Kwaku.
She has 16 lemons now.
How many lemons did she give?

34 – ☐ = 16 34 – 16 = 18, 18 lemons

[1B] Afua had ¢28.
She got some money from Kofi.
She has ¢57 now.
How much did she get?

28 + ☐ = 57 57 – 28 = 29, ¢29

[2A] Kwame had some papayas.
He gave 35 papayas to Ama.
He has 17 papayas now.
How many papayas did he have first?

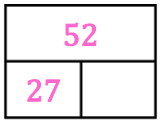
☐ – 35 = 17 17 + 35 = 52, 52 papayas

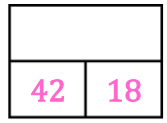
[2B] Kwasi had some money.
He got ¢13 from Akosua.
He has ¢41 now.
How much did he have first?

☐ + 13 = 41 41 – 13 = 28, ¢28

[R] Fill in the blanks, then check the answer.

a) 27 + ☐ = 52 b) ☐ – 18 = 42

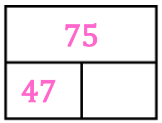




☐ = 52 – 27 = 25 ☐ = 18 + 42 = 60

27 + 25 = 52 60 – 18 = 42

c) 75 – ☐ = 47



☐ = 75 – 47 = 28

75 – 28 = 47

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, [2]: L37 & L38, [3]: L38, [4]: L39.		

<Mental Maths>

a) 60 + 30 = 90 b) 40 + 50 = 90 c) 80 – 70 = 10

d) 90 – 40 = 50 e) 90 – 80 = 10

<Homework>

*No homework.

Use column method to solve if necessary.

L40: Review

[1] Check if the answer is correct.

a) 68 + 15 = 73 b) 24 + 48 = 72

```
    1                  1
    6 8                2 4
+   1 5            +   4 8
-------            -------
    8 3                7 2
```

wrong correct

[2] Fill in the blanks.

a) ☐ + 52 = 134 b) ☐ – 53 = 64

134	
	52

☐ = 134 – 52 = 82

64	53

☐ = 64 + 53 = 117

c) 138 – ☐ = 64

138	
64	

☐ = 138 – 64 = 74

d) ☐ + 59 = 87

87	
	59

☐ = 87 – 59 = 28

[3] Fill in the blanks, then check the answer.

a) ☐ – 29 = 63

63	29

☐ = 63 + 29 = 92

92 – 29 = 63

b) 72 – ☐ = 48

72	
48	

☐ = 72 – 48 = 24

72 – 24 = 48

[4] Kwame had some papayas.
He gave 25 papayas to Ama.
He has 17 papayas now.
How many papayas did he have first?

☐ – 25 = 17

25 + 17 = 42, 42 papayas

25	17

Lesson	**41** /120	Curriculum	B3.1.2.2.1 (p.48, 49) e.g.1
Teaching Tips	Have learners recall what they learned in previous lessons.		
Objective	Understand not equal sign and use it.		
Introduction (sample)	• Explain the meaning of ≠ with 4 ≠ 5 and 8 ≠ 3. • Show how to solve 32 + 15 ≠ 46, 34 – 16 = 18 as shown on the board.		
Teacher's Note	• At this stage, learners need to be fluent in column method or it may be difficult to finish the exercise within the designated time.		

<Mental Maths>

a) 90 + 70 = 160 b) 50 + 80 = 130 c) 110 – 50 = 60

d) 130 – 40 = 90 e) 130 – 70 = 60

<Homework>

Answer as [1].

a) 33 + 24 ≠ 47 b) 65 – 24 = 41

c) 24 + 37 ≠ 51 d) 94 – 38 = 56

e) 55 + 74 = 129 f) 133 – 84 ≠ 59

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

Column method is omitted here due to limited space.

L41: Understand not equal

32 + 15 ≠ 46

34 – 16 = 18

$$\begin{array}{r} 3\ 2 \\ +\ 1\ 5 \\ \hline 4\ 7 \end{array} \qquad \begin{array}{r} {\scriptstyle 2}\ {\scriptstyle 14} \\ 3\ \not{4} \\ -\ 1\ 6 \\ \hline 1\ 8 \end{array}$$

[1] Write = or ≠ in the blanks.

a) 43 + 14 ≠ 47

b) 54 – 13 = 41

c) 32 + 29 ≠ 51

d) 84 – 28 = 56

$$\begin{array}{r} 4\ 3 \\ +\ 1\ 4 \\ \hline 5\ 7 \end{array} \qquad \begin{array}{r} 5\ 4 \\ -\ 1\ 3 \\ \hline 4\ 1 \end{array}$$

$$\begin{array}{r} {\scriptstyle 1} \\ 3\ 2 \\ +\ 2\ 9 \\ \hline 6\ 1 \end{array} \qquad \begin{array}{r} {\scriptstyle 7}\ {\scriptstyle 14} \\ 8\ \not{4} \\ -\ 2\ 8 \\ \hline 5\ 6 \end{array}$$

e) 587 + 115 ≠ 692 – 90

$$\begin{array}{r} {\scriptstyle 1}\ {\scriptstyle 1} \\ 5\ 8\ 7 \\ +\ 1\ 1\ 5 \\ \hline 7\ 0\ 2 \end{array} \qquad \begin{array}{r} 6\ 9\ 2 \\ -\ \ 9\ 0 \\ \hline 6\ 0\ 2 \end{array}$$

[2] Answer as [1].

a) 224 + 456 ≠ 670

b) 543 – 223 = 320

$$\begin{array}{r} {\scriptstyle 1} \\ 2\ 2\ 4 \\ +\ 4\ 5\ 6 \\ \hline 6\ 8\ 0 \end{array} \qquad \begin{array}{r} 5\ 4\ 3 \\ -\ 2\ 2\ 3 \\ \hline 3\ 2\ 0 \end{array}$$

c) 365 + 589 ≠ 854

d) 643 – 215 = 428

$$\begin{array}{r} {\scriptstyle 1}\ {\scriptstyle 1} \\ 3\ 6\ 5 \\ +\ 5\ 8\ 9 \\ \hline 9\ 5\ 4 \end{array} \qquad \begin{array}{r} {\scriptstyle 3}\ {\scriptstyle 13} \\ 6\ \not{4}\ 3 \\ -\ 2\ 1\ 5 \\ \hline 4\ 2\ 8 \end{array}$$

e) 512 + 59 ≠ 590 – 29

$$\begin{array}{r} {\scriptstyle 1} \\ 5\ 1\ 2 \\ +\ \ 5\ 9 \\ \hline 5\ 7\ 1 \end{array} \qquad \begin{array}{r} {\scriptstyle 8}\ {\scriptstyle 10} \\ 5\ \not{9}\ \not{0} \\ -\ \ 2\ 9 \\ \hline 5\ 6\ 1 \end{array}$$

[R] Solve:

a) 462+275 = 737 b) 813 – 642 = 171

c) 119+582 = 701 d) 604 – 406 = 198

Lesson	**42** /120	Curriculum	B3.1.2.5.1 (p.53) e.g.1
Teaching Tips	Organise the board so that others can understand the lesson content just by looking at it.		
Objective	Understand the meaning of multiplication and number sentence of multiplication.		
Introduction (sample)	• Explain the meaning of multiplication as shown on the board. • Let learners use bottle tops (or pebbles) to show multiplication, e.g. 2 × 3, 4 × 2.		
Teacher's Note	• Introduce multiplication as the same number of groups of objects. • Organise circles in array so that learners can see the meaning of multiplication clearly. • 4 × 3 means 4 groups of 3. It is ordered column-wise as shown on the board to match the order of fence in B3.1.2.5.2.		

<Mental Maths>

a) 30 + 80 = 110 b) 60 + 80 = 140 c) 110 – 60 = 50

d) 130 – 50 = 80 e) 130 – 80 = 50

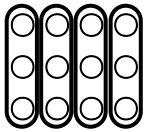
<Homework>

Answer as [1A].

a) 3 × 2 b) 3 × 4 c) 5 × 3

3 groups of 2 3 groups of 4 5 groups of 3

L42: Understand multiplication

4 × 3  4 groups of 3

Align circles both vertically and horizontally.

[1A] Show the multiplication by circles and in words.

a) 5 × 2 b) 2 × 3 c) 3 × 4

5 groups of 2 2 groups of 3 3 groups of 4

[1B] Write the following in number sentences.

a) oooo oooo oooo 3 × 4

b) oo oo oo oo oo 5 × 2

[2A] Answer as [1B].

a) ooo ooo ooo ooo 4 × 3

b) ooooo ooooo 2 × 5

c) ooo ooo ooo 3 × 3

[2B] Answer as [1A].

a) 3 × 2 b) 5 × 4 c) 3 × 3

3 groups of 2 5 groups of 4 3 groups of 3

[R] Fill in the blanks with = or ≠.

a) 42 + 15 = 74 – 17

b) 15 + 214 ≠ 242 – 15

c) 312 + 315 = 652 – 25

Skip review task if you don't have time.

Lesson	**43** /120	Curriculum	B3.1.2.5.2 (p.54, 55) 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 multiplication by modelling fence.		
Introduction (sample)	• Explain how to show a multiplication by drawing as shown on the board. • Let learners use straws to show multiplications visually. e.g. 3 × 4, 4 × 3.		
Teacher's Note	• Vertical line is called a leg and the horizontal line is called an arm. • Do NOT let learners count the crossing points one by one. Instead of counting 1, 2, 3, 4, learners should identify 4 or by skip counting.		

<Mental Maths>

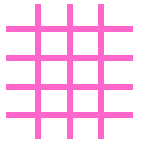
a) 40 + 80 = 120 b) 70 + 80 = 150 c) 110 – 70 = 40

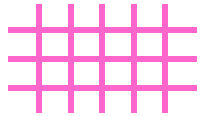
d) 130 – 60 = 70 e) 130 – 90 = 40

<Homework>

Answer as [2B].

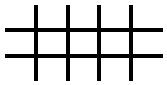
a) 3 × 4 = 12 b) 5 × 3 = 15





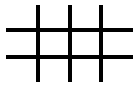
This dotted line separates exercise part 1 and 2.
Write all the black parts up to this line in exercise part 1.

L43: Multiply with concrete objects

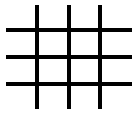


4 × 2 = 8

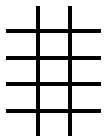
[1] How many crossing points?
Write number sentences and answers.

a) 

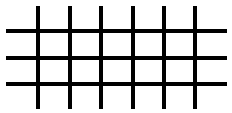
3 × 2 = 6

b) 

3 × 3 = 9

c) 

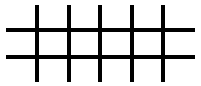
2 × 4 = 8

d) 

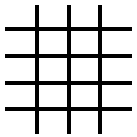
6 × 3 = 18

e) 5 legs and 3 arms 5 × 3 = 15

[2A] Answer as [1].

a) 

5 × 2 = 10

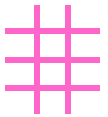
b) 

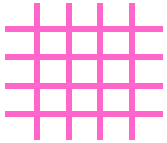
3 × 4 = 12

c) 2 legs and 6 arms 2 × 6 = 12

[2B] Draw fences for the multiplication.

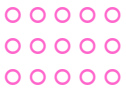
a) 2 × 3 = 6 b) 4 × 4 = 16



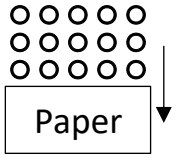


[R] Show the multiplication by circles.

a) 5 × 3



b) 4 × 4

Lesson	**44** /120	Curriculum	B3.1.2.5.2 (p.54, 55) e.g.3,6
Teaching Tips	Have learners copy everything from the board into their exercise books.		
Objective	Memorise the 5 times table and apply it to a problem.		
Introduction (sample)	• Practise skip counting forwards in 5s up to 50 showing an array diagram of 5 times table. • Hide part of an array diagram and ask the number sentence. (The diagram shows 5 × 3.) 		
Teacher's Note	• Learners are expected to answer in full sentence in word problems, but it is okay to answer in simple words such as 4 pens, 3 cows etc. at this level. • Let learners understand multiplication with skip counting. • 5 times table is written as below to meet the common practice.		

<Mental Maths>

a) 80 + 80 = 160 b) 30 + 90 = 120 c) 140 – 50 = 90

d) 140 – 80 = 60 e) 150 – 70 = 80

<Homework>

Say the 5 times table out loud 10 times.

L44: Memorise the 5 times table

[1] Find the answer and the pattern.

5 × 1 = 5 5 × 6 = 30

5 × 2 = 10 5 × 7 = 35

5 × 3 = 15 5 × 8 = 40

5 × 4 = 20 5 × 9 = 45

5 × 5 = 25 Increase by 5 (Add 5).

Use skip counting in 5s.

[2A] Solve:

a) 5 × 2 = 10 b) 5 × 4 = 20

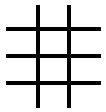
c) 5 × 6 = 30 d) 5 × 8 = 40

e) 5 × 9 = 45 f) 5 × 5 = 25

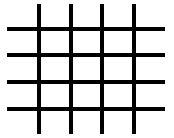
[2B] How many players are in 5 teams if each team consists of 6 players?

5 × 6 = 30, 30 players

[R] How many crossing points?
Write number sentences and answers.

a) 

2 × 3 = 6

b) 

4 × 4 = 16

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) 60 + 50 = 110 b) 80 + 50 = 130 c) 50 + 60 = 110

d) 70 + 60 = 130 e) 110 – 30 = 80

<Homework>

*No homework.

L45: Review

[1] Write = or ≠ in the blanks.

a) 32 + 56 = 88 b) 43 – 21 ≠ 23

$$\begin{array}{r} 3\ 2 \\ +\ 5\ 6 \\ \hline 8\ 8 \end{array} \qquad \begin{array}{r} 4\ 3 \\ -\ 2\ 1 \\ \hline 2\ 2 \end{array}$$

c) 163 + 275 ≠ 338

d) 513 – 342 = 171

$$\begin{array}{r} {\scriptstyle 1\ \ \ \ } \\ 1\ 6\ 3 \\ +\ 2\ 7\ 5 \\ \hline 4\ 3\ 8 \end{array} \qquad \begin{array}{r} {\scriptstyle 4\ 11} \\ 5\ \not{1}\ 3 \\ -\ 3\ 4\ 2 \\ \hline 1\ 7\ 1 \end{array}$$

[2] Show the multiplication by circles.

a) 4 × 3 b) 5 × 2

[3] How many crossing points?

Write number sentences and answers.

a) b)

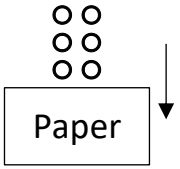
4 × 2 = 8 3 × 4 = 12

[4] Solve:

a) 5 × 2 = 10 b) 5 × 4 = 20

c) 5 × 5 = 25 d) 5 × 6 = 30

e) 5 × 8 = 40 f) 5 × 9 = 45

Lesson	**46** /120	Curriculum	B3.1.2.5.2 (p.54, 55) e.g.3,6
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	Memorise the 2 times table and apply it to a problem.		
Introduction (sample)	• Practise skip counting forwards in 2s up to 20 showing an array diagram of 2 times table. • Hide part of an array diagram and ask the number sentence. (The diagram shows 2 × 3.) 		
Teacher's Note	• Let learners understand multiplication with skip counting in this lesson.		

<Mental Maths>

a) 90 + 80 =170 b) 40 + 90 =130 c) 140 – 60 =80

d) 140 – 90 = 50 e) 150 – 80 = 70

<Homework>

Say the 2 times table out loud 10 times.

L46: Memorise the 2 times table

[1] Find the answer and the pattern.

2 × 1 = 2 2 × 6 = 12

2 × 2 = 4 2 × 7 = 14

2 × 3 = 6 2 × 8 = 16

2 × 4 = 8 2 × 9 = 18

2 × 5 = 10 Increase by 2 (Add 2).

Use skip counting in 2s.

[2A] Solve:

a) 2 × 2 = 4 b) 2 × 4 = 8

c) 2 × 6 = 12 d) 2 × 8 = 16

e) 2 × 9 = 18 f) 2 × 5 = 10

[2B] How many people are in 2 cars if 4 people ride in each car?

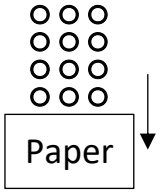
2 × 4 = 8, 8 people

[R] Solve:

a) 5 × 3 = 15 b) 5 × 4 = 20

c) 5 × 5 = 25 d) 5 × 7 = 35

e) 5 × 8 = 40 f) 5 × 9 = 45

Lesson	**47** /120	Curriculum	B3.1.2.5.2 (p.54, 55) e.g.3,6
Teaching Tips	Encourage learners to write in their exercise books. The more they write, the better their writing skills will become.		
Objective	Memorise the 3 times table and apply it to a problem.		
Introduction (sample)	• Practise skip counting forwards in 3s up to 30 showing an array diagram of 3 times table. • Hide part of an array diagram and ask the number sentence. (The diagram shows 3 × 4.) 		
Teacher's Note	• Let learners understand multiplication with skip counting in this lesson.		

<Mental Maths>

a) 20 + 90 =110 b) 50 + 90 =140 c) 140 – 70 =70

d) 150 – 60 = 90 e) 150 – 90 = 60

<Homework>

Say the 3 times table out loud 10 times.

L47: Memorise the 3 times table

[1] Find the answer and the pattern.

3 × 1 = 3 3 × 6 = 18

3 × 2 = 6 3 × 7 = 21

3 × 3 = 9 3 × 8 = 24

3 × 4 = 12 3 × 9 = 27

3 × 5 = 15 Increase by 3 (Add 3).

Use skip counting in 3s.

[2A] Solve:

a) 3 × 2 = 6 b) 3 × 4 = 12

c) 3 × 6 = 18 d) 3 × 8 = 24

e) 3 × 9 = 27 f) 3 × 5 = 15

[2B] How many people are in 3 rooms if there are 7 people in each room?

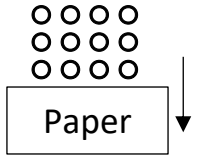
3 × 7 = 21, 21 people

[R] Solve:

a) 2 × 3 = 6 b) 2 × 5 = 10

c) 2 × 6 = 12 d) 2 × 7 = 14

e) 2 × 8 = 16 f) 2 × 9 = 18

Lesson	**48** /120	Curriculum	B3.1.2.5.2 (p.54, 55) e.g.3,6
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	Memorise the 4 times table and apply it to a problem.		
Introduction (sample)	• Practise skip counting forwards in 4s up to 40 showing an array diagram of 4 times table. • Hide part of an array diagram and ask the number sentence. (The diagram shows 4 × 3.) 		
Teacher's Note	• Let learners understand multiplication with skip counting in this lesson.		

<Mental Maths>

a) 60 + 90 =150 b) 80 + 90 =170 c) 160 – 70 =90

d) 160 – 90 = 70 e) 170 – 90 = 80

<Homework>

Say the 4 times table out loud 10 times.

L48: Memorise the 4 times table

[1] Find the answer and the pattern.

4 × 1 = 4 4 × 6 = 24

4 × 2 = 8 4 × 7 = 28

4 × 3 = 12 4 × 8 = 32

4 × 4 = 16 4 × 9 = 36

4 × 5 = 20 Increase by 4 (Add 4).

Use skip counting in 4s.

[2A] Solve:

a) 4 × 2 = 8 b) 4 × 4 = 16

c) 4 × 6 = 24 d) 4 × 8 = 32

e) 4 × 9 = 36 f) 4 × 5 = 20

[2B] How many passengers are in 4 buses if each bus has 7 passengers?

4 × 7 = 28, 28 passengers

[R] Solve:

a) 3 × 3 = 9 b) 3 × 5 = 15

c) 3 × 6 = 18 d) 3 × 7 = 21

e) 3 × 8 = 24 f) 3 × 9 = 27

Lesson	**49** /120	Curriculum	B3.1.2.5.2 (p.54, 55) e.g.3
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 commutative property of multiplication and apply it.		
Introduction (sample)	• Let learners draw 3 × 2 on the papers and rotate it 90 degree. • Draw multiplication table as shown on the board. Let learners circle 3 × 2, 2 × 3 as shown on the board		
Teacher's Note	• Commutative property reduces the number of multiplication that learners have to memorise. For instance, if learners memorise 3 × 5 = 15, then 5 × 3 has the same answer. • Let learners find commutativity by rotating an array diagram for 90°.		

<Mental Maths>

a) 70 + 90 =160 b) 90 + 90 =180 c) 160 – 80 =80

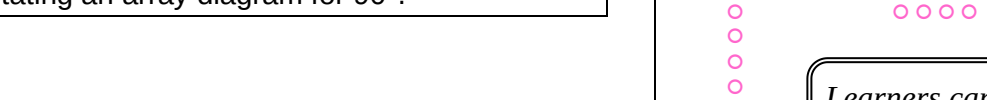
d) 170 – 80 = 90 e) 180 – 90 = 90

<Homework>

Answer as [1B].

a) 2 × 3 = 6, 3 × 2 = 6

b) 1 × 4 = 4, 4 × 1 = 4



Learners can apply the prior knowledge by commutative property.

L49: Find commutativity in multiplication

	1	2	3	4	5
1	1	2	3	4	5
2	2	4	(6)	8	10
3	3	(6)	9	(12)	15
4	4	8	(12)	16	20
5	5	10	15	20	25

3 × 2, 2 × 3

[1A] Circle answers on the chart and draw a diagram.

4 × 3, 3 × 4

[1B] Draw a diagram and find the answer.

a) 2 × 4 = 8 b) 2 × 5 = 10

4 × 2 = 8 5 × 2 = 10

[2A] Answer as [1B].

3 × 5 = 15 5 × 3 = 15

[2B] Solve:

a) 2 × 6 = 12, 6 × 2 = 12

b) 3 × 7 = 21, 7 × 3 = 21

c) 4 × 8 = 32, 8 × 4 = 32

d) 5 × 9 = 45, 9 × 5 = 45

[R] Solve:

a) 4 × 3 = 12 b) 4 × 5 = 20

c) 4 × 6 = 24 d) 4 × 7 = 28

e) 4 × 8 = 32 f) 4 × 9 = 36

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. • The tasks corresponding to each lesson are as follows: [1]: L46-48, [2]: L47, [3]: L48, [4]: L49.		

<Mental Maths>

a) 70 + 50 =120 b) 90 + 50 =140 c) 60 + 60 =120

d) 110 – 20 = 90 e) 110 – 40 = 70

<Homework>

*No homework.

L50: Review

[1] Solve:

a) 2 × 5 = 10 b) 2 × 8 = 16

c) 3 × 4 = 12 d) 3 × 7 = 21

e) 4 × 4 = 16 f) 4 × 7 = 28

[2] How many papayas are in 3 boxes if each box containes 6 papayas?

3 × 6 = 18, 18 papayas

[3] How many passengers are in 4 buses if each bus has 8 passengers?

4 × 8 = 32, 32 passengers

[4] Solve:

a) 3 × 6 = 18, 6 × 3 = 18

b) 4 × 7 = 28, 7 × 4 = 28

c) 5 × 8 = 40, 8 × 5 = 40

Lesson	**51** /120	Curriculum	B3.1.2.5.2 (p.54, 55) e.g.3
Teaching Tips	When a learner presents, repeat exactly what they said. Do not summarise or rephrase.		
Objective	Memorise the 6 times table and apply it to a problem.		
Introduction (sample)	• Let learners find the answers for 6 × 1, 6 × 2, 6 × 3, 6 × 4, 6 × 5 by commutative properties and multiplication of 2-5s as shown on the board. • Find the rule and apply it to find the answers for [1A].		
Teacher's Note	• Practise 6 × 6, 6 × 7, 6 × 8 and 6 × 9 to memorise them because they are new. Do not start from 6 × 1 when they practice because these answers can be found by commutative properties.		

<Mental Maths>

a) 2 × 2 = 4 b) 2 × 5 = 10 c) 2 × 8 = 16

d) 3 × 4 = 12 e) 3 × 7 = 21

<Homework>

Say 6 × 6 = 36, 6 × 7 = 42, 6 × 8 = 48, 6 × 9 = 54 out loud 20 times.

Use the knowledge of multiplication of 2-5s to find the answers.

L51: Memorise the 6 times table

6 × 1 = 1 × 6 = 6

6 × 2 = 2 × 6 = 12 (+6)

6 × 3 = 3 × 6 = 18 (+6)

6 × 4 = 4 × 6 = 24 (+6)

6 × 5 = 5 × 6 = 30 (+6)

[1A] Find the answer by the rule.

a) 6 × 6 = 30 + 6 = 36

b) 6 × 7 = 36 + 6 = 42

c) 6 × 8 = 42 + 6 = 48

d) 6 × 9 = 48 + 6 = 54

[1B] How many bofrots are in 6 bags if each bag contains 7 bofrots?

6 × 7 = 42, 42 bofrots

[2A] Solve:

a) 6 × 2 = 12 b) 6 × 4 = 24

c) 6 × 6 = 36 d) 6 × 8 = 48

e) 6 × 9 = 54 f) 6 × 7 = 42

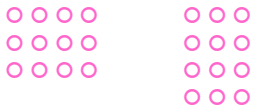
[2B] A team consists of 8 players. How many players are in 6 teams?

6 × 8 = 48, 48 players

The correct order is 6 × 8, but 8 × 6 is also acceptable .

[R] Draw a diagram and find the answer.

a) 4 × 3 = 12, 3 × 4 = 12



b) 4 × 5 = 20, 5 × 4 = 20

Lesson	**52** /120	Curriculum	B3.1.2.5.2 (p.54, 55) e.g.3
Teaching Tips	While you are writing on the board, let learners copy it in their exercise books.		
Objective	Memorise the 7 times table and apply it to a problem.		
Introduction (sample)	• Let learners find the answers for 7 × 1, 7 × 2, 7 × 3, 7 × 4, 7 × 5 by commutative properties and multiplication of 2-5s as shown on the board. • Find the rule and apply it to find the answers for [1A].		
Teacher's Note	• Practise 7 × 7, 7 × 8 and 7 × 9 to memorise them because they are new. Do not start from 7 × 1 when they practice because these answers can be found by commutative properties.		

<Mental Maths>

a) 2 × 3 = 6 b) 2 × 6 = 12 c) 2 × 9 = 18

d) 3 × 5 = 15 e) 3 × 8 = 24

<Homework>

Say 7 × 6 = 42, 7 × 7 = 49, 7 × 8 = 56, 7 × 9 = 63 out loud 20 times.

L52: Memorise the 7 times table

7 × 1 = 1 × 7 = 7

7 × 2 = 2 × 7 = 14 (+7)

7 × 3 = 3 × 7 = 21 (+7)

7 × 4 = 4 × 7 = 28 (+7)

7 × 5 = 5 × 7 = 35 (+7)

[1A] Find the answer by the rule.

a) 7 × 6 = 35 + 7 = 42

b) 7 × 7 = 42 + 7 = 49

c) 7 × 8 = 49 + 7 = 56

d) 7 × 9 = 56 + 7 = 63

[1B] How many players are in 7 teams if each team consists of 5 players?

7 × 5 = 35, 35 players

[2A] Solve:

a) 7 × 2 = 14 b) 7 × 4 = 28

c) 7 × 6 = 42 d) 7 × 8 = 56

e) 7 × 9 = 63 f) 7 × 7 = 49

[2B] There are 8 chickens in a cage. How many chickens are in 7 cages?

7 × 8 = 56, 56 chickens

The correct order is 7 × 8, but 8 × 7 is also acceptable .

[R] Solve:

a) 6 × 3 = 18 b) 6 × 5 = 30

c) 6 × 6 = 36 d) 6 × 7 = 42

e) 6 × 8 = 48 f) 6 × 9 = 54

Lesson	**53** /120	Curriculum	B3.1.2.5.2 (p.54, 55) e.g.3
Teaching Tips	Have learners repeat what you said to check their understanding.		
Objective	Memorise the 8 times table and apply it to a problem.		
Introduction (sample)	• Let learners find the answers for 8 × 1, 8 × 2, 8 × 3, 8 × 4, 8 × 5 by commutative properties and multiplication of 2-5s as shown on the board. • Find the rule and apply it to find the answers for [1A].		
Teacher's Note	• Practise 8 × 8 and 8 × 9 to memorise them because they are new. Do not start from 8 × 1 when they practice because these answers can be found by commutative properties.		

<Mental Maths>

a) 2 × 4 = 8 b) 2 × 7 = 14 c) 3 × 3 = 9

d) 3 × 6 = 18 e) 3 × 9 = 27

<Homework>

Say 8 × 6 = 48, 8 × 7 = 56, 8 × 8 = 64, 8 × 9 = 72 out loud 20 times.

L53: Memorise the 8 times table

8 × 1 = 1 × 8 = 8

8 × 2 = 2 × 8 = 16 (+8)

8 × 3 = 3 × 8 = 24 (+8)

8 × 4 = 4 × 8 = 32 (+8)

8 × 5 = 5 × 8 = 40 (+8)

[1A] Find the answer by the rule.

a) 8 × 6 = 40 + 8 = 48

b) 8 × 7 = 48 + 8 = 56

c) 8 × 8 = 56 + 8 = 64

d) 8 × 9 = 64 + 8 = 72

[1B] How many eggs are in 8 trays if each tray holds of 6 eggs?

8 × 6 = 48, 48 eggs

[2A] Solve:

a) 8 × 2 = 16 b) 8 × 4 = 32

c) 8 × 6 = 48 d) 8 × 8 = 64

e) 8 × 9 = 72 f) 8 × 7 = 56

[2B] A group consists of 7 learners. How many learners are in 8 groups?

8 × 7 = 56, 56 learners

The correct order is 8 × 7, but 7 × 8 is also acceptable .

[R] Solve:

a) 7 × 2 = 14 b) 7 × 4 = 28

c) 7 × 6 = 42 d) 7 × 7 = 49

e) 7 × 8 = 56 f) 7 × 9 = 63

Lesson	**54** /120	Curriculum	B3.1.2.5.2 (p.54, 55) e.g.3
Teaching Tips	Select some learners to distribute exercise books before the lesson begins.		
Objective	Memorise the 9 times table and apply it to a problem.		
Introduction (sample)	• Let learners find the answers for 9 × 1, 9 × 2, 9 × 3, 9 × 4, 9 × 5 by commutative properties and multiplication of 2-5s as shown on the board. • Find the rule and apply it to find the answers for [1A].		
Teacher's Note	• Practise 9 × 9 to memorise them because they are new. Do not start from 9 × 1 when they practice because these answers can be found by commutative properties.		

<Mental Maths>

a) 2 × 2 = 4 b) 2 × 5 = 10 c) 2 × 8 = 16

d) 3 × 4 = 12 e) 3 × 7 = 21

<Homework>

Say 9 × 6 = 54, 9 × 7 = 63, 9 × 8 = 72, 9 × 9 = 81 out loud 20 times.

L54: Memorise the 9 times table

9 × 1 = 1 × 9 = 9

9 × 2 = 2 × 9 = 18 (+9)

9 × 3 = 3 × 9 = 27 (+9)

9 × 4 = 4 × 9 = 36 (+9)

9 × 5 = 5 × 9 = 45 (+9)

[1A] Find the answer by the rule.

a) 9 × 6 = 45 + 9 = 54

b) 9 × 7 = 54 + 9 = 63

c) 9 × 8 = 63 + 9 = 72

d) 9 × 9 = 72 + 9 = 81

[1B] How many cakes are in 9 boxes if each box contains 5 cakes?

9 × 5 = 45, 45 cakes

[2A] Solve:

a) 9 × 2 = 18 b) 9 × 4 = 36

c) 9 × 6 = 54 d) 9 × 8 = 72

e) 9 × 9 = 81 f) 9 × 7 = 63

[2B] There are 8 onions in a bag. How many onions are in 9 bags?

9 × 8 = 72, 72 onions

The correct order is 9 × 8, but 8 × 9 is also acceptable .

[R] Solve:

a) 8 × 2 = 16 b) 8 × 4 = 32

c) 8 × 6 = 48 d) 8 × 8 = 64

e) 8 × 7 = 56 f) 8 × 9 = 72

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]: L51-54, [2]: L51, [3]: L52, [4]: L53.		

<Mental Maths>

a) 6 × 2 = 12 b) 7 × 2 = 14 c) 8 × 2 = 16

d) 6 × 3 = 18 e) 7 × 3 = 21

<Homework>

*No homework.

L55: Review

[1] Solve:

a) 6 × 6 = 36 b) 6 × 8 = 48

c) 7 × 6 = 42 d) 6 × 9 = 54

e) 7 × 7 = 49 f) 8 × 7 = 56

g) 7 × 9 = 63 h) 8 × 8 = 64

i) 9 × 8 = 72 j) 9 × 9 = 81

[2] There are 5 pens in a box.

How many pens are in 6 boxes?

$6 \times 5 = 30$, 30 pens

[3] How many players are in 7 teams if each team consists of 8 players?

$7 \times 8 = 56$, 56 players

[4] A car has 4 tyres.

How many tyres are in 8 cars?

$8 \times 4 = 32$, 32 tyres

Lesson	**56** /120	Curriculum	B3.1.2.5.2 (p.54, 55) e.g.3,5
Teaching Tips	Have learners recall what they learned in previous lessons.		
Objective	Develop the multiplication chart.		
Introduction (sample)	• Draw a multiplication chart as shown on the board. Then fill in the 2 times and 3 times table with learners. Learners fill the rest in exercise [1].		
Teacher's Note	• Practise skip counting forwards if necessary. • Learners must memorise all the multiplication chart. • The multiplication chart is consistent with the array diagram. The first column shows the number in each group and the first row shows the number of groups.		

<Mental Maths>

a) 2 × 3 = 6 b) 2 × 6 = 12 c) 2 × 9 = 18

d) 3 × 5 = 15 e) 3 × 8 = 24

<Homework>

Solve:

a) 4 × 3 = 12 b) 5 × 5 = 25

c) 4 × 4 = 16 d) 6 × 6 = 36

e) 7 × 8 = 56 f) 9 × 8 = 72

Fill lower-half only.

L56: Develop multiplication chart

	1	2	3	4	5	6	7	8	9
1	1								
2	2	4			No need to fill this part				
3	3	6	9						
4	4	8	12	16					
5	5	10	15	20	25				
6	6	12	18	24	30	36			
7	7	14	21	28	35	42	49		
8	8	16	24	32	40	48	56	64	
9	9	18	27	36	45	54	63	72	81

[1] Fill in the multiplication chart.

[2] Solve:

a) 2 × 4 = 8 b) 5 × 5 = 25

c) 3 × 7 = 21 d) 6 × 6 = 36

e) 3 × 6 = 18 f) 6 × 9 = 54

g) 8 × 4 = 32 h) 8 × 8 = 64

i) 7 × 7 = 49 j) 9 × 9 = 81

[R] Solve:

a) 9 × 3 = 27 b) 9 × 5 = 45

c) 9 × 6 = 54 d) 9 × 7 = 63

e) 9 × 8 = 72 f) 9 × 9 = 81

Lesson	**57** /120	Curriculum	B3.1.2.6.1 (p.56) e.g.1
Teaching Tips	Organise the board so that others can understand the lesson content just by looking at it.		
Objective	Understand the meaning of division as sharing and the number sentence of division.		
Introduction (sample)	• Let learners move bottle tops (or pebbles) in sharing, 12 ÷ 3 = 4. Move the bottle tops one by one into 3 boxes. Practice 10 ÷ 2 = 5, 8 ÷ 4 = 2, 9 ÷ 3 = 3 etc. • Draw a diagram as shown on the board.		
Teacher's Note	• Division has two meanings, grouping and sharing. This lesson focus on sharing.		

<Mental Maths>

a) 2 × 4 = 8 b) 2 × 7 = 14 c) 3 × 3 = 9

d) 3 × 6 = 18 e) 3 × 9 = 27

<Homework>

We share 20 coconuts with 5 groups equally.

How many coconuts are in each group?

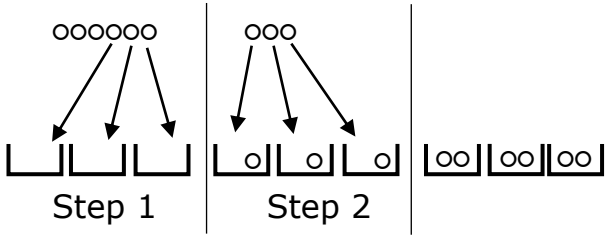
20 ÷ 5 = 4, 4 coconuts.

Use circles instead of drawing pictures to reduce time.

This task is a preparation for the later lesson (Use multiplications to solve divisions.).

L57: Understand division as equal sharing

We share 6 bofrots with 3 boxes equally.



[1A] How many bofrots are in each box?

6 ÷ 3 = 2, 2 bofrots.

[1B] We share 8 oranges with 4 plates equally. How many oranges do we put on each plate?

8 ÷ 4 = 2, 2 oranges.

[2A] Kofi shares 15 onions with 3 bags equally.

How many onions are in each bag?

15 ÷ 3 = 5, 5 onions.

[2B] Solve:

a) 2 × 4 = 8 b) 3 × 5 = 15

c) 3 × 6 = 18 d) 4 × 6 = 24

e) 4 × 8 = 32 f) 5 × 9 = 45

[R] Develop an lower-half multiplication chart.

	5	6	7	8	9
5	25				
6	30	36			
7	35	42	49		
8	40	48	56	64	
9	45	54	63	72	81

Lesson	**58** /120	Curriculum	B3.1.2.6.2 (p.56) 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	Understand the meaning of division as grouping and repeated subtraction.		
Introduction (sample)	• Let learners move bottle tops (or pebbles) in grouping, 12 ÷ 3 = 4. Move 3 bottle tops into a box four times. Practice 10 ÷ 2 = 5, 8 ÷ 4 = 2, 9 ÷ 3 = 3 etc. • Draw a diagram as shown on the board.		
Teacher's Note	• This lesson focus on grouping. Link it with repeated subtraction. • Repeated subtraction also works, but solving by multiplication is preferrable.		

<Mental Maths>

a) 4 × 4 = 16 b) 4 × 7 = 28 c) 5 × 5 = 25

d) 5 × 8 = 40 e) 6 × 7 = 42

<Homework>

Akoswa collected 12 mangoes.

She puts 3 mangoes in a basket.

How many baskets does she need?

12 ÷ 3 = 4, 4 baskets.

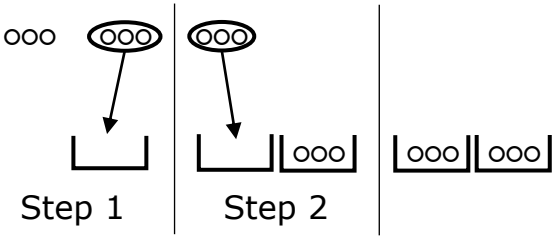
Use circles instead of drawing pictures to reduce time.

This task is a preparation for the later lesson (Use multiplications to solve divisions.).

L58: Understand division as grouping

There are 6 bofrots.

We put 3 bofrots in each box.



[1A] How many boxes do we need?

6 ÷ 3 = 2, 2 boxes.

[1B] There are 8 tomatoes.

We put 4 tomatoes in a basket.

How many baskets do we need?

8 ÷ 4 = 2, 2 baskets.

[2A] Akosua has 18 eggs.

She puts 6 eggs in each case.

How many cases does she need?

18 ÷ 6 = 3, 3 cases.

[2B] Solve:

a) 6 × 6 = 36 b) 7 × 6 = 42

c) 8 × 7 = 56 d) 7 × 7 = 49

e) 8 × 8 = 64 f) 9 × 9 = 81

[R] We share 24 fried chickens with 8 plates equally.

How many fried chickens do we put on each plate?

24 ÷ 8 = 3, 3 fried chickens.

Lesson	**59** /120	Curriculum	B3.1.2.5.2 (p.54, 55) e.g.1
Teaching Tips	Have learners copy everything from the board into their exercise books.		
Objective	Solve "as many as" type questions using division.		
Introduction (sample)	• Show 32 cm and 8 cm tape and compare the length of the two. Let learners answer how many times more the short tape is than the long one. • Draw a diagram as shown on the board.		
Teacher's Note	• [1] and [2A] is a continuous amount, while [2B] deal with discrete amount.		

<Mental Maths>

a) 4 × 5 = 20 b) 4 × 8 = 32 c) 5 × 6 = 30

d) 5 × 9 = 45 e) 6 × 8 = 48

<Homework>

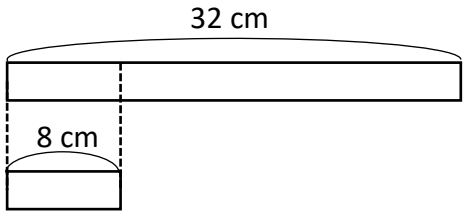
Afua is 8 years old. Her mother is 32 years old.

How many times older is her mother than Afua?

32 ÷ 8 = 4, 4 times older.

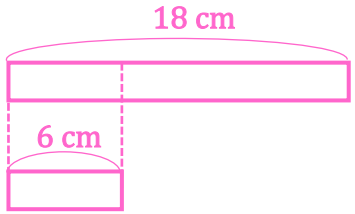
Refer this diagram in [1] althought the number is different.

L59: How many times more?



[1] A red ribbon is 18 cm long and a blue one is 6 cm long.
How many times longer is the red ribbon than the blue one?

a) Draw a diagram.



b) Find the answer.

18 ÷ 6 = 3, 3 times longer.

[2A] A green tape is 20 cm long and a yellow one is 4 cm long.
How many times longer is the green tape than the yellow one?

20 ÷ 4 = 5, 5 times more.

No need to draw a diagram in [2A] and [2B].

[2B] Akua has 21 mangoes and Kwaku has 7 mangoes.
How many times more mangoes does Akua have than Kwaku?

21 ÷ 7 = 3, 3 times more.

[R] Akua cooked 24 boiled eggs.
She puts 6 boiled eggs in a bag.
How many bags does she need?

24 ÷ 6 = 4, 4 bags.

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]: L56, [2]: L57, [3]: L58, [4]: L59.		

<Mental Maths>

a) 4 × 3 = 12 b) 5 × 3 = 15 c) 9 × 2 = 18

d) 5 × 4 = 20 e) 8 × 3 = 24

<Homework>

*No homework.

Explain the term "lower-half".

L60: Review

[1] Develop an lower-half multiplication chart.

	5	6	7	8	9
5	25				
6	30	36			
7	35	42	49		
8	40	48	56	64	
9	45	54	63	72	81

[2] We share 8 spring rolls into 4 boxes equally.
How many spring rolls are in each box?

8 ÷ 4 = 2, 2 spring rolls.

[3] There are 10 bananas.
We put 2 bananas in each bag.
How many bags do we need?

10 ÷ 2 = 5, 5 bags.

[4] A red ribbon is 32 cm long and a blue one is 8 cm long.
How many times longer is the red ribbon than the blue one?

32 ÷ 8 = 4, 4 times more.

Lesson	**61** /120	Curriculum	B3.1.2.6.3 (p.56) e.g.1
Teaching Tips	Divide the board into two parts and copy the teacher's guide as it is. After all the learners copied it, erase the left part to write the right part of the teacher's guide.		
Objective	Understand division as an inverse of multiplication.		
Introduction (sample)	• Let learners find answers for division using multiplication as shown on the board. • Ask learners 15 ÷ 3 = 5 by 3 × __ = 15. Then, solve 14 ÷ 7 = 2, 24 ÷ 8 = 3, 35 ÷ 7 = 5, 56 ÷ 7 = 8 by multiplication.		
Teacher's Note	• In L57 and 58, learners solved division by manipulation. Learners are expected to solve division using multiplication in this lesson, not by manipulation.		

<Mental Maths>

a) 4 × 6 = 24 b) 4 × 9 = 36 c) 5 × 7 = 35

d) 6 × 6 = 36 e) 6 × 9 = 54

<Homework>

Solve:

a) 25 ÷ 5 = 5 b) 32 ÷ 8 = 4

c) 7 ÷ 7 = 1 d) 63 ÷ 9 = 7

3×1=3, 3×2=6, 3×3=9, 3×4=12.

L61: Understand division as an inverse of multiplication

12 ÷ 3 3 × 4 = 12

12 ÷ 3 = 4

The division is an inverse operation of multiplication.

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

a) 8 ÷ 2 2 × 4 = 8 8 ÷ 2 = 4

b) 10 ÷ 5 5 × 2 = 10 10 ÷ 5 = 2

c) 12 ÷ 4 4 × 3 = 12 12 ÷ 4 = 3

[1B] Solve:

a) 15 ÷ 3 = 5 b) 20 ÷ 4 = 5

[2A] Answer as [1A].

a) 30 ÷ 5 5 × 6 = 30 30 ÷ 5 = 6

b) 56 ÷ 7 7 × 8 = 56 56 ÷ 7 = 8

c) 7 ÷ 7 7 × 1 = 7 7 ÷ 7 = 1

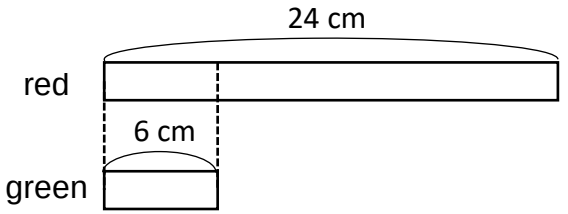
d) 81 ÷ 9 9 × 9 = 81 81 ÷ 9 = 9

[2B] Solve:

a) 48 ÷ 6 = 8 b) 54 ÷ 9 = 6

c) 8 ÷ 8 = 1 d) 49 ÷ 7 = 7

[R] A red tape is 24 cm long and a green one is 4 cm long. How many times longer is the red tape than the green one?



24 ÷ 4 = 6, 6 times longer.

Lesson	**62** /120	Curriculum	B3.1.2.6.3 (p.56) 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	Solve division using multiplication.		
Introduction (sample)	Ask the following verbally and let learners find answers for division using multiplication chart. a) 16 ÷ 4 = 4 b) 18 ÷ 3 = 6 c) 36 ÷ 6 = 6 d) 45 ÷ 9 = 5 e) 49 ÷ 7 = 7 f) 64 ÷ 8 = 8 Use multiplication chart in L56.		
Teacher's Note	• Learners are expected to memorise multiplication chart. • Let learners use skip counting if necessary.		

<Mental Maths>

a) 4 × 4 = 16 b) 4 × 7 = 28 c) 5 × 5 = 25

d) 5 × 8 = 40 e) 6 × 7 = 42

<Homework>

Solve:

a) 15 ÷ 3 = 5 b) 21 ÷ 3 = 7

c) 30 ÷ 5 = 6 d) 35 ÷ 7 = 5

e) 42 ÷ 6 = 7 f) 54 ÷ 6 = 9

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

L62:Solve division using multiplication

[1] Solve:

a) 4 ÷ 2 = 2 b) 6 ÷ 3 = 2

c) 20 ÷ 4 = 5 d) 25 ÷ 5 = 5

e) 27 ÷ 3 = 9 f) 32 ÷ 8 = 4

g) 42 ÷ 6 = 7 h) 3 ÷ 3 = 1

[2] Solve:

a) 8 ÷ 4 = 2 b) 12 ÷ 6 = 2

c) 27 ÷ 3 = 9 d) 28 ÷ 7 = 4

e) 54 ÷ 9 = 6 f) 63 ÷ 7 = 9

g) 56 ÷ 8 = 7 h) 72 ÷ 8 = 9

i) 81 ÷ 9 = 9 j) 9 ÷ 9 = 1

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

a) 15 ÷ 5 5 × 3 = 15 15 ÷ 5 = 3

b) 42 ÷ 6 6 × 7 = 42 42 ÷ 6 = 7

c) 56 ÷ 7 7 × 8 = 56 56 ÷ 7 = 8

d) 81 ÷ 9 9 × 9 = 81 81 ÷ 9 = 9

Skip review task if you don't have time.

Lesson	**63** /120	Curriculum	B3.1.2.6.3 (p.56) 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	Solve division problem (sharing) using mulitiplication.		
Introduction (sample)	• Invite a learner and show the move for the following word problem. You have 12 pens. You share them into 4 bags equally. How many pens are in each bag? • Change the number above to be 10 ÷ 5 = 2, 8 ÷ 2 = 4.		
Teacher's Note	• This lesson focus on sharing. Let learners solve using multiplication. • Do not use counters to calculate. Learners must use the knowledge of multiplication to solve division.		

<Mental Maths>

a) 4 × 5 = 20 b) 4 × 8 = 32 c) 5 × 6 = 30

d) 5 × 9 = 45 e) 6 × 8 = 48

<Homework>

Afua has 48 eggs.

She puts 6 eggs in each case.

How many cases does she need?

48 ÷ 6 = 8, 8 cases.

Write a number sentence and the answer.
Don't use counters to explain them.

L63: Solve word problems (1)

[1A] Akua baked 42 meat pies.

She shares them with 6 boxes equally.

How many meat pies are in each box?

42 ÷ 6 = 7, 7 meat pies.

[1B] We share 56 carrots with 7 bags equally.

How many carrots do we put in each bag?

56 ÷ 7 = 8, 8 carrots.

[2A] Kofi shares 40 oranges with 8 bags equally.

How many oranges does he put in each bag?

40 ÷ 8 = 5, 5 oranges.

[2B] Adwoa shares 64 bofrots with 8 bags equally.

How many bofrots does she put in each bag?

64 ÷ 8 = 8, 8 bofrots.

[R] Solve:

a) 49 ÷ 7 = 7 b) 64 ÷ 8 = 8

c) 9 ÷ 9 = 1 d) 81 ÷ 9 = 9

Lesson	**64** /120	Curriculum	B3.1.2.6.3 (p.56) 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	Solve division problem (grouping) using mulitiplication.		
Introduction (sample)	• Invite a learner and show the move for the following word problem. You have 12 pens. You put 3 pens in each bag. How many bags do you need? • Change the number above to be 10 ÷ 5 = 2, 8 ÷ 2 = 4.		
Teacher's Note	• This lesson focus on grouping. Let learners solve using multiplication. • Do not use counters to calculate. Learners must use the knowledge of multiplication to solve division.		

<Mental Maths>

a) 4 × 6 = 24 b) 4 × 9 = 36 c) 5 × 7 = 35

d) 6 × 6 = 36 e) 6 × 9 = 54

<Homework>

We bought 56 spring rolls.

We share them with 8 plates equally.

How many spring rolls are on each plate?

56 ÷ 8 = 7, 7 spring rolls.

Write a number sentence and the answer.

L64: Solve word problems (2)

[1A] We baked 42 rock buns.
We put 6 rock buns in each box.
How many boxes do we need?
42 ÷ 6 = 7, 7 boxes.

[1B] There are 32 papayas.
We put 4 papayas in a basket.
How many baskets do we need?
32 ÷ 4 = 8, 8 baskets.

[2A] Akua has 56 lemons.
She puts 7 lemons in each bag.
How many bags does she need?
56 ÷ 7 = 8, 8 bags.

[2B] A teacher has 63 pens.
She gives 9 pens to each group of learners.
How many pens does each group get?
63 ÷ 9 = 7, 7 pens.

[R] Kwama baked 24 rock buns.
He shares them into 8 bags equally.
How many rock buns do we put in each bag?
24 ÷ 8 = 3, 3 rock buns.

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]: L61, [2]: L62, [3]: L63, [4]: L64.		

<Mental Maths>

a) 6 × 4 = 24 b) 6 × 5 = 30 c) 9 × 4 = 36

d) 9 × 5 = 45 e) 8 × 7 = 56

<Homework>

*No homework.

L65: Review

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

a) 10 ÷ 2 2 × 5 = 10 10 ÷ 2 = 4

b) 15 ÷ 5 5 × 3 = 15 15 ÷ 5 = 3

c) 32 ÷ 8 8 × 4 = 32 32 ÷ 8 = 4

[2] Solve:

a) 30 ÷ 5 = 6 b) 25 ÷ 5 = 5

c) 45 ÷ 5 = 9 d) 35 ÷ 7 = 5

e) 81 ÷ 9 = 9 f) 5 ÷ 5 = 1

[3] Kwasi cooked 54 bofrots.
He shares them into 9 boxes equally.
How many bofrots are in each box?

54 ÷ 9 = 6, 6 bofrots.

[4] Adwoa has 36 eggs.
She puts 6 eggs in each case.
How many cases does she need?

36 ÷ 6 = 6, 6 cases.

Lesson	**66** /120	Curriculum	B3.1.3.1.1 (p.57, 58) e.g.1,2,3
Teaching Tips	Encourage learners to memorise as many words as possible (not just 1 or 2 letters) when copying from the board.		
Objective	Understand a unit fraction by dividing circles or rectangles into several equal parts.		
Introduction (sample)	Cut A4 papers vertically into 4 strips. Make a group of 3 and give a strip to each learner. One learner folds a strip into half. Another one folds a strip into 4 parts (fold half twice) and the last one folds his/her strip into 8 parts (fold half three times). Let them colour the left-end part of each paper and compare the $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$. 		
Teacher's Note	• Explain the term "fraction" and notation. This is the first time for learners. • "A quarter" is the same as "1 fourth". Quarter is used in this teacher's guide because we use the term in reading a clock.		

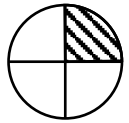
<Mental Maths>

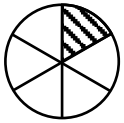
a) 2 × 5 = 10 b) 2 × 8 = 16 c) 3 × 4 = 12

d) 7 × 7 = 49 e) 8 × 8 = 64

<Homework>

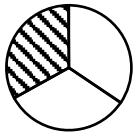
Answer as [1A].

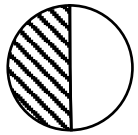
a)  $\frac{1}{4}$

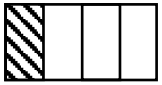
b)  $\frac{1}{6}$

L66: Understand a unit fraction

[1A] Show the shaded part in fractions.

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

b)  $\frac{1}{2}$

c)  $\frac{1}{4}$

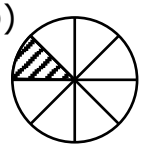
[1B] Divide a circle and colour it to match the following fraction.

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

b) $\frac{1}{8}$ 

[2A] Answer as [1A].

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

b)  $\frac{1}{8}$

[2B] Write the fractions in words.

a) $\frac{1}{2}$ One half

b) $\frac{1}{3}$ One third

c) $\frac{1}{4}$ One quarter

d) $\frac{1}{5}$ One fifth

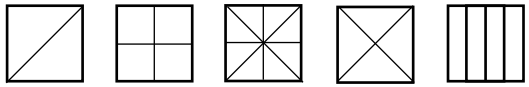
e) $\frac{1}{6}$ One sixth

[R] Kwaku baked 36 meat pies.

He puts 4 meat pies in a box.

How many boxes does he need?

$36 \div 4 = 9$, 9 boxes.

Lesson	**67** /120	Curriculum	B3.1.3.1.1 (p.57, 58) e.g.4,5
Teaching Tips	While you are writing on the board, let learners copy it in their exercise books.		
Objective	Understand a non-unit fraction by using several different shapes.		
Introduction (sample)	Let learners draw three squares. Let them divide them equally in different ways. Compare and discuss if the squares are equally divided. 		
Teacher's Note	• Let learners realise that the same fraction can be shown in several different shapes. There are three different $\frac{2}{4}$ in this lesson.		

<Mental Maths>

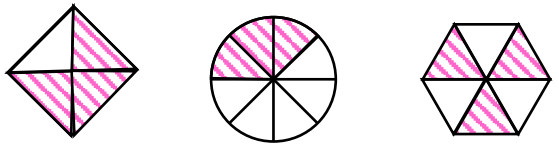
a) 2 × 6 = 12 b) 2 × 9 = 18 c) 3 × 5 = 15

d) 7 × 8 = 56 e) 8 × 9 = 72

<Homework>

Answer as [1B].

a) $\frac{3}{4}$ b) $\frac{3}{8}$ c) $\frac{3}{6}$



There are several different correct answers in this unit.
Share different answers with other learners.

L67: Understand a non-unit fraction

[1A] Show the shaded parts in fractions.

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

b)  $\frac{4}{9}$

c)  $\frac{2}{4}$

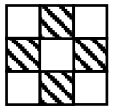
[1B] Colour the diagram below to show the given fraction.

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

b) $\frac{5}{8}$ 

[2A] Show the shaded parts in fractions.

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

b)  $\frac{4}{9}$

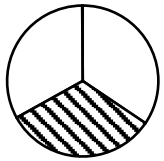
c)  $\frac{3}{4}$

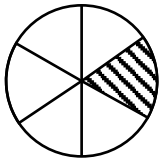
[2B] Write the fractions in words.

a) $\frac{2}{3}$ b) $\frac{3}{4}$ c) $\frac{4}{5}$

Two thirds Three quarters Four fifths

[R] Answer as [1A].

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

b)  $\frac{1}{6}$

Lesson	**68** /120	Curriculum	B3.1.3.1.2 (p.58, 59) e.g.1,2
Teaching Tips	Have learners repeat what you said to check their understanding.		
Objective	Understand fractions showing parts of a group of objects.		
Introduction (sample)	• Let learners use 6 bottle tops and share them equally with 2 groups. Ask how many groups are in total. Then, let them take a group (= 3 bottle tops) which means $\frac{1}{2}$. Then, try $\frac{1}{3}, \frac{2}{3}, \frac{2}{6}$ and $\frac{4}{6}$ in the same way. • Write how to find the fraction as shown on the board.		
Teacher's Note	• Learners may have difficulty in considering several objects as one. In that case, let them follow the steps one by one.		

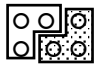
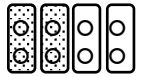
<Mental Maths>

a) 2 × 7 = 14 b) 3 × 3 = 9 c) 3 × 6 = 18

d) 7 × 9 = 63 e) 9 × 9 = 81

<Homework>

Answer as [1A].

a)  b) 

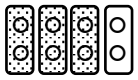
$\frac{1}{2}$ $\frac{2}{4}$

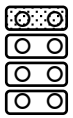
"as shown on the board" in the introduction part is written here. Let learners copy it during introduction time.

L68: Understand fractions showing parts of a group of objects

1. How many groups are in total?
2. How many shaded groups?
3. $\frac{\text{(Shaded groups)}}{\text{(Total groups)}}$

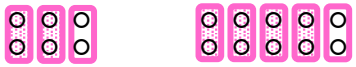
[1A] Show the shaded parts in fractions.

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

c)  $\frac{1}{2}$ d)  $\frac{1}{4}$

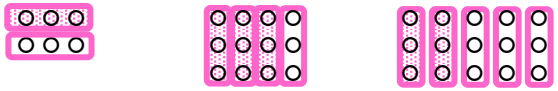
[1B] Shade given fractions in groups of objects.

a) $\frac{2}{3}$ b) $\frac{4}{5}$

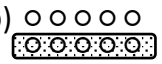
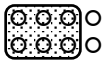


[2A] Answer as [1B].

a) $\frac{1}{2}$ b) $\frac{3}{4}$ c) $\frac{2}{5}$



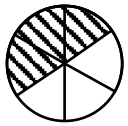
[2B] What fraction is shaded?

a)  b)  c) 

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

[R] Answer as [1A].

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

b)  $\frac{3}{6}$

Lesson	**69** /120	Curriculum	B3.1.3.1.2 (p.58, 59) e.g.3
Teaching Tips	Select some learners to distribute exercise books before the lesson begins.		
Objective	Understand fractions used to show the length of objects.		
Introduction (sample)	Cut A4 papers to make 16 cm strips. Make a group of 4 and give a strip to each learner. One learner folds a strip in half and colour it. Let them measure the length. $\frac{1}{4}$ = 4 cm. Then, let others make the followings. $\frac{1}{8}$ = 2 cm, $\frac{3}{4}$ = 12 cm, $\frac{3}{8}$ = 6 cm, and let them compare the length.		
Teacher's Note	• The learners are expected to understand the meaning of fraction, i.e. we divide an objects into the number of the denominator, e.g. $\frac{1}{4}$ means we divide an objects into 4 parts and take 1 of them. • If learners are not familiar with the length "cm", show them a ruler.		

<Mental Maths>

a) 3 × 7 = 21 b) 4 × 4 = 16 c) 4 × 7 = 28

d) 7 × 7 = 49 e) 8 × 8 = 64

<Homework>

Answer as [2].

a) $\frac{1}{5}$ of 20 cm

20 ÷ 5 = 4

1 × 4 = 4, 4 cm

b) $\frac{3}{4}$ of 16 cm

16 ÷ 4 = 4

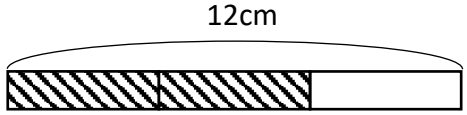
3 × 4 = 12, 12cm

L69: Understand fractions of length

[1] There is a 12 cm long bar.

How long is the following length?

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



1 part is 12 ÷ 3 = 4

So, $\frac{2}{3}$ of 12 cm is 2 × 4 = 8, 8 cm.

Use this task as an example of [2].

b) $\frac{1}{3}$

12 ÷ 3 = 4,

1 × 4 = 4, 4 cm.

c) $\frac{2}{4}$

12 ÷ 4 = 3,

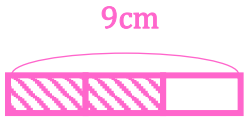
2 × 3 = 6, 6 cm.

[2] Find the length of the tape.
Draw a diagram.

a) $\frac{2}{3}$ of 9 cm

9 ÷ 3 = 3

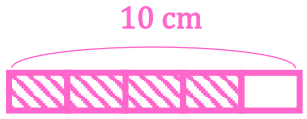
2 × 3 = 6, 6 cm.



b) $\frac{4}{5}$ of 10 cm

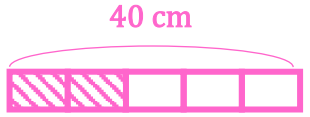
10 ÷ 5 = 2

4 × 2 = 8, 8 cm.

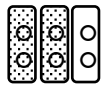


c) $\frac{2}{5}$ of 40 cm

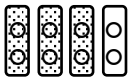
40 ÷ 5 = 8, 2 × 8 = 16, 16 cm.



[R] Show the shaded parts in fractions.

a) 

$\frac{2}{3}$

b) 

$\frac{3}{4}$

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 & L67, [2]: L68, [3]: L69.		

<Mental Maths>

a) 9 × 3 = 27 b) 8 × 4 = 32 c) 8 × 5 = 40

d) 8 × 6 = 48 e) 9 × 7 = 63

<Homework>

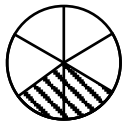
*No homework.

L70: Review

[1] Show the shaded part in fractions.

a) 

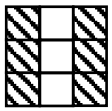
$\frac{1}{3}$

b) 

$\frac{2}{6}$

c) 

$\frac{3}{4}$

d) 

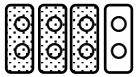
$\frac{6}{9}$

[2] Show the fractions of the following in numbers and words.

a) 

$\frac{1}{2}$

One half

b) 

$\frac{3}{4}$

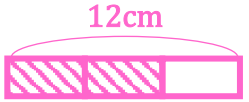
Three quarters

[3] Draw a diagram and find the length of the following tape.

a) $\frac{2}{3}$ of 12 cm

$12 \div 3 = 4,$

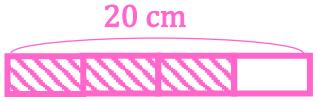
$2 \times 4 = 8, 8$ cm.



b) $\frac{3}{4}$ of 20 cm

$20 \div 4 = 5,$

$3 \times 5 = 15, 15$ cm.



Lesson	**71** /120	Curriculum	B3.1.3.1.3 (p.60) e.g.2
Teaching Tips	Have learners recall what they learned in previous lessons.		
Objective	Compare the size of fractions using a fraction chart.		
Introduction (sample)	• Draw a fraction chart as shown on the board. Then, let them compare the length of two fractions, $\frac{1}{2}$ and $\frac{1}{3}$, $\frac{2}{3}$ and $\frac{3}{4}$.		
Teacher's Note	• This topic is continuation of the previous lesson. Make sure to confirm it. • Some learners cannot draw the fraction chart properly. Check if they can draw it correctly.		

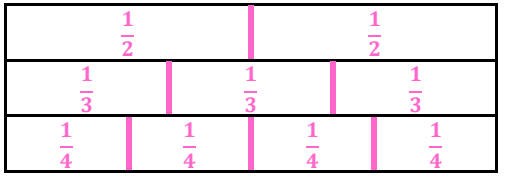
<Mental Maths>

a) 3 × 8 = 24 b) 4 × 5 = 20 c) 4 × 8 = 32

d) 7 × 8 = 56 e) 8 × 9 = 72

<Homework>

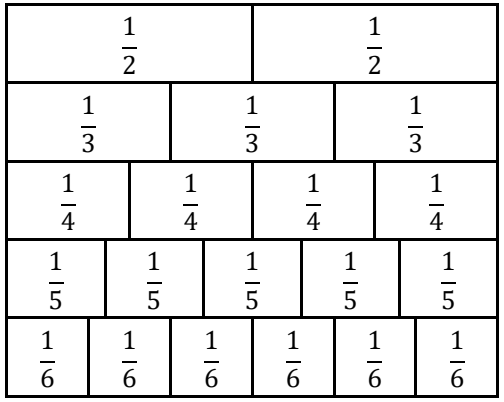
Draw a fraction chart of $\frac{1}{2}$, $\frac{1}{3}$ and $\frac{1}{4}$, and compare.



a) $\frac{1}{3} < \frac{1}{2}$ b) $\frac{3}{4} > \frac{2}{3}$ c) $\frac{2}{4} = \frac{1}{2}$

Refer the fraction chart.

L71: Compare by fraction charts



$\frac{1}{2} > \frac{1}{3}$ $\frac{2}{3} < \frac{3}{4}$

Draw the half line aligned vertically so that $\frac{1}{2}, \frac{2}{4}$ and $\frac{3}{6}$ are aligned.

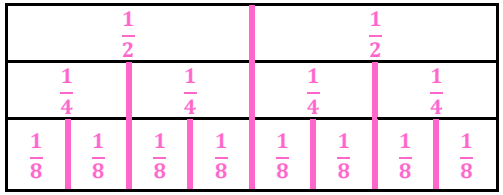
[1A] Write <, > or =.

a) $\frac{1}{4} < \frac{1}{3}$ b) $\frac{2}{4} = \frac{1}{2}$ c) $\frac{2}{5} > \frac{1}{3}$ d) $\frac{4}{6} < \frac{3}{4}$

[1B] Order from small to big.

a) $\frac{3}{5}, \frac{4}{5}, \frac{2}{5}$ $\frac{2}{5}, \frac{3}{5}, \frac{4}{5}$ b) $\frac{1}{2}, \frac{1}{4}, \frac{1}{3}$ $\frac{1}{4}, \frac{1}{3}, \frac{1}{2}$

[2] Draw a fraction chart of $\frac{1}{2}, \frac{1}{4}$ and $\frac{1}{8}$.



Order from big to small.

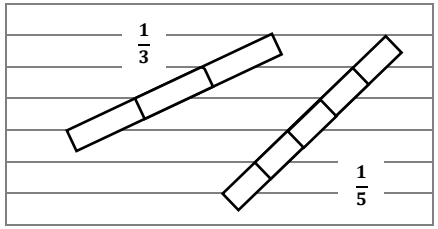
a) $\frac{1}{4}, \frac{1}{2}, \frac{1}{3}$ $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}$ b) $\frac{1}{2}, \frac{3}{4}, \frac{5}{8}$ $\frac{3}{4}, \frac{5}{8}, \frac{1}{2}$

[R] There is a 12 cm long rope.

How long is $\frac{2}{3}$ of the rope?

$12 \div 3 = 4$

$2 \times 4 = 8$, 8 cm.

Lesson	**72** /120	Curriculum	B3.1.3.1.3 (p.60) e.g.1
Teaching Tips	Organise the board so that others can understand the lesson content just by looking at it.		
Objective	Understand a non-unit fraction by using a tape diagram.		
Introduction (sample)	Cut A4 papers to make the same length strips. Let learners divide it $\frac{1}{3}$, $\frac{1}{5}$ and $\frac{1}{6}$ using the border line of exercise books. 3 rows make $\frac{1}{3}$ as shown right. Let them compare the length. Each tape must be the same length. 		
Teacher's Note	• Using a tape diagram is good way to develop the concept of fraction because it can be linked with length and a number line in the later grade. • This topic is linked to the fraction chart which appears later in this grade.		

<Mental Maths>

a) 3 × 9 = 27 b) 4 × 6 = 24 c) 4 × 9 = 36

d) 7 × 9 = 63 e) 9 × 9 = 81

<Homework>

Answer as [1].

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

b) $\frac{3}{5}$ 

L72: Compare fractions by pictorials

Draw the tape diagrams of the same length vertically aligned.

[1] Draw tape diagrams to show the fractions.

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

b) $\frac{1}{2}$ 

c) $\frac{1}{3}$ 

d) $\frac{2}{4}$ 

e) $\frac{2}{5}$ 

[2A] Answer as [1].

a) $\frac{4}{5}$ 

b) $\frac{3}{6}$ 

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

Divide into half at first if the denominator is an even number.

[2B] Show in fractions. What is:

a) three out of five? $\frac{3}{5}$

b) two out of seven? $\frac{2}{7}$

c) four out of ten? $\frac{4}{10}$

[R] Write <, > or =.

Use the fraction chart in L71.

a) $\frac{1}{3} < \frac{3}{6}$ b) $\frac{2}{3} > \frac{3}{6}$ c) $\frac{2}{3} = \frac{4}{6}$

Lesson	**73** /120	Curriculum	B3.1.3.1.2 (p.58, 59) e.g.6
Teaching Tips	If more than half of the learners cannot solve the first task, explain how to solve it using it.		
Objective	Understand fractions in relation to number line.		
Introduction (sample)	Draw a fraction chart and number line aligned as shown on the board. Explain the relationship between fraction charts and number line.		
Teacher's Note	• Teach fractions with number line to make learners' understanding of fraction as an amount better. • When drawing a number line, fix 0 and 1 first, then divide the number line into necessary parts. When dividing the number line into even number, divide it into half first.		

<Mental Maths>

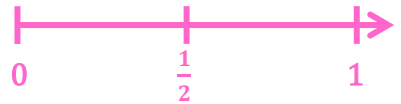
a) 5 × 5 = 25 b) 5 × 8 = 40 c) 6 × 7 = 42

d) 7 × 7 = 49 e) 8 × 8 = 64

<Homework>

Answer as [1B].

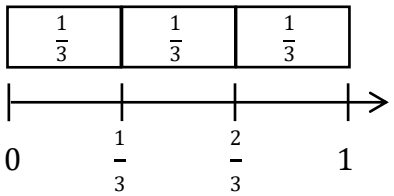
a) $\frac{1}{2}$



b) $\frac{3}{4}$

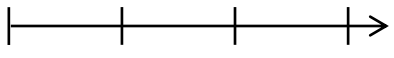
c) $\frac{6}{8}$

L73: Link fractions with number lines



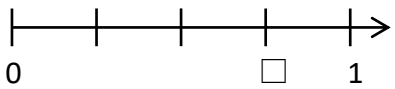
[1A] Find the number in the blanks.

a)



$\frac{2}{3}$

b)



$\frac{3}{4}$

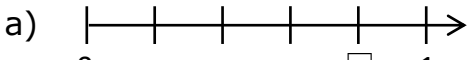
[1B] Draw a number line and indicate the fraction.

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

b) $\frac{2}{4}$

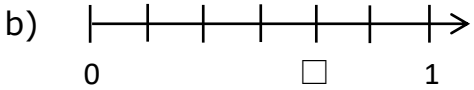
[2A] Answer as [1A].

a)



$\frac{4}{5}$

b)

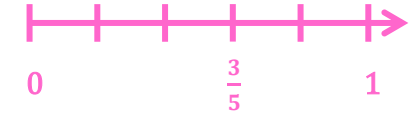


$\frac{4}{6}$

[2B] Draw a number line and indicate the fraction.

a) $\frac{5}{8}$

b) $\frac{3}{5}$



[R] Draw a tape diagram to show the fraction.

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

b) $\frac{2}{3}$

Lesson	**74** /120	Curriculum	B3.1.4.1.1 (p.61, 62) e.g.1,3
Teaching Tips	Have learners copy everything from the board into their exercise books.		
Objective	Use different denominations of money to buy and give change.		
Introduction (sample)	• Let learners work in pairs. Give learners play money. Ask learners to make e.g. ¢7, ¢12, ¢25, ¢30, ¢40 in different ways. • Draw money as shown on the board to make ¢50.		
Teacher's Note	• Make play money from paper and write ¢1, ¢2, ¢5, ¢10 and ¢20, one notes per amount for each learner. • There are variety of answers for the following questions. Please tell them that the answer on the board is not the only answer. • Use abbreviation of GH¢ as ¢1, ¢2 ... to reduce the time to write.		

<Mental Maths>

a) 5 × 6 = 30 b) 5 × 9 = 45 c) 6 × 8 = 48

d) 7 × 8 = 56 e) 8 × 9 = 72

<Homework>

A shop sells a papaya for ¢8.

Ama bought 5 papayas. She paid ¢50.

Show the change using ¢5, ¢2 and ¢1.

Use all types of notes.

$5 \times 8 = 40, 50 - 40 = 10$

5 2 2 1

L74: Find different ways to pay

Make ¢50 by ¢20 and ¢5.

20 20 5 5

[1] Make ¢50 using the following notes. Use all types of notes.

a) ¢10

10 10 10 10 10

b) ¢10 and ¢2

10 10 10 10
2 2 2 2 2

There are several different answers in b)-d).

c) ¢20, ¢10 and ¢5

20 10 10 5 5

d) ¢10, ¢5 and ¢2

10 10 10 5 5
2 2 2 2 2

[2A]

a) Show ¢30 with ¢10 and ¢5.

10 10 5 5

b) Show ¢69 with ¢20, ¢2 and ¢1.

20 20 20
2 2 2 2 1

[2B] A shop sells a mango for ¢8. Afua bought 4 mangoes and paid with a ¢50 note.
Show the change using ¢10, ¢5 and ¢1. Use all types of notes.

$4 \times 8 = 32, 50 - 32 = 18.$

10 5 1 1 1

[R] Find the number in the blanks.

a) 0 □ 1 $\frac{1}{3}$

b) 0 □ 1 $\frac{2}{4}$

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) 7 × 4 = 28 b) 7 × 5 = 35 c) 7 × 6 = 42

d) 9 × 6 = 54 e) 9 × 8 = 72

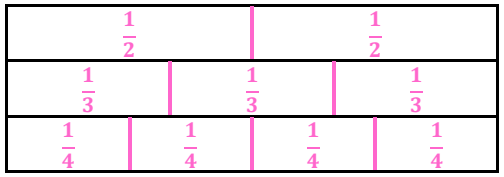
<Homework>

*No homework.

L75: Review

[1] Draw a fraction chart of $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$.

Write <, > or =.



a) $\frac{1}{3} > \frac{1}{4}$ b) $\frac{2}{3} < \frac{3}{4}$ c) $\frac{1}{2} = \frac{2}{4}$

[2] Draw tape diagrams to show the fractions.

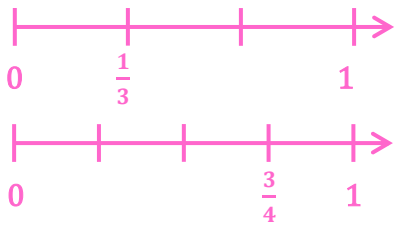
a) $\frac{2}{3}$

b) $\frac{3}{4}$

[3] Draw a number line and indicate the fraction.

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

b) $\frac{3}{4}$



[4] a) Show ¢35 with ¢20 and ¢5

20 5 5 5

b) Show ¢68 with ¢20, ¢5 and ¢1.

20 20 20

5 1 1 1

Lesson	**76** /120	Curriculum	B3.1.4.1.1 (p.61, 62) e.g.1,2
Teaching Tips	Divide the board into two parts and copy the teacher's guide as it is. After all the learners copied it, erase the left part to write the right part of the teacher's guide.		
Objective	Find the different payment methods for buying and giving change.		
Introduction (sample)	• Use play money for making ¢6, ¢17, ¢24, ¢31, ¢47. Ask what type of combinations learners made. e.g. ¢6 = ¢2 + ¢2 + ¢2 or ¢5 + ¢1. • Write the price of items and the table as shown on the board. Answer a), i.e. 3 toys cost 8 + 8 + 8 = 24, The change is 50 – 24 = 26.		
Teacher's Note	• This question consists of two steps. 1. Identify number sentence and the answer for it. 2. Find the combination of each notes. • Use abbreviation of GH¢ as ¢1, ¢2 ... and p for pesewas to reduce the time. • Explain 100 pesewas = ¢1 before writing the example.		

<Mental Maths>

a) 5 × 7 = 35 b) 6 × 6 = 36 c) 6 × 9 = 54

d) 7 × 9 = 63 e) 9 × 9 = 81

<Homework>

Kwasi bought 4 pencils and 5 rulers.

He paid ¢30.

6 pencils cost ¢3.

$3 + 5 \times 5 = 28, 30 - 28 = 2.$

2

L76: Find different ways to pay

book: ¢20, toy: ¢8,

pencils: p50 ruler: ¢5

	Shopping Money	Items to buy	Change (Indicate notes)
a	¢50	3 toys	20 5 1
b	¢20	3 rulers	5
c	¢5	6 pencils	2
d	¢100	3 books	20 20

[1A] Fill in the blanks.

b) 3 rulers cost $3 \times 5 = 15$.

c) 2 pencils cost ¢1. 6 pencils cost ¢3.

d) 3 books cost $20 + 20 + 20 = 60$.

[1B] Complete the table.

[2] Find the change using ¢2 or ¢5 notes. Use the price of [1].

a) Kwadwo bought 1 book and 2 toys.
He paid ¢40.

$20 + 2 \times 8 = 36, 40 - 36 = 4.$

2 2

b) Adowa bought 2 pencils and 4 rulers. She paid ¢30.

2 pencils cost ¢1.

$1 + 5 \times 4 = 21, 30 - 21 = 9.$

5 2 2

[2B] How much is it?

a) p200 = ¢ 2 b) p500 = ¢ 5

[R] Make ¢30 using the following notes. Use all types of notes.

a) ¢20 and ¢5 20 5 5

b) ¢10, ¢5 and ¢2

10 5 5

2 2 2 2 2

These are answers of [1B]. The combination of notes can vary.

Lesson	**77** /120	Curriculum	B3.2.1.1.1 (p.63) e.g.1,3
Teaching Tips	Encourage learners to write in their exercise books. The more they write, the better their writing skills will become.		
Objective	Extend patterns by reasoning.		
Introduction (sample)	• Explain patterns and rules as shown on the board. • Let learners work in pair. One learner makes a pattern and the other learner find the rule. Add, subtract or repeated patterns are available.		
Teacher's Note	• Learners have their reasoning skills. Let them verbalise the pattern. • Let learners write the rules they identified. • "Add 3" is the same as "increase by 3", "subtract 3" is the same as "decrease by 3", so both correct.		

<Mental Maths>

a) 4 ÷ 2 = 2 b) 8 ÷ 2 = 4 c) 10 ÷ 2 = 5

d) 12 ÷ 3 = 4 e) 14 ÷ 2 = 7

<Homework>

Answer as [1B].

a) 16, 20, 24, 28, ~~30~~ 32, … Add 4

b) 80, 70, ~~65~~ 60, 50, 40, … Subtract 10

c) 4, 8, 9, 3, 4, 8, 9, 3, 4, ~~9~~ 8, … Repeat 4, 8, 9, 3

L77: Extend patterns and find the rule

2, 4, 6, 8, … add 2.

5, 8, 7, 5, 8, 7,… repeat 5, 8, 7.

30, 25, 20, 15, … subtract 5.

[1A] Extend patterns and find the rule.

a) 30, 33, 36, 39, 42, 45 Add 3

b) 2, 3, 4, 2, 3, 4, 2, 3, 4, 2 Repeat 2, 3, 4

c) 46, 44, 42, 40, 38, 36 Subtract 2

[1B] Correct the errors in the following pattern and find the rule.

a) 20, 30, 40, 50, ~~55~~ 60, 70,... Add 10

b) 80, 76, 72, ~~70~~ 68, 64, 60,... Subtract 4

[2A] Answer as [1A].

a) 9, 1, 5, 3, 9, 1, 5, 3, 9, 1, 5 Repeat 9, 1, 5, 3

b) 60, 64, 68, 72, 76, 80 Add 4

c) 60, 55, 50, 45, 40, 35 Subtract 5

[2B] Answer as [1B].

a) 9, 12, 15, 18, ~~20~~ 21 Add 3

b) 24, 20, 16, 12, ~~10~~ 8 Subtract 4

c) 3, 6, 9, 3, 6, ~~3~~ 9 Repeat 3, 6, 9

[R] Kofi bought a pineapple for ¢10 and 3 mangoes for ¢6 each and paid ¢50. Find the change using ¢10, ¢5 or ¢2 notes.

$10 + 6 \times 3 = 28, 50 - 28 = 22.$

10 | 5 | 5 | 2

Lesson	**78** /120	Curriculum	B3.2.1.1.1 (p.63) e.g.1,2
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	Create a pattern for the given rule.		
Introduction (sample)	• Give a task as shown on the board. • Let learners work in pair. One learner makes a rule and decide the starting number. The other learner finds five terms, e.g. “add 3 from 5” means add, subtract or repeated patterns are available.		
Teacher’s Note	• Explain the meaning of "take XX steps forwards and backwards." • Explain the word "term".		

<Mental Maths>

a) 6 ÷ 2 = 3 b) 8 ÷ 4 = 2 c) 10 ÷ 5 = 2

d) 12 ÷ 4 = 3 e) 14 ÷ 7 = 2

<Homework>

Answer as [1].

a) 3, 13, 23, 33, 43, 53, 63

take 10 steps forwards

b) 28, 24, 20, 16, 12, 8

take 4 steps backwards

c) 4, 9, 6, 4, 9, 6, 4, 9, 6

repeat the three terms

L78: Create a pattern for given rules

45, 40, 35, 30, 25, 20

take 5 steps backwards

[1] Use the following rule to fill in the blanks.

a) 6, 8, 10, 12, 14, 16 add 2

b) 24, 21, 18, 15, 12, 9 subtract 3

c) 9, 12, 15, 18, 21 add 3

d) 24, 20, 16, 12, 8 subtract 4

e) 2, 4, 8, 2, 4, 8, 2

repeat the three terms

[2] Answer as [1].

a) 4, 12, 20, 28, 36 add 8

b) 45, 50, 55, 65, 70

take 5 steps forwards

c) 30, 24, 18, 12, 6 subtract 6

d) 9, 1, 5, 9, 1, 5, 9, 1

repeat the three terms

e) 68, 78, 88, 98, 108

take 10 steps forwards

f) 127, 117, 107, 97, 87

take 10 steps backwards

[R] Extend the following pattern and find the pattern.

a) 3, 2, 5, 3, 2, 5, 3, 2, 5, 3, 2, 5

Repeat 3, 2, 5

b) 40, 36, 32, 28, 24, 20, 16

Subtract 4

Lesson	**79** /120	Curriculum	B3.2.1.1.1 (p.63) e.g.4
Teaching Tips	Encourage learners to memorise as many words as possible (not just 1 or 2 letters) when copying from the board.		
Objective	Find different patterns in a 100 chart.		
Introduction (sample)	• Draw a hundred chart as shown on the board. • Ask learners to skip count by 2s and describe the pattern created. Repeat for 3, 4, 5 and 10. Ask learners to describe what changes they notice as the numbers increase.		
Teacher's Note	• Use the same hundred chart in both introduction and exercise [1A]. • Check if learners: (i) identify all, some or none of the multiples of a given number. (ii) are able to predict and extend the pattern. (iii) are able to describe the pattern.		

<Mental Maths>

a) 6 ÷ 3 = 2 b) 9 ÷ 3 = 3 c) 12 ÷ 2 = 6

d) 12 ÷ 6 = 2 e) 15 ÷ 3 = 5

<Homework>

a) Find the multiples of 3s in 71-100.

72, 75, 78, 81, 84, 87, 90, 93, 96, 99

b) What are the common numbers in the multiples of 3s and 4s in 71-100?

72, 84, 96

L79: Patterns in a hundred chart

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
~~51~~	~~52~~	53	~~54~~	55	~~56~~	~~57~~	58	59	~~60~~
61	62	~~63~~	~~64~~	65	~~66~~	67	~~68~~	~~69~~	~~70~~
71	~~72~~	73	74	~~75~~	~~76~~	77	~~78~~	79	~~80~~
~~81~~	82	83	~~84~~	85	86	~~87~~	~~88~~	89	~~90~~
91	~~92~~	~~93~~	94	95	~~96~~	97	98	~~99~~	~~100~~

[1A] a) Circle the multiples of 10s.

b) Draw triangles on the multiples 4s.

c) Cross the multiples of 3s.

[1B] Find the multiples of 4s in 31-60.

32, 36, 40, 44, 48, 52, 56, 60

[2A]

a) Find the multiples of 5s in 31-60.

35, 40, 45, 50, 55, 60

b) What are the common numbers in 4 and 5 in 31-60? 40, 60

Refer [1B] to get the answer. No need to list the multiples of 4s.

Explain "lower right diagonally" and "upper right diagonally".

[2B] Find the pattern if you look:

a) horizontally. Add 1

b) vertically. Add 10

c) lower right diagonally. Add 11

d) upper right diagonally. Subtract 9

[R] Use the following rule to continue number patterns.

a) 12, 16, 20, 24, 28, 32 add 4

b) 24, 21, 18, 15, 12, 9 subtract 3

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) 6 ÷ 3 = 2 b) 9 ÷ 3 = 3 c) 12 ÷ 2 = 6

d) 12 ÷ 6 = 2 e) 15 ÷ 3 = 5

<Homework>

*No homework.

L80: Review

[1] Ama bought 3 papayas of ¢4 each. She paid ¢20. Find the change using ¢5, ¢2 or ¢1 notes.

$4 \times 3 = 12, 20 - 12 = 8$ 5 2 1

[2] Extend the following pattern and find the pattern.

a) 10, 15, 20, 25, 30, 35, 40 add 5

b) 27, 24, 21, 18, 15, 12, 9 subtract 3

c) 1, 5, 9, 2, 1, 5, 9, 2, 1, 5, 9 repeating 1, 5, 9, 2

[3] Use the following rule to fill in the blanks.

a) 4, 8, 12, 16, 20 add 4

b) 21, 18, 15, 12, 9 subtract 3

c) 9, 2, 6, 9, 2, 6, 9, 2 repeat the three terms

[4] Draw a 50 chart (5 rows, 10 columns) from 51 to 100.

51	52	53	54	~~55~~	56	57	58	59	60
61	62	63	64	~~65~~	66	67	68	69	~~70~~
71	72	73	74	~~75~~	76	77	78	79	80
81	82	83	84	~~85~~	86	87	88	89	~~90~~
91	92	93	94	~~95~~	96	97	98	99	100

a) Circle the multiples of 4s.

b) Cross the multiples of 5s.

c) What are the common numbers in a) and b)? 60, 80, 100

Lesson	**81** /120	Curriculum	B3.3.1.1.1 (p.64) e.g.3
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 identify regular shapes from several different polygons (triangles, rhombi, rectangles and squares).		
Introduction (sample)	• Introduce the names of 2D shapes (triangle, square, rectangle and rhombi). • Introduce the term "regular" as shown on the board. • Show some regular 2D shapes, e.g. regular triangle, square and regular pentagon and irregular 2D shapes as examples. Erase the examples (do not erase the definition) before writing [1].		
Teacher's Note	• Tell the meaning of "ir-" as "not". Irregular means "not regular".		

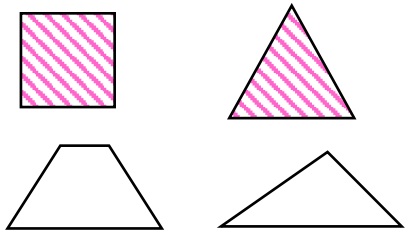
<Mental Maths>

a) 15 ÷ 5 = 3 b) 16 ÷ 8 = 2 c) 18 ÷ 6 = 3

d) 20 ÷ 5 = 4 e) 24 ÷ 3 = 8

<Homework>

Answer as [1A].

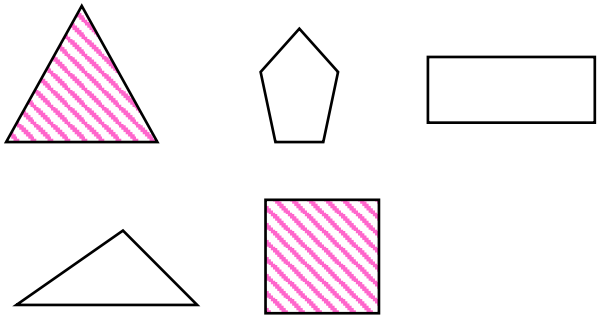


L81: Identify regular shapes (1)

A regular shape has:

1. the same size of angles, and
2. the same length of sides.

[1A] Shade the regular shapes.



[1B] Answer the number of sides.

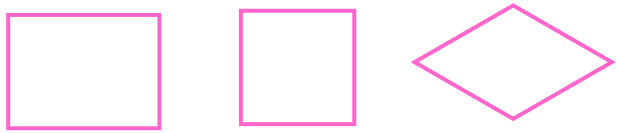
a) Square 4 b) Triangle 3

[2A] Answer as [1B].

a) Rectangle 4 b) Rhombi 5

[2B] Draw a:

a) rectangle. b) square. c) rhombi.



[R] Use the 50 charts below.

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~~

a) Circle the multiples of 2.

b) Cross the multiples of 5.

c) Find the common multiples of 2 and 5. 10, 20, 30, 40, 50

Skip review task if you don't have time.

Lesson	**82** /120	Curriculum	B3.3.1.1.1 (p.64) e.g.3
Teaching Tips	While you are writing on the board, let learners copy it in their exercise books.		
Objective	Be able to identify regular shapes from several different polygons (a pentagon, hexagon and octagon).		
Introduction (sample)	• Introduce the names of 2D shapes (pentagon, hexagon and octagon). Tell the learners that triangles, rectangles, pentagons, hexagons and octagons are called "polygons". • Show some regular 2D shapes, e.g. regular triangle, square and regular pentagon and irregular 2D shapes as examples. Erase the examples (do not erase the definition) before writing [1A]. • Teach the term “vertex” by drawing a rectangle as shown on the board.		
Teacher’s Note	• Tell the meaning of "ir-" as "not". Irregular means "not regular". • A circle is not a polygon.		

<Mental Maths>

a) 16 ÷ 2 = 8 b) 18 ÷ 2 = 9 c) 18 ÷ 9 = 2

d) 21 ÷ 3 = 7 e) 24 ÷ 4 = 6

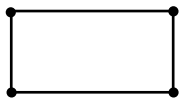
<Homework>

How many:

a) sides does a pentagon have? 5

b) vertices does a pentagon have? 5

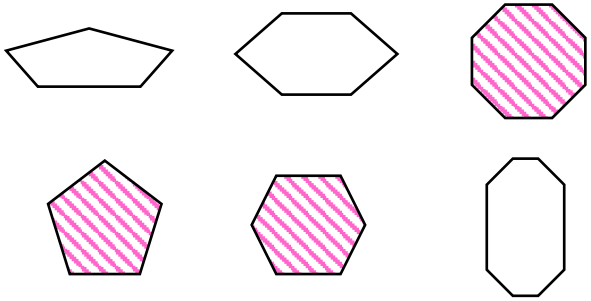
L82: Identify regular shapes (2)



← vertex

← side

[1A] Shade the regular shapes.



Tell learners that the plural of a vertex is “vertices”.

[1B] How many:

a) sides does a hexagon have? 6

b) vertices does a hexagon have? 6

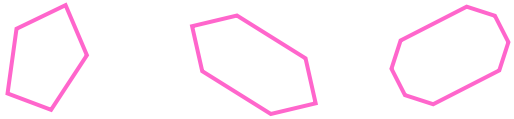
[2A] How many:

a) sides does a octagon have? 8

b) vertices does a octagon have? 8

[2B] Draw an irregular:

a) pentagon. b) hexagon. c) octagon.



[R] Draw an regular shape with:

a) 3 sides b) 4 sides

The initial sentence (“How many”) applies to all subsequent statements.

Lesson	**83** /120	Curriculum	B3.3.1.1.2 (p.64) e.g.1; B3.3.1.1.3. (p.65) e.g. 1
Teaching Tips	Have learners repeat what you said to check their understanding.		
Objective	Be able to identify the three different types of angles (e.g. acute, right or obtuse angle).		
Introduction (sample)	• Introduce the term "right angle" by showing the edge of books, rulers etc. • Make a right angle by folding a piece of paper (the crossing points below).  Fold it approximately in half. Fold it so that the edges align neatly. • Draw a square and show all four angles are right angles as shown on the board.		
Teacher's Note	• Do NOT teach the term acute angle and obtuse angle. They are covered in B5.		

<Mental Maths>

a) 16 ÷ 4 = 4 b) 18 ÷ 3 = 6 c) 20 ÷ 4 = 5

d) 21 ÷ 7 = 3 e) 24 ÷ 6 = 4

<Homework>

Answer as [1].

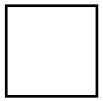
a) 4 sides square 

b) 5 sides pentagon 

c) 6 sides hexagon 

d) 8 sides octagon 

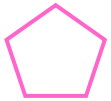
L83: Identify the size of angles

 ← right angle

[1] Draw and name regular polygons with the given number of sides.

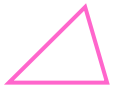
a) 3 sides triangle 

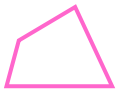
b) 4 sides square 

c) 5 sides pentagon 

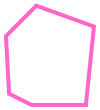
d) 6 sides hexagon 

[2A] Draw irregular polygons with given number of sides.

a) 3 sides 

b) 4 sides 

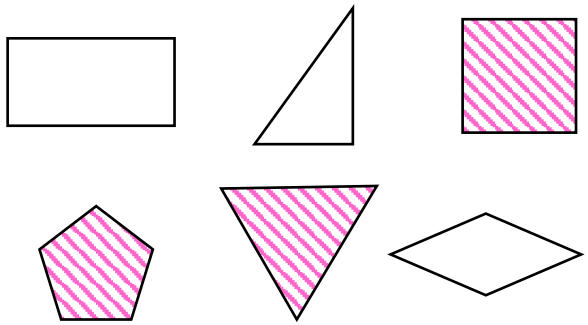
c) 5 sides 

d) 6 sides 

[2B] Which regular shapes have angles bigger than a right angle?

pentagon, hexagon, and octagon.

[R] Shade the regular shapes.



Refer [1] to find the answer. There are many different asnwers.

Lesson	**84** /120	Curriculum	B3.3.1.1.4 (p.65) e.g.1
Teaching Tips	Select some learners to distribute exercise books before the lesson begins.		
Objective	Understand what is perpendicular.		
Introduction (sample)	• Write the definition of perpendicular and a diagram as shown on the board. *Use the paper folded yesterday to draw a perpendicular line. The edge of rules or exercise books can be also used.		
Teacher's Note	• Explain the term "perpendicular".		

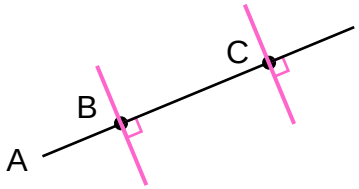
<Mental Maths>

a) 24 ÷ 8 = 3 b) 27 ÷ 9 = 3 c) 30 ÷ 5 = 6

d) 32 ÷ 8 = 4 e) 36 ÷ 4 = 9

<Homework>

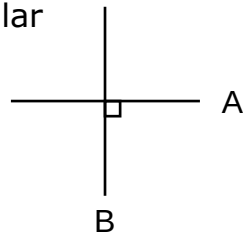
Answer as [1B].



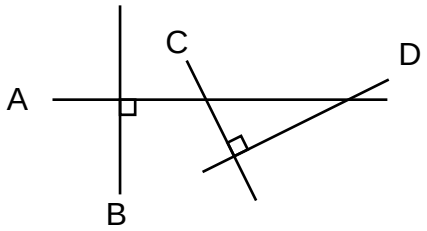
This dotted line separates exercise part 1 and 2.
Write all the black parts up to this line in exercise part 1.

L84: Understand perpendicular

Two lines are perpendicular if the two lines make a right angle.

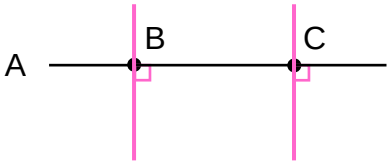


[1A] Which lines are perpendicular?



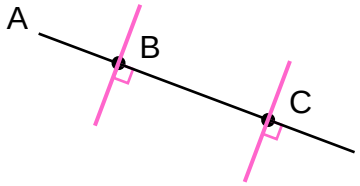
A and B, C and D

[1B] Draw perpendicular lines to A which go through point B and C.

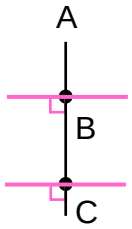


[2] Answer as [1B].

a)

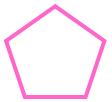


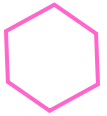
b)



[R] Draw a regular polygon.

a) Triangle 

b) Pentagon 

c) Hexagon 

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 (because this is 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 & L82, [2]: L82, [3]: L83, [4]: L84.		

<Mental Maths>

a) 8 ÷ 2 = 4 b) 10 ÷ 2 = 5 c) 12 ÷ 3 = 4

d) 14 ÷ 2 = 7 e) 15 ÷ 5 = 3

<Homework>

*No homework.

L85: Review

[1] Answer the number of sides.

a) Rectangle 4 b) Pentagon 5

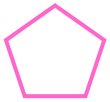
[2] Answer the number of vertices.

a) hexagon 6 b) Octagon 8

[3] Draw and name regular polygons with the given number of sides.

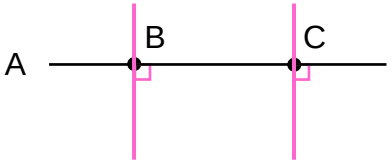
a) 3 sides triangle 

b) 4 sides square 

c) 5 sides pentagon 

d) 6 sides hexagon 

[4] Draw perpendicular lines to A which go through point B and C.



Lesson	**86** /120	Curriculum	B3.3.1.1.4 (p.65) e.g.1
Teaching Tips	Have learners recall what they learned in previous lessons.		
Objective	Understand what is parallel and its relation to perpendicular.		
Introduction (sample)	• Write the definition of parallel as shown on the board. • Draw parallel and perpendicular line as shown on the board. Draw in the order of A → B → C.		
Teacher's Note	• Explain the term "parallel".		

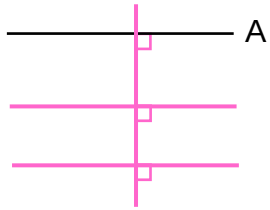
<Mental Maths>

a) 25 ÷ 5 = 5 b) 28 ÷ 4 = 7 c) 30 ÷ 6 = 5

d) 35 ÷ 5 = 7 e) 36 ÷ 6 = 6

<Homework>

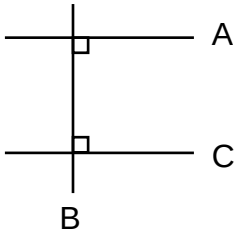
Draw a perpendicular line and two parallel lines to A.



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

L86: Understand parallel

Two lines are parallel if there is a common perpendicular line.



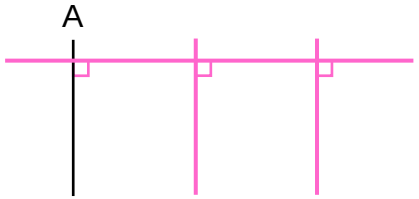
[1A] Which lines are:

a) perpendicular? B and A, B and C

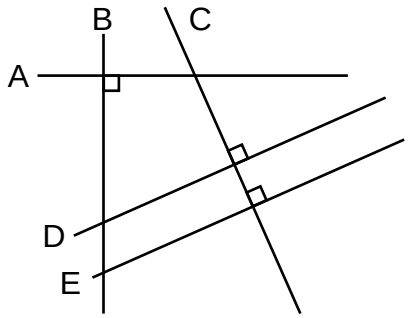
b) parallel? A and C

Refer the above diagram to answer [1A].

[1B] Draw a perpendicular line and two parallel lines to A.



[2]

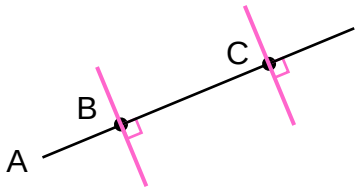


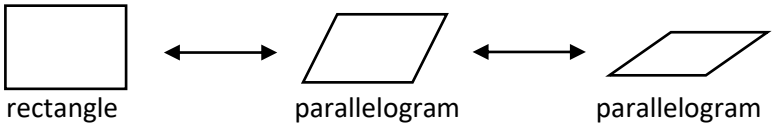
Which lines are:

a) perpendicular? A and B, C and D, C and E

b) parallel? D and E

[R] Draw perpendicular lines to A which go through point B and C.



Lesson	**87** /120	Curriculum	B3.3.1.1.4 (p.65) e.g.1
Teaching Tips	Organise the board so that others can understand the lesson content just by looking at it.		
Objective	Understand the characteristics of different types of quadrilaterals.		
Introduction (sample)	• Show a parallelogram made by a box (cut the top and bottom of any box) and transform it to rectangle to parallelogram and vice versa.  • Draw the diagrams as shown on the board. Explain the relationship among them.		
Teacher's Note	• This topic includes many names of quadrilateralls because learners need to understand the relationship among them.		

<Mental Maths>

a) 27 ÷ 3 = 9 b) 28 ÷ 7 = 4 c) 32 ÷ 4 = 8

d) 35 ÷ 7 = 5 e) 36 ÷ 9 = 4

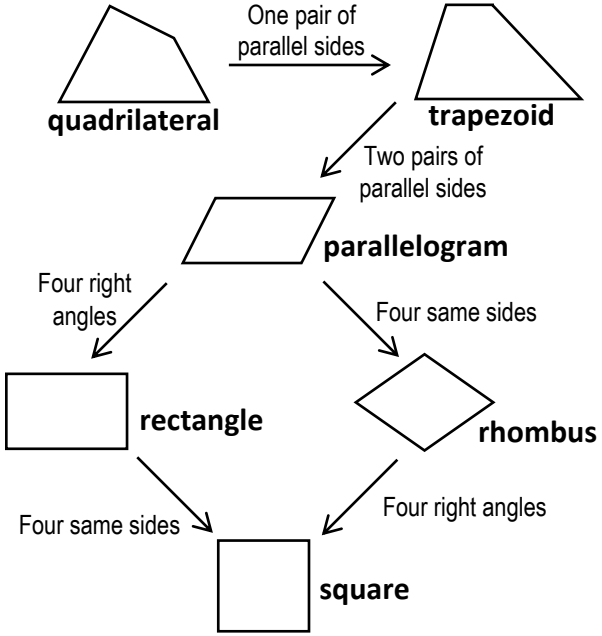
<Homework>

Answer as [1].

a) Rectangle 2 b) Quadrilateral 0

c) Rhombus 2 d) Trapezoid 1

L87: Understand quadrilaterals



[1] How many pairs of sides are parallel?

a) Trapezoid 1 b) Parallelogram 2

c) Square 2 d) Quadrilateral 0

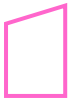
[2A] Answer as [1].

a) Rhombus 2 b) Rectangle 2

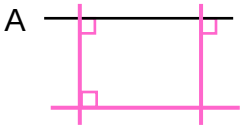
[2B] Draw the following quadrilaterals.

a) Parallelogram b) Rhombus

c) Trapezoid



[R] Draw two perpendicular lines and a parallel line to A.



Refer the diagram on the board.

Lesson	**88** /120	Curriculum	B3.3.1.1.1 (p.64) 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 identify the names of 3D objects (cylinder and prisms).		
Introduction (sample)	• Show real 3D objects (cubes, cylinders, and prisms) and teach the names. Let learners touch them. • Teach the terms “vertex”, “edge” and “face”. • Find the number of vertices, edges and faces. • Ask the shapes of the surfaces (e.g. triangles, squares, rectangles, etc.).		
Teacher’s Note	• Explain the relationship between the real 3-D objects and sketches (drawings) of them.		

<Mental Maths>

a) 40 ÷ 5 = 8 b) 42 ÷ 7 = 6 c) 48 ÷ 6 = 8

d) 54 ÷ 6 = 9 e) 56 ÷ 8 = 7

<Homework>

In cube, how many:

a) vertices? 8 b) edges? 12

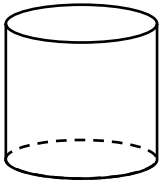
c) faces? 6

Explain the meaning of broken lines (edges that cannot be seen).

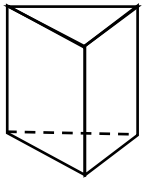
A cube is also called as a square prism.

L88: Identify 3D objects (1)

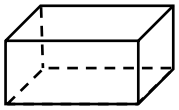
[1A] Write the name of the 3D objects.



cylinder



triangular prism



rectangular prism

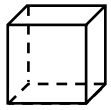
[1B] In triangular prism, how many:

a) vertices? 6 b) edges? 9

c) faces? 5

[2A] Answer as [1A].

All the edges are the same length.



cube

[2B] Fill in the table below.

	Vertices	Edges	Faces
Triangular prism	6	9	5
Rectangular prism	8	12	6
Cylinder	0	2	3

Refer [1A] to find the answer.

[R] How many pairs of sides are parallel?

a) Quadrilateral 0 b) Square 2

c) Parallelogram 2 d) Trapezoid 1

Lesson	**89** /120	Curriculum	B3.3.1.1.1 (p.64) e.g.1,2
Teaching Tips	Have learners copy everything from the board into their exercise books.		
Objective	Be able to identify the names of 3D objects (cone, pyramid and sphere).		
Introduction (sample)	• Show real 3D objects (spheres, cones, and pyramids) and teach the names. Let learners touch them. • Find the number of vertices, edges and faces. • Ask the shapes of the surfaces (e.g. triangles, squares, rectangles, etc.).		
Teacher's Note	• Explain the relationship between the real 3-D objects and sketches (drawings) of them.		

<Mental Maths>

a) 40 ÷ 8 = 5 b) 45 ÷ 5 = 9 c) 48 ÷ 8 = 6

d) 54 ÷ 9 = 6 e) 63 ÷ 7 = 9

<Homework>

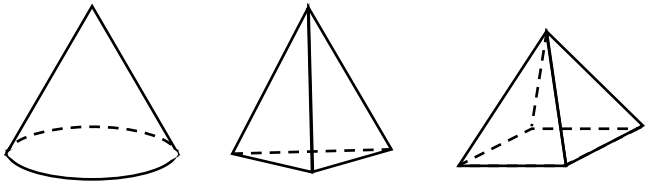
In cone, how many:

a) vertices? 1 b) edges? 1

c) faces? 2

L89: Identify 3D objects (2)

[1A] Write the name of the 3D objects.



cone triangular pyramid rectangular pyramid

[1B] In a triangular pyramid,

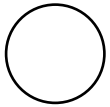
how many:

a) vertices? 4 b) edges? 6

c) faces? 4

[2A] Answer as [1A].

An object is like a ball.



sphere

[2B] Fill in the table below.

	Vertices	Edges	Faces
Triangular pyramid	4	6	4
Rectangular pyramid	5	8	5
Cone	1	1	2

Memorise in case of cone.

[R] Fill in the table below.

	Vertices	Edges	Faces
Triangular prism	6	9	5
Rectangular prism	8	12	6

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 (because this is 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 and L89 [4]: L88 and L89.		

<Mental Maths>

a) 8 ÷ 4 = 2 b) 10 ÷ 5 = 2 c) 12 ÷ 4 = 3

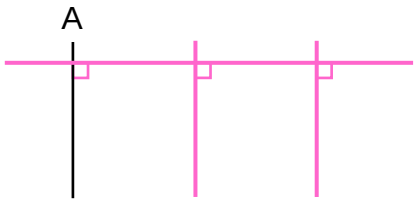
d) 14 ÷ 7 = 2 e) 16 ÷ 2 = 8

<Homework>

*No homework.

L90: Review

[1] Draw a perpendicular line and two parallel lines to A.

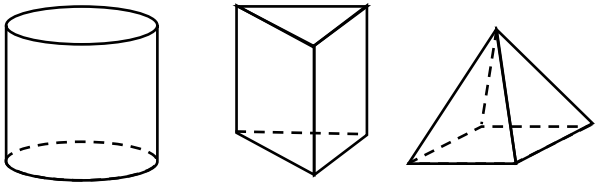


[2] How many pairs of sides are parallel?

a) Quadrilateral 0 b) Rectangle 2

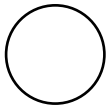
c) Trapezoid 1

[3] Write the name of the 3D objects.



cylinder triangular prism rectangular pyramid

An object is like a ball.



sphere

[4] Fill in the table below.

	Vertices	Edges	Faces
Triangular pyramid	4	6	4
Rectangular prism	8	12	6

Lesson	**91** /120	Curriculum	B3.3.1.1.1 (p.64) e.g.1,2
Teaching Tips	Divide the board into two parts and copy the teacher's guide as it is. After all the learners copied it, erase the left part to write the right part of the teacher's guide.		
Objective	Be able to draw 3D objects from their names.		
Introduction (sample)	• Show real 3D objects (cubes, spheres, cones, cylinders, pyramids and prisms). • Ask, what and how many shapes are used in a triangular prism, rectangular pyramid, cubes, etc.		
Teacher's Note	• Explain the meaning of broken lines (edges that cannot be seen). • Check if the learners are drawing edges that are shown with broken lines. • The longer edges of a rectangular prism can be both vertical or horizontal. • Compare [1] and homework.		

Learners should not go back to previous lesson at first.

<Mental Maths>

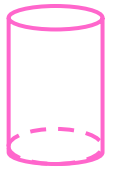
a) 42 ÷ 6 = 7 b) 45 ÷ 9 = 5 c) 49 ÷ 7 = 7

d) 56 ÷ 7 = 8 e) 63 ÷ 9 = 7

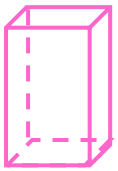
<Homework>

Answer as [1].

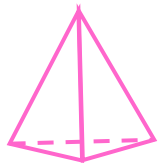
cylinder



rectangular prism



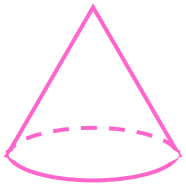
triangular pyramid



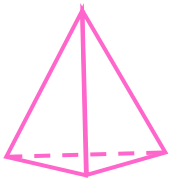
L91: Draw 3D objects

[1] Draw the 3D objects.

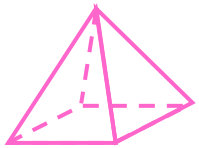
Cone



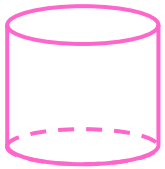
Triangular pyramid



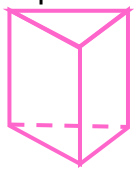
Rectangular pyramid



Cylinder



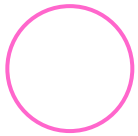
Triangular prism



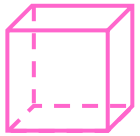
Rectangular prism

[2A] Answer as [1].

Sphere



Cube



[2B] What and how many shapes are used in the 3D objects?

a) Triangular prism

2 triangles and 3 rectangles

b) Rectangular prism 6 rectangles

Refer [1] to find the answer.

c) Triangular pyramid 4 triangles

d) Rectangular pyramid

4 triangles and 1 rectangle

[R] Fill in the table below.

	Vertices	Edges	Faces
Triangular pyramid	4	6	4
Rectangular pyramid	5	8	5

Lesson	**92** /120	Curriculum	B3.3.2.1.1 (p.66) 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 find the distance between the two points on a number line whose calibration is 1.		
Introduction (sample)	• Draw a number line and find the distance between BC and BE as shown on the board. • Place a tape to show the distance of two points. Then, write the number sentence to find the distance by addition when the tape overlaps the point zero and by subtraction when it does not overlap the point zero.		
Teacher's Note	• Learners are expected to avoid counting skips at the end of the lesson by finding the distance from 0. • The distance in the introduction is always the same (the length of the tape). But the number senteces to find the length are different.		

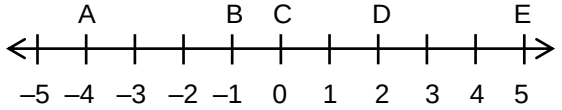
<Mental Maths>

a) 6 ÷ 3 = 2 b) 9 ÷ 3 = 3 c) 12 ÷ 2 = 6

d) 64 ÷ 8 = 8 e) 81 ÷ 9 = 9

<Homework>

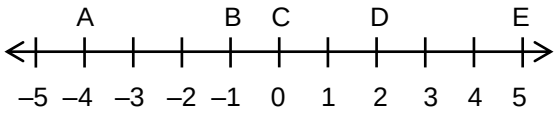
Answer as [1].



a) AC = 4 b) CD = 2 c) DE = 5 – 2 = 3

d) BE = BC + CE = 1 + 5 = 6

L92: Find the distance of two points



BC = 1, BE = BC + CE = 1 + 5 = 6

[1] Find the distance between the two points without counting the skips.

a) CD = 2 b) CE = 5

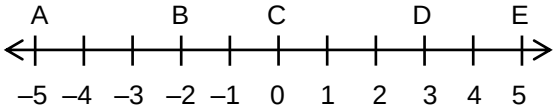
c) DE = 5 – 2 = 3

d) AD = AC + CD = 4 + 2 = 6

e) AE = AC + CE = 4 + 5 = 9

Find the distance from 0.

[2] Answer as [1].



a) CD = 3 b) AC = 5

c) DE = 5 – 3 = 2

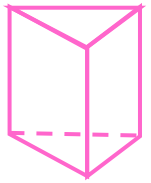
d) BD = BC + CD = 2 + 3 = 5

e) BE = BC + CE = 2 + 5 = 7

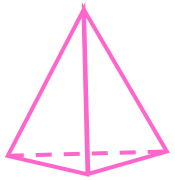
f) AE = AC + CE = 5 + 5 = 10

[R] Draw the 3D objects.

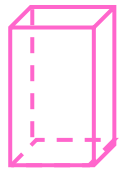
triangular prism



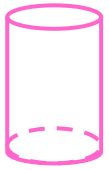
triangular pyramid



rectangular prism



cylinder



Lesson	**93** /120	Curriculum	B3.3.2.1.1 (p.66) 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 find the distance between the two points on a number line whose calibration is bigger than 1.		
Introduction (sample)	• Draw a number line as shown on the board. • Find BC and BE by addition.		
Teacher's Note	• Learners are expected to avoid counting skips at the end of the lesson by finding the distance from 0.		

<Mental Maths>

a) 4 ÷ 2 = 2 b) 8 ÷ 2 = 4 c) 10 ÷ 2 = 5

d) 12 ÷ 3 = 4 e) 72 ÷ 8 = 9

<Homework>

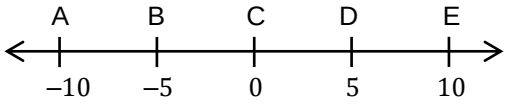
Answer using the number line in [2].

a) BC = 5 b) CF = 15

c) AD = $AC + CD = 10 + 5 = 15$

d) BF = $BC + CE = 5 + 15 = 20$

L93: Find the distance of two points



BC = 5 BE = BC + CE = 5 + 10 = 15

[1] Find the distance between the two points without counting the skips.

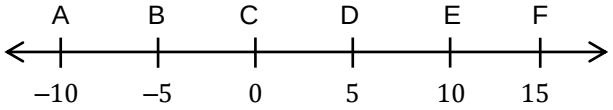
a) CD = 5 b) CE = 10

c) DE = $10 - 5 = 5$

d) AD = $AC + CD = 10 + 5 = 15$

e) AE = $AC + CE = 10 + 10 = 20$

[2] Answer as [1].



a) CE = 10 b) AC = 10

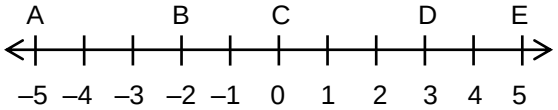
c) DE = $10 - 5 = 5$

d) BD = $BC + CD = 5 + 5 = 10$

e) BE = $BC + CE = 5 + 10 = 15$

f) AF = $AC + CF = 10 + 15 = 25$

[R] Find the distance between two points without counting the skips.



a) AC = 5 b) DE = $5 - 3 = 2$

c) AD = $AC + CD = 5 + 3 = 8$

d) BD = $BC + CD = 2 + 3 = 5$

Lesson	**94** /120	Curriculum	B3.3.3.1.1 (p.67) e.g.1-5
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 estimate the length by measuring with body parts.		
Introduction (sample)	• Have learners find hand span (length of a pair of fingers to make 10 cm) and arm span (to make 1m) by extending arms horizontally and measuring the distance between middle fingertips using a straight measuring tape. • Teach the longer side is called “length” and shorter side is called “width”. • Measure things in the classroom using their hands or arms.		
Teacher’s Note	• Each learner must know 1cm, 10cm and 1m using width of a finger, hand span or arm span measurement for the exercises. • The answer of [1] and [2A] differs from school to school. Hence, it is not written.		

<Mental Maths>

a) 6 ÷ 2 = 3 b) 8 ÷ 4 = 2 c) 10 ÷ 5 = 2

d) 12 ÷ 4 = 3 e) 72 ÷ 9 = 8

<Homework>

Answer as [2B].

a) Length of a pencil cm

b) Width of a book cm

c) Width of a door at home m

These are the sample answers. Write your own answers.

L94: Measure length with body parts

[1] Estimate the length by your body parts.

a) Length of an exercise book.

22cm (sample)

b) Width of an exercise book.

c) Length of a desk.

d) Width of a desk.

e) Height of a desk.

[2A] Measure the length of a) to e) in [1] with a ruler.

Find the difference with [1].

a) 21cm. 22 – 21 = 1, 1cm (sample)

b)

c)

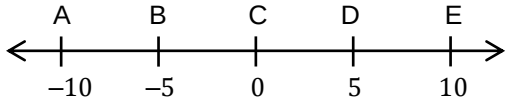
d)

[2B] Which unit is appropriate, m or cm?

a) Length of an eraser cm

b) Width of a classroom m

[R] Find the distance between the two points.



a) BC = 5 b) CE = 10

c) BE = BC + CE = 5 + 10 = 15

Lesson	**95** /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 (because this is 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]: L91, [3]: L92 & L93, [4]: L94.		

<Mental Maths>

a) 28 ÷ 4 = 7 b) 30 ÷ 5 = 6 c) 32 ÷ 4 = 8

d) 35 ÷ 5 = 7 e) 36 ÷ 4 = 9

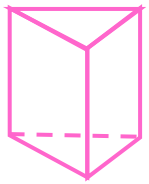
<Homework>

*No homework.

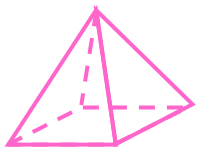
L95: Review

[1] Draw the 3D objects.

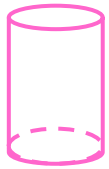
triangular prism



rectangular pyramid



Cylinder



cone

[2] What and how many shapes are used in the 3D objects?

a) Triangular prism

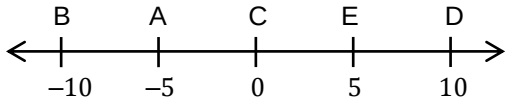
2 triangles and 3 rectangles

b) Rectangular prism 6 rectangles

c) Rectangular pyramid

4 triangles and 1 rectangle

[3] Find the distance between the two points.



a) CE = 5 b) AC = 5

c) AE = AC + CE = 5 + 5 = 10

d) BE = BC + CE = 10 + 5 = 15

[4] Which unit is appropriate, m or cm?

a) Length of a pen cm

b) Width of a chalkboard m

Lesson	**96** /120	Curriculum	B3.3.3.1.1 (p.67) e.g.6 ; B3.3.3.1.2. (p.67) 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 convert metre and centimetre.		
Introduction (sample)	• Demonstrate the relationship between 100 cm and 1 m using concrete materials (e.g. 1m ruler). Show how small 1cm is and how big 1 m is. • Write 1m = 100cm. Show how to convert 234cm to m and 3m 42cm to cm as shown on the board.		
Teacher's Note	• It is not correct to put units in the number sentences, but it was used in the introduction to make it easier for learners to understand it.		

<Mental Maths>

a) 12 ÷ 6 = 2 b) 15 ÷ 3 = 5 c) 16 ÷ 4 = 4

d) 18 ÷ 3 = 6 e) 20 ÷ 4 = 5

<Homework>

Answer as [1A].

a) 269cm = 2 m 69 cm

b) 504cm = 5 m 4 cm

c) 2m 56cm = 256 cm

d) 4m 6cm = 406 cm

Drawing a hexagon precisely is a bit difficult.

L96: Convert metre and centimetre

1m = 100cm

234cm = 200cm + 34cm = 2m 34cm

3m 42cm = 300cm + 42cm = 342 cm

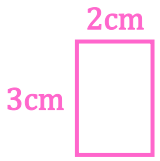
[1A] Fill in the blanks.

a) 235cm = 2 m 35 cm

b) 4m 70cm = 470 cm

[1B] Draw a shape with indicated length.

a) A rectangle with a length of 3cm and a width of 2cm.



b) A triangle with all sides of 4cm.

It is not 4m03cm.

[2A] Answer as [1A].

a) 174cm = 1 m 74 cm

b) 403cm = 4 m 3 cm

c) 1m 46cm = 146 cm

d) 3m 2cm = 302 cm

It is not 32cm.

[2B] Answer as [1B].

a) A rhombus with all sides of 3cm.

b) A hexagon with all sides of 2cm.

[R] Which unit is appropriate, m or cm?

a) Length of a pen — cm

b) Width of a book — cm

c) Width of a classroom — m

d) Width of a chalkboard — m

Lesson	**97** /120	Curriculum	B3.3.3.1.3 (p.68) e.g.1
Teaching Tips	While you are writing on the board, let learners copy it in their exercise books.		
Objective	Be able to find and measure the perimeter of a polygon.		
Introduction (sample)	• Give cut-out shapes of different types of quadrilaterals and have learners examine the perimeter using rulers. The answers vary.		
Teacher's Note	• Have learners experience measuring a perimeter using a ruler. • Check the unit (m and cm).		

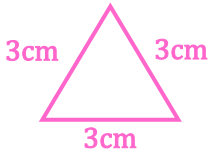
<Mental Maths>

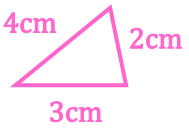
a) 14 ÷ 2 = 7 b) 15 ÷ 5 = 3 c) 16 ÷ 8 = 2

d) 18 ÷ 6 = 3 e) 20 ÷ 5 = 4

<Homework>

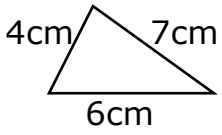
Draw two different triangles whose perimeters are 9cm.





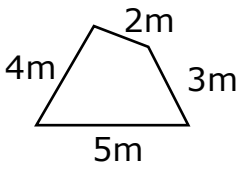
L97: Measure a perimeter

[1A] Find the perimeter of the polygons.



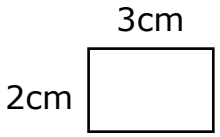
$7 + 6 + 4 = 17$

17 cm



$2 + 3 + 5 + 4 = 14$

14m



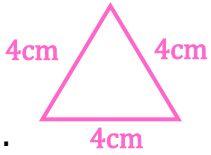
rectangle

$3 + 2 + 3 + 2 = 10$

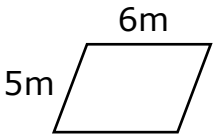
10cm

[1B] Draw the shape.

A regular triangle whose perimeter is 12cm.



[2A] Answer as [1A].



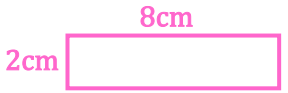
parallelogram

$6 + 5 + 6 + 5 = 22$

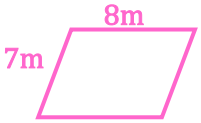
22m

[2B] Draw the shape.

A rectangle with a perimeter of 20cm whose width is 2 cm.



A parallelogram with a perimeter of 30m. One of the sides is 7m.



[R] Fill in the blanks.

a) 120cm = 1 m 20 cm

b) 2m 25cm = 225 cm

c) 301cm = 3 m 1 cm

d) 4m 2cm = 402 cm

The opposite sides of rectangles and parallelograms are the same.

Lesson	**98** /120	Curriculum	B3.3.3.2.1 (p.68) e.g.1
Teaching Tips	Have learners repeat what you said to check their understanding.		
Objective	Be able to distinguish capacity and mass.		
Introduction (sample)	• Write the relationship between capacity and mass as shown on the board. • Compare an empty 1500mL bottle and a filled 500mL bottle in terms of capacity and mass.		
Teacher's Note	• Use capital L to distinguish litre from an alphabet, I or a number, 1. • Learners need to know that a bigger object is NOT always a heavier object. • If you have a scale or a cylinder please show the following. ○ Measure a mass of 1500mL bottle using a scale (approximately 1.5kg). ○ Measure a capacity of water using a graduated cylinder.		

<Mental Maths>

a) 14 ÷ 7 = 2 b) 16 ÷ 2 = 8 c) 18 ÷ 2 = 9

d) 18 ÷ 9 = 2 e) 21 ÷ 3 = 7

<Homework>

Answer as [2A].

a) 3410mL= 3 L 410 mL

b) 2030g = 2 kg 30 g

c) 1L 260mL = 1260 mL

d) 4kg 20g = 4020 g

L98: Distinguish capacity and mass

Capacity...Big or small
(Volume) 1000mL = 1L
Mass...Heavy or light
(Weight) 1000g = 1kg

[1A] There are an empty 1500mL bottle and a filled 500mL bottle of water.

a) Which is bigger? 1500mL bottle

b) Which is heavier? Filled 500mL bottle

[1B] Select the appropriate unit.

g, kg, mL, L

Body weight kg

Volume of a water tank L

Mass of a pencil g

Capacity of a teaspoon mL

[2A] Fill in the blanks.

a) 1500mL= 1 L 500 mL

b) 2060g = 2 kg 60 g

c) 4L 320mL = 4320 mL

d) 5kg 50g = 5050 g

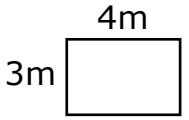
[2B] Three objects weigh 30g, 40g and 60g.

How much do they weigh in total?

$30 + 40 + 60 = 130$, 130g

[R] Find the perimeter.

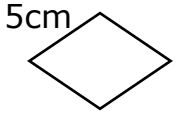
a) rectangle



$4 + 3 + 4 + 3 = 14$

14m

b) rhombus



$4 \times 5 = 20$

20cm

Lesson	**99** /120	Curriculum	B3.3.3.2.2 (p.69) e.g.1
Teaching Tips	Select some learners to distribute exercise books before the lesson begins.		
Objective	• Understand the mechanism a pan balance. • Be able to convert L to mL and vice versa.		
Introduction (sample)	• Measure a mass of objects using a pan balance and weights. • Use hands to mock a pan balance.		
Teacher's Note	• Showing a real pan balance or scale helps learners to understand what the mass is. • In [2B], explain in the following way. 1. An apple is heavier than an orange 2. An orange is heavier than a banana 3. From 1 and 2, an apple is heavier than a banana.		

<Mental Maths>

a) 21 ÷ 7 = 3 b) 24 ÷ 6 = 4 c) 27 ÷ 3 = 9

d) 28 ÷ 7 = 4 e) 32 ÷ 4 = 8

<Homework>

Answer as [1B].

a) 4 bottles of 1L is 4 L.

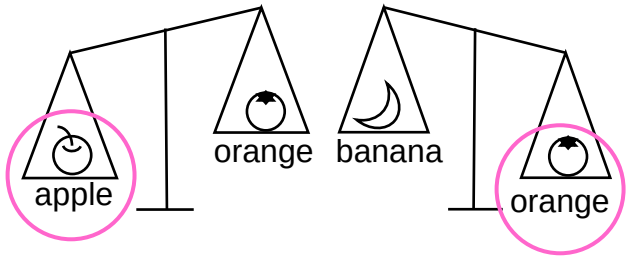
b) 4 bottles of 250mL is 1 L.

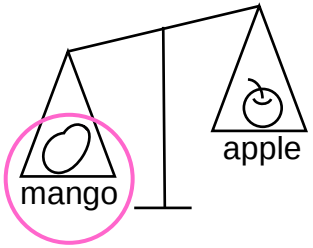
c) 6 bottles of 500mL is 3 L.

See the teacher's note.

L99: Understand how heavy it is

[1A] Circle the heavier one.





[1B] Fill in the blanks.

a) 2 bottles of 1L is 2 L.

b) 5 bottles of 1L is 5 L.

c) 2 bottles of 500mL is 1 L.

500 + 500 = 1000, 1000mL = 1L

[2A] Answer as [1B].

a) 3 bottles of 1L is 3 L.

b) 4 bottles of 500mL is 2 L.

500+500+500+500 = 2000, 2000mL = 2L

c) 4 bottles of 250mL is 1 L

250+250+250+250 = 1000, 1000mL = 1L

[2B] Answer as [1A].

a) banana or apple

b) mango or banana

[R] Fill in the blanks.

a) 2L = 2000 mL

b) 4kg = 4000 g

c) 5L 40mL = 5040 mL

d) 3kg 50g = 3050 g

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 (because this is 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) 28 ÷ 7 = 4 b) 30 ÷ 6 = 5 c) 32 ÷ 8 = 4

d) 35 ÷ 7 = 5 e) 36 ÷ 6 = 6

<Homework>

*No homework.

L100: Review

[1] Fill in the blanks.

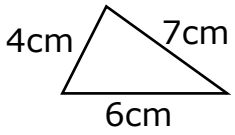
a) 174cm = 1 m 74 cm

b) 209cm = 2 m 9 cm

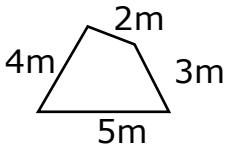
c) 1m 57cm = 157 cm

d) 4m 5cm = 405 cm

[2] Find the perimeter of the polygons.



$7 + 6 + 4 = 17$, 17cm



$2 + 3 + 5 + 4 = 14$, 14m

[3] Fill in the blanks.

a) 2300mL= 2 L 300 mL

b) 6050g = 6 kg 50 g

c) 5kg 340g = 5,340 g

d) 3L 20mL = 3,020 mL

[4] Fill in the blanks.

a) 8 bottles of 1L is 8 L.

b) 4 bottles of 250mL is 1 L.

$250 + 250 + 250 + 250 = 2{,}000$

$2{,}000\text{mL} = 2\text{L}$

Lesson	**101** /120	Curriculum	B3.1.2.3.1 (p. 49-51) e.g.2, 4, 5
Teaching Tips	Have learners recall what they learned in previous lessons.		
Objective	Be able to solve addition and subtraction by doubling and number line.		
Introduction (sample)	• Show how to solve addition with and without regrouping using a number line as shown on the board.		
Teacher's Note	• Addition by number line is related to finding duration in L104 onward. • Learners can choose their comfortable method to reach the answer. Column method is recommended as the basic method in this teacher's guide because it is used in the column method in multiplication in the later grade. • Addition with number line is the same as splitting/partial sums method. • Although, the curriculum suggest adding from tens, this teacher's guide add from ones to match column method and time.		

<Mental Maths>

a) 24 ÷ 3 = 8 b) 24 ÷ 8 = 3 c) 27 ÷ 9 = 3

d) 30 ÷ 5 = 6 e) 32 ÷ 8 = 4

<Homework>

Solve:

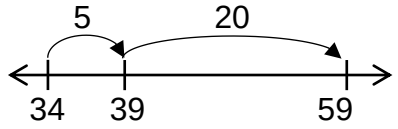
a) 24 + 32 = 56 b) 52 + 26 = 78

c) 43 + 48 = 91 d) 66 + 35 = 101

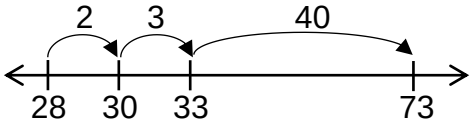
This dotted line separates exercise part 1 and 2.
Write all the black parts up to this line in exercise part 1.

L101: Add by a number line

34 + 25 = 59

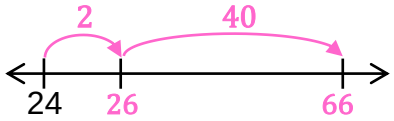


28 + 45 = 73

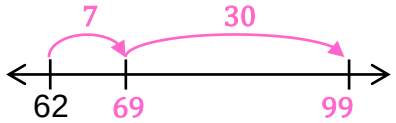


[1] Solve:

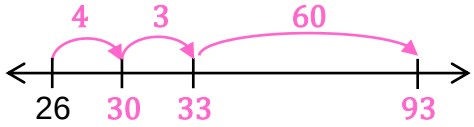
a) 24 + 42 = 66



b) 62 + 37 = 99

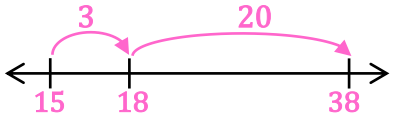


c) 26 + 67 = 93

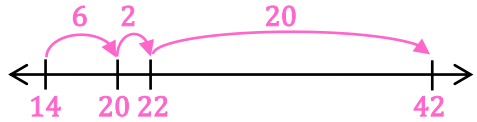


[2] Solve:

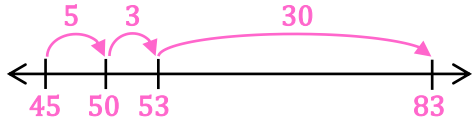
a) 15 + 23 = 38



b) 14 + 28 = 42



c) 45 + 38 = 83



[R] Fill in the blanks.

a) 2 bottles of 500mL is 1 L.

500 + 500 = 1,000, 1,000mL = 1L

b) 4 bottles of 250mL is 1 L.

250 + 250 + 250 + 250 = 1,000

1,000mL = 1L

Lesson	**102** /120	Curriculum	B3.1.2.4.2 (p.50, 52, 53) e.g.1, 2, 5, 6
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 using a number line.		
Introduction (sample)	• Show how to solve subtraction using a number line as shown on the board. Note that the method start from the second number		
Teacher's Note	• Subtraction by number line is related to finding duration in L104 onward. • In this method, learners solve subtraction by addition (counting on method). • Let learners avoid counting fingers or sticks because they cannot deal with questions in the later grade.		

<Mental Maths>

a) 24 ÷ 4 = 6 b) 25 ÷ 5 = 5 c) 28 ÷ 4 = 7

d) 30 ÷ 6 = 5 e) 35 ÷ 5 = 7

<Homework>

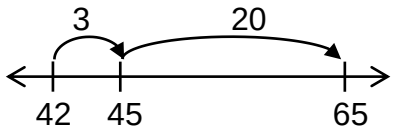
Solve:

a) 85 – 64 = 21 b) 42 – 11 = 31

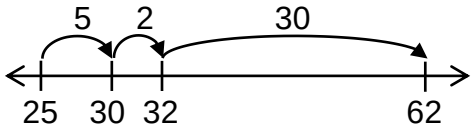
c) 54 + 38 = 16 d) 61 – 35 = 26

L102: Subtract by a number line

65 – 42 = 23

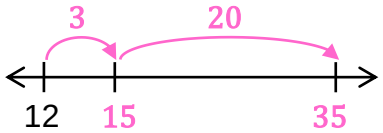


62 – 25 = 37

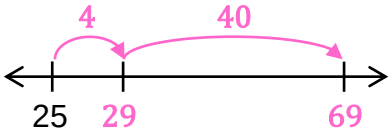


[1] Solve:

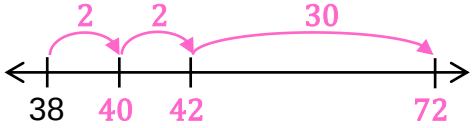
a) 35 – 12 = 23



b) 69 – 25 = 44

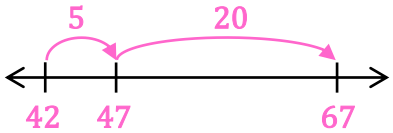


c) 72 – 38 = 34

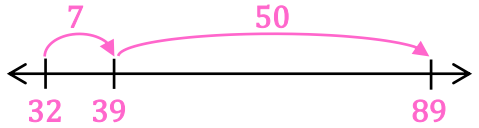


[2] Solve:

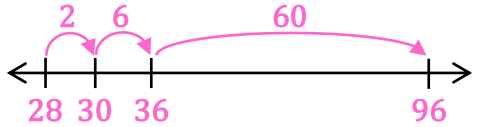
a) 67 – 42 = 25



b) 89 – 32 = 57



c) 96 – 28 = 68



[R] Solve:

a) 26 + 32 = 58 b) 73 + 23 = 96

c) 24 + 48 = 72 d) 55 + 29= 84

Number line is omitted.

Lesson	**103** /120	Curriculum	B3.3.3.3.1 (p.69) e.g.1-4
Teaching Tips	If more than half of the learners cannot solve the first task, explain how to solve it using it.		
Objective	Understand the personal referents of time.		
Introduction (sample)	• Identify personal referents for 1 minutes, 10 minutes and 1 hour. (e.g. how long does it take to go home) • Ask how many minute or hours by using a clock. E.g. a) From 8.00 a.m. to 10.00 a.m.? b) From 3.00 a.m. to 11.00 a.m.? c) From 8.00 a.m. to 8.20 a.m.? d) From 11.00 a.m. to 11.50 a.m.? Let learners skip count in 5s when dealing with minutes.		
Teacher's Note	• In this lesson, learners prepare to find the duration. • If you have enough number of clocks, ask leaners to measure time using a watch or a clock to walk around the school building, walk to the nearest toilet etc.		

<Mental Maths>

a) 35 ÷ 7 = 5 b) 36 ÷ 9 = 4 c) 42 ÷ 6 = 7

d) 45 ÷ 9 = 5 e) 49 ÷ 7 = 7

<Homework>

Complete the table.

Start	End	Duration
8.00 a.m.	8.15 a.m.	15 minutes
9.00 p.m.	9.40 p.m.	40 minutes
1.00 a.m.	3.00 a.m.	2 hours
5.00 p.m.	10.00 p.m.	5 hours

Number line is omitted.

L103: Understand days, hours, minutes and seconds

[1A] Select the correct answers.

5 minutes, 30 seconds, 8 hours

a) Walk to the next class 30 seconds

b) Sleep time 8 hours

c) Walk around the school building 5 minutes

[1B] How long is it from:

a) 8.00 a.m. to 10.00 am? 2 hours

b) 5.00 p.m. to 11.00 p.m.? 6 hours

c) 7.00 a.m. to 7.40 a.m.? 40 minutes

[2A] How long is it from:

a) 6.00 p.m. to 10.00 p.m.? 4 hours

b) 8.00 a.m. to 8.20 a.m.? 20 minutes

c) 9.00 p.m. to 9.45 p.m.? 45 minutes

[2B] Asabea started cooking at 5.00 a.m.. She finished at 5.50 a.m.. How many minutes did she spend?

50 minutes

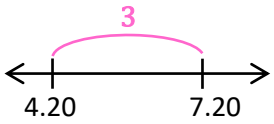
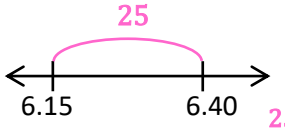
[R] Solve:

a) 59 – 32 = 27

b) 73 – 23 = 50

c) 44 – 18 = 26

d) 82 – 29 = 53

Lesson	**104** /120	Curriculum	B3.3.3.3.1 (p.69) e.g.2; B3.3.3.3.2. (p.71)
Teaching Tips	Have learners copy everything from the board into their exercise books.		
Objective	Understand how to find the duration more than an hour.		
Introduction (sample)	• Draw a number line and use column method to answer the following tasks. How long is it from: a) 4.20 a.m. to 7.20 a.m.? b) 6.15 p.m. to 6.40 p.m.?  7.20 − 4.20 = 3. 0 → 3 hours  6.40 − 6.15 = 0.25 → 25 minutes		
Teacher's Note	• Draw a number line and use column method is to prepare for next lesson. • This lesson focuses on calculating the difference in hours and minutes, starting from times such as 3:15 or 7:45, where the minutes are non-zero. • This lesson does not include tasks that start in a.m. and end in p.m..		

<Mental Maths>

a) 36 ÷ 4 = 9 b) 40 ÷ 5 = 8 c) 42 ÷ 7 = 6

d) 48 ÷ 6 = 8 e) 54 ÷ 6 = 9

<Homework>

Answer as [2].

a) 5.00 a.m. to 8:00 p.m.? 3 hours

b) 2.15 a.m. to 10.15 p.m.? 8 hours

c) 8.20 a.m. to 8.50 a.m.? 30 minutes

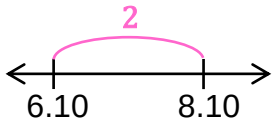
d) 9.45 a.m. to 10.00 a.m.? 15 minutes

[1] c) and this task are challenging because the end time falls on the next hour, which equals 60 minutes.

L104: Find the time and duration (1)

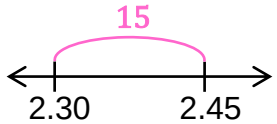
[1] How long is it?

a)



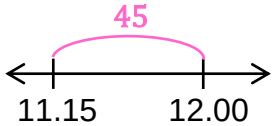
8.10 − 6.10 = 2. 0 → 2 hours

b)



2.45 − 2.30 = 0.15 → 15 minutes

c)

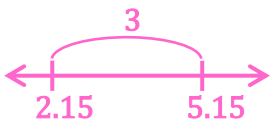


~~12.00~~ (11 60) − 11.15 = 0.15 → 45 minutes

Let learners use column method.

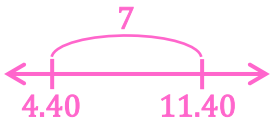
[2] How long is it from:

a) 2.15 p.m. to 5.15 p.m.?



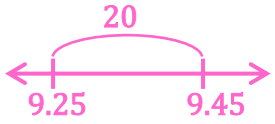
5.15 − 2.15 = 3. 0 → 3 hours

b) 4.40 a.m. to 11.40 a.m.?



11.40 − 4.40 = 7. 0 → 7 hours

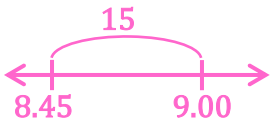
c) 9.25 a.m. to 9.45 a.m.?



9.45 − 9.25 = 0.20 → 20 minutes

1 hour is regroped to 60 minutes.

d) 8.45 a.m. to 9.00 a.m.?



~~9.00~~ (8 60) − 8.45 = 0.15 → 15 minutes

[R] Complete the table.

Start	End	Duration
7.00 a.m.	7.40 a.m.	40 minutes
2.00 p.m.	3.00 p.m.	1 hour
7.00 p.m.	11.00 p.m.	4 hours

Skip review task if you don't have time.

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 (because this is 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) 36 ÷ 9 = 4 b) 40 ÷ 8 = 5 c) 42 ÷ 7 = 6

d) 45 ÷ 9 = 5 e) 48 ÷ 8 = 6

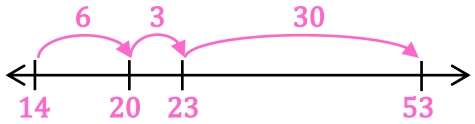
<Homework>

*No homework.

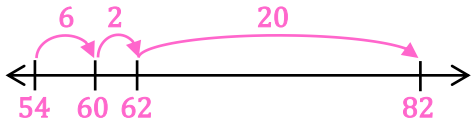
L105: Review

[1] Solve:

a) 14 + 39 = 53

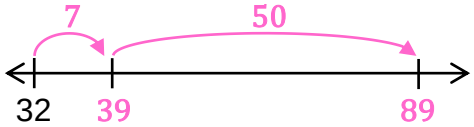


b) 54 + 28 = 82

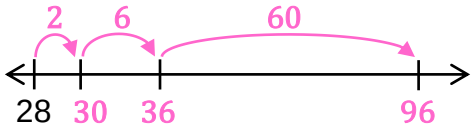


[2] Solve:

a) 89 – 32 = 57



b) 96 – 28 = 68



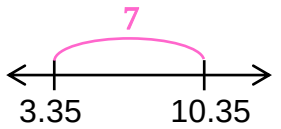
[3] How long is it from:

a) 6.00 a.m. to 9.00 am? 3 hours

b) 8.00 p.m. to 8.45 p.m.? 45 minutes

[4] How long is it?

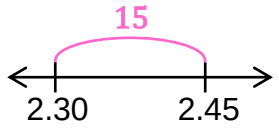
a)



$$\begin{array}{r} 10.35 \\ -\ 3.35 \\ \hline 7.\ 0 \end{array}$$

7 hours

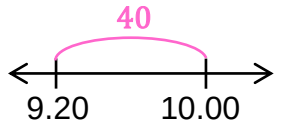
b)



$$\begin{array}{r} 2.45 \\ -\ 2.30 \\ \hline 0.15 \end{array}$$

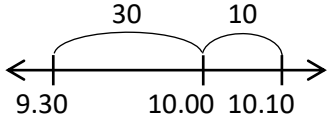
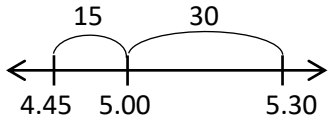
15 minutes

c)



$$\begin{array}{r} {}^{9}\ {}^{60} \\ \cancel{10}.\cancel{00} \\ -\ 9.20 \\ \hline 0.40 \end{array}$$

40 minutes

Lesson	**106** /120	Curriculum	B3.3.3.3.1 (p.69) e.g.1
Teaching Tips	Divide the board into two parts and copy the teacher's guide as it is. After all the learners copied it, erase the left part to write the right part of the teacher's guide.		
Objective	Understand how to find the duration which changes minutes.		
Introduction (sample)	• Ask learners 10 minutes later or before from now. Change it to 15 minutes. • Solve by drawing number line and column method. How long is it from: a) 9:30 to 10:10?  9 70 10 . 10 – 9 . 30 0 . 40 40 minutes b) 4:45 to 5:30?  90 5 . 30 – 4 . 45 0 . 45 45 minutes		
Teacher's Note	• In this lesson, learners need to find the duration which changes both minutes and hours.		

<Mental Maths>

a) 36 ÷ 6 = 6 b) 40 ÷ 8 = 5 c) 45 ÷ 5 = 9

d) 48 ÷ 8 = 6 e) 54 ÷ 9 = 6

<Homework>

It is 5.40 a.m. now. Write the time:

a) 10 minutes later. 5.50 a.m.

b) 10 minutes before. 5.30 a.m.

c) 2 hours later. 7.40 a.m.

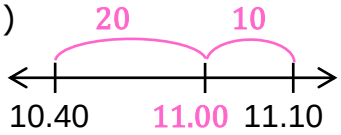
d) 3 hours before. 2.40 a.m.

Column method has been omitted due to space constraints.

L106: Find the time and duration (2)

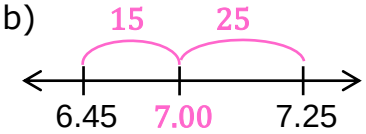
[1A] How long is it? Solve by number lines and column method.

a)



20 + 10 = 30
30 minutes

b)



15 + 25 = 40
40 minutes

a) 70
11 . 10
– 10 . 40
0 . 30

b) 85
7 . 25
– 6 . 45
0 . 40

[1B] It is 9.20 a.m. now.
Write the time:

a) 15 minutes later. 9.35 a.m.

b) 20 minutes before. 9.00 a.m.

c) 2 hours before. 7.20 a.m.

[2A] It is 4.15 p.m. now.
Write the time:

a) 2 hours later. 6.15 p.m.

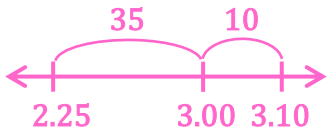
b) 3 hours before. 1.15 p.m.

c) 10 minutes before. 4.05 p.m.

d) 45 minutes later. 5.00 p.m.

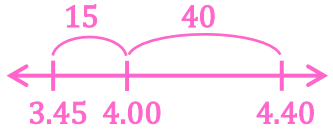
[2B] Answer as [1A].

a) 2.25 a.m. to 3.10 a.m.?



35 + 10 = 45
45 minutes

b) 3.45 p.m. to 4.40 p.m.?



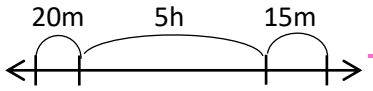
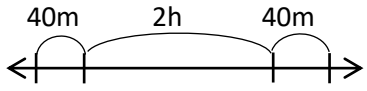
15 + 40 = 55
55 minutes

[R] How long is it from:

a) 4.15 p.m. to 11.15 p.m.? 7 hours

b) 8.10 a.m. to 8.40 a.m.? 30 minutes

c) 9.35 a.m. to 10.00 a.m.? 25 minutes

Lesson	**107** /120	Curriculum	B3.3.3.3.1 (p.69) e.g.2; B3.3.3.3.2. (p.71)
Teaching Tips	Encourage learners to write in their exercise books. The more they write, the better their writing skills will become.		
Objective	Understand how to find the duration more than an hour and change a.m. and p.m.		
Introduction (sample)	• Solve by drawing number line and column method. How long is it from: a) 2.40 p.m. to 8.15 p.m.?  7 75 8 . 15 – 2 . 40 5 . 35 5 hours 35 minutes b) 5.20 a.m. to 8.40 a.m.?  8 . 40 – 5 . 20 3 . 20 3 hours 20 minutes		
Teacher's Note	• Draw a number line to find the answer. Compare it with column method.		

<Mental Maths>

a) 16 ÷ 8 = 2 b) 18 ÷ 6 = 3 c) 56 ÷ 7 = 8

d) 63 ÷ 9 = 7 e) 72 ÷ 9 = 8

<Homework>

Answer as [2B].

a) 15 minutes less than 1 hour. 45 minutes

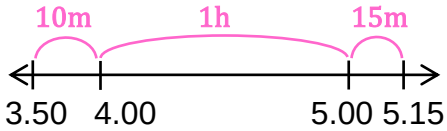
b) 20 minutes less than 5 hours.
4 hours 40 minutes

c) 45 minutes less than 4 hours.
3 hours 45 minutes

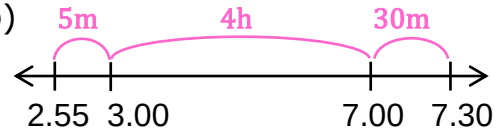
"2h" stands for 2 hours and "30m" stands for 30 minutes.

L107: Find the time and duration (3)

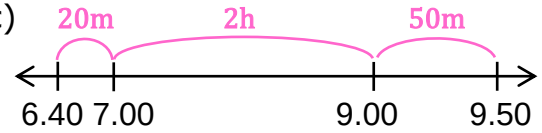
[1] How long is it?

a)


1 hour 25 minutes

b)


4 hours 35 minutes

c)


3 hours 10 minutes

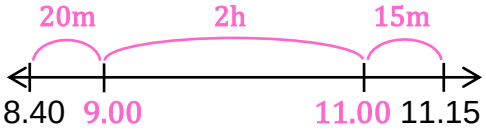
20 + 50 = 70 m = 1h10m.

1 75
a) 5 . 15
– 3 . 50
1 . 30

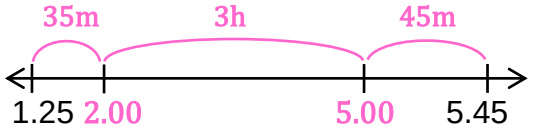
6 90
b) 7 . 30
– 2 . 55
4 . 35

c) 9 . 50
– 7 . 40
2 . 10

[2A] Answer as [1].

a) 8.40 a.m. to 11.15 a.m.?


2 hours 35 minutes

b) 1.25 p.m. to 5.45 p.m.?


4 hours 20 minutes

Column method has been omitted due to space constraints.

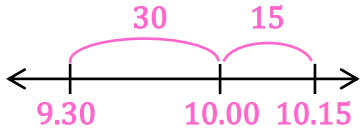
[2B] How long is it?

a) 10 minutes less than 1 hour
50 minutes

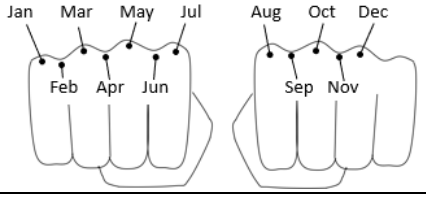
b) 15 minutes less than 2 hour
1 hour 45 minutes

c) 40 minutes less than 3 hours
2 hours 20 minutes

[R] A class teacher started a lesson at 9.30. The lesson lasted 45 minutes. What time did the lesson end?



It ended at 10.15.

Lesson	**108** /120	Curriculum	B3.3.3.3.2 (p.71) 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	Understand months and days in a calendar.		
Introduction (sample)	• Teach knuckle calendar method, where knuckles are counted as 31 days, depressions between knuckles as 30 (or 28/29) days. 		
Teacher's Note	• Teach there are 365 (366 in a leap year) days in a year. Learners must memorise the number of days in each month and the total number of days in a year. • The rhyme "Thirty-days has September" is another method to memorise the number of days. (see the curriculum for more information).		

<Mental Maths>

a) 18 ÷ 2 = 9 b) 18 ÷ 9 = 2 c) 56 ÷ 8 = 7

d) 64 ÷ 8 = 8 e) 81 ÷ 9 = 9

<Homework>

a) How many days in a year? 365 days

b) Fill in the calendar.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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

Use knuckle calendar method.

L108: Understand a calendar

[1A] Fill in the calendar.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				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	

[1B] Write all days of the week in order.

Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday

[2A] Answer referring to [1A].

a) When is 4 days after 9th? 13th

b) What day is 4 days before 9th? Monday

c) When is 3 weeks before 28th? 7th

d) What day is 4 days after 28th? Sunday

[2B] Write all the months of 31 days.

January, March, May, July, August, October, December

[R] How long is it?

a) 20 minutes less than 1 hour

40 minutes

b) 25 minutes less than 2 hour

1 hour 35 minutes

c) 50 minutes less than 3 hour

2 hour 10 minutes

Lesson	**109** /120	Curriculum	B3.3.3.3.3 (p.72) 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	Be able to convert days, hours, minutes and seconds.		
Introduction (sample)	• Ask learners to say the rhyme "60 seconds make a minute". • Write the relationship among days, hours, minutes and seconds as shown on the board. Show how to convert them. a) 2 minutes = 60 seconds + 60 seconds = 120 seconds b) 120 seconds = 60 seconds + 60 seconds = 2 minutes c) 2 days = 24 hours + 24 hours = 48 hours d) 48 hours = 24 hours + 24 hours = 2 days		
Teacher's Note	• Tell the importance of having the same unit. We cannot add 10 cedi and 10 pesewa to get 20 cedi because the unit is different.		

<Mental Maths>

a) 16 ÷ 4 = 4 b) 18 ÷ 3 = 6 c) 20 ÷ 4 = 5

d) 63 ÷ 7 = 9 e) 72 ÷ 8 = 9

<Homework>

Answer as [1].

a) 2 minutes = 120 seconds

b) 4 hours = 240 minutes

c) 120 seconds = 2 minutes

d) 180 minutes = 3 hours

e) 72 hours = 3 days

L109: Convert hours, minutes and seconds

1 day = 24 hours
1 hour = 60 minutes
1 minute = 60 seconds

[1] Fill in the blanks.

a) 3 minutes = 180 seconds

60 + 60 + 60 = 180

b) 2 hours = 120 minutes

60 + 60 = 120

c) 180 seconds = 3 minutes

180 = 60 + 60 + 60

d) 120 minutes = 2 hours

120 = 60 + 60

e) 2 days = 48 hours

24 + 24 = 48

[2] Answer as [1].

a) 120 seconds = 2 minutes

120 = 60 + 60

b) 3 hours = 180 minutes

60 + 60 + 60 = 180

c) 240 seconds = 4 minutes

240 = 60 + 60 + 60 + 60

d) 3 days = 72 hours

24 + 24 + 24 = 72

e) 48 hours = 2 days

48 = 24 + 24

f) 96 hours = 4 days

96 = 24 + 24 + 24 + 24

[R] Write all the months which does not have 31 days.

February, April, June, September, November

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 (because this is 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]: L106, [2]: L107, [3]: L108 [4]: L109.		

<Mental Maths>

a) 40 ÷ 5 = 8 b) 42 ÷ 6 = 7 c) 45 ÷ 5 = 9

d) 48 ÷ 6 = 8 e) 49 ÷ 7 = 7

<Homework>

*No homework.

Coumn method is also good.

L110: Review

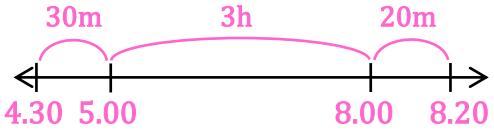
[1] It is 3.15 p.m. now.
Write the time:

a) 2 hours later. 5.15 p.m.

b) 10 minutes before. 3.05 p.m.

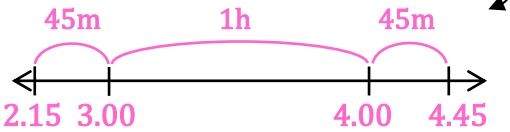
[2] How long is it from:

a) 4.30 a.m. to 8.20 a.m.?



3 hours 50 minutes

b) 2.15 p.m. to 4.45 p.m.?



2 hours 30 minutes

[3] Fill in the calendar.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			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	

[4] Fill in the blanks.

a) 2 days = 48 hours

24 + 24 = 48

b) 180 seconds = 3 minutes

180 = 60 + 60 + 60

c) 24 hours = 1 day

Lesson	**111** /120	Curriculum	B3.4.1.1.1 (p.73) 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 how to count objects using tallies.		
Introduction (sample)	• Make pairs. Give a bottle cap in each pair. Let a learner throw a bottle cap 10 times and the other learner record the result (head or tail) using tallies. Change the role and do 10 times. (Each pair gets 20 tallies in total.) • Compare the result in each group.		
Teacher's Note	• When counting by tallies, check the following step one by one. <Correct> Strikeout an object and draw a tally, strike-out another object and draw a tally, and continue it until all the objects are struk-out. <Wrong> Counting all objects and draw tallies later.		

<Mental Maths>

a) 20 ÷ 5 = 4 b) 24 ÷ 3 = 8 c) 24 ÷ 8 = 3

d) 27 ÷ 9 = 3 e) 30 ÷ 5 = 6

<Homework>

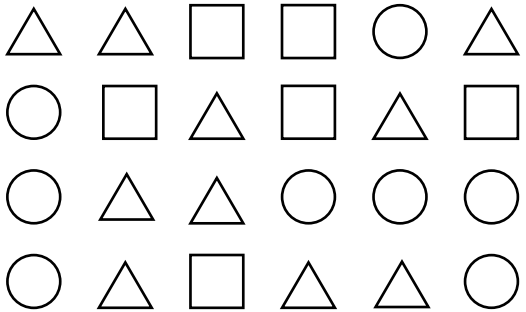
Use [2] to fill in the table.

	Tally	Number
Multiples of 3	𝍸 𝍸 𝍸/	16
Multiples of 5	𝍸 𝍸	10
Multiples of 6	𝍸 ///	8

Strike out the objects or numbers.

L111: Gather and record data (1)

[1] Complete the table.



	Tally	Number
Circle	𝍸 ///	8
Triangle	𝍸 𝍸	10
Square	𝍸 /	6

[2] a) Write numbers up to 50, with 10 numbers in each row.

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

b) Fill in the table.

	Tally	Number
Multiples of 4	𝍸 𝍸 //	12
Multiples of 5	𝍸 𝍸	10
Multiples of 7	𝍸 //	7

[R] Kwasi went to a town which took 3 hours.

How many minutes was the travel?

60 + 60 + 60 = 180, 180 minutes

Align both vertically and horizontally.

Lesson	**112** /120	Curriculum	B3.4.1.1.1 (p.73) e.g.1,2
Teaching Tips	While you are writing on the board, let learners copy it in their exercise books.		
Objective	Be able to develop a table to organise data.		
Introduction (sample)	• Collect bottle caps. Check the type of bottle caps and show it to learners. Let learners make a table using tallies.		
Teacher's Note	• Explain the term "more than" and "less than", e.g. "less than 5" does not include 5 (4, 3, 2, ...) or "more than 12" means 13, 14, 15, ... • In [1], learners fill in the blanks of table, but in [2] learners need to develop the table from scratch.		

<Mental Maths>

a) 21 ÷ 3 = 7 b) 24 ÷ 4 = 6 c) 25 ÷ 5 = 5

d) 28 ÷ 4 = 7 e) 30 ÷ 6 = 5

<Homework>

Use the data in [1].

How many learners weigh:

a) 23 kg? 8 learners

b) less than 23kg? 2 + 5 = 7, 7 learners

The data is placed to be 2 sets of 4 × 4 to avoid making mistakes.

L112: Gather and record Data (2)

[1] The weight of P3 learners is as follows.

23	25	23	22	22	24	23	25
21	24	23	24	21	22	23	23
23	22	24	23	22	24	25	24

a) Make a table with tallies.

	Tally	Number
21	//	2
22	###	5
23	### ///	8
24	### /	6
25	///	3

How many learners weigh:

b) 22kg? 5 learners.

c) more than 23kg?

6 + 3 = 9, 9 learners.

[2]

S	C	S	S	F
F	C	F	C	S
C	F	S	F	S
S	C	F	S	C

a) Make a table with tallies.

Explain the term "most" and "least".

	Tally	Number
C	### /	6
F	### /	6
S	### ///	8

Which bottle caps are:

b) the most? S c) the least? C and F

[R] Use the data in L111 [2].

a) How many multiples of 5 are there? 10

b) Which multiple is the least in b)?

Multiples of 7.

Lesson	**113** /120	Curriculum	B3.4.1.2.1 (p.73) e.g.2
Teaching Tips	Have learners repeat what you said to check their understanding.		
Objective	Be able to interpret pictographs to solve problems		
Introduction (sample)	• Show a pictograph which uses picture to show the number. • Ask questions based on the pictograph, e.g. “how many …?” or “which one is the most …?”		
Teacher’s Note	• Use circles instead of real pictures when you write on the board to avoid wasting time by drawing complex pictures. • Explain the term "most" and "least".		

<Mental Maths>

a) 21 ÷ 7 = 3 b) 24 ÷ 6 = 4 c) 27 ÷ 3 = 9

d) 28 ÷ 7 = 4 e) 32 ÷ 4 = 8

<Homework>

Use the pictograph in [2].
Each circle means 3 learners.
How many learners:
a) walk to school? 18 learners

b) do not ride a bike to school?

$18 + 9 = 27$ learners

The numbers of learners who use bikes or cars.

L113: Interpret pictographs

[1] Ama got some fruits.

Each circle means 4 fruits.

Mango	○○○
Banana	○○○○○○
Papaya	○○○○

a) Which fruits did she get the most?

Bananas

How many:

b) mangoes did she get?

$3 \times 4 = 12$, 12 mangoes

c) more bananas did she get than papayas? $24 - 16 = 8$

[2] Kwasi surveyed the means to school. Each circle means 5 learners.

Walk	○○○○○○
Bike	○○○
Car	○○

a) By what means do learners go to school the least? Car

How many learners:

b) walk to school? $6 \times 5 = 30$, 30 learners.

c) are in the class?

$30 + 15 + 10 = 55$, 55 learners

d) do not walk to school?

$15 + 10 = 25$, 25 learners

[R] Use the data in L112 [1].

How many learners weigh:

a) 21kg? 2 learners.

b) less than 24kg?

$2 + 5 + 8 = 15$, 15 learners.

Lesson	**114** /120	Curriculum	B3.4.1.2.1 (p.73) e.g. 1
Teaching Tips	Select some learners to distribute exercise books before the lesson begins.		
Objective	Be able to interpret bar graphs to solve problems.		
Introduction (sample)	• Draw the bar graph as shown on the board. • Compare the bar graph with the pictograph in L113 [2]. Let learners discuss what is different. (e.g. The bar graph uses a bar, but the pictograph uses circles. The bar graph shows the amount by the length.)		
Teacher's Note	• At this level, pictograph and bar graph does not have a big difference. However, bar graph is useful when dealing with large numbers.		

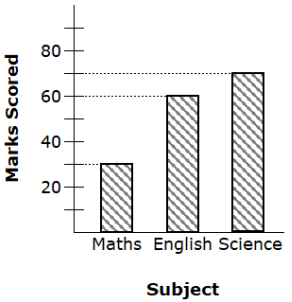
<Mental Maths>

a) 32 ÷ 8 = 4 b) 36 ÷ 4 = 9 c) 40 ÷ 5 = 8

d) 42 ÷ 7 = 6 e) 48 ÷ 6 = 8

<Homework>

The table shows the marks scored by Kwame.



a) What is the highest score? 70

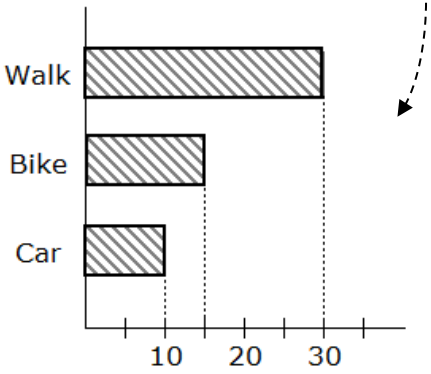
b) What is the total score?

30 + 60 + 70 = 160

The numbers of learners who use a bike is between 10 and 20, which is 15.

L114: Interpret bar graphs

The bar graph shows the means to go to school.



[1] a) What is the most common means to go to school? Walk

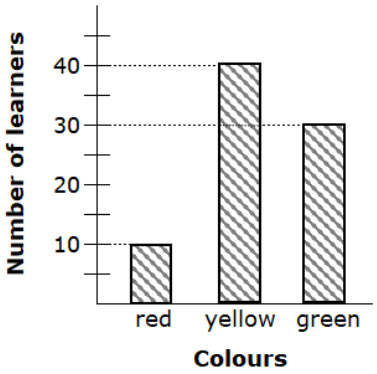
How many learners:

b) walk to school? 30 learners

c) use a bike or a car?

15 + 10 = 25, 25 learners

[2] Kofi surveyed favourite colours of learners in P3.



a) What is the most popular colour?

Yellow

How many:

b) learners like green? 30 learners

c) more learners prefer yellow to red?

40 – 10 = 30, 30 learners

d) learners are in total?

10 + 40 + 30 = 80, 80 leaners

[R] Use the data in L113 [1].

a) How many bananas did she get?

6 × 4 = 24, 24 bananas

b) Which fruits did she get the least?

Mango

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 (because this is 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 & L112, [2]: L113, [3]: L114.		

<Mental Maths>

a) 54 ÷ 6 = 9 b) 56 ÷ 7 = 8 c) 63 ÷ 7 = 9

d) 64 ÷ 8 = 8 e) 72 ÷ 9 = 8

<Homework>

*No homework.

L115: Review

[1] Ⓢ Ⓒ Ⓢ Ⓢ Ⓕ
Ⓕ Ⓒ Ⓒ Ⓒ Ⓢ
Ⓒ Ⓕ Ⓢ Ⓕ Ⓢ
Ⓢ Ⓒ Ⓕ Ⓢ Ⓒ

a) Make a table with tallies.

	Tally	Number
C	𝍸 //	7
F	𝍸	5
S	𝍸 ///	8

Which bottle caps are:

b) the most? S c) the least? F

[2] Adwoa got some fruits.

Each circle means 5 fruits.

Mango	○○○○
Banana	○○○
Papaya	○○○○○

a) Which fruit did she get the least?

Bananas

How many:

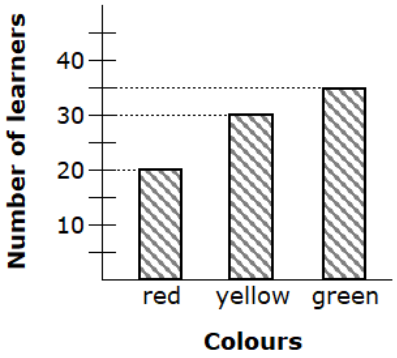
b) mangoes did she get?

$4 \times 5 = 20$, 20 mangoes

c) fruits did she get in total?

$20 + 15 + 25 = 60$, 60 fruits

[3] Akua surveyed favourite colours of learners in P3.



How many:

a) more learners prefer green to red?

35 – 20 = 15, 15 learners

b) learners are in total?

20 + 30 + 35 = 85, 85 leaners

Lesson	**116** /120	Curriculum	B3.4.1.2.1 (p.73) e.g. 2
Teaching Tips	Have learners recall what they learned in previous lessons.		
Objective	Understand the relationship between tables and pictographs and be able to draw pictographs to solve problems.		
Introduction (sample)	• Ask learners which colour they like, red, green, yellow or black. Make a table. • Explain how to draw a pictograph from the table below.		
Teacher's Note	• Graphs are helpful to grasp the tendency of data. • Check if learners write titles and keys properly. • A key is the number which a circle indicate. (A circle means "how many?")		

<Mental Maths>

a) 35 ÷ 5 = 7 b) 36 ÷ 6 = 6 c) 40 ÷ 8 = 5

d) 45 ÷ 5 = 9 e) 48 ÷ 8 = 6

<Homework>

Use the table in [2]. Draw a pictograph.

Each circle means 2 bottles.

Water	○○○○○○○○○○
Juice	○○○○○○
Soda	○○○○

To find the number of circles, calculate 20 ÷ 4 = 5 in case of water.

L116: Draw pictographs

[1] This table shows the number of learners' favourite sports in a class.

	Number
Basketball	15
Football	25
Volleyball	10

a) Draw a pictograph.
Each circle means 5 learners.

Basket ball	○○○
Football	○○○○○
Volleyball	○○

b) What sports are the most popular?

Football

c) How many learners are in this class?

15 + 25 + 10 = 50, 50 learners

[2] This table shows the number of drinks a shop sold today.

	Bottles
Water	20
Juice	12
Soda	8

a) Draw a pictograph.
Each circle means 4 bottles.

Water	○○○○○
Juice	○○○
Soda	○○

b) Which drink was the most popular?

Water

c) How many bottles were sold in the day? 20 + 12 + 8 = 40, 40 bottles

[R] Use the data in L114 [1].
How many learners are in total?

10 + 15 + 30 = 55, 55 learners.

Lesson	**117** /120	Curriculum	B3.4.1.2.1 (p.73) e.g.1
Teaching Tips	Organise the board so that others can understand the lesson content just by looking at it.		
Objective	• Understand the relationship between tables and bar graphs. • Be able to draw bar graphs to solve problems.		
Introduction (sample)	• Ask learners which food they like, fufu, jollof, waakye or banku. Make a table. • Explain how to draw a pictograph from the table below.		
Teacher's Note	• When drawing a bar graph, it is also recommended to write the title of each axis. • The value of Wednesday in [1] a), which is between 20 and 30 in the y-axis, is the half of them, i.e. 25.		

<Mental Maths>

a) 35 ÷ 7 = 5 b) 36 ÷ 9 = 4 c) 42 ÷ 6 = 7

d) 45 ÷ 9 = 5 e) 49 ÷ 7 = 7

<Homework>

Use the data in [2].

a) On what day did the shop earn the least?

Saturday

b) How much are the total sales on Thursday and Friday?

120 + 100 = 220, ¢220.

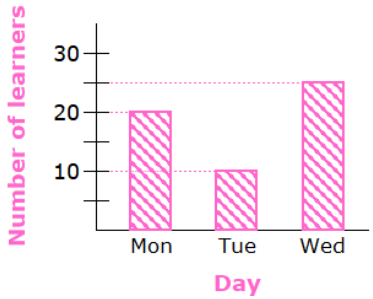
Explain how to find missing values between labeled points on a bar graph.

L117: Draw bar graphs

[1] The table shows the number of learners who came to school this week.

	Number
Monday	20
Tuesday	10
Wednesday	25

a) Draw a bar graph.



b) What is the highest number?

25 learners

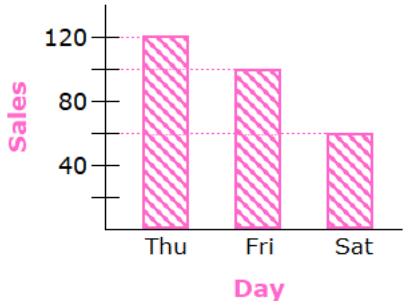
c) All the learners came on Wednesday. How many learners were absent on Tuesday?

25 – 10 = 15, 15 learners

[2] The table shows the sales of a shop this week.

	GH¢
Thursday	120
Friday	100
Saturday	60

a) Draw a bar graph.



b) On what day did the shop earn the most? Thursday

c) How much are the total sales on the three days?

120 + 100 + 60 = 280, ¢280

[R] Use the data in L116 [2].
How much did the shop earn when a soda is ¢5? 8 × 5 = 40, ¢40

Lesson	**118** /120	Curriculum	B3.1.2.3.1 (p. 49 & 51) 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 solve addition and subtraction by doubling and number line.		
Introduction (sample)	• Double numbers, e.g. double 5, 12, 23, 16, 18 etc. • Give examples of addition by doubling (e.g 25 + 26 = 25 + 25 + 1 = 50 +1 = 51) or subtraction by doubling (34 – 17 can be solved by the double of 17).		
Teacher's Note	• Doubling or addition and subtraction by doubling is additional method. Learners are expected to master column method, then learn these additional method. • In [1B] and [2B], learners can solve the question other than doubling or number line. Doubling is applicable only in the limited cases. • [1B] d) is a bit tricky doubling question. It may be a bit difficult for learners.		

<Mental Maths>

a) 54 ÷ 6 = 9 b) 56 ÷ 7 = 8 c) 63 ÷ 7 = 9

d) 64 ÷ 8 = 8 e) 72 ÷ 9 = 8

<Homework>

Answer as [1A]:

a) 6. $2 \times 6 = 12$ b) 9. $2 \times 9 = 18$

c) 11. $2 \times 11 = 22$ d) 14. $2 \times 14 = 28$

e) 16. $2 \times 16 = 32$ f) 25. $2 \times 25 = 50$

L118: Make doubles

[1A] Double the numbers.

a) 4. $2 \times 4 = 8$

b) 8. $2 \times 8 = 16$

c) 13. $2 \times 13 = 26$

d) 15. $2 \times 15 = 30$

[1B] Solve:

a) 5 + 5 = 10

b) 24 + 25 = 49

c) 24 – 12 = 12

d) 28 – 15 = 13

[2A] Answer as [1A].

a) 7. $2 \times 7 = 14$

b) 9. $2 \times 9 = 18$

c) 16. $2 \times 16 = 32$

d) 25. $2 \times 25 = 50$

[2B] Solve:

a) 13 + 13 = 26 b) 34 + 35 = 69

c) 48 – 24 = 24 d) 44 – 23 = 21

[R] Use the data in L117 [1].

All the learners came on Wednesday.

How many learners were absent on Monday?

25 – 20 = 5, 5 learners

Lesson	**119** /120	Curriculum	B3.1.2.5.2 (p.54, 55) e.g.4
Teaching Tips	Have learners copy everything from the board into their exercise books.		
Objective	Understand the relationship between number lines and multiplication		
Introduction (sample)	• Show learners how to find 3 × 4 using a number line.as shown on the board. • Practise skip counting in 2-5s.		
Teacher's Note	• Let learners confirm that skip counting always starts from 0. • You do not have to write all the numbers on the number line. Write the numbers of designated multiples. • In [1], all the number appears in the number line, but they are omitted in [2A] and [2B] to assist learners to transit from writing all to writing only necessary information.		

<Mental Maths>

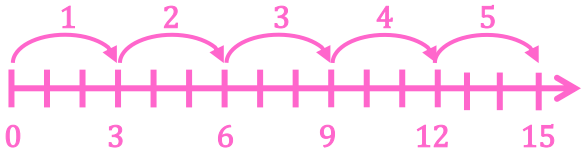
a) 54 ÷ 9 = 6 b) 56 ÷ 8 = 7 c) 63 ÷ 9 = 7

d) 72 ÷ 8 = 9 e) 81 ÷ 9 = 9

<Homework>

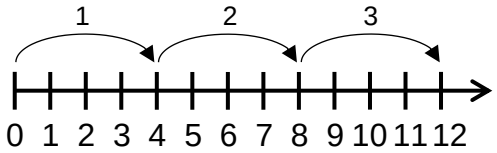
Answer as [1].

5 × 3 = 15



L119: Multiply with a number line

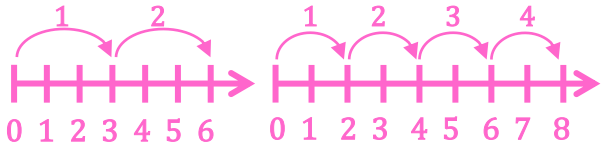
3 × 4 = 12



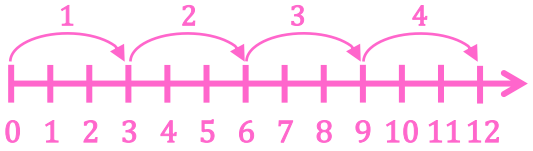
Always start from 0.

[1] Show the following multiplication on a number line and find the answer.

a) 2 × 3 = 6 b) 4 × 2 = 8

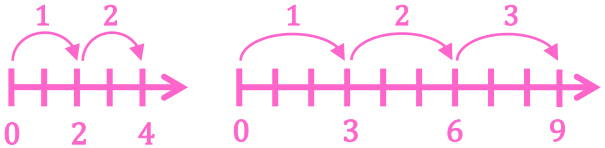


c) 4 × 3 = 12

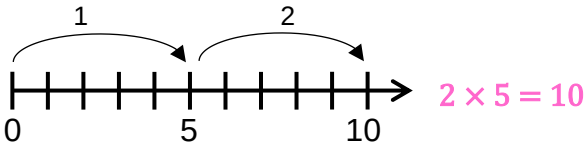


[2A] Answer as [1].

a) 2 × 2 = 4 b) 3 × 3 = 9



[2B] Write a number sentence and the answer.



[R] Double the numbers.

a) 5. 2 × 5 = 10

b) 9. 2 × 9 = 18

c) 14. 2 × 14 = 28

d) 25. 2 × 25 = 50

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 (because this is 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) 54 ÷ 9 = 6 b) 56 ÷ 8 = 7 c) 63 ÷ 9 = 7

d) 72 ÷ 8 = 9 e) 81 ÷ 9 = 9

<Homework>

*No homework.

L120: Review

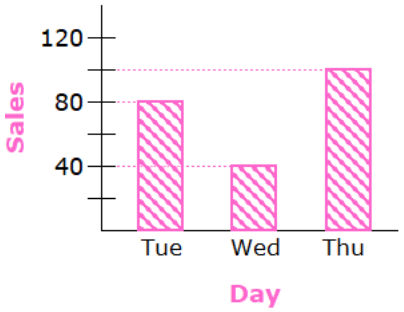
[1] The table shows the sales of a shop this week.

	GH¢
Tuesday	80
Wednesday	40
Thursday	100

a) Draw a pictograph.
Each circle means ¢20.

Basket ball	○○○○
Football	○○
Volleyball	○○○○○

b) Draw a bar graph.



[2] Double the numbers.

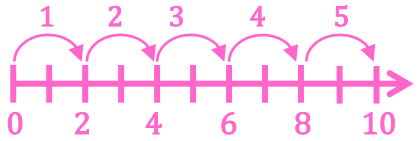
a) 7. $2 \times 7 = 14$ b) 9. $2 \times 9 = 18$

c) 16. $2 \times 16 = 32$

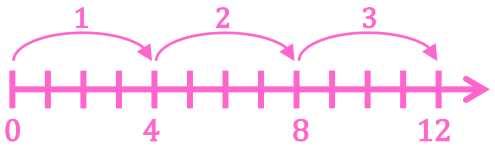
d) 25. $2 \times 25 = 50$

[3] Show the following multiplication on a number line and find the answer.

a) 5 × 2 = 10



b) 3 × 4 = 12



Lesson	-	Curriculum	Annual Review Lesson
Teaching Tips	*No teaching tips.		
Objective	Ensure the understanding of the topics learnt in P3.		
Introduction (sample)	• Show how to do column method of 3-digit numbers with/without regrouping. 247 – 123 = 124 (no regrouping), 257 + 368 = 625 (regrouping twice) and 420 – 189 = 231 (regrouping twice).		
Teacher's Note	• Some of the questions involve regrouping.		

The following five lessons are review of B3 for those who have done all the 120 allocated lessons.

<Mental Maths>

*No mental maths.

<Homework>

Solve:

a) 323 + 152 = 475

b) 579 – 318 = 261

c) 353 + 164 = 517

d) 629 – 358 = 271

Review of B3

[1] Solve:

a)
	T	O
	8	4
+	5	3
1	3	7

b)
	H	T	O
	1	2	5
–		4	2
		8	3

c)
	H	T	O
	2	3	4
+	1	2	3
	3	5	7

d)
	H	T	O
	5	5	3
–	1	3	2
	4	2	1

e)
	3	0	3
+	1	5	4
	4	5	7

f)
	5	7	9
–	3	0	8
	2	7	1

[2] Solve:

a)
	H	T	O
		1	
	2	3	7
+	3	2	4
	5	6	1

b)
	H	T	O
		6	15
	5	7	5
–	3	4	8
	2	2	7

	1	1	
	4	5	8
+	3	7	4
	8	3	2

	5	11	15
	6	2	5
–	3	4	9
	2	7	6

	1	1	
	2	2	6
+	3	7	4
	6	0	0

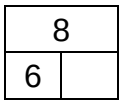
	3	11	10
	4	2	0
–	2	4	9
	1	7	1

[R] Akua has 72 meat pies.

She puts 8 meat pies in each box.

How many boxes does she need?

72 ÷ 8 = 9, 9 boxes.

Lesson	-	Curriculum	Annual Review Lesson
Teaching Tips	*No teaching tips.		
Objective	Ensure the understanding of the topics learnt in P3.		
Introduction (sample)	• Show the relationship between number sentence of addition and subtraction and part-part whole method (see below). • Solve the following using part-part-whole method. 15 + ☐ = 21, 23 – ☐ = 8, ☐ – 6 =18		
Teacher's Note	• Part-part-whole method is critical to understand the relationship between addition and subtraction. The right diagram shows 6 + ☐ = 8, 8 – 6 = ☐ or 8 – ☐ = 6 		

<Mental Maths>

*No mental maths.

<Homework>

Answer as [1].

a) 49 + ☐ = 112 b) 132 – ☐ = 64

☐ = 112 – 49 = 63 ☐ = 132 – 64 = 68

c) 222 + ☐ = 500 d) ☐ – 130 = 314

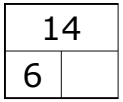
☐ = 500 – 222 = 278 ☐ = 314 – 130 = 184

Review of B3

[1] Fill in the blanks.

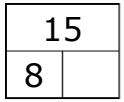
a) 6 + ☐ = 14

☐ = 14 – 6 = 8



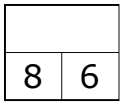
b) 15 – ☐ = 8

☐ = 15 – 8 = 7



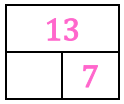
c) ☐ – 6 = 8

☐ = 8 + 6 = 18



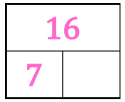
d) ☐ + 7 = 13

☐ = 13 – 7 = 6



e) 16 – ☐ = 7

☐ = 16 – 7 = 9



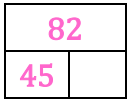
f) ☐ – 9 = 6

☐ = 6 + 9 = 15

[2A] Answer as [1].

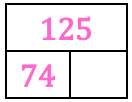
a) 45 + ☐ = 82

☐ = 82 – 45 = 37



b) 125 – ☐ = 74

☐ = 125 – 74 = 51



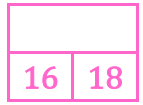
[2B] Akosua had some lemons.
She gave 18 lemons to Kwadwo.
She has 16 lemons now.

a) Write a number sentence using ☐.

☐ – 18 = 16

b) How many lemons did she have first?

☐ = 16 + 18 =34



34 lemons

[R] Solve:

$$\begin{array}{r} {\scriptstyle 1\ \ 1\ \ \ } \\ 2\ 4\ 9 \\ +\ 3\ 7\ 4 \\ \hline 6\ 2\ 3 \end{array} \qquad \begin{array}{r} {\scriptstyle 4\ \ 12\ \ 15} \\ 5\ \not{3}\ \not{5} \\ -\ 1\ 4\ 9 \\ \hline 3\ 8\ 6 \end{array}$$

Lesson	-	Curriculum	Annual Review Lesson
Teaching Tips	*No teaching tips.		
Objective	Ensure the understanding of the topics learnt in P3.		
Introduction (sample)	• Have learners visualise the meaning of multiplication using drawing like [1]. • Practise multiplication table randomly like mental maths.		
Teacher's Note	• Encourage learners to avoid counting circles. • [1A] is a practice of drawing a diagram of multiplication and understanding the commutative property. • [1B] and [2A] is to check if the learners memorise multiplication table up to 9 × 9. • Learners must memorise multiplication table up to 9 × 9 in B3 because it will affect the later grade.		

<Mental Maths>

*No mental maths.

<Homework>

Solve:

a) 2 × 9 = 18 b) 3 × 9 = 27

c) 4 × 9 = 36 d) 5 × 9 = 45

e) 8 × 8 = 64 f) 8 × 9 = 72

g) 9 × 7 = 63 h) 9 × 9 = 81

Review of B3

[1A] Draw a diagram and the answer.

a) 2 × 4 = 8 b) 4 × 3 = 12

4 × 2 = 8 3 × 4 = 12

[1B] Solve:

a) 3 × 6 = 18 b) 6 × 4 = 24

c) 5 × 5 = 25 d) 6 × 6 = 36

e) 4 × 7 = 28 f) 5 × 6 = 30

g) 4 × 9 = 36 h) 5 × 9 = 45

[2A] Solve:

a) 8 × 6 = 48 b) 7 × 7 = 49

c) 7 × 8 = 56 d) 9 × 7 = 63

e) 8 × 8 = 64 f) 8 × 9 = 72

g) 9 × 6 = 54 h) 9 × 9 = 81

[2B] There are 6 boxes.

Each box contains 8 mangoes.

How many mangoes are in total?

6 × 8 = 48, 48 mangoes

[R] Fill in the blanks.

a) 37 + □ = 85

□ = 85 – 37 = 48

85	
37	

b) 118 – □ = 65

□ = 118 – 65 = 53

118	
65	

Lesson	-	Curriculum	Annual Review Lesson
Teaching Tips	*No teaching tips.		
Objective	Ensure the understanding of the topics learnt in B3.		
Introduction (sample)	• Show the relationship between multiplication and division. To answer 12 ÷ 3, we need to find the answer for 3 × __ = 12. Some can find 3 × 4 at once, and others may need 3 × 1 = 3, 3 × 2 = 6, 3 × 3 = 9, 3×4=12. • Practise multiplication table randomly like mental maths for division.		
Teacher's Note	• Encourage learners to avoid counting circles. • [1A] shows the relationship between multiplication and division.		

<Mental Maths>

*No mental maths.

<Homework>

Solve:

a) 25 ÷ 5 = 5 b) 36 ÷ 6 = 6

c) 49 ÷ 7 = 7 d) 54 ÷ 9 = 6

e) 56 ÷ 8 = 7 f) 64 ÷ 8 = 8

g) 72 ÷ 9 = 8 h) 81 ÷ 9 = 9

Use multiplication to solve division.

Review of B3

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

a) 12 ÷ 3

3 × 4 = 12

12 ÷ 3 = 4

b) 8 ÷ 2

2 × 4 = 8

8 ÷ 2 = 4

c) 20 ÷ 5

5 × 4 = 10

20 ÷ 5 = 4

d) 18 ÷ 6

6 × 3 = 18

18 ÷ 6 = 3

[1B] Solve:

a) 15 ÷ 3 = 5 b) 25 ÷ 5 = 5

[2A] Solve:

a) 32 ÷ 4 = 8 b) 42 ÷ 6 = 7

c) 49 ÷ 7 = 7 d) 54 ÷ 6 = 9

e) 64 ÷ 8 = 8 f) 81 ÷ 9 = 9

[2B] Kofi has 56 bofrots.

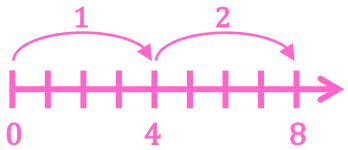
He puts 8 bofrots in each bag.

How many bags does he need?

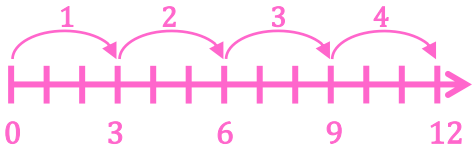
56 ÷ 8 = 7, 7 bags.

[R] Show the following multiplication on a number line and find the answer.

a) 2 × 4 = 8



b) 4 × 3 = 12



Lesson	-	Curriculum	Annual Review Lesson
Teaching Tips	*No teaching tips.		
Objective	Ensure the understanding of the topics learnt in P3.		
Introduction (sample)	• Solve “There is a 20cm long tape. How long is the $\frac{3}{4}$?” Find 1 part by 20 ÷ 4 = 5 because $\frac{3}{4}$ is 3 parts of the 20cm tape when you divide it into four parts.		
Teacher’s Note	• [1A], [1B] and [2B] is continuous value, while [2A] is discrete value.		

<Mental Maths>

*No mental maths.

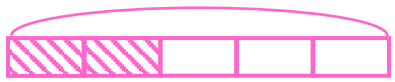
<Homework>

There is a 15 m long tape. How long is the $\frac{2}{5}$?

1 part is $15 \div 5 = 3, 3$ m.

$\frac{2}{5}$ of 15 m is $2 \times 3 = 6, 6\ m.$

15m



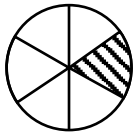
The denominator shows how many parts do you need to divide.

Review of B3

[1A] Show the shaded part in a fraction.

a) 

$\frac{1}{3}$

b) 

$\frac{1}{6}$

c) 

$\frac{2}{4}$

d) 

$\frac{3}{4}$

[1B] There is a 12 cm long bar.

How long is the $\frac{2}{3}$?

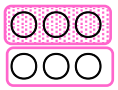
1 part is $12 \div 3 = 4, 4$ cm.

$\frac{2}{3}$ of 12 cm is $2 \times 4 = 8, 8$ cm.

12cm

[2A] Show fractions of the diagrams.

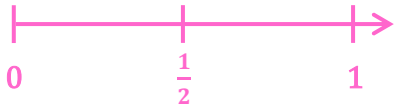
a) $\frac{1}{2}$



b) $\frac{3}{4}$

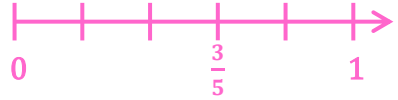
[2B] Draw a number line and indicate the fraction.

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



b) $\frac{2}{4}$

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



[R] There are 5 cages. 7 chickens are in a cage. How many chickens are in total? $5 \times 7 = 35$, 35 chickens