Lesson plans for

PRIMARY
Mathematics

3
CLASS

2
TERM

Foreword

Our country's future lies in the education of our children. The Government of Sierra Leone is committed to doing whatever it takes to secure this future.

As Minister of Education, Science and Technology since 2007, I have worked every day to improve our country's education. We have faced challenges, not least the Ebola epidemic which as we all know hit our sector hard. The Government's response to this crisis – led by our President – showed first-hand how we acted decisively in the face of those challenges, to make things better than they were in the first place.

One great success in our response was the publication of the Accelerated Teaching Syllabi in August 2015. This gave teachers the tools they needed to make up for lost time whilst ensuring pupils received an adequate level of knowledge across each part of the curriculum. The Accelerated Teaching syllabi also provided the pedagogical resource and impetus for the successful national radio and TV teaching programs during the Ebola epidemic.
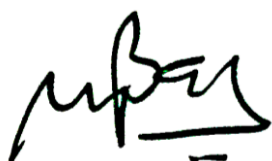
It is now time to build on this success. I am pleased to issue new lesson plans across all primary and JSS school grades in Language Arts and Mathematics. These plans give teachers the support they need to cover each element of the national curriculum. In total, we are producing 2,700 lesson plans – one for each lesson, in each term, in each year for each class. This is a remarkable achievement in a matter of months.

These plans have been written by experienced Sierra Leonean educators together with international experts. They have been reviewed by officials of my Ministry to ensure they meet the specific needs of the Sierra Leonean population. They provide step-by-step guidance for each learning outcome, using a range of recognised techniques to deliver the best teaching.

I call on all teachers and heads of schools across the country to make best use of these materials. We are supporting our teachers through a detailed training programme designed specifically for these new plans. It is really important that these Lesson Plans are used, together with any other materials you may have.

This is just the start of education transformation in Sierra Leone. I am committed to continue to strive for the changes that will make our country stronger.

I want to thank our partners for their continued support. Finally, I also want to thank you – the teachers of our country – for your hard work in securing our future.

Dr. Minkailu Bah

Minister of Education, Science and Technology

Table of Contents

Introduction
to the Lesson Plan Manual

These lesson plans are based on the National Curriculum and meet the requirements established by the Ministry of Education, Science and Technology.

1   The lesson plans will not take the whole term, so use spare time to review material or prepare for exams

2   Teachers can use other textbooks alongside or instead of these lesson plans.

3   Read the lesson plan before you start the lesson. Look ahead to the next lesson, and see if you need to tell pupils to bring materials for next time.

4   Make sure you understand the learning outcomes, and have teaching aids and other preparation ready – each lesson plan shows these using the symbols on the right.

Learning outcomes

Teaching aids

Preparation

5   Quickly review what you taught last time before starting each lesson.

6   Follow the suggested time allocations for each part of the lesson. If time permits, extend practice with additional work.

7   Lesson plans have a mix of activities for the whole class and for individuals or in pairs.

8   Use the board and other visual aids as you teach.

9   Interact with all students in the class – including the quiet ones.

10   Congratulate pupils when they get questions right! Offer solutions when they don't, and thank them for trying.

Lesson Title: Counting forward and backward in multiples of 5, 10, 50, 100, 1,000 up to 10, 000 using a number line	Theme: Knowing and understanding numbers up to 10,000	
Lesson Number: M-03-061	Class/Level: Class 3	Time: 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to count forward and backward in multiples of 5, 10, 50, 100, 1,000 up to 10, 000 using a number line.		Teaching Aids Number lines A-H throughout the plan		Preparation Draw number Lines A – H, throughout the plan, on the board.

Opening *(3 minutes)*

1. **Say:** Let's review how to count in 10s. But let's start with 80. Please stop when I raise my hands. Count together. Are you ready? 80, 90, 100, 110, 120, 130, 140
2. Stop them when most pupils are counting in 10s with ease and after they have crossed 100.
3. **Say:** Ok, let's try it backwards. Start at 640. Stop when I raise my hands. Count together. Are you ready? 640, 630, 620, 610, 600, 590, 580, 570

Introduction to the New Material *(10 minutes)*

1. **Say:** Today we are going to count with numbers that are larger than you have counted before. But if you remember how we counted smaller numbers that will help you with larger numbers.

Number Line A

Please look at number line A on the board. I am going to count and point to the numbers as I count. When I am finished, I want you to tell me what number I counted by.
2. **Say:** 0, 1 thousand, 2 thousand, 3 thousand, 4 thousand, 5 thousand, 6 thousand, 7 thousand, 8 thousand, 9 thousand, 10 thousand.
3. **Ask:** What number did I count ? (Answer: 1000s) Now I will point and you will count. 0…
4. Allow pupils to count as a group. Make sure you point to each number as they are saying it.
5. **Say:** Good. Now we are going to count those same numbers backward. We will count together. 10 thousand, 9 thousand, 8 thousand, 7 thousand, 6 thousand, 5 thousand, 4 thousand, 3 thousand, 2 thousand, 1 thousand, 0.

6. **Say:** Now look at number line B. Listen as I count. 5 hundred, 6 hundred, 7 hundred, 8 hundred, 9 hundred, 1 thousand, 1 thousand 1 hundred, 1 thousand 2 hundred, 1 thousand 3 hundred. What number did I count? (Answer: 100s) Ok. It's your turn. 500, 600…
7. You may need to help them when they get to 1100.

8. **Say:** Now we will count the 100s backwards. We will start at 1300. I will point to the numbers as we count. Ready? 1 thousand 3 hundred, 1 thousand 2 hundred, 1 thousand 1 hundred, 1 thousand, 9 hundred, 8 hundred, 7 hundred, 6 hundred, 5 hundred.

Number Line C

| 5700 | 5800 | 5900 | 6000 | 6100 | 6200 | 6300 | 6400 | 6500 |
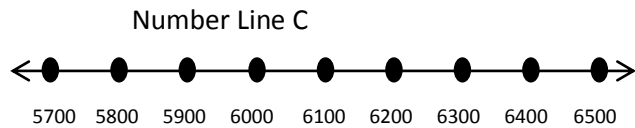
9. **Say:** We are going to try counting hundreds one more time. This time we will start with 5 thousand 7 hundred. Please look at number line C. Think about what we are going to say. Try it silently in your head first.
10. Give pupils about 30 seconds to think about it before you start.
11. **Say:** Are you ready? 5500, 5800, 5900, 6000, 6100, 6200, 6300, 6400, 6500.

Guided Practice *(8 minutes)*

1. **Say:** Look at number line D. Please copy it in your exercise book. Tell your partner what we are counting. Give pupils 2 minutes to finish.
2. **Ask:** What are we counting? (Answer: 50s) Fill in the numbers that are missing from number line D.
3. Give pupils about 2 minutes. While they are working, ask a pupil to come to the board and complete the numbers on Number Line D.
4. **Ask:** Is our friend correct? Show me with a thumbs up or thumbs down.
5. **Say:** Count forward and backward with your partner from 2500 to 2900 50s.

Number Line D

2500   2550   2600   2900
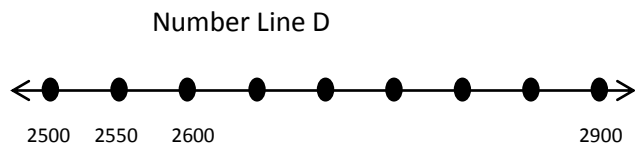
(Answers: 2650   2700   2750   2800   2850)

Number Line E (100s)

3400   3500   4000
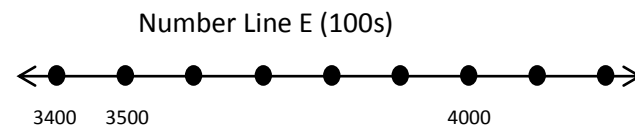
(Answers: 3600   3700   3800   3900   4100   4200)

Number Line F (50s)

4,200   4,400   4,450   4,600
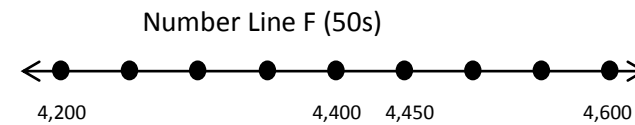
(Answers: 4250   4300   4350   4500   4550)

Independent Practice *(12 minutes)*

1. **Say:** Copy the number lines E, F, G and H in your exercise book. Work with your partner to fill in the missing numbers on each Number Line. You will first need to work out what number you are counting . Write that number beside the Number Line.
2. Give pupils about 10 minutes to work. While they are working walk around the classroom to assist those who need help. Ask 4 volunteers (2 boys and 2 girls) to

Number Line G (10s)

970   980   1050
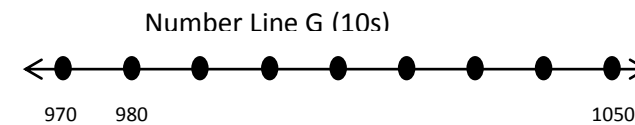
(Answers: 990   1000   1010   1020   1030   1040)

Number Line H (5s)

1450   1455   1460   1490
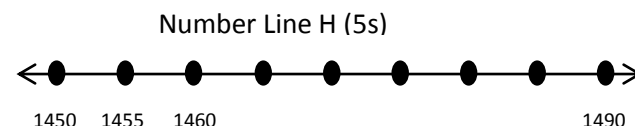
(Answers: 1465   1470   1475   1480   1485)

go to the board to fill in the missing numbers on the number lines. Check to make sure they are correct.

3. **Say:** Look at the board and check your answers. Please raise your hand if you do not agree with the answers on the board.

Closing *(2 minutes)*

1. **Say:** Let's use our number lines to count forward and backward. Please look at number line E.
2. Point to each number as they count. Stop at the end and then start to count backward. Do this for each number line.

Lesson Title: Counting from any number in multiples of 3, 6, 20 using a number line	**Theme:** Knowing and understanding numbers up to 10,000	
Lesson Number: M-03-062	**Class/Level:** Class 3	**Time:** 35 minutes

Learning Outcomes	Teaching Aids	Preparation
By the end of the lesson, pupils will be able to count from any number in multiples of 3, 6, 20 using a number line.	1. 100 Chart at the end of the plan 2. Number lines A-F throughout the plan	1. Draw a 100 Chart, at the end of the plan on the board. 2. Draw number lines A – F, throughout the plan, on the board.

Opening *(3 minutes)*

1. **Say:** Today we are going to count in 3s, 6s and 20s from large numbers. But first, let's count in 3s and 6s from small numbers. Find a 100 chart from a previous lesson in your book. Point to the 3 on your 100 Chart. What comes next when we count in 3s? (Answer: 6) As we count, point to the numbers on the 100 Chart. 3, 6, 9, 12, 15, 18, 21, 24, 27, 30.
2. **Say:** Now we are going to count in 6s. Point as you count. 6, 12, 18, 24, 30, 36, 42, 48, 54, 60.
3. **Say:** And finally, we will count in 20s. Remember to point to the numbers on your 100 Chart as you count. 20, 40, 60, 80, 100.

Introduction to the New Material *(10 minutes)*

1. **Say:** Now, let's look at bigger numbers on a number line. Remembering that counting smaller numbers will help you with larger numbers. Please look at number line A on the board. I am going to count and point to the numbers as I count. When I am finished, I want you to tell me what number I counted in.
2. **Say:** 500, 520, 540, 560, 580, 600, 620, 640, 660.

Number Line A

3. **Ask:** What number did I count in? (Answer: 20s) Now I will point and you will count. 500…
4. Allow pupils to count as a group. Make sure you point to each number as they are saying it.
5. **Say:** Look at your 100 Chart and the number line. We used both to help us count in 20s. What do you think is similar about counting from 20-100 on your 100 Chart and counting in 20s from 500 – 600 on your number line? Tell your partner what you think.
6. Give pupils about a minute to discuss.
7. **Ask:** Who can tell us what is similar about counting on the 100 Chart and the number line? (Example answer: When we counted using the number line, we just put a 5 hundred or 6 hundred in front of the same numbers that we used on the 100 Chart.)
8. **Say:** We are going to try counting in 3s this time. This time we will start with 5 thousand 7 hundred. Please look at number line B. Think about what we are going to say.
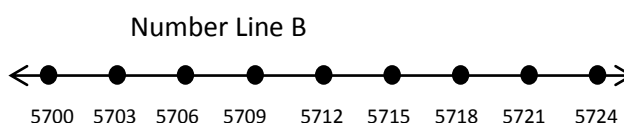
Number Line B

9. Give pupils about 30 seconds to think about it before you start.

10. **Ask:** Are you ready? 5700, 5703, 5706, 5709, 5712, 5715, 5718, 5721, 5724.
11. **Say:** What do you notice about the Tens and Ones digits in the numbers on the number line? (Answer: They are the same as the numbers would be on the 100 Chart.)

Number Line C – Count in 6s

| 2500 | 2506 | 2512 | | 2530 | | 2548 |

(Answers: 2518 2524 2536 2542)
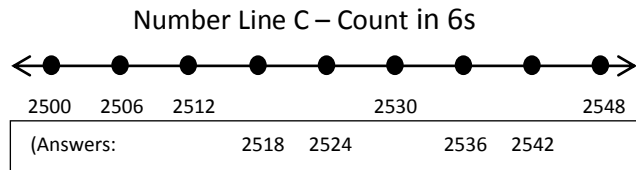
**Guided Practice** *(5 minutes)*

1. **Say:** Please copy number line C in your exercise book. We are counting in 6s. Fill in the missing numbers. Use your partner and your 100 Chart to help you.
2. Give pupils about 2 minutes. While they are working, ask a volunteer to complete the numbers on Number Line C on the board. Make sure the answers are correct.
3. **Say:** Look at your 100 Chart. Let's count in 6s to 48. Are you ready? (Answer: 6, 12, 18, 24, 30, 36, 42, 48) Count with your partner from 2500 to 2548 in 6s. Give pupils 30 seconds to count.

Independent Practice *(15 minutes)*

1. **Say:** Please copy the number lines D, E, and F in your exercise book. Work with your partner to fill in the missing numbers on each number line. Use your 100 Chart to help you.
2. Give pupils about 10 minutes to work. While they are working ask 4 volunteers (2 girls and 2 boys) to fill in the missing numbers on the board.
3. **Say:** Look at the board and check your answers. Please raise your hand if you do not agree with the answers on the board.
4. If pupils disagree, let them explain why. Then show the correct answers.

Number Line D - Count in 20s

| 7300 | 7320 | 7340 | | 7400 | 7420 |

(Answers: 7360 7380 7440 7460)

Number Line E - Count in 3s

| 9660 | 9663 | | 9672 | | 9681 |

(Answers: 9666 9669 9675 9678 9684)

Number Line F - Count in 6s

| 1406 | 1418 | 1430 | 1442 | 1454 |

(Answers: 1412 1424 1436 1448)
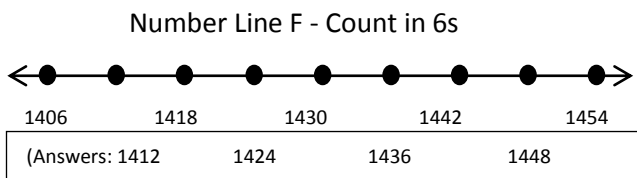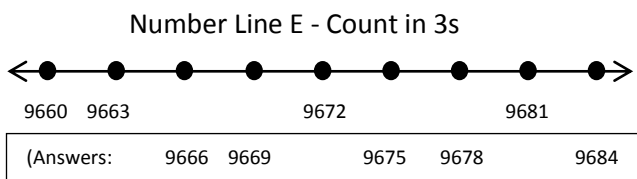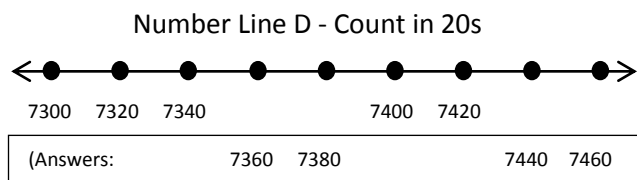
Closing *(2 minutes)*

1. **Say:** We are going to start at 7300 and count in 20s. Use your number line if you need to. Are you ready? 7300, 7320, 7340, 7360, 7380, 7400 7420, 7440, 7460.
2. Point to the numbers on the number line as you count. Do the same with number line E and number line F.

[100 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

Lesson Title: Counting from any number in multiples of 7, 8, 9 using a number line	Theme: Knowing and understanding numbers up to 10,000	
Lesson Number: M-03-063	Class/Level: Class 3	Time: 35 minutes

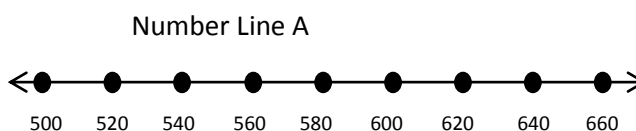| Learning Outcomes By the end of the lesson, pupils will be able to count from any number in multiples of 7, 8, 9 using a number line.	Teaching Aids 1. 100 Chart at the end of the plan 2. Count in 7s, 8s, and 9s Chart at the end of the plan	Preparation 1. Draw a blank number line on the board. 2. Draw a 100 Chart, at the end of the plan, on the board. 3. Draw the Count in 7s, 8s and 9s Chart, at the end of the plan, on the board.

Opening *(2 minutes)*

1. **Say:** Today we are going to count in 7s, 8s and 9s from large numbers. Let's warm-up in using small numbers first. Find a 100 Chart in your exercise book. Put your finger on the 7. Count 7 more. Where are we? (Answer: 14) Count 7 more. Where are we? (Answer: 21)
2. Do this 3 more times until they end up on 42. (Answers: 28, 35, 42)

Introduction to the New Material *(10 minutes)*

1. **Say:** The local shopkeeper has already sold 2543 bars of soap. If he sells 7 more each day for the next 6 days, how many will he sell altogether?
2. **Say:** What are we trying to find out? (Answer: How many bars he sold altogether.) There are many ways to solve this, but today we are going to think about it as counting in 7s. Where will we start? (Answer: 2543 bars). Write 2543 on the number line.
3. **Ask:** We can use the 43 on the Hundreds Chart to help us. We just have to look at 43 and jump 7 more. Then we put the 2 thousand 5 hundred in front because we aren't jumping hundreds or thousands. Put your finger on the 43. Count up 7. Tell your partner where you land. (Answer: 50) So after the first day, how many has he sold? (Answer: 2550 bars). Write 2550 on the number line.
4. **Say:** If he sells 7 more the next day, how many did he sell? Count on your 100 Chart with your partner.
5. Give pupils 1 minute to work. **Ask:** Who can tell me how many he sold in the end of the 2nd day? (Answer: 2557 bars). Write 2557 bars on the number line.
6. **Say:** Let's count 7 more from 57 to find out how many he sold after the 3rd day. Look at your 100 Chart. Put your finger on the 57. Count, 1, 2, 3, 4, 5, 6, 7. Where did you land? (Answer: 64) So if we counted in 7s from 2557, where would we be? (Answer: 2564). Write 2564 bars on the number line.
7. **Say:** Try the last 3 with your partner. Give pupils 2 minutes to work.
8. **Ask:** Who can tell me how many he sold after 4 days? (Answer: 2571 bars) And after 5 days? (Answer: 2578 bars) Finally, how many at the end of 6 days? (Answer: 2,585 bars). Write those numbers on the number line.

9. **Say:** We just counted in 7s from 2543. We
    used the 100 Chart to help us.

(2543   2550   2557   2564   2571   2578   2585)
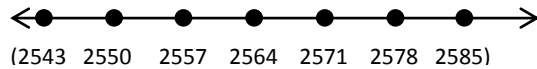
Guided Practice *(5 minutes)*

1. **Say:** Let's pretend that the shopkeeper sold 8 bars each day. How many would he end up with
    after 6 more days of selling? Start from 2543 and work with your partner to solve this problem.
    You may use your 100 Chart if it helps you.
2. Give pupils 5 minutes to work. **Ask:** Who can share with us how many the shopkeeper sold at the
    end of each day? (Answers: 2551, 2559, 2567, 2575, 2583, 2591)

Independent Practice *(15 minutes)*

1. **Say:** Please copy the Counting in 7s, 8s and 9s Chart in your exercise book.
2. **Ask:** What are we counting in in the first column? (Answer: 7s) The first one in each column is
    done for you. Fill in the rest of the columns. Use your 100 Chart to help.
3. Give pupils about 10 minutes to work. While they are working ask 3 pupils to fill in the missing
    numbers on the board.
4. **Say:** Look at the board and check your answers. Please raise your hand if you do not agree with
    the answers on the board. If pupils disagree, let them explain why. Then show the correct
    answer.

Closing *(3 minutes)*

1. **Say:** Let's count in 9s together starting at 8775. Use your chart to help you. 8775, 8784, 8793,
    8802, 8811, 8820, 8829.
2. **Say:** Ok, now we will do the 8s. Start at 1036. 1036, 1044, 1052, 1060, 1068, 1076, 1084.
3. **Say:** Finally, let's count in 7s from 3615. 3615, 3622, 3629, 3636, 3643, 3650, 3657

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

Count in 7s	Count in 8s	Count in 9s
3615	1036	8775
3622	1044	8784
(3629)	(1052)	(8793)
(3636)	(1060)	(8802)
(3643)	(1068)	(8811)
(3650)	(1076)	(8820)
(3657)	(1084)	(8829)

Lesson Title: Writing Numbers in Words 1000-10,000 as Numerals using Place Value	**Theme:** Knowing and Understanding Numbers up to 10,000	
Lesson Number: M-03-064	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to write numbers in words 1000-10,000 as numerals using place value.		**Teaching Aids** Place Value Chart at the end of the plan		**Preparation** Draw the blank Place Value Chart, at the end of the plan, on the board.

Opening *(5 minutes)*

1. **Say:** This week we started working with large numbers. Let's review in counting in 1000s from 1000 to 10,000. Ready? 1000, 2000, 3000, 4000, 5000, 6000, 7000, 8000, 9000, 10,000)
2. **Say:** Now let's count in 100s from 2500 to 3500. I will write them on the board as we say them. 2500, 2600, 2700, 2800, 2900, 3000, 3100, 3200, 3300, 3400, 3500.

Introduction to the New Material *(10 minutes)*

1. **Say:** Today we're going to learn how to write big numbers using place value. We did this with smaller numbers in the last term.
2. **Say:** Copy the blank place value chart on your paper. Write nine thousand, six hundred and thirty-four in the correct boxes.
3. Let pupils work for about 3 minutes. **Say:** Check your neighbour's chart. **Ask:** Is it correct?
4. Write 9634 in the chart on the board.
5. **Say:** If I want to write 9634 in place value form, I need to know what each digit is worth.
6. **Ask:** What is the 9 worth? (Answer: 9 Thousands)
7. Write that on the board.
8. **Ask:** What is the 6 worth? (Answer: 6 Hundreds)
9. Write that after the 9 Thousands.
10. **Ask:** What is the 3 worth? (Answer: 3 Tens)
11. Write that after the 6 Hundreds.
12. **Ask:** What is the 4 worth? (Answer: 4 Ones)
13. Write that after the 3 Tens.
14. When you have written all 4 digits on the board, this is what it should look like: 9 Thousands, 6 Hundreds, 3 Tens, 4 Ones
15. **Say:** Please copy the place value word form in your exercise book.

Guided Practice *(5 minutes)*

1. **Say:** Write the following numbers in your place value chart: 4774, 8386, 1042, 5120, 6498
2. **Say:** Check your neighbour's chart. If you have different answers, decide who is correct.
3. After about 3 minutes, have pupils come to the board to write the numbers in the place value chart on the board. Check them to see that the answers are correct.

Thousands	Hundreds	Tens	Ones
9	6	3	4
4	7	7	4
8	3	8	6
1	0	4	2
5	1	2	0
6	4	9	8

4. **Say:** Please check your answers with those on the board.

Independent Practice *(15 minutes)*

1. **Say:** Now take those numbers and write them in place value form. Ask your partner or raise your hand if you need help. Let's work on the first one together. Hold up your fingers to show how many Thousands we have. (Answer: 4)
2. **Ask:** How many Hundreds do we have? (Answer: 7)
3. **Ask:** How many Tens do we have? (Answer: 7)
4. **Ask:** How many Ones do we have? (Answer: 4)
5. As the pupils tell you how many of each they have, write it on the board**.** (Answer: 4 Thousands, 7 Hundreds, 7 Tens, 4 Ones)
6. **Say:** Please copy the place value form in your exercise book. Continue to complete the other numbers we wrote in the Place Value Chart.
7. Walk around while pupils are working to check they are correct. If they need assistance, ask a pupil who is sitting near them to help.
   (Answers:
   8386 = 8 Thousands, 3 Hundreds 8 Tens and 6 Ones
   1042 = 1 Thousands, 0 Hundreds 4 Tens and 6 Ones
   5120 = 5 Thousands, 1 Hundred 2 Tens and 0 Ones
   6498 = 6 Thousands, 4 Hundreds 9 Tens and 8 Ones)

Closing *(3 minutes)*

1. Write the following number on the board: two Thousand, five Hundred and forty-six
2. **Say:** Hold up your fingers to show how many Thousands we have. (Answer: 2)
3. **Ask:** How many Hundreds do we have? (Answer: 5)
4. **Ask:** How many Tens do we have? (Answer: 4)
5. **Ask:** How many Ones do we have? (Answer: 6)
6. Write it on the board**.** (Answer: 2 Thousands, 5 Hundreds, 4 Tens, 6 Ones)
7. **Say:** Well done.

[PLACE VALUE CHART]

Thousands	Hundreds	Tens	Ones

Lesson Title: Reading and writing numerals in words 1000-10,000	**Theme:** Knowing and understanding numbers up to 10,000	
Lesson Number: M-03-065	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to read and write numbers up to 10,000 in words.		**Teaching Aids** Word List at the end of the plan		**Preparation** Write the Word List, at the end of the plan, on the board (do not include the numbers).

Opening *(3 minutes)*

1. **Say:** Yesterday we wrote big numbers in place value form. Today we will take the next step and write them all in words.
2. Write 375 on the board.
3. **Ask:** Who can tell me how to say this number? (Answer: Three Hundred and seventy-five)
4. Write 1375 on the board.
5. **Ask:** Who can tell me how to say this number? (Answer: One Thousand, three Hundred and seventy-five)
6. Write 'one Thousand, three Hundred and seventy-five' on the board.

Introduction to the New Material *(15 minutes)*

1. Point to the Word List. **Say:** Please copy the word list from the board.
2. Give pupils about 5 minutes to write all of the words.
3. **Say:** Who can point to the word that says 8 on the board? If you are at your seat, show your partner the word for 8 on your list.
4. **Ask:** Who can point to the word for 13 on the board? If you are at your seat, show your partner the word for 13 on your list.
5. **Ask:** Who can point to the word for 50 on the board? If you are at your seat, show your partner the word for 50 on your list.
6. **Say:** Fill in the numbers to match the words in the first 3 columns.
7. Give pupils about 4 minutes to complete this work. Have three volunteers write them on the board next to the word.
8. **Say:** Please swap papers with your partner and check their work. You may look at the answers on the board if you are unsure.
9. **Say:** Let's read each number starting with the one at the top left.
10. Point to each word and pupils will say the number. For example, when you point to the one, they will say 1.

Guided Practice *(5 minutes)*

1. **Say:** Now that you know the words you will be using, let's make some big numbers.
2. Write 4992 on the board.

3. **Say:** Think about how to say this number. Tell your partner what number this is. Then write it in your exercise book. (Answer: Four Thousand, nine Hundred and ninety-two)
4. **Ask:** Who can tell me the first word in this number? (Answer: four) Write four on the board.
5. **Ask:** What is the second word? (Answer: Thousand) Write Thousand on the board.
6. **Ask:** What is the third word? (Answer: nine) Write nine on the board.
7. **Ask:** What is the fourth word? (Answer: Hundred) Write Hundred on the board.
8. **Say:** Next we write 'and'. Write and on the board.
9. **Ask:** What is the next word? (Answer: ninety) Write ninety on the board.
10. **Ask:** What is the last word? (Answer: two) Write two on the board. You should now have 'four Thousand, nine Hundred and ninety-two' written on the board.

Independent Practice *(10 minutes)*

1. Write the following numbers on the board: 5281   7360   9045   3302
2. **Say:** Copy these numbers in your exercise book. Then write the word form of each number. You may use the word list that you copied to help you with the spelling of the words.
3. Give pupils about 8 minutes to work. Walk around and find pupils who are correct. Ask 4 volunteers (2 girls and 2 boys) to write the word forms on the board while the others are still working. If pupils are having difficulty, help them or ask another pupil to assist them. (Answers: 5281= Five Thousand, two Hundred and eighty-one, 7,360= Seven Thousand, three Hundred and sixty, 9045= Nine Thousand and forty-five, 3302= Three Thousand, three Hundred and two)
4. **Say**: I am going to point to the number and you will say the words. Are you ready?
5. Point to the 5281. Pupils say the words, 'five thousand, two hundred and eighty-one'.
6. Point to the 7360. Pupils say the words, 'seven thousand, three hundred and sixty'.
7. Point to the 9045. Pupils say the words, 'nine thousand and forty-five'.
8. Point to the 3302. Pupils say the words, 'three thousand, three hundred and two'.

Closing *(2 minutes)*

1. **Say:** When I write the numbers in words on the board, turn to your partner and tell them the number.
2. Write the following number on the board: two Thousand, one Hundred and sixty-eight
3. **Say:** Tell your partner what number this is. Then write it in your exercise book. (Answer: 2168)
4. **Say:** Well done.

[WORD LIST]

one (1)	eleven (11)	twenty (20)	hundred
two (2)	twelve (12)	thirty (30)	thousand
three (3)	thirteen (13)	forty (40)	
four (4)	fourteen (14)	fifty (50)	
five (5)	fifteen (15)	sixty (60)	
six (6)	sixteen (16)	seventy (70)	
seven (7)	seventeen (17)	eighty (80)	
eight (8)	eighteen (18)	ninety (90)	
nine (9)	nineteen (19)		

ten (10)

Lesson Title: Ordering whole numbers from 1000-10,000 using Place Value	**Theme:** Knowing and understanding numbers up to 10,000	
Lesson Number: M-03-066	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lessons, pupils will be able to order numbers from 1000 to 10,000 using Place Value.		**Teaching Aids** Blank Place Value Chart at the end of the plan		**Preparation** Draw a blank Place Value chart, at the end of the plan, on the board.

Opening *(2 minutes)*

1. Write the following numbers on the board: 635, 542, 902, 680, 28, 920
2. **Say:** Please look at the numbers on the board. Write them in your exercise book in order from smallest to largest. (Answer: 28, 542, 635, 680, 902, 920)
3. Give pupils 1 minute to work.
4. **Say:** Let's read the numbers out loud in order from smallest to largest.

Introduction to the New Material *(14 minutes)*

1. **Say:** Today we are going to put even bigger numbers in order. We will use our Place Value charts to help us.
2. Point to the blank Place Value Chart on the board.
3. **Say:** Please copy this chart in your exercise book. I have forgotten the places that we write in the top row. Who can help me?
4. Ask a volunteer to fill in the top row. (Answer: Thousands, Hundreds, Tens, Ones)
5. **Ask:** Is our friend correct? Fill in your top row.
6. **Say:** Sahr has to walk 1765 metres to get to school. Jusu has to walk 1757 metres. Who has a longer walk?
7. Write 'Sahr: 1765' and 'Jusu: 1757' on the board as you speak.
8. **Say:** If you think Sahr has a longer walk, put your hands in the air. If you think Jusu has a longer walk, tap your desk. If you aren't sure, tap your nose.
9. Wait for a few seconds for all pupils to make their choices.
10. **Say:** I need 1 boy and 1 girl to put the numbers in the Place Value chart on the board. If you are seated, put the numbers in your Place Value chart.
11. **Ask:** Should you look at the Thousands, Hundreds, Tens or Ones digit first to work out which number is bigger? (Answer: Thousands) Why? (Answer: The value of the Thousands place is bigger than the value of the other places.)

Place Value Chart (Answers)

Thousands	Hundreds	Tens	Ones
1	7	6	5
1	7	5	7

12. **Say:** Think about it with Leones. Would you rather have 1 hundred Leones or 1 thousand Leones? (Answer: 1 thousand Leones) What if you had 8 hundred Leones? Is that better than 1

thousand Leones? (Answer: No. Even though you have 8 of the hundred Leones, the 1 thousand Leones is better because a thousand is 10 hundreds, so it is more than 8 hundreds.)

13. **Ask:** Let's get back to our problem. Which boy walked further to school? Who walked more thousands of metres? (Answer: Neither, they both walked 1 thousand.) Who walked more hundreds of meters? (Answer: Neither, they both walked 7 hundreds.) Who walked more tens of metres? (Answer: Sahr. He walked 6 tens and Jusu walked 5 tens.) Who walked more ones? (Answer: Jusu. He walked 7 and Sahr walked 5.) Who walked the furthest? If you think Sahr walked more put your hands in the air. If you think Jusu walked more, tap your desk. If you aren't sure, tap your nose. (Answer: Pupils should all be raising their hands.)

14. **Ask:** How did you know that it was Sahr? (Answer: They walked the same amount of thousands and hundreds, so I had to look at the tens. Sahr walked 6 tens and but Jusu only walked 5. Even though Jusu walked more ones, they aren't worth as much as the tens.)

Guided Practice *(8 minutes)*

1. Write 1843 on the board.
2. **Say:** We also know that Marrah walks 1843 metres to school. Let's put Marrah's, Sahr's and Jusu's distances in order so we can work out who walks the shortest and the longest distance to school. Think about it.
3. Give pupils about 30 seconds to think.
4. **Say**: Write the three numbers in order from smallest to largest in your exercise book.
5. Give pupils about 2 minutes to complete the task.
6. **Ask:** Who can come to the board and write them in order from smallest to largest? While our friend is writing on the board, please tell your partner what you think.
7. **Ask:** Did our friend put them in the correct order? Show me a thumbs up if it is the correct order. Show me a thumbs down if this is not the correct order. (Answer: 1757, 1765, 1843 or Jusu, Sahr, Marrah)
8. Make any corrections as needed.

Independent Practice *(10 minutes)*

1. Write the following numbers on the board: 4569, 4507, 6104, 9654, 4570, 9653
2. **Say:** Please copy the list of numbers on the board. Now, put them in order from smallest to largest. You may put them in your Place Value chart to help if you need to. (Answers: 4507, 4569, 4570, 6104, 9653, 9654)
3. **Say:** When you and your partner are finished, check to see that you both have the same answers. If not, tell each other what you think. Decide together what the correct order is. When you are done, put your hands on your head.
4. When you see that pairs have finished, check their answers. When you have checked some, pupils who had the correct answers can be checkers, too. They can go to other pupils and check their work.

Closing *(2 minutes)*

1. Choose one volunteer. **Say:** Please tell us a small number.
2. After the pupil tells you their number, write it on the board.
3. **Say:** I need another pupil to give me a number that is bigger than the first one.
4. Write that number on the board. Keep getting bigger until you run out of time.
5. **Say:** Well done.

[BLANK PLACE VALUE CHART]

Lesson Title: Locating numbers from 1000-10,000 on a number line	**Theme:** Knowing and understanding numbers up to 10,000	
Lesson Number: M-03-067	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to locate numbers from 1,000-10,000 on a number line.		**Teaching Aids** Number lines A-E throughout the plan		**Preparation** Draw number lines A- E, throughout the plan, on the board.

Opening *(3 minutes)*

Number Line A

1. **Say:** Please look at number line A. Think about what numbers we should write in the empty spaces. Tell your partner.

155   156   159   162

(Answers: 157   158   160   161   163)

2. Give pupils about 1 minute to discuss this with their partners.
3. **Ask:** Who can write the numbers on the board where they belong? If you are seated, show me a thumbs up if the answers are correct. Show me a thumbs down if the answers are incorrect.
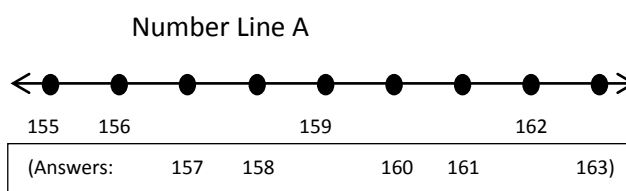
Introduction to the New Material *(10 minutes)*

Number Line B

1. **Say:** Today we are going to use number lines to study large numbers.

5623   5624   5626   5627   5631

(Answers: 5625   5628 5629 5630)

2. Point to number line B on the board.
3. **Say:** We need to find a pattern in the numbers. Please look at the numbers we are given. Tell your partner what you think the pattern is.
4. Give pupils 15 seconds to think about this.
5. **Ask:** Who can tell us what the pattern is? (Answer: counting by 1s) How do you know? (Answer: When you go from 5623 to 5624 you only move up by 1 number.) Did you check that pattern to see if it works with the other numbers that are given? Look at 5626. Is the next number 1 more than that? (Answer: yes) Good. We can be sure that our pattern is to add 1 each time.
6. **Ask:** If our pattern is to add 1 each time, what is the first missing number? Think about it and write what you think in your exercise book. Who can tell me? (Answer: 5625)
7. Write 5625 on the number line where it belongs.
8. **Say:** Let's count the numbers we know now. I will point to the number and you say it. Ready? 5623, 5624, 5625, 5626, 5627
9. **Ask:** Who thinks they know what number will come next? (Answer: 5628)
10. As pupils tell you the answers, write them in on the number line.
11. **Ask:** What number comes next? (Answer: 5629)
12. **Ask:** Who thinks they know what number will come next? (Answer: 5630)
13. **Ask:** What number comes next? (Answer: 5631) Is that the number that is there? (Answer: Yes) Let's check over our work by counting to make sure we are correct. Count with me as I point. 5623, 5624, 5625, 5626, 5627, 5628, 5629, 5630, 5631. Very good!
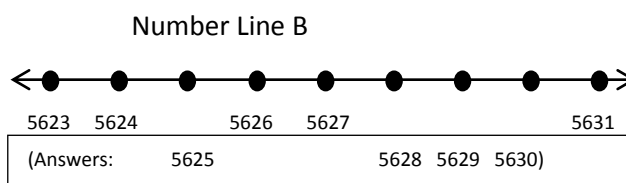
Guided Practice (10 minutes)

1. Point to number line C on the board.
2. **Say:** For the next one, we are going to make it a little more difficult. But you can use the same steps. First, find the pattern. Please copy the number line in your exercise book. Think about what the pattern is.

Number Line D

7,278   7,279   7,280   7,284

(Answers: 7,277   7,281   7,282   7,283

3. Give pupils 2 minutes to copy the number line.
4. **Ask**: Who can tell us what pattern they see? (Answer: The numbers went up by 10s each time.)
5. **Say:** Think back to when we used a 100 Chart to count by 10s. If we started on 18, where did we go? (Answer: 28) Good. So if we start at 1918 and we go up 10, then we land on 1928. Look at your number line and think about what number we will write in the first blank space.
6. Give pupils about 15 seconds to think about this.
7. **Say:** Write your answer below the first empty dot. Look at your partner's answer. Do you agree? Please raise your hand if you and your partner wrote the same answer.
8. **Ask:** Who can write the answer on the board? If you are at your seat, check your answer as our friend writes it on the board. Please raise your hand if you and your partner have a different answer. Make any corrections as needed.
9. **Say:** Think about what will go under the next dot. Write it in. Check it to see that the pattern continues with the next number that is already done for you. What number do you think works under the empty dot? (Answer: 1958)
10. **Say:** Try the next empty dot. Tell your partner what you think. Agree on an answer. Then decide on the number for the final empty dot. Give pupils about 2 minutes.
11. **Ask:** Who would like to fill in the number line on the board? If you are seated show me a thumbs up if the answers are correct and a thumbs down if the answers are incorrect.
12. **Say:** Let's check our work by saying the numbers out loud and making sure the pattern continues with each number. As I point to the dot, you say the number. 1918, 1928, 1938, 1948, 1958, 1968, 1978, 1988, 1998.
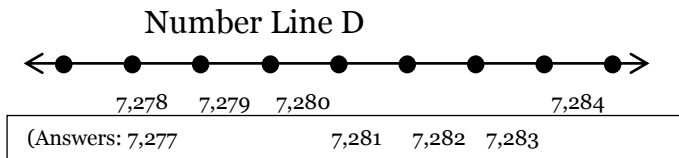
Independent Practice *(10 minutes)*

1. Point to number lines D and E.
2. **Say:** Now you will practise what we learned. Please copy Number Line D and E in your exercise book. Find the pattern in each number line. Fill in the empty dots.

3,412   3,512   3,612   3,912   4,112

(Answers: 3,712   3,812   4,012)

3. **Say:** When you and your partner are finished, check to see that you both have the same answers. If not, tell each other what you think. Decide together what the correct numbers are. When you are done, put your hands on your head.

1,918   1,928   1,958   1,968   1,988

4. When you see that most pairs have finished, write the answers on the board.
5. **Say:** Please check your answers with what I wrote on the board. Change your answers if they are incorrect.
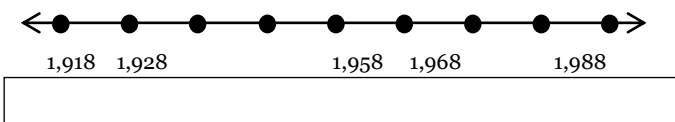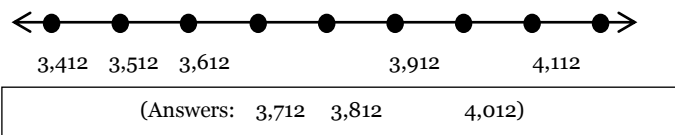
Closing *(2 minutes)*

1. **Say:** Let's read the numbers on number line D. Listen to make sure you hear the pattern.
2. **Ask:** What was the pattern? (Answer: We went up by 1 each time.)
3. **Say:** Let's read the numbers on number line E. Listen to make sure you hear the pattern.
4. **Ask:** What was the pattern? (Answer: We went up by 100 each time.)
5. **Say:** Well done.

Lesson Title: Comparing numbers 1000 to 10,000 using a number line and place value	**Theme:** Knowing and understanding numbers up to 10,000	
Lesson Number: M-03-068	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to compare numbers 1000 to 10,000 using a number line and place value.		**Teaching Aids** 1. Blank Place Value Chart at the end of the plan 2. Comparison Sentences		**Preparation** 1. Draw a blank Place Value Chart, at the end of the plan, on the board. 2. Write the Comparison Sentences, in the Independent Practice, on the board. Do not write the < or > answers.

Opening *(2 minutes)*

1. **Say:** Today we will be comparing large numbers. Which number is larger? 53 or 47? Tell your partner. (Answer: 53) How do you know? (Answer: 53 has 5 Tens, but 47 only has 4 Tens. Even though it has more ones, the Tens are worth more.)

Introduction to the New Material *(10 minutes)*

1. **Ask:** Who remembers the symbols we use to compare numbers? Please come and draw them on the board. (Answers: < and >) While Pupil A (use his name) is drawing them on the board, who can tell us how we know which symbol to use? (Answer: The crocodile's mouth opens to the largest number because he wants to eat the most fish.) We are going to use our Place Value charts and number lines to help us compare numbers.

2. **Say:** Look at the Place Value chart on the board. What goes across the top row? (Answer: Thousands, Hundreds, Tens, Ones) If I want to compare 2 large numbers like 7847 and 7902, I can put them in the chart like this.

   Place Value Chart

(Thousands)	(Hundreds)	(Tens)	(Ones)
7	8	④	⑦
7	⑨	0	2

3. Write them in the chart on the board.

4. **Say:** Tell me which digit in each column is bigger. Which one is bigger in the Thousands place? (Answer: neither)

5. As pupils tell you the larger number, circle it.

6. **Ask:** Which one is bigger in the Hundreds place? (Answer: 9) In the Tens place? (Answer: 4) And in the ones place? (Answer: 7)

7. **Ask:** Should you look at the Thousands, Hundreds, Tens or Ones digit first to figure out which number is bigger? (Answer: thousands) Why? (Answer: The value of the thousands place is bigger than the value of the other places.)

8. **Say:** Remember when we talked about Leones? Would you rather have 1 hundred Leones or 1 thousand Leones? (Answer: 1 thousand Leones) What if you had 8 hundred Leones? Is that better than 1 thousand Leones? (Answer: No. Even though you have 8 of the hundred Leones, the 1 thousand Leones is better because a thousand is 10 hundreds, so it is more than 8 hundreds.)
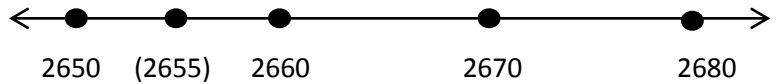
2650   (2655)   2660   2670   2680

9. **Say:** Now that we have circled the larger digits in our 2 numbers, which one is bigger? (Answer: 7,902). If I am comparing these numbers, I would write: 7847 < 7902.
10. Write '7847 < 7902' on the board.
11. **Say:** I would say, '7 thousand, 8 hundred and forty-seven is less than 7 thousand, 9 hundred and two.

Guided Practice *(10 minutes)*

1. Draw the following number line on the board (do not include 2655)
2. **Say:** We can also use a number line to help us compare numbers. Please copy the number line on the board. Make sure to leave room in between the dots so you can put more numbers on the number line.
3. Give pupils about 2 minutes to copy the number line.
4. **Say:** Put your finger on your number line where 2655 belongs. Look at your partner. Do they have their finger in the correct spot? Who can come show us on the board? While Pupil A (use her name) is writing it on the board, please write it on your number line.
5. **Ask:** Where does 2655 belong? (Answer: between the 2650 and the 2660) How do you know? (Answer: It is larger than 2650 and smaller than 2660.)
6. Write 2655 ◯ 2660 on the board.
7. **Ask:** What symbol should go in this comparison? (Answer: < or less than) Write this in your exercise book under the number line.
8. Draw the < symbol in the sentence on the board so it looks like this: 2655 < 2660.

Independent Practice *(10 minutes)*

1. Write the following numbers on the board: 8120   8123   8110   8115   8118
2. **Say:** Put the numbers in the place value chart, then place the numbers on a number line.
3. **Say:** Use < and > to complete the Comparison Sentences. Give pupils 10 minutes to work.

Answers:

8110   8115   8118   8120   8123

Thousands	Hundreds	Tens	Ones
8	1	2	0
8	1	2	3
8	1	1	0
8	1	1	5
8	1	1	8
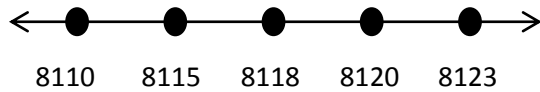
Comparison Sentences

A. 8110 (<) 8120

B. 8123 (>) 8115

C. 8115 (<) 8120

D. 8123 (>) 8110

E. 8118 (>) 8115

Closing *(2 minutes)*

1. **Say:** We are going to read the Comparison Sentences out loud together:

A. 8110 is less than 8120.   C. 8115 is less than 8120.   E. 8118 is greater than 8115.

B. 8123 is greater than 8115.   D. 8123 is greater than 8110.

[BLANK PLACE VALUE CHART]

Lesson Title: Writing numbers up to 10,000 in expanded form	**Theme:** Knowing and understanding numbers up to 10,000	
Lesson Number: M-03-069	**Class/Level:** Class 3	**Time:** 35 minutes

Learning Outcomes By the end of the lesson, pupils will be able to write numbers up to 10,000 in expanded form.	**Teaching Aids** Blank Place Value Chart at the end of the plan	**Preparation** Draw a blank Place Value Chart, at the end of the plan, on the board.

Opening *(1 minute)*

1. Write 8392 on the board.
2. **Say:** Please look at the number on the board. I will call out a digit and you tell me what place it is in. 8 (Answer: Thousands), 3 (Answer: Hundreds), 9 (Answer: Tens), 2 (Answer: Ones)

Introduction to the New Material *(10 minutes)*

1. **Say:** We are going to use our Place Value chart in a different way to help us write numbers in expanded form today. Expanded means to stretch it out. We are going to write numbers in stretched out form. Look at 8392 again. Where do we put the 8 in the Place Value chart? (Answer: Thousands column) If we put the 8 there, what is it worth? (Answer: 8000) We can write 8000 in the Place Value chart. The 8 does not have any Hundreds, Tens or Ones in it, so we write 0s in those columns.
2. Write 8000 in the first row of the Place Value chart as shown below.
3. **Say:** Now, look at the 3. Which column does it belong in? (Answer: Hundreds column) The 3 has no Tens or Ones, so we write 0s in those columns.
4. Write 300 in the second row of the Place Value chart as shown below.
5. **Say:** Let's try the 9. Which column does it belong in? (Answer: Tens column) The 9 has no ones, so we write 0 in that column.
6. Write 90 in the row of the Place Value Chart as shown below.
7. **Say:** Now, look at the 2. Which column does it belong in? (Answer: Ones column)

Thousands	**Hundreds**	**Tens**	**Ones**
8	0	0	0
	3	0	0
		9	0
			2

8. **Say:** You can see that we have 4 numbers in our Place Value Chart. Let's add them together.
9. Write the addition problem on the board as shown. Do not write the answer.
10. **Say:** Let's add the ones column. 0 + 0 + 0 + 2 = 2. Write the 2 below the line.

```
  8 0 0 0
    3 0 0
      9 0
+       2
─────────
  8 3 9 2
```

11. **Say:** Let's add the tens column. 0 + 0 + 9 + 0 = 9. Write the 9 below the line.
12. **Say:** Let's add the hundreds column. 0 + 3 + 0 + 0 = 3. Write the 3 below the line.
13. **Say:** Let's add the thousands column. 8 + 0 + 0 + 0 = 8. Write the 8 below the line.
14. **Ask:** What does it all add up to? (Answer: 8392) When we want to write a number in stretched out form, or expanded form, we write it like this: 8000 + 300 + +90 + 2 = 8,392.

Guided Practice *(10 minutes)*

Place Value Chart 6,237			
Thousands	Hundreds	Tens	Ones
6	0	0	0
	2	0	0
		3	0
			7

1. **Say:** Let's do one together. The number is 6237.
2. Erase the numbers from the Introduction in your Place Value Chart. Write 6237 at the top of the chart.
3. **Ask:** Where do we put the 6 in the Place Value Chart? (Answer: Thousands column) If we put the 6 there, what is it worth? (Answer: 6000) We can write 6,000 in the Place Value Chart. Write 6000 in the top row of the Place Value Chart.
4. **Say:** Now, look at the 2. Which column does it belong in? (Answer: Hundreds column) The 2 has no tens or ones, so we write 0s in those columns.
5. Write 200 in the second row of the Place Value Chart as shown.
6. **Say:** Let's try the 3 and the 7. Which columns do they belong in? (Answer: Tens and Ones column) Fill in the next 2 rows.
7. Write 30 in the 3rd row and 7 in the last row of the Place Value chart as shown.
8. **Say:** Work with your partner. Use the information you have on your Place Value chart to help you write 6237 in expanded form. Put your hands on your heads when you think you have the correct answer.
9. **Ask:** Who can write the expanded form on the board? (Answer: 6000 + 200 + 30 + 7 = 6,237)

Independent Practice *(10 minutes)*

1. Write the following numbers on the board:
   9186	(Answer: 9000 + 100 + 80 + 6)		4073	(Answer: 4000 + 0 + 70 + 3)
   3409	(Answer: 3000 + 400 + 0 + 9)
2. **Say:** Please copy these numbers in your exercise book. Use your Place Value chart to help you write the numbers in expanded form. Give pupils 7 minutes to work.
3. **Say:** Trade exercise books with your partner. Please check their work. If you disagree on an answer, decide together what the correct answer is. Remember that we learn from the mistakes that we make. When you think you and your partner have the correct answers, put your hands on your head.
4. When most pairs have their hands on their heads, **Ask:** Who can write the answers on the board? If you are at your seat, show me a thumbs up for correct answers and a thumbs down if you think the answers are incorrect.
5. Make sure that all the answers are correct.

Closing *(3 minutes)*

1. **Say:** We can take numbers in expanded form and write them in standard form. Try this one.
2. Write 8000 + 500 + 70 + 1 on the board.
3. **Ask:** What do you think this is in standard form? Please talk with your partner.
4. Give them 1 minute to work. Then write the answer on the board. (Answer: 8571)

[PLACE VALUE CHART]

Thousands	Hundreds	Tens	Ones

Lesson Title: Writing numbers up to 10,000 in expanded form	**Theme:** Knowing and understanding numbers up to 10,000	
Lesson Number: M-03-070	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to write numbers up to 10,000 in expanded form.		**Teaching Aids** None		**Preparation** Write the number 8392 on the board.

Opening *(2 minutes)*

1. **Say:** Please look at the number on the board. I will call out a digit and you tell me what place it is in. 8 (Answer: Thousands), 3 (Answer: Hundreds), 9 (Answer: Tens), 2 (Answer: Ones), 3 (Answer: Hundreds), 8 (Answer: Thousands), 2 (Answer: Ones), 9 (Answer: Tens). Today we are going to look at expanded form in a different way.

Introduction to the New Material *(10 minutes)*

1. **Ask:** Let's look at the number 3586.
2. Write 3586 on the board. As you say each step, write it on the board. Line everything up as shown. When you are finished, the board should look as shown on the right.

```
3586
6  →  6 Ones      =     6 x 1     =       6
8  →  8 Tens      =     8 x 10    =      80
5  →  5 Hundreds  =     5 x 100   =     500
3  →  3 Thousands =     3 x 1000  =    3000
3586 =  3000 + 500 + 80 + 6
```

3. **Ask:** What place is the 6 in? (Answer: ones) We can write 6 ones. We can also write that as 6 x 1 because it is 6 ones. What is 6 x 1? (Answer: 6) What is the 6 worth? (Answer: 6)
4. **Say:** Let's do the 8. Think back to your sticks. Each individual stick was worth 1. What were your bundles of ten sticks worth? (Answer: 10) How many Tens do we have? (Answer: 8) We can write 8 Tens. That is the same as 8 x 10. What is the 8 worth? (Answer: 80)
5. At this point, you should have written the 1st two lines on the board. Make sure to line everything up as shown in the example.
6. **Ask:** What place is the 5 in? (Answer: Hundreds) We can write 5 Hundreds. We can also write that as 5 x 100 because it is 5 Hundreds. What is 5 x 100? (Answer: 500) What is the 5 worth? (Answer: 500)
7. **Ask:** What place is the 3 in? (Answer: Thousands) We can write 3 thousands. We can also write that as 3 x 1000 because it is 3 thousands. What is 3 x 1000? (Answer: 3,000) What is the 3 worth? (Answer: 3000)
8. Point to each number as you say it.
9. **Say:** So now we have 3000, 500, 80 and 6. We can write that as 3000 + 500 + 80 + 6.

Guided Practice *(10 minutes)*

1. **Say:** Let's do one together. Let's try the number 1903.
2. Write 1903 on the board. As you say each step, write it on the board. Line everything up as shown. When you are finished, the board should look as shown on the right.

3. **Say:** Write 1903 in your exercise book. What place is the 3 in? (Answer: Ones) We can write 3 ones. We can also write that as 3 x 1 because it is 3 ones. What is 3 x 1? (Answer: 3) What is the 3 worth? (Answer: 3)

```
1903
3  →  3 Ones      =      3 x 1     =        3
0  →  0 Tens      =      0 x 10    =       00
9  →  9 Hundreds  =      9 x 100   =      900
1  →  1 Thousand  =    1 x 1000    =    1,000
1903 =  1000 + 900 + 0 + 3
```

4. **Say:** Please copy what I have written in your exercise book. Make sure to line it up as I have.

5. **Say:** Let's do the 0. How many Tens do we have? (Answer: 0) We can write 0 Tens. That is the same as 0 x 10. What is the 0 worth? (Answer: 0) Even though it is a 0, we should keep it there to hold that place for us.

6. At this point, you should have written the 1st two lines on the board. Please make sure to line everything up as shown in the example.

7. **Ask:** What place is the 9 in? (Answer: Hundreds) How can we write that? (Answer: 9 Hundreds) How else can we write it? (Answer: 9 x 100 because it is 9 Hundreds) What is 9 x 100? (Answer: 900) What is the 9 worth? (Answer: 900) Write those answers in that line.

8. **Ask:** What place is the 1 in? (Answer: Thousands) Write the rest of that line in your chart.

9. Give pupils about 1 minute to write.

10. **Ask:** Who can finish the chart on the board? If you are seated, show, me a thumbs up if you think the answers are correct or a thumbs down if the answers are incorrect. (Answers: 1 Thousand = 1 x 1000 = 1000)

11. Point to each number as you say it.

12. **Say:** We have 1000, 900, 0 and 3. Write 1903 in expanded form. (Answer: 1000 + 900 + 0 + 3)

13. **Say:** Remember from Lesson 69, we can take numbers in expanded form and write them in standard form. So if I had 9000 + 600 + 30 + 1, what would that equal? (Answer: 9631)

Independent Practice *(10 minutes)*

1. Write the following on the board:
   4136   (4000 + 100 +30 + 6)   2034   (2000 + 0 + 30 + 4)
   7255   (7000 + 200 + 50 + 5)

2. **Say:** Copy the numbers in your exercise book. Write them in expanded form.

3. Give pupils about 7 minutes to work. While they are working, have 4 volunteers (2 boys and 2 girls) write the answers on the board**.**

4. **Say:** Let's look at the answers on the board. Is A. correct? If you think it is correct, put your right hand in the air. If you think it is incorrect, put your hands on your head.

5. If pupils disagree, have them explain what they think. Ask the other pupils to decide which answer they think is correct. Make sure they end up with the correct answers. Do the same to check B. and C.

Closing *(3 minutes)*

1. Write the following on the board:

   7000 + 800 + 90 + 4   (7894)   2000 + 200 + 30 +1   (2231)

6000 + 0 + 50 + 6   (6056)

2. **Say:** Please copy these expanded form numbers in your exercise books. Write the number in standard form. You may work with your partner.
3. Give pupils 2 minutes to work. Write the answers on the board next to the expanded form.
4. **Say:** Check your work. Please make corrections if you need to. Pat yourself on your back if you tried your best.

Lesson Title: Revising addition of numbers 100-1000 by using a number line	**Theme:** Everyday Arithmetic (including Financial Literacy) Addition of 3-4 Digits, Number up to 10,000	
Lesson Number: M-03-071	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve addition problems up to 1000 using a number line.		**Teaching Aids** Blank number line at the end of the plan		**Preparation** Draw a blank number line, at the end of the plan, on the board.

Opening *(3 minutes)*

1. **Say:** Today we will be adding large numbers. Who can solve this addition problem: 470 + 213? Try it with your partner. You can use any method that you think might work.
2. Give pupils 2 minutes to work. **Ask:** Who thinks they may have the answer?
3. Write the answers that the pupils give you on the board. Don't worry if the answers are wrong.

Introduction to the New Material *(10 minutes)*

1. **Say:** We are going to solve this addition problem, but we will use number lines to help us. We will start by putting 470 on our number line.
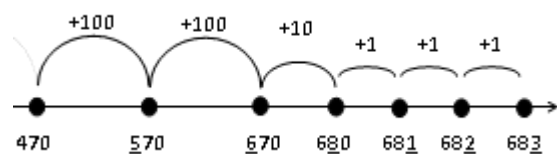
2. Write 470 on the left side of the number line.
3. **Ask:** How many hundreds do I need to add? (Answer: 2)
4. **Ask:** What is one hundred more? (Answer: 570)
5. Draw the arc. Write 570 below the dot. Write +100 on the arc. Underline the hundreds place.
6. **Ask:** What is one hundred more? (Answer: 670)
7. Draw the arc. Write 670 below the dot. Write +100 on the arc. Underline the hundreds place.
8. **Say:** We added 2 hundreds. What do we need to add next? (Answer: 1 ten)
9. **Ask:** What is one ten more? (Answer: 680)
10. Draw the arc. Write 680 below the dot. Write +10 on the arc. Underline the tens place.
11. **Say:** We added 1 ten. What do we need to add next? (Answer: 3 ones)
12. **Ask:** What is three more? (Answer: 683)
13. Draw 3 arcs and dots. Write 681; 682; 683 below the dots. Write +1 on the arcs. Underline the ones place in each number.
14. **Say:** We have now added 2 hundreds, 1 ten and 3 ones. What is our answer to 470 + 213? (Answer: 683) Did anyone get that answer at the beginning of the class? Did anyone solve it in other ways?

Guided Practice *(10 minutes)*

1. **Say:** Now we will do one together. Draw a blank number line in your exercise book.

2. Give pupils about 20 seconds to draw the number line. Draw your number line on the board. Fill it in as the pupils give you the answers.
3. **Say:** We are going to add 106 + 423. Please write that at the top of the paper.
4. **Ask:** What will we write on the left side of the number line? (Answer: 106) Draw the dot and write that under the dot.
5. **Ask:** Where will we land when we add 1 hundred? (Answer: 206) Draw your arc. Write +100 above the arc. Make your dot and write 206 under it. Who would like to do the next one on the board for us? If you are seated, do the next step in your exercise books. (Answer: Draw the arc to 306 and write +100 above it.)
6. When Pupil A has finished on the board, **Ask:** Is Pupil A (use her name) correct?
7. If there is disagreement, let them explain their answers and then show them the correct answer.
8. **Say:** Jump 2 more hundreds. Where do you land? (Answer: 406 and 506) Please write your jumps on your number line.
9. **Ask:** What do you need to jump next? (Answer: 2 tens) Where do you land? (Answer: 516 and 526) Please write those jumps on your number line.
10. **Ask:** How many ones do you need to jump? (Answer: 3) Where do you land? (Answer: 529) So what is 106 + 423? (Answer: 529) Please check that your number line looks like the one on the board.
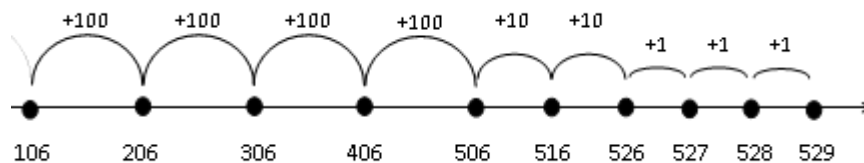
Independent Practice *(15 minutes)*

1. **Say:** Please add 612 + 341. Use the number line method to solve the problem. Show all of your jumps. You may check your work by solving it using a different method.
2. Give pupils 10 minutes to work. While they are working, walk around the room to help those who need support. Ask a pupil who is finished to draw her solution on the board.
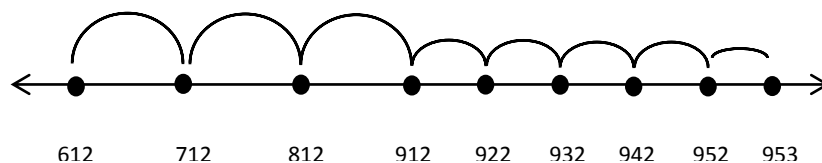
Closing *(2 minutes)*

1. **Ask:** What is the answer to 612+ 341? (Answer: 953)
2. **Say:** Pat yourself on the back if you got the correct answer. Pat yourself on the back if you tried the number line method.

[BLANK NUMBER LINE]
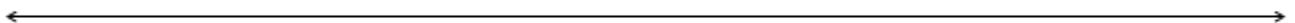
Lesson Title: Addition up to 10,000 without renaming	**Theme:** Addition of 3-4 Digits Numbers up to 10,000	
Lesson Number: M-03-072	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to add numbers up to 10,000 without renaming.		**Teaching Aids** Place Value Chart at the end of the plan		**Preparation** Draw an empty Place Value chart, at the end of the plan, on the board.

Opening *(5 minutes)*

1. **Say:** Today we will be adding even larger numbers than yesterday, but we will use what we know about expanded form to help us. Please write 2413 in expanded form in your exercise book.
2. Give pupils about 1 minute to work. Write the answers on the board as you say them.
3. **Say:** We know we have 2 Thousands, 4 Hundreds, 1 Ten and 3 Ones. So we can write this as 2000 + 400 + 10 + 3.
4. **Say:** Write 1000 + 300 + 40 + 5. How do we write it in standard form? Try it in your exercise book. (Answer: 1345)
5. Give pupils 1 minute to work.

Place Value Chart

Thousands	Hundreds	Tens	Ones
1	3	4	5

6. **Say:** We can use our Place Value chart to help us. How many Thousands do we have? (Answer: 1) We write that in the Thousands column. How many Hundreds do we have? (Answer: 3) We write that in the Hundreds column. How many Tens do we have? (Answer: 4) We write that in the Tens column. How many Ones do we have? (Answer: 5) We write that in the Ones column. Now we can see our number. It is 1345.

```
  2413 = 2000 + 400 + 10 + 3
+ 1345 = 1000 + 300 + 40 + 5
  3758 = 3000 + 700 + 50 + 8
```

Introduction to the New Material *(10 minutes)*

1. **Say:** There are many strategies to solve a problem like 2413 + 1547. One strategy is to use what we just reviewed, expanded form, to help us.
2. Write each step as you say it. By the end, your board should look like the example shown.
3. **Say:** First, we write our problem, 2413 + 1345. It is easiest if you line it up with one number on top of the other. Then we expand the top number like this. (Answer: 2000 + 400 + 10 + 3) Next we expand the bottom number like this. (Answer: 1000 + 300 + 40 + 5). Draw a + sign in front and draw a line under the entire problem because we are going to add.
4. **Say:** Look at the numbers all the way to the right. How many ones do we have? (Answer: 8) We write 8 below the line because we added 3 + 5 and got 8. How many Tens do we have? (Answer: 5) We write 50 below the line because we added 10 + 40 and got 50. How many Hundreds do we have? (Answer: 7) We write 700 below the line because we added 400 + 300 and got 700. How many Thousands do we have? (Answer: 3) We write 3000 below the line because we added 2000 + 1000 and got 3000.
5. **Say:** If we put + signs between all the numbers, we now have the answer in expanded form. We can change it back into standard form.

33

6. Write the number in the Place Value chart as you say it.
7. **Say:** We have 3 Thousand, 7 Hundreds 5 Tens and 8 Ones. If we take it out of the chart, we can write it like this: 3758.

Guided Practice *(8 minutes)*

1. **Say:** Now we will do one together. Write 2635 + 7162 in your exercise book. Remember to line it up with one number on top of the other. Tell your partner what the first step is. Who can tell me what your partner said? (Answer: Expand the top number.) Do that beside the top number. Write it on the board as pupils write it in their book.
2. **Ask:** Who can share with us what to write? (Answer: 2000 + 600 + 30 + 5) What do we do next? (Answer: Expand the bottom number.)
3. **Ask:** Who can tell us what 7162 looks like in expanded form? (Answer: 7000 + 100 + 60 + 2). Draw a + sign in front and draw a line under the entire problem because we are going to add.
4. **Say:** Now we need to add each place. How many ones do we have? (Answer: 7) Write 7 below the line because we added 5 + 2 and got 7.
5. **Ask:** What do we write below the line in the Tens place? Please tell your partner. Who can write it on the board and explain it? (Answer: 90 because we added 30 + 60 and got 90.)
6. **Ask:** How many Hundreds and Thousands do we have? Talk to your partner. Write your answers.
7. Give pupils 1 minute to work.
8. **Say:** I need someone to write the answers on the board. (Answer: We write 700 because we added 600 + 100. We write 9,000 because we added 2000 + 7000.)
9. **Say:** If we put + signs between all the numbers, we now have the answer in expanded form. We can change it back into standard form. Use your Place Value Chart if you need to.
10. Give pupils about 30 seconds. **Ask:** Who can write our answer on the board? (Answer: 9797)

Independent Practice *(10 minutes)*

1. Write the following addition problems on the board: 2160 + 1739 = 4530 + 3054 =
2. *Say:* Copy the addition problems in your exercise book. Solve them by using the expanded form to help you. Show all of your work, just like we did on the board. You may work with your partner on the first one. Then try the second one on your own.
3. Give pupils about 7 minutes to work.
4. *Say:* Please watch as I solve the problems on the board. Check your partner's paper.
Write the answers on the board as shown on the right.

```
Answers:
   2160 = 2000 + 100 + 60 + 0
+  1739 = 1000 + 700 + 30 + 9
   3899 = 3000 + 800 + 90 + 9

   4530 = 4000 + 500 + 30 + 0
+  3054 = 3000 +    0 + 50 + 4
   7584 = 7000 + 500 + 80 + 4
```

After you finish, **Ask**: Raise your hand if your partner got the same answers as I did. Please show your partner where they made a mistake if they did.

Closing *(2 minutes)*

1. **Ask:** Please list as many sets of 2 numbers that you can add to make 100. For example, 50 + 50.
2. Give pupils about 1 minute. **Ask:** Tell me what you wrote. Everyone else show a thumbs up if you agree with the sets.
3. **Say:** Well done.

[PLACE VALUE CHART]

Thousands	Hundreds	Tens	Ones

Lesson Title: Addition up to 10,000 with renaming	**Theme:** Addition of 3-4 Digits Numbers up to 10,000	
Lesson Number: M-03-073	**Class/Level:** Class 3	**Time:** 35 minutes

Learning Outcomes By the end of the lesson, pupils will be able to add numbers up to 10,000 with renaming.	**Teaching Aids** 1. Place Value Chart at the end of the plan 2. 25 Sticks	**Preparation** 1. Draw an empty Place Value Chart, at the end of the plan, on the board. 2. Gather 25 sticks, approximately 15-20cm long.

Opening *(2 minutes)*

1. **Say:** Today we will be adding large numbers using expanded form again, but we will add more difficult numbers. Please raise your hand if you remember when we used sticks (or straws) to make bundles. How many sticks did we put together to make 1 bundle? (Answer: 10) I have 25 sticks on my desk. How many bundles can I make? (Answer: 2) How many single sticks will I have left over? (Answer: 5) So I have 2 tens and 5 ones. That makes how many? (Answer: 25) We will need to remember that as we work today.

Introduction to the New Material *(10 minutes)*

1. **Say:** Now that we have had a quick review, we are going to try a difficult addition problem. We are going to solve 2428 + 5934

TH	H	T	O
^{1}2	4	^{1}2	8
+ 5	9	3	4
8	3	6	2

8 Ones + 4 Ones = 8 + 4 = 12 = 1 Ten and 2 Ones
1 Ten + 2 Tens + 3 Tens = 10 + 20 + 30 = 60 = 6 Tens
4 Hundreds + 9 Hundreds = 400 + 900 =1300 = 1 Thousand and 3 Hundreds
1 Thousand + 2 Thousands + 5 Thousands = 1000 + 2000 + 5000 = 8000 = 8 Thousands

2. Write each step as you say it. By the end, your board should look like the example shown.
3. **Say:** First, we write our problem, 2428 + 5934 in the Place Value chart. Please look at the numbers all the way to the right. How many ones do we have? We add 8 ones + 4 ones which is equal to 8 + 4. That equal 12. How many bundles can we make with 12 sticks? (Answer: 1 bundle with 2 left over) So we have 1 Ten and 2 Ones.
4. You should now have '8 Ones + 4 Ones = 8 + 4 = 12 = 1 Ten and 2 Ones' written under your chart.
5. **Say:** I can write 2 Ones in the Ones column. But I can't put a Ten in the Ones column, so I have to put it in the Tens column. I put a small 1 above the other Tens I need to add so I remember to add another Ten. I call this 'renaming' because I am naming it as 1 Ten instead of 10 ones.
6. **Say:** Now I add my Tens. I have to add 1 Ten + T tens + 3 Tens which is really 10 + 20 + 30 or 60. This is the same as 6 Tens. Do I have too many Tens that I need to regroup? (Answer: no)

7. **Say**: Now I need to add my Hundreds. I have 4 Hundreds + 9 Hundreds which is 400 + 900 =1300 1300 is 1 Thousand and 3 Hundreds. I can put my 3 Hundreds in my Hundreds column, but I have to take the Thousand and put it in the Thousands column. So now I have 1 Thousand + 2 Thousands + 5 Thousands. This is the same as 1000 + 2000 + 5000 or 8000. I can write 8 in the thousands column of my chart. Now I can see my answer is 8362.

Guided Practice *(10 minutes)*

1. **Say:** Now we will do one together. Draw a Place Value chart. Write 1670 + 7756 in your chart.
2. Write it on the board as pupils write. Go slowly through the example and point to everything you are doing as you say it. Give pupils time to write each step in their exercise book.

TH	H	T	O
^{1}1	^{1}6	7	0
+ 7	7	5	6
9	4	2	6

0 ones + 6 ones = 6 ones
7 Tens + 5 Tens = 12 Tens = 10 Tens and 2 Tens = 1 Hundred and 2 Tens
1 Hundred + 6 Hundreds + 7 Hundreds = 1400 = 1 Thousand and 4 Hundreds
1 Thousand + 1 Thousand + 7 Thousands = 1000 + 1000 + 7000 = 9000 = 9 Thousands

3. **Say:** We will write in each step as we go. Tell your partner what the first step is. Who can tell me what your partner said? (Answer: Add the ones.) How many Ones do we have? (Answer: 6) Write your 6 in the Ones column. How many tens do we have? (Answer: 12 Tens) You can think about it like this. 12 Tens is the same as 10 Tens and 2 Tens. How much is the 10 Tens? (Answer: 100) So we re-name those 10 Tens as 1 Hundred. We write the 2 Tens in the Tens column and put the extra Hundred in the Hundreds column.
4. **Ask:** Who can add the Hundreds for us? (Answer: 14 Hundreds) Re-name the 1400 as 1 Thousand and 4 Hundreds. Put the 4 in the Hundreds column and the 1 in the Thousand column. What is the final step? (Answer: Add the Thousands column.) What is the answer? (Answer: 9)
5. Give pupils about 30 seconds. **Ask:** Who can write our answer on the board? (Answer: 9426)

Independent Practice *(10 minutes)*

1. Write the following addition problems on the board: 1246 + 6922 =   8346 + 1570 =
2. **Say:** Please copy the addition problems in your book. Solve them by using the Place Value Chart. You may work with your partner on the first one. Then try the second one on your own.
3. Give pupils about 7 minutes to work.
4. **Ask:** Who can explain how you solved the problems?
5. **Say:** If you agree with the answer on the board, show me a thumbs up. If you disagree, show me a thumbs down.

Answers:

TH	H	T	O
^{1}1	2	4	6
+ 6	9	2	2
8	1	6	8

TH	H	T	O
8	^{1}3	4	6
+ 1	5	7	0
9	9	1	6

6. Check that pupils have the correct answer.

Closing *(3 minutes)*

1. **Ask:** Please list as many sets of 2 numbers that you can add to make 1000. For example, 400 + 600.
2. Give pupils about 1 minute. **Say:** Tell me what you wrote. Everyone else show a thumbs up if you agree with the sets.

[PLACE VALUE CHART]

Thousands	Hundreds	Tens	Ones

Lesson Title: Use mental strategies for addition up to 10,000	Theme: Addition of 3-4 Digits Numbers up to 10,000	
Lesson Number: M-03-074	Class/Level: Class 3	Time: 35 minutes

Learning Outcomes By the end of the lesson, pupils will be able to solve simple addition problems up to 10,000 mentally.	Teaching Aids 1. 100 Chart at the end of the plan 2. 15 sticks	Preparation 1. Draw a 100 Chart, at the end of the plan, on the board. 2. Gather 15 sticks, approximately 15-20cm long.

Opening *(2 minutes)*

1. **Say:** Today we are going to add large numbers, but we're going to learn how to do it in our heads. When would you ever need to do an addition problem in your head without using paper? (Answer: At the market, or when you are sharing a taxi ride and you need to figure out how much money you and your friend have.)

2. **Ask:** Who can tell me what 35 and 20 is? (Answer: 55) How were you able to solve that in your head? (Answer: I just started at 35 and counted 2 Tens.) Did anyone think about it a different way? (Possible answer: I knew that 30 and 20 is 50 and then we still had 5 more Ones, so that makes 55.) There are many different strategies to solve addition problems, so you may understand one way better than another. If you talk about your strategies with your classmates, you may discover other ways that make sense to you.

Introduction to the New Material *(10 minutes)*

1. **Say:** We can use what we know about numbers to help us with mental strategies. Please look at the 100 Chart. I have my finger on the 35. If I want to add 20, I will count by 10s twice. I get to 45, then 55. Notice that the ones digit stayed the same, only the Tens digit changed.

2. Point to 35, then move your fingers down one row to the 45, then down another row to 55.

3. **Say:** We can use that same method when we count by Hundreds or Thousands also. If I want to add 305 + 200, I just count up by Hundreds and leave the other places alone.

4. Write '305 + 200 =' on the board.

5. **Say:** 305… 405… 505. Remember back to when we were jumping on the number line. Complete the addition problem by writing '505'.

6. **Say:** We can do the same with 4-digit numbers. Let's start with 3555 + 2000. Write 3555 + 2000 = on the board.

7. **Say:** I would count up and say 3555… 4555… 5555. Complete the problem by writing '5555'.

8. **Say:** If I have a more difficult problem, like 3555 + 2003, I can still us the same strategy. I just have one more step to complete.

9. Write 3555 + 2003. Write the numbers you count up to as you say them. When you finish, the board will look like the example shown.

10. **Say:** I count up 2 thousands. 3555… 4555… 5555 Now I add the 3 ones. So I say 5555… 5556… 5557… 5558. The answer is 3555 +

| 3555 + 2003 = |
| 4555 |
| 5555 |
| 5556 |
| 5557 |
| 5558 |
| 3555 + 2003 = 5558 |

2003 = 5558. Please copy the example in your exercise book.

Guided Practice *(5 minutes)*

1. Show the pupils the following process with the sticks you have. **Say:** Counting up is one strategy. Another strategy you can use is to simplify one of the numbers you are adding. For example, if I have 12 + 3, I can make the 12 into 10 by taking 2 sticks away. 10 is an easy number to add in your head. But if I take 2 sticks away, where do I have to put them? (Answer: with the 3 sticks) So now I have 3 sticks and 2 sticks which is 5 sticks. I add that to my 10 sticks and I have 15.
2. **Say:** I wanted to show you how it worked with an easy problem before we try a harder problem.
3. Write the following steps on the board as you say them. It should look like the example shown when you are finished.

7004 + 314 =
-4   +4
7000 + 318 = 7318

4. **Say:** If I want to add 7004 + 314, I can make 7004 simpler by taking 4 away. That makes the first number 7000. But if I take 4 away, I have to add it back to the other number. What is 314 + 4? (Answer: 318). 7000 is easy to add to 318. I get 7318. Please copy this problem in your exercise notebook.

Independent Practice *(15 minutes)*

1. Write the following addition problems on the board: 3625 + 4001 = 5009 + 61 =
2. **Say:** Please copy the following problems on your paper. Use one of the 2 strategies that I shared with you today to solve them. Even though you are doing the work in your head, show me every step you do in your exercise book. Give pupils about 8 minutes to work.
3. **Ask:** Who will write the answers on the board and explain how you solved the problems?
4. There may be more than one way to solve the problem. When a pupil explains their solution, ask if others have a different solution. Listen to other solutions and decide if they are correct. The most common solutions are shown.

   Possible Answers:
   A. 3625 + 4001 =   A. 3625 + 4001
       4625   +1   -1
       5625   3626 + 4000 = 7626
       6625
       7625   B. 5009 + 61 =
       7626   -9   +9
     3625 + 4001 = 7626   5000 + 70 = 5070

Closing *(3 minutes)*

1. **Say:** Please work with your partner. Find pairs of 4-digit numbers that add to 10,000. Find as many as you can, but make sure you are correct. Give pupils a minute to work. **Say:** Tell me one of your pairs. Write them on the board. **Say:** Show me with a thumbs up or thumbs down if you agree.

[100 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

Lesson Title: Word problems using addition up to 10,000	**Theme:** Addition of 3-4 Digits Numbers up to 10,000	
Lesson Number: M-03-075	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve word problems using addition up to 10,000.		**Teaching Aids** 1. Place Value Chart at the end of the plan 2. Word Problems 1 and 2 throughout the plan		**Preparation** 1. Draw a blank Place Value chart, at the end of the plan, on the board. 2. Write Word Problems 1 and 2, at the end of the plan, on the board.

Opening *(2 minutes)*

1. **Say:** We have been studying different ways to add large numbers. Today we will see examples of when we will use these kinds of problems in real life. Who can tell me some of the strategies we used to add large numbers? (Example answers: using a number line, using a Place Value chart, using expanded form, mental maths) Write these strategies on the board when pupils say them.

Introduction to the New Material *(10 minutes)*

1. Point to Word Problem-1.
2. **Say:** Let's start with the first word problem. Read it to yourself while I read it out loud. Read the problem and point to the words as you say them.
3. **Say:** I will underline what we are trying to figure out.
4. Underline the question, 'How much money did he spend to get the sugar? As you explain each step, write it on the board. When finished, it will look like the example shown.
5. **Say:** I can solve this by using my Place Value Chart. I put my numbers in the columns. Then I

> Word Problem- 1
>
> Foday took an okada to the market to buy sugar for his mother. The okada ride cost 1550 Leones. The sugar cost 1860 Leones. How much money did he spend to get the sugar?
>
> Answer:
>
> | TH | H | T | O |
> |---|---|---|---|
> | ^{1}1 | ^{1}5 | 5 | 0 |
> | + 1 | 8 | 6 | 0 |
> | 3 | 4 | 1 | 0 |

add the ones and I get 0. I add the Tens and I get 11 Tens. I know that is the same as 1 Hundred and 1 Ten, so I write the 1 at the bottom and the 1 in the Hundreds column. When I add the Hundreds, I get 14 Hundreds. So I leave the 4 at the bottom of the Hundreds column and put the 1 in the Thousands column. Then I add the thousands and I get 3. My answer is 3410 Leones. This is just one way to solve this problem.

Guided Practice *(10 minutes)*

1. **Say:** Please talk with your partner and find a different way to solve this word problem.
2. Give pupils about 5 minutes to work.
3. **Ask:** Who can show us how they solved the word problem?

4. If pupils do not come up with the following ways of solving the word problem, show them. Show all ways on the board.

Example Answers:

1860 + 1540 =
 +40   -40
1900 + 1500 = 3400 Leones

1860   2860   2960   3060   3160   3260   3360 3370 3380 3390 3400
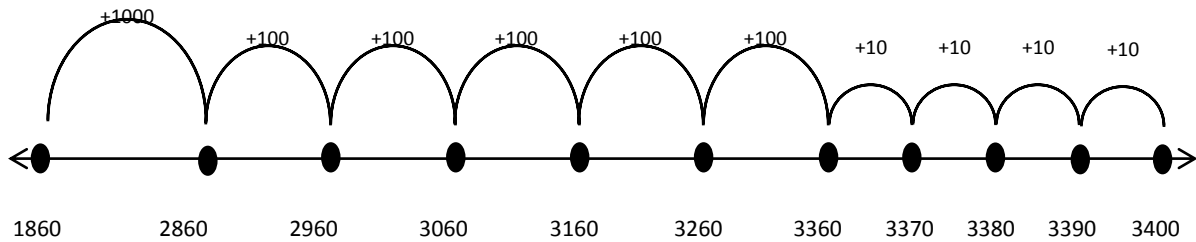
Independent Practice *(10 minutes)*

1. **Say:** Please copy the following word problem in your exercise book. Solve it in at least 2 ways.
2. Give pupils 7 minutes to work. **Say:** Turn to your partner and show them one of your ways. Then your partner will show you their ways. If you disagree, explain your thinking to each other and decide who is correct.

> Word Problem- 2
> On the 50th Anniversary of Sierra Leone's Independence, 4315 people came out for a celebration in Freetown. In Bo, 3510 people came out to celebrate. In Bo and Freetown, how many people celebrated altogether?

3. Write the answer on the board for pupils to check at the end. (Answer: 7825 people)
Example Answers:

TH	H	T	O
4	3	1	5
+ 3	5	1	0
7	8	2	5

4315 + 3510 =

   +10   -10

4325 + 3500 = 7825

4000 + 300 + 10 + 5
+ 3000 + 500 + 10 + 0

7000 + 800 + 20 + 5

4315   5315   6315   7315 7415 7515 7615 7715 7815 7825

43
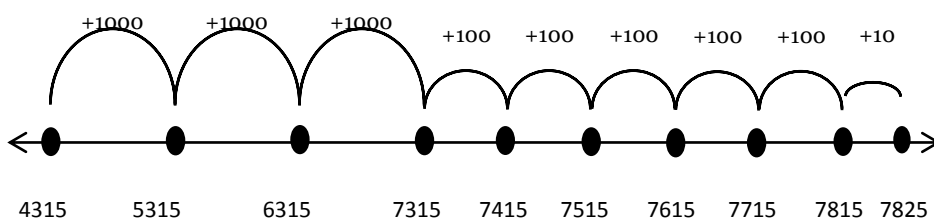
Closing *(3 minutes)*

1. **Say:** Please write 2 pairs of numbers that add together to make 10,000. Trade exercise books with your partner and check his work. Give pupils 2 minutes to work.
2. **Ask:** Who can share some of their pairs?
3. **Say:** Well done.

[PLACE VALUE CHART]

Thousands	Hundreds	Tens	Ones

Lesson Title: Revising subtraction of numbers 100 – 1000 by using a number line	**Theme:** Everyday Arithmetic (including Financial Literacy) - Subtraction up to 10,000	
Lesson Number: M-03-076	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils should be able to solve subtraction problems up to 1000 a using number line.		**Teaching Aids** Number line		**Preparation** Draw the number line, at the end of the plan, on the board.

Opening *(3 minutes)*

1. **Say:** What is 40 - 15? Use a number line to solve this. Give pupils a minute to work.
2. **Say:** Please turn to your partner and tell him/her what the answer is. Give pupils 30 seconds to tell their partner what the answer is.
3. **Ask:** Raise your hand if you both had the same answer.
4. **Ask:** What is the answer? (Answer: 25)
5. **Say:** In today's lesson, we will continue our work on subtraction but we will look at subtracting numbers up to 1000 on the number line.

Introduction to the New Material *(10 minutes)*

1. **Say:** We are now going to learn how to subtract bigger numbers. Please copy the number line in your exercise books.
2. **Say:** Put your finger on the 350. Now jump back one dot. What number is that? (Answer: 300) Let's count backwards from 350 to 150 on our number line and call out the number for each dot. 350, 300, 250, 200, 150. How much did we subtract each time we jumped one dot back? (Answer: 50)
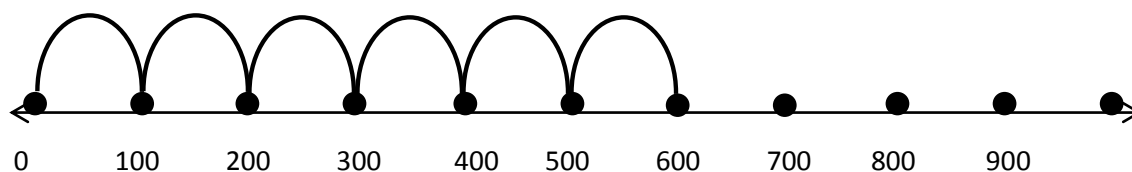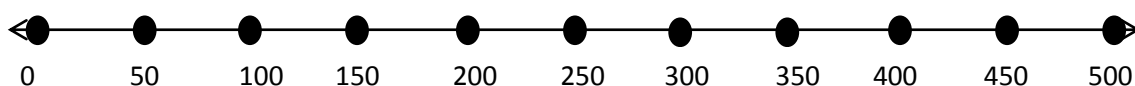
3. **Say:** If I had 600 pupils in the school and 200 left, how many would I have now? Look at the second number line. How much is each dot worth? (Answer: 100). Start at the 600 and jump backwards by 200. If each dot is 100, how many dots will give us 200? (Answer: 2) Where do I end up? (Answer: 400) Please turn to your neighbour and tell her what 600-200 equals. (Answer: 400)
4. Give pupils about 30 seconds to talk.
5. **Ask:** Who can tell me what 600-200 equals? (Answer: 400)

6. **Say:** Let's try a harder one. Now that there are 400 pupils in the school, how many pupils will remain if 150 leave? Take a guess and tell your neighbour.
7. Give them about a minute to talk.
8. **Say:** Let's look at the number line. Put your finger on the 400. We are going to count down by 50 till we have counted 150. We are subtracting 150, so let's use the number line with each dot worth 50. Ready? 50 (point to the 350), 100 (point to the 300), 150 (point to the 250). Where did we end up? (Answer: 250) What is 400 -150? (Answer: 250)
9. On the board, write: 400 − 150 = 250
10. **Say:** In your exercise books, please write the subtraction sentence, 400 − 150 = 250
11. Give pupils 30 seconds to write their subtraction sentence.
12. **Say:** There is an easy way to check your subtraction answers. Add your answer to the number you subtracted. Does it equal the first number? If so, you are correct! If we add our answer, 250, to the number we subtracted, 150, we should end up with 400. 250 + 150 = 400, so we are correct!

Guided Practice *(10 minutes)*

1. **Say:** Let's start at 450 and subtract 100. Please work with your neighbour and your number line.
2. Give them about a minute to work.
3. **Ask:** Who can come to the board and write our subtraction sentence? (450 -100 = 350) Good. Can you explain how you did this problem? (Example answer: I started on the 450. I know that each dot is 50 numbers. I know that two 50s are 100. So I jumped backwards 2 dots. I ended at 350.)
4. **Ask:** Did anyone think about it a different way? (Example answer: I started at 450 and counted back by 50s. When I got to 100, I stopped. I landed on 350.)
5. **Say:** Let's do one more together. 800 - 100. You may work with your neighbour and use your number line to help. Give them about 2 minutes to work.
6. **Ask:** Who can come to the board and write our subtraction sentence? (800 − 100 = 700) Please write the answer in your exercise books while our friend is writing the subtraction sentence on the board.
7. **Ask:** Can you explain how you did this problem? (Example answer: I started on the 800. I know that each dot is 50 numbers. I counted back two 50s and I ended at 700.)

Independent Practice *(10 minutes)*

1. Write the following on the board:

600 − 50 = (Answer: 550)	250 - 50 = (Answer: 200)	550 - 100 = (Answer: 450)
700 - 250 = (Answer: 450)	150 - 50 = (Answer: 100)	200 - 150 = (Answer: 50)
900 - 400 = (Answer: 500)	500 - 50 = (Answer: 450)	

2. **Say:** Please copy these subtraction problems in your exercise books. Solve them by using your number line.
3. Give pupils 8 minutes to work. Write the answers on the board.
4. **Say:** Please check your answers on the board.

5. **Say:** Show me with your fingers how many you got correct.

Closing *(2 minutes)*

1. **Say:** Now let's try a hard one. What is 900-250? Give pupils a minute to work.
2. **Say:** Please turn to your partner and tell them what the answer is.
3. Give pupils 30 seconds to tell their partner what the answer is.
4. **Ask:** Raise your hand if you both had the same answer.
5. **Ask:** What is the answer? (Answer: 650)

Lesson Title: Subtraction up to 10,000 without renaming	**Theme:** Everyday Arithmetic (including Financial Literacy) - Subtraction up to 10,000	
Lesson Number: M-03-077	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to subtract numbers up to 10,000 without renaming.		**Teaching Aids** Part-part-whole model in the introduction section of the plan.		**Preparation** Draw the part-part-whole model, at the end of the plan, on the board.

Opening *(3 minutes)*

1. Write 450 – 300 on the board.
2. **Say:** Solve this problem in your exercise books. Give pupils 2 minutes to work.
3. **Ask:** What answer did you get? (Answer: 150)
4. **Say:** In today's lesson, we will continue our work on subtraction. But now, we will be subtracting bigger numbers.

Introduction to the New Material *(10 minutes)*

1. **Say:** Let's look at this problem. Kambia Schools needs 5650 books for their libraries. They received a donation of 2000 books. How many more do they need? Think about it as a part-part-whole model. Point to the model.
2. **Say:** 5650 is the whole amount that is needed. 2,000 is the part that they already have. The other block is the part that they need. The two parts equal the whole.

5650 books

| 2000 books | ? books |

3. **Ask:** How do I write this in a subtraction problem? (Answer: 5650 – 2000 =)
4. **Say:** The numbers are much bigger so we will write the problem another way. This is called the vertical method. Please say vertical method. (Pupils repeat: vertical method)
5. **Say:** In this method, we subtract each number by the place value.
6. Write: 5650 - 2000 = on the board as:

```
    5   6   5   0          Answer:              5   6   5   0
-   2   0   0   0                           -   2   0   0   0
  _____                          _____
                                                3   6   5   0
```
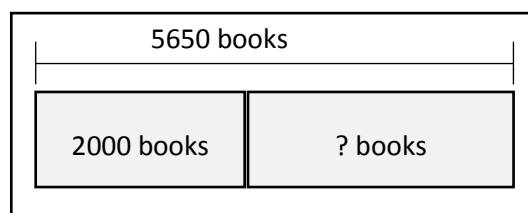
7. **Say:** We start at the ones place, what is 0 minus 0? (Answer: 0) We write 0 (write 0 in the ones place). Then we move to the tens place, what is 5 minus 0? (Answer: 5). We write 5 (Write 5 in the tens place). Then we move to the hundreds place. What is 6 minus 0? (Answer: 6). We write 6 in the hundreds place. Then we move to the thousands place. What is 5 minus 2? (Answer: 3)
8. **Ask:** So what is 5650 – 2000? (Answer: 3650)
9. **Say:** Let's try 8956 – 6811
10. Write: 8956 – 6811= on the board as:

```
    8   9   5   6        Answer:              8   9   5   6
-   6   8   1   1                         -   6   8   1   1
  _____                          _____
                                             2   1   4   5
```

11. **Say:** We start at the ones place, what is 6 minus 1? (Answer: 5) We write 5 (Write 5 in the ones place). Then we move to the tens place, what is 5 minus 1? (Answer: 4). We write 4 (Write 4 in the tens place). Then we move to the hundreds place. What is 9 minus 8? (Answer: 1). We write 1 in the hundreds place. Then we move to the thousands place. What is 8 minus 6? (Answer: 2)
12. **Ask:** So what is 8956 – 6811? (Answer: 2145)
13. Write the complete subtraction problem on the board. (Answer: 8956 – 6811= 2145)

Guided Practice *(10 minutes)*

1. Write the following on the board:

```
a.  4   9   6   8    b.  7   9   3   8    c.  3   7   2   7
-   2   3   3   2    -   6   7   1   6    -   1   0   0   5
  _____      _____      _____
```

(Answer:
```
a.  4   9   6   8    b.  7   9   3   8    c.  3   7   2   7
-   2   3   3   2    -   6   7   1   6    -   1   0   0   5
    2   6   3   6        1   2   2   2        2   7   2   7)
```

2. **Say:** Please work with a partner to do the following in your exercise books. Give pupils 8 minutes to solve the problems.
3. Ask 3 volunteer to write the answers on the board.

Independent Practice *(10 minutes)*

1. Write the following on the board:

```
a.  9   9   5   8    b.  6   9   6   9    c.  4   5   3   1
-   7   1   1   1    -   2   0   2   0    -   2   0   0   0
  _____      _____      _____
```

(Answers: a. 2847 b. 4949 c. 2531)
2. **Say:** Please answer the following problems in your exercise books by yourselves. You may write the expanded forms of the numbers.
3. Give students 7 minutes to work. While they are working, call on volunteers to come to the board and write the answers. Make sure they are correct.
4. **Say:** Please check your answers with those on the board. Raise your hand and show me with your fingers how many you got correct.

Closing *(3 minutes)*

1. **Say:** When we are doing subtraction of big numbers, it is easier to use the vertical method and subtract the ones, then the tens, then the hundreds and then the thousands.
2. **Say:** Tomorrow we will work on more difficult subtraction problems.

Lesson Title: Subtraction up to 10,000 with remaining	**Theme:** Everyday Arithmetic (including Financial Literacy) - Subtraction up to 10,000	
Lesson Number: M-03-078	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to subtract numbers up to 10,000 with remaining.		**Teaching Aids** None		**Preparation** None

Opening *(3 minutes)*

1. **Say:** I am going to ask some questions. I will give you a few seconds to think. Then I will ask you all to answer. Please do not answer until I tell you to.
2. Give students a few seconds to think before you tell them to answer. As the problems get more difficult, give them more time to think.
3. **Ask:** How many Hundreds are in 2402? Think… Answer. (Answer: 4). How many Thousands are there in 2402? Think… Answer (Answer: 2). How many ones are there in 2402? Think… Answer. (Answer: 2) How many Tens are there in 2402? Think… Answer (Answer: 0)
4. **Ask:** What is the value of the 4 in 2402? (Answer: 400)

Introduction to the New Material *(10 minutes)*

1. **Say:** Today we are going to continue working on subtraction of much bigger numbers. Let us try 6894 - 1395. Let's look at this problem. First, let's write this down.
2. Write 6894 – 1395 on the board.
3. **Say:** We will write this in a vertical form.

$$\begin{array}{r} 6894 \\ - 1385 \\ \hline \end{array}$$

4. **Say:** We will start from the ones.
5. **Say:** What is 4 ones take away 5 ones? (Possible answers: 1, 9, not possible)
6. **Say:** We do not have enough ones that we can take 5 from. How can we get more ones? (Answer: We can borrow 1 Ten from the 9 Tens and rename the 4 Ones to become 14 Ones. When we do that, we cross out the 9 to show that we no longer have 9 but now have 8. Then we rename the 4 Ones to be 14 nes because we have added ten Ones to the 4 Ones.)
7. **Ask:** So how many Ones do we have now? (Answer: 14). What is 14 Ones minus 5 Ones? (Answer: 9). What is 8 Tens minus 8 Tens? (Answer: 0) What is 8 Hundreds minus 3 Hundreds? (Answer: 5) What is 6 Thousands minus 1 Thousand? (Answer: 5) So what is our answer? (Answer: 5509)
8. **Say:** Let's try another example.
9. Write 8769 - 3955 on the board.
10. **Say:** We will write this in a vertical form.

$$\begin{array}{r} 8769 \\ - 3955 \\ \hline \end{array}$$

On the board:

$$\begin{array}{r} 6\ 8\ 9^8\ {}^14 \\ -1\ 3\ 8\ 5 \\ \hline 5\ 5\ 0\ 9 \end{array}$$

On the board:

$$\begin{array}{r} 8^7\ {}^17\ 6\ 9 \\ -3\ 9\ 5\ 5 \\ \hline 4\ 8\ 1\ 4 \end{array}$$

11. **Say:** We will start from the ones.
12. **Say:** What is 9 ones minus 5 ones? (Answer: 4)
13. What is 6 Tens minus 5 Tens? (Answer: 1) What is 7 Hundreds minus 9 Hundreds?

51

(Possible responses: 2, do not know, not possible)

14. **Say:** We do not have enough Hundreds that we can take 9 from. How can we get more Hundreds? (Answer: We can borrow 1 Thousand which is 10 Hundreds and rename the 7 Hundreds to become 17 Hundreds). When we do that, we cross out the 8 Thousands to show that we no longer have 8 but now have 7 Thousands. Then we rename 7 Hundreds to be 17 Hundreds because we have added 1 group of ten Hundreds to the 7 Hundreds.

15. **Ask:** So how many Hundreds do we have now? (Answer: 17) What is 17 Hundreds minus 9 Hundreds? (Answer: 8) What is 7 Thousands minus 3 Thousands? (Answer: 4) So what is our answer? (Answer: 4,814)

Guided Practice *(10 minutes)*

1. Write the following on the board:
   a. 2259 – 2087   b. 6694 – 6475
2. **Say:** Solve the following problems with your partner.
3. Ask one pair to write their answer on the board and explain to the class how they reached their answer.

Answers:
a. 2 2¹ ¹5 9
  - 2 0 8 7
      1 7 2

b. 6 6 9⁸ ¹4
  - 6 4 7 5
      2 1 9

Independent Practice *(10 minutes)*

1. Write the following on the board:
   a. 3548 – 3329   b. 5068 – 2344
2. **Say:** Answer the following problems in your exercise books.
3. Give students 7 minutes to work. While they are working, ask volunteers to write the answers on the board. Make sure they are correct.
4. **Say:** Please check your answers with those on the board. Raise your hand and show me with your fingers how many you got correct.

Answers:
a. 3 5 ³4 ¹8
  - 3 3 2 9
      2 1 9

b. ⁴5 ¹0 6 8
  - 2 3 4 4
      2 7 2 4

Closing *(3 minutes)*
1. Write the number 9958 on the board.
2. **Ask:** How many Tens are in 9958? (Answer: 5) What is the 5 worth? (Answer: 50) How many Hundreds would I have left if I borrowed one Hundred to make 15 Tens? (Answer: 8 Hundreds or 800)
3. **Say:** Well done.

Lesson Title: Use mental strategies for subtraction up to 10,000	**Theme:** Subtraction of whole numbers up to 100	
Lesson Number: M-03-079	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve simple subtraction problems up to 10,000 mentally.		**Teaching Aids** None		**Preparation** None

Opening *(3 minutes)*

1. **Ask:** Who can tell me what 50 - 10 is? Everyone, write the answer down in your exercise books.
2. Wait for about 30 seconds. **Say:** Please raise your exercise books so I can see your answer. (Answer: 40)
3. **Ask:** What is 100 - 9? Write the answer down in your exercise books.
4. Wait about a minute. **Say:** Please show me your answers. (Answer: 91)
5. Today we are going to talk about ways to do subtraction in your head with even bigger numbers.

Introduction to the New Material *(15 minutes)*

1. **Say:** Which one is easier: Subtracting 10 from 50 or 9 from 100? (Example answer: It is easier to subtract 10 because there are no Ones. I only have to subtract Tens.)
2. **Say:** Today we will try different ways of subtracting much bigger numbers.
3. Write 7643 - 5000 on the board.
4. **Say:** To subtract 5000, we do not need to write this in vertical form, what is the Thousands place number in our first number? (Answer: 7) **Say:** To subtract 5000, we just take away 5 from the Thousands place number. This is because we are only subtracting 5 Thousands from the number. So what is 7643 - 5000? (Answer: 2673)
5. **Say:** Let's try another method.
6. Write 7643 - 300 on the board.
7. **Say:** So for 7643 - 300, again, we do not need to write this in vertical form. For 7643 what is the Thousands place number? (Answer: 7) **Ask:** What is the Hundreds place number? (Answer: 6) **Ask:** What is the Tens place number? (Answer: 4) **Ask:** What is the Ones place number? (Answer: 3) **Say:** To subtract 300, we just take away 3 from the Hundreds place number. This is because we are only subtracting 3 Hundreds from the number. So what is 7643 - 300? (Answer: 2373)

Guided Practice *(5 minutes)*

1. Write the following on the board:

   3455 – 200 = (Answer: 3255)   4,398 – 1000 = (Answer: 3398)

   9893 – 2000 = (Answer: 7893)   3159 – 100 = (Answer: (Answer: 3059)

2. **Say:** Let's practise. Write the problems in your exercise books. You may use any method of subtraction that you can do in your head.
3. Give pupils 3 minutes to work. As they work, look for 3 pupils who solved it in 3 different ways. Ask them to come to the board and explain their methods.
4. **Say:** Pupil A (use their name), how did you solve the problem?
5. Pupil A will explain their method as they write it on the board.
6. **Ask:** Show me a thumbs up if you understand Pupil A. Show me a thumbs down if you do not understand.
7. Allow Pupils B and C to explain their solutions.

Independent Practice *(10 minutes)*

1. Write the following on the board:
       6427 – 200 = (Answer: 6227)   8021 – 10 = (Answer: 8011)
       5979 – 1000 = (Answer: 4979)   2399 – 2000 = (Answer: 399)
2. **Say:** Answer the problems in your book. Please write down how you solved it. After you and your partner finish a problem, tell each other how you solved it.
3. Give pupils about 9 minutes to work.
4. While pupils are working, walk around and help pupils who are having difficulty. When the 9 minutes are almost up, write the answers on the board.
5. **Say:** Please check your answers with those on the board. Raise your hand and show me with your fingers how many you got correct.

Closing *(3 minutes)*

1. Write 4567 on the board.
2. **Ask:** What is 4567 take away 4000? (Answer: 567)
3. **Ask:** What is 4567 take away 500? (Answer: 4067)
4. **Ask:** What is 4567 take away 60? (Answer: 4507)
5. **Ask:** What is 4567 take away 7? (Answer: 4560)
6. **Say:** Well done.

Lesson Title: Word problems using subtraction up to 10,000	**Theme:** Everyday Arithmetic (including Financial Literacy) - Subtraction up to 10,000	
Lesson Number: M-03-080	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve word problems using subtraction up to 10,000.		**Teaching Aids** Part-part-whole model at the end of the plan		**Preparation** Draw an empty part-part-whole model in the Guided Practice, on the board.

Opening *(3 minutes)*

1. **Say:** Write all the ways you can make 5000 with two numbers. You can use addition or subtraction. You will have 1 minute to write.
2. **Say:** I need 3 pupils to come to the board to write their ways to make 5000.
3. **Say:** If you are at your desk, show me a thumbs up if you agree with what the pupils are writing. Show me thumbs down if you disagree with what the pupils are writing.

Introduction to the New Material *(10 minutes)*

1. **Say:** Today we are going to solve word problems. What is another term for word problems? (Answer: Story problems)
2. **Say:** Remember, we can call them story problems because they are like very short stories. Here is an example:
3. Write the following on the board and read it out loud to pupils:
   There are 2500 tickets to the football game. 1500 tickets have been sold. How many tickets are left?
4. **Say:** Now, let's all read it together.
5. Read it again and make sure the pupils are also reading out loud.
6. **Ask:** What are we trying to find out? (Answer: How many tickets are left?) Who can underline those words for us?
7. Call a volunteer to the board to underline, 'How many tickets are left?'
8. **Say**: Please turn to your partner and tell him what you need to do to solve the problem.
9. Give pupils 1 minute to talk.
10. **Ask:** Who can tell me what your partner said? (Answer: We have to find 2500 - 1500.) How did you know we needed to subtract? (Answer: The problem asked us how many were left. That means we only know the part that has been sold. We need to find out the other part of the whole.)
11. Write the numbers in the part-part-whole diagram on the board to show this problem.
12. **Say:** Please solve the problem with your partner. When you have the answer, write it on your exercise book and hold it up. (Answer: 2500 - 1500 = 1000)

2500 tickets	
1500 tickets sold	? not sold
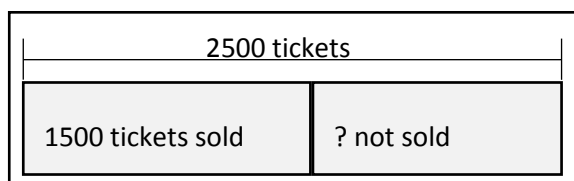
Guided Practice *(10 minutes)*

1. Write the following on the board:
   Alhaji Banda had 7550 bars of soap in his shop on Monday. By Friday, he had 6550 bars of soap. How many bars of soap has he sold?
2. **Say:** You are now going to solve a word problem with your partner. Please copy this problem in your exercise books.
3. Give pupils 3 minutes to write the word problem.
4. Read the problem out loud with the pupils.
5. **Say:** Underline what you are trying to find out. Give pupils about 30 seconds to underline the question.
6. **Ask:** What did you underline? (Answer: How many bars of soap has he sold?) Underline that question on the board.
7. **Say:** Please tell your partner what to do next. (Answer: Find 7550 - 6550)
8. **Say:** Work with your partner to subtract 7550 – 6550. You may use any method you know. When you are finished, write it in your exercise book and hold it up. (Answer: 1,000)
9. After about 2 minutes ask someone who got the correct answer to explain how they solved the problem.

(Answer:
$$\begin{array}{r} 7550 \\ -\ 6550 \\ \hline 1000 \end{array})$$

Independent Practice *(10 minutes)*

1. Write the following on the board and read it out loud to pupils:
   A church has chairs for 1500 people. If 1200 people are seated, how many chairs are empty?
2. **Say:** Please write this problem in your book and solve it. Write how you solved the problem. (Possible answer: 1500 – 1200. I counted up from 1200 by 100s. So I started at 1200, then counted 1300, 1400 and 1500 which gives me 300.)
3. As pupils are working, find at least two who solved it correctly, but in different ways. Ask them to come to the board to present to the class.
4. **Say:** Now we have Pupil A (use her name) and Pupil B (use his name) who are going to share with us how they each solved the problem. Please listen as they explain. If you did it the same way they did, raise your hand.

Closing *(3 minutes)*

1. **Say:** Please make a list of pairs of numbers that make 9000. Give pupils 1 minute to write.
2. **Say:** Switch papers with your partner and check their answers. Add more examples to your partner's list.
3. **Say:** Well done.

[PART-PART-WHOLE MODEL]
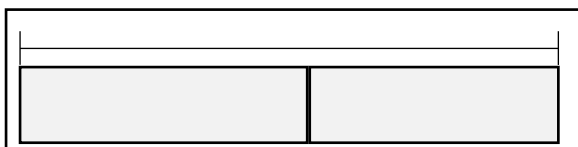
Lesson Title: Measuring length by using both standard and non-standard units of measurement	**Theme:** Measurement and Estimation Length (not conversion)	
Lesson Number: M-03-081	**Class/Level:** Class 3	**Time:** 35 minutes

| **Learning Outcomes** By the end of this lesson pupils will be able to: 1. Measure length in cm and handspan. 2. Argue the advantages and disadvantages of using standard and non-standard units of measurement. | **Teaching Aids** 1. Measurement Chart at the end of the plan. 2. Rulers 3. Sticks 4. Bottle tops | **Preparation** 1. Draw the Measurement Chart, at the end of the plan, on the board. 2. Draw a line approximately ½ metre long on the board. 3. Gather enough rulers for each pair to have one. 4. Gather enough sticks approximately 15-20cm long for each pair to have one. 5. Enough bottle tops enough. for each pair to have 5 each. |

Opening *(2 minutes)*

1. **Say:** Make a list of 10 objects in the classroom. Put them in order from longest to shortest. When you are finished, please change with your partner and check their list.

Introduction to the New Material *(10 minutes)*

1. **Say:** Today we are going to measure the length of common objects in different ways. We will use our handspan, rulers, bottle tops, and straws to measure the length of objects.
2. **Say**: Please watch me as I measure the length of the line with a ruler.
3. **Ask**: What is the length of the line? (Possible answer: 50cm)
4. **Say**: I am going to measure the same length of the line bar with my handspan.
5. **Ask**: What is the length of the line bar? (Example answer: 5 handspans.)
6. **Say:** Measure the longer side of your exercise books using the bottle tops. Write down your answer and then trade with your partner.
7. **Ask**: Did you get the same answer as your partner? Give me a thumbs up for yes or thumbs down for no.
8. **Say**: Measure the longer side of the same book with your handspan. Write down your answer and trade with your partner.
9. **Ask**: Did you get the same answer as your partner? (Possible answers: yes, no)
10. **Ask**: Why didn't you get the same answer as your partner? (Possible answers: Our handspan might be different.)
11. **Say:** We have used bottle tops and handspan to measure the length of your exercise books. Your answers when you used bottle tops were the same, but different in the case of the handspan. What could we use to measure the length of objects such that the answers will be the same? (Answer: ruler)

12. **Say:** We are going to use rulers, and straws to measure some objects in the classroom.

Guided Practice *(10 minutes)*

1. **Say:** Please use your handspan to measure the length of your desk.
2. Give pupils 30 seconds to measure.
3. **Ask:** What value did you get? Write one pupil's answer on the board.
4. **Ask:** Did anyone get a different answer? (Answer: yes) Write the different answers on the board.
5. **Ask:** Why did we get different answers? (Possible answers: My desk was longer then hers, my handspan is shorter/longer/ bigger than his.)
6. **Say:** Now use the straw to measure the length of your desk. Give pupils about a minute to measure using the straw.
7. **Ask:** What value did you get? Write the answers on the board.
8. **Ask:** Was that more or less than when you measured with a handspan? (Answer: More)
9. **Say:** Show me with a thumbs up or thumbs down if your straw answer was more or less than your handspan answer.
10. **Say**: Tell your partner why your answer was different from his/her answer when you measured with your handspan but the same when you used the straw to measure the length of your desk. (Answer: Our handspans are different sizes but the straw is the same length.)
11. **Say**: Please repeat measuring the length of your desk with the ruler. Write down your answer and trade them with your partner.
12. **Ask**: Are your answers the same? (Expected answer: yes)
13. **Ask:** Who can explain it to the class?

Independent Practice *(10 minutes)*

1. Point to the Measurement Chart on the board. **Say:** Please copy the Measurement Chart in your exercise books. Choose an object in the classroom to measure its length. Use your ruler to measure it. Then use your bottle tops to measure it. Then use your handspan to measure it. Record each answer in your chart. You may work with your partner. Do at least 2 different objects. If you have time, measure more than 2 objects.
2. While pupils are working, walk around to see to it that they are measuring correctly using the different standard and non-standard units.
3. If there is no space for the pupils to move around in the classroom to measure, allow some to go outside to measure.
4. **Say**: Compare your answers with those of your partners. Note down where your answers are the same and where they are not.

Closing *(3 minutes)*

1. **Ask:** Which of the units of measurement give the same answer as that of your partner? (Expected answers: Ruler, bottle tops)
2. **Ask:** Which of the units of measurement produce different results? (Answer: Handspan)

3. **Say:** Units of measurements that produced the same answers are standard units while those that produced different results were non-standard. Which of them is better?

[MEASUREMENT CHART]

Object	Ruler	Bottle tops	Handspan

Lesson Title: Measuring objects and perimeter by using the foot-rule	**Theme:** Measurement and Estimation Length (not conversion)	
Lesson Number: M-03-082	**Class/Level:** Class 3	**Time:** 35 minutes

Learning Outcomes By the end of the lesson, pupils will be able to measure objects and perimeter.	**Teaching Aids** 1. 12 inch ruler 2. Twine or non-stretchy string (inches per pair)	**Preparation** 1. Find a 12 inch ruler and some twine. 2. Draw a rectangle that is 24 inches by 12 inches on the board.

Opening *(2 minutes)*

1. **Say:** Please make a list of 10 objects in the classroom. Put them in order from biggest to smallest. When you are finished, change with your partner and check their list.

Introduction to the New Material *(10 minutes)*

1. **Say:** Today we are going to continue with the measurement of objects and perimeter in feet. We will be using a ruler and twine to measure the objects and the perimeter.
2. **Say**: Watch me as I measure the length and the breadth of the rectangle on the board.
3. **Ask**: What is the length of the rectangle? (Possible answers: 2 rulers, 24 inches)
4. **Say**: I am going to measure the breadth of the same rectangle.
5. **Ask**: What is the breadth of the rectangle? (Possible answers: 1 ruler, 12 inches)
6. **Say**: The ruler is 12 inches long. And those 12 inches makes 1 foot.
7. **Say:** Therefore two foot-rules make 2 feet.
8. **Say:** Watch as I measure the length of the rectangle again.
9. **Ask**: What is the length of the rectangle? (Possible answer: 2 feet)
10. **Say:** Watch as I measure the distance around the rectangle. Count the number of times the ruler will be used.
11. **Ask:** How many times was the ruler used in measuring the distance around the rectangle? (Possible answer: 6 times)
12. **Ask:** What is the distance around the rectangle if the ruler was used 6 times? (Possible answer: 6 feet)
13. **Say:** Measure the longer side of your exercise books using the ruler. Write down your answer and trade with your partner.
14. **Ask**: Did you get the same answer as your partner? Give me a thumbs up for yes and thumbs down for no.
15. **Say**: Measure the longer side of your desk with the ruler. Write down your answer and trade with your partner.
16. **Ask**: Did you get the same answer as your partner? (Answer: yes)
17. **Ask**: Why did you get the same answer as your partner? (Answers: Our desks are the same size and we're using a standard unit.)

18. **Say:** Measure the distance around your desk. Write down your answer and trade with your partner.
19. **Ask:** Did you get the same answer? (Answer: yes)
20. **Say:** The total distance around an object is called the perimeter.

Guided Practice *(10 minutes)*

1. **Say:** Use your string to measure the length of your pencil. Give pupils 30 seconds to measure.
2. **Ask:** What did you get? Write a pupil's answer on the board.
3. **Ask:** Did anyone get a different answer? (Answer: yes) Write the different answers on the board.
4. **Ask:** Why did we get different answers? (Possible answers: My pencil was longer then hers; my pencil is shorter than his.)
5. **Say:** Please work with your partner to draw shapes in your book.
6. **Say:** Using the string and the ruler, measure the perimeter of the distance around the shapes you have drawn. Write down your answers.
7. Give pupils about 2 minutes to draw shapes and measure the perimeter.
8. Go around the classroom to ensure that students are using the string and the ruler at this point of the lesson.
9. **Ask:** What did you get? Write some answers on the board.
10. Choose a volunteer to demonstrate measuring a shape on the board.

Independent Practice *(10 minutes)*

1. **Say:** An army of ants are having a parade. They want to design a parade route that goes all the way around the edge of your desk.
2. **Ask:** What is the distance the ants have to march?
3. **Say:** You may work with your partner.
4. While pupils are working, walk around the classroom to see that they are measuring correctly using the string and the ruler.
5. **Say**: Compare your answers with that of your partner. Note down where your answers are the same and where they are not.

Closing *(3 minutes)*

1. **Ask:** How long will the ants have to travel? (Expected answers: The distance around the desk; perimeter of the desk.)
2. **Ask:** How do you know? (Expected answer: By measuring the distance around the desk.)
3. **Say:** When we find the perimeter, we find the distance around the outside.
4. **Say:** Well done.

Lesson Title: Measuring larger objects and perimeters by using yards and metres		**Theme:** Measurement and Estimation Length (not conversion)	
Lesson Number: M-03-083		**Class/Level:** Class 3	**Time:** 35 minutes

Learning Outcomes By the end of the lesson, pupils will be able to measure larger objects and perimeter in yards and metres.	**Teaching Aids** 12 inch ruler	**Preparation** 1. Find a 12 inch ruler. Draw a 6 foot rectangle grid on the board. 2. Draw the shapes, in the Guided Practice, on the board.

Opening *(3 minutes)*

1. **Say:** Make a list of 10 objects in the classroom. Put them in order from biggest to smallest. When you are finished, please trade with your partner and check his list.

Introduction to the New Material *(10 minutes)*

1. **Say:** Today we are going to continue with measurements of larger objects and perimeters in yards and metres.
2. **Say**: There are 12 inches in a foot, 3 feet in a yard, and 36 inches in a yard (write this on the board).
3. **Say**: There are 100 cm in a metre (write this on the board).
4. **Say**: A centimetre is smaller than an inch. A meter is bigger than a yard.
5. **Say**: Please watch me as I measure the length of the rectangle on the board using a foot-rule.
6. **Ask**: What is the length of the rectangle? (Answer: 6 feet)
7. **Say**: Remember we said that there are 3 feet in a yard.
8. **Ask**: What will be the length of the rectangle in yards? (Answer: 2 yards)
9. **Say**: Using the foot-rule, measure the length of your desk and tell me your answer in yards.
10. **Ask:** What value did you get?
11. Write some answers on the board and call a volunteer to demonstrate how they got their answer.
12. **Say:** Measure the total distance around your desk and write down your answer in yards.
13. **Ask**: What is the perimeter of your desk in yards? (Possible answer: The same as the total distance around the desk.)
14. **Ask**: Did you get the same answer as your partner? Give me a thumbs up for yes and thumbs down for no.
15. **Say:** The total distance around an object is called the 'perimeter'.

Guided Practice *(12 minutes)*

1. **Say:** We are going to use the shapes on the board to answer some questions.
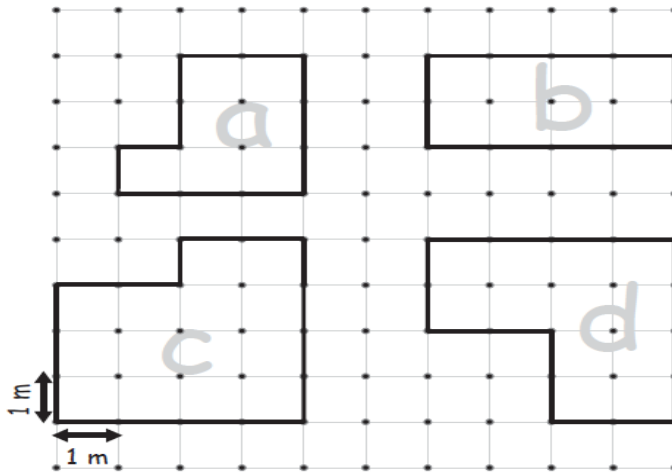
2. **Say:** Draw the shapes in your book. Give students 5 minutes to work on this.
3. **Ask:** What is the perimeter of shape a? (Answer: 12 metres) **Say**: Please write your answers down.
4. **Ask:** What is the perimeter of shape b? (Answer: 12 metres)
5. Write the different answers on the board.
6. **Ask:** What is the perimeter of shape c? (Answer: 16 metres)
7. **Ask:** What is the perimeter of shape d? (Answer: 16 meters)
8. **Ask:** Which of two shapes have the same perimeter? (Answers: a and b, c and d)

Independent Practice *(8 minutes)*

1. Draw a grid as follows on the board.
2. **Say**: Please draw a grid in your book. The space between each dot represents 1 meter. Draw 4 different shapes with a perimeter of 16 m. You may work in pairs.
3. **Say**: Compare your answers with that of your partners. Note down where your answers are the same and where they are not.
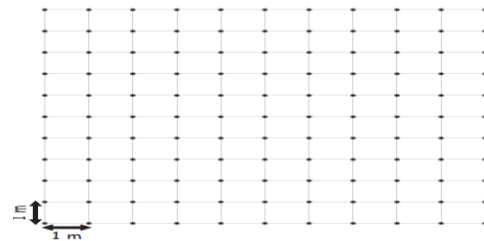
Closing *(2 minutes)*

1. **Ask:** What is the total distance around all the 4 shapes you drew? (Answer: total perimeter; sum of the perimeters of all the 4 shapes; 64 m)
2. **Say:** Well done.

Lesson Title: Measuring height by using feet, inches and centimetres	**Theme:** Measurement and Estimation Length	
Lesson Number: M-03-084	**Class/Level:** Class 3	**Time:** 35 minutes

| **Learning Outcomes** By the end of the lesson pupils will be able to: 1. Measure the height of pupils in feet, inches and centimetres. 2. Compare the units of measurement in feet, inches, and centimetres.	**Teaching Aids** 1. Ruler 2. Measuring tape	**Preparation** 1. Find a ruler and a measuring tape. 2. Draw a line approximately ½ metre long on the board. 3. Draw the animals in the Introduction to New Material, Guided Practice and Independent Practice, on the board.

Opening *(2 minutes)*

1. **Say:** Please make a list of 10 objects in the classroom. Put them in order from longest to shortest. When you are finished, trade with your partner and check his list.
2. Review the following facts with pupils 10 cm = 1m, 12in = 1ft, 3ft = 1yd

Introduction to the New Material *(10 minutes)*

1. **Say:** Today we are going to measure the heights of objects by using feet, inches and centimetres.
2. **Say:** Look at the pictures and answer the following questions:

Hippo   Giraffe   Tiger   Mouse

3. **Ask**: Which of animals is the shortest? (Answer: Mouse) Use the tape to measure the height of the mouse.
4. **Ask**: Which of animals is the tallest? (Answer: Giraffe) Use the tape to measure the height of the giraffe.
5. **Say**: Watch as I use the tape to measure the height of my table. Write the measure on the board.
6. **Say**: Use your tape to measure the height of your desk. Write down your answer and trade your answer with your partner.
7. **Ask**: Did you get the same answer as your partner? Give me a thumbs up for yes and thumbs down for no.
8. **Say**: Measure the height of your chair. Write down your answer and trade with your partner.
9. **Ask**: Did you get the same answer as your partner? (Possible answers: Yes and No)

Guided Practice *(10 minutes)*

1. **Say:** Look at the height of the animals on the board. The pictures are not drawn to scale.

6 ft 3 in   25 in   3 ft 1 in   5 ft 5 in
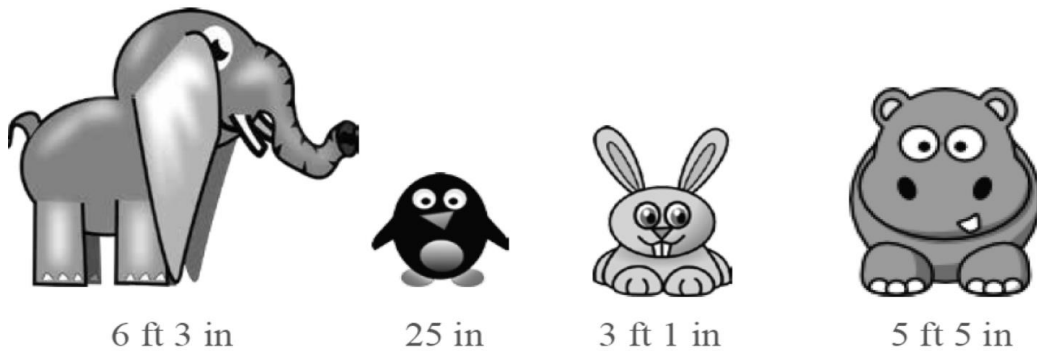
2. **Ask:** What is the height of the elephant? (Answer: 6ft 3in)
3. **Say**: The penguin is 2ft 3 inches tall. True or false? (Answer: False)
4. **Ask**: What is the height of the rabbit? (Answer: 3ft 1in)
5. **Ask:** Which is bigger, the elephant or the penguin? (Answer: The elephant)
6. **Say:** Measures in feet are bigger than measures in inches.
7. **Ask:** What is the height of the hippopotamus? (Answer: 5ft 5in)
8. **Say:** The elephant is 3 times taller than the penguin. True or false? (Answer: True)
9. **Say:** Using the tape, please measure the height of your partner. Write down your answer and trade your answer with your partner.

Independent Practice *(10 minutes)*
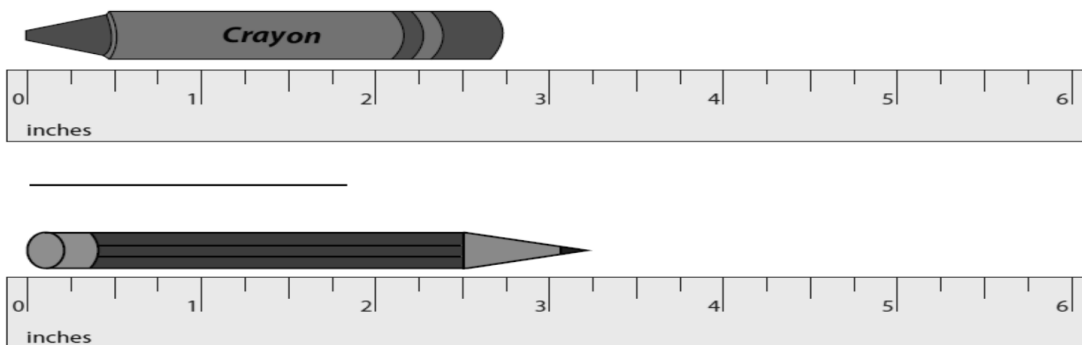
1. Draw the above pictures on the board. **Say:** Estimate the measure for each of the objects to the nearest inches.
2. While pupils are working, walk around to see that they are estimating the measures correctly.
3. **Say**: Now compare your answers with those of your partners. Note down where your answers are the same and where they are not.
4. **Ask:** If we were to measure the pencil using centimetres, would our answer be bigger or smaller? (Answer: bigger). Why? (Answer: Centimetres are smaller than inches, so you would need more centimetres than inches to measure the pencil)

Closing *(3 minutes)*

1. **Say:** Compare the units of measurements of feet, inches and centimetres.
2. **Ask:** Which of the units of measurement is bigger? (Expected answer: Feet)
3. **Say:** Bigger objects are best measured with bigger units of measurements.
4. **Ask:** Who can explain why? Take some answers from pupils.

Lesson Title: Word problems involving standard units of measurement for length	**Theme:** Measurement and Estimation length	
Lesson Number: M-03-085	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve word problems about length and perimeter in cm, metres, yards, feet, and inches.		**Teaching Aids** Ruler		**Preparation** 1. Find a ruler. 2. Write the Word Problems, in the Guided Practice and Independent Practice, on the board.

Opening *(2 minutes)*

1. **Say:** Please turn to your partner and tell him what you know about measurement.
2. Let pupils talk for a minute.
3. **Ask:** Why do we need to measure objects. (Example answers: To know if things will fit in a space, to compare objects to see which is longer/shorter/bigger/smaller.)

Introduction to the New Material *(10 minutes)*

1. **Say:** We are going to learn how to solve word problems about length and perimeter today.
2. **Ask:** What are some of the units of measuring length? (Possible answers: inches, cm, metres, feet, and yards)
3. **Say:** When we add metres to metres the sum is in metres and when we add centimetres and centimetres the sum is in centimetres. Likewise with addition in feet and yards.
4. **Say:** When we subtract metres from metres the difference is in metres and when we subtract centimetres from centimetres the difference is in centimetres. Likewise with subtraction in feet and yards.
5. **Say:** Please use the ruler to measure the length of your desk. Write down your answer.
6. **Say:** Now use the ruler to measure the breadth of your desk. Write down your answer.
7. **Say:** Add the length and the breadth of your desk and write down your answer.
8. **Ask**: What is the sum of the length and breadth of your desk? Take some answers from pupils.
9. **Say:** Mary has a table that is 4 metres long and 2 metres wide.
10. **Ask:** What is the sum of the length and breadth of Mary's table? (Answer: 4 + 2 = 6 metres)
11. **Say:** Recall we said that the perimeter is the total distance around a figure.
12. **Ask:** Who can find the perimeter of Mary's table?
13. Invite a volunteer to solve this possible**.** (Answer: 4 + 2 + 4 + 2 = 12 metres)

Guided Practise *(10 minutes)*

1. **Say:** Look at the Guided Practice Word Problems.
2. **Ask:** How do we solve question 1? (Answer: Add the two measures together)

Guided Practice Word Problems
1. A car is 6 metres long and a boat is 8 metres long. How long are the boat and the car altogether?
2. A ruler is 10 inches long. What is the length of 2 rulers?
3. Maria is 5 feet tall. Her younger brother Ben is 3 feet tall. Who is taller and by how much?

67

3. **Ask:** What answer did you get for question 1? (Answer: 6 + 8 = 14 metres)
4. **Ask:** Who can solve question two for us? (Answer: 2 x 10 = 20 inches)
5. Call a pupil to demonstrate the solution to question number 2.
6. **Say:** Try to solve question 3 with your partner.
7. Give pupils about 2 minutes to work.
8. **Ask:** What is the answer? (Answer: 5 – 3 = 2 feet, Mary is taller by 2 feet.)

Independent Practise *(10 minutes)*

1. Point to the Independent Word Problems.
2. **Say:** Working with your partner, find the solution to the following questions.
3. **Say:** You will have about 10 minutes to solve the word problems. Make sure you write everything down that you did to solve it.

Independent Practice Word Problems

1. A table has a length of 5m and a breadth of 3 m. What is the perimeter of the table?
2. James is 100 cm and little Jonny is 90 cm tall. How much is taller is James than little Jonny?
3. My pencil is 10cm long. My eraser is 5cm shorter than the pencil. What is their total length?

Closing *(3 minutes)*

1. **Ask:** What answers did you get for the problems?
   Answers: 1. (5 + 3 + 5 + 3 = 16m) 2. (100 – 90 = 10 cm) 3. (10 + (10 - 5) = 15 cm)
2. Write the answers on the board.
3. **Say:** Clap for yourself for each answer you got correct. Pat yourself on the back if your tried your best.
4. **Say:** Well done.

Lesson Title: Multiplication by 3 and 6 using counters	**Theme:** Everyday Arithmetic Multiplication and Division: 3 and 6	
Lesson Number: M-03-086	**Class/Level:** Class 3	**Time:** 35 minutes

Learning Outcomes By the end of the lesson, pupils will be able to multiply by 3 and 6 using counters.	**Teaching Aids** 1. Repeated Addition Charts for 3s and 6s at the end of the plans. 2. Counters (beads, stones)	**Preparation** 1. Write the Repeated Addition Chart, at the end of the plan, on the board. Do not write the answers that are in the brackets. 2. Draw the picture of the 3 groups of 3 in the Introduction to the New Material, on the board. 3. Gather enough counters for each pair to have 50.

Opening *(2 minutes)*

1. **Say:** Let's say the multiplication table for 10s. I will say the number we are multiplying 10 by and you say the answer. For example, if I say 4, you say 40 because 10 x 4 is 40. Are you ready? 0 (0), 1 (10), 2 (20), 3 (30), 4 (40), 5 (50), 6 (60), 7 (70), 8 (80), 9 (90), 10 (100)
2. **Say:** Please write the answers to the following multiplication problems in your exercise books. **Say:** 10 x 10 (100), 2 x 10 (20), 10 x 7 (70)

Introduction to the New Material *(10 minutes)*

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ooo
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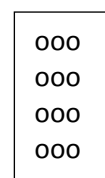
1. **Say:** Last term, we learned the 2, 4, 5 and 10 times tables. We just practiced the 10 times table. Today we are going to learn the 3 times table. But first, let's look at a picture. Please use your counters to make this arrangement on your desk.
2. Point to the picture on the board.
3. **Ask:** How many equal groups do you see? (Answer: 4) How many circles are in each group? (Answer: 3) How many circles are in the entire picture? (Answer: 12)
4. **Say:** Please copy the picture on your paper. Then put your hands on your head.
5. When you see most pupils with their hands on their heads, write 3 + 3 + 3 + 3 on the board.
6. **Say:** We can write this as 3 + 3 +3 + 3. We can also write it as 4 x 3.
7. Write 3 + 3 + 3 + 3 = 3 x 4 on the board.
8. **Say:** To help us learn our 3 times table, we are going to write out all the addition problems. Please copy the Repeated Addition Chart in your exercise books. I have done the first few for you.
   3 = 3 x 1, 3 + 3 = 3 x 2 (Point to each line as you say it.)
9. **Ask:** Who can read the next line out loud? (Answer: 3 + 3 + 3 = 3 x 3) Why is that 3 x 3? (Answer: You added the number 3 three times, so it is 3 x 3)
10. Give pupils about 2 minutes to fill in all the boxes. The answers are in the brackets after each box.
11. **Say:** And so it continues. Now let's do the same for our 6 times table.

69

12. **Say:** Trade papers with your partner and check their work. If you are not sure who is correct, please raise your hand.
13. Try to walk around the classroom and check on as many pupils as you can while they work.

Guided Practice *(15 minutes)*

1. **Say:** Now try this with your partner.
2. **Say:** Use your counters to find 3 x 6 =
3. **Say:** What addition problem does 3 x 6 represent? (Answer: 3 + 3 + 3 + 3 + 3 + 3 = 18)
4. **Say:** Now try 5 x 6
5. **Ask:** What addition problem does 5 x 6 represent? (Answer: 6 + 6 + 6 + 6 + 6 = 30)
6. **Say:** Use your counters to make the rest of the problems in the repeated addition chart. You may work with your partner if you want to.
7. Walk around the classroom as they work to check pupil's work.
8. While they are working, **Ask:** Can someone come to the board and fill in the rest of the chart?
9. Check to make sure it is correct.
10. **Say:** Please look at your chart. Does it look the same as the one on the board? If not, make the corrections to yours.

(Answers:
3 x 6   oooooo
oooooo
oooooo
5 x 6   oooooo
oooooo
oooooo
oooooo
oooooo

Independent Practice *(5 minutes)*

1. **Say:** Now, use your counters or use the chart to answer the following:
   a. 3 x 9 =   b. 6 x 6 =   c. 3 x 10 =
   (Answers: a. 27 b. 36 c. 30)
2. Invite pupils to write their answers on the board.
3. Have pupils exchange their books and mark the work.

Closing *(3 minutes)*

1. **Say:** Use your chart to help you answer the following:
   a. 6 x 2 = (Answer: 12)   b. 6 x 9 = (Answer: 54)   c. 10 x 6 = (Answer: 60)
2. **Say:** Thank you, class. We will use our charts in the next lesson.

Repeated Addition Chart for 3s

3 = 3 x 1

3 + 3 = 3 x 2

3 + 3 + 3 = 3 x 3

3 + 3 + 3 + 3 = 3 x 3

3 + 3 + 3 + 3 + 3 = 3 x ☐ (5)

3 + 3 + 3 + 3 + 3 + 3 = 3 x ☐ (6)

3 + 3 + 3 + 3 + 3 + 3 + 3 = 3 x ☐ (7)

3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 = 3 x ☐ (8)

3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 = 3 x ☐ (9)

3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 = 3 x ☐ (10)

Repeated Addition Chart for 6s

6 = 6 x 1

6 + 6 = 6 x 2

6 + 6 + 6 = 6 x 6

6 + 6 + 6 + 6 = 6 x 6

6 + 6 + 6 + 6 + 6 = 6 x ☐ (5)

6 + 6 + 6 + 6 + 6 + 6 = 6 x ☐ (6)

6 + 6 + 6 + 6 + 6 + 6 + 6 = 6 x ☐ (7)

6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 = 6 x ☐ (8)

6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 = 6 x ☐ (9)

6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 = 6 x ☐ (10)

Lesson Title: Multiplication Table of 3 and 6	**Theme:** Everyday Arithmetic Multiplication and Division: 3 and 6	
Lesson Number: M-03-087	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to read and write the Multiplication Table for 3 and 6.		**Teaching Aids** 1. 100 Chart at the end of the plan 2. Empty Multiplication Table for 3 and 6 at the end of the plan 3. Counters (beads, stones)		**Preparation** 1. Draw a 100 Chart, at the end of the plan, on the board. 2. Draw the empty Multiplication Table for 3 and 6, at the end of the plan, on the board. 3. Gather enough counters for each to have 10.

Opening *(2 minutes)*

1. **Say:** Let's say the Multiplication Table for 5s. I will say the number we are multiplying 5 by and you say the answer. For example, if I say 4, you say 20 because 5 x 4 is 20. Are you ready? 0 (0), 1 (5), 2 (10), 3 (15), 4 (20), 5 (25), 6 (30), 7 (35), 8 (40), 9 (45), 10 (50)
2. **Say:** Write the answers to the following multiplication problems in your exercise books. Hold them up. 10 x 2 (20), 6 x 2 (12), 7 x 2 (14), 9 x 2 (18), 8 x 2 (16)

Introduction to the New Material *(10 minutes)*

1. **Say:** Yesterday, we learned about repeated addition for 3s and 6s. Today we are going to learn multiplication facts for 3 and 6.
2. **Ask:** Who knows what 3 x 1 is? (Answer: 3)
3. **Say:** We are going to use our 100 Chart to help us learn other 3 multiplication facts.
4. Point to the 100 chart on the board. **Say:** Find a 100 chart in your book.
5. **Say:** Look at the 100 Chart. I am going to count 1 group of 3. Watch where I stop.
6. Point to the numbers as you count. **Say:** 1, 2, 3.
7. **Ask:** Where did I stop? (Answer: 3)
8. **Say:** Do the same thing on your 100 Chart. Put your counter on the 3.
9. **Ask:** Where would you land if you counted another group of 3? (Answer: 6)
10. **Say:** Put a counter on the 6. Count another group of 3. Put another counter on the number where you stop.
11. **Ask:** Who can tell me where you put your counter? (Answer: 9)
12. **Say:** Work with your partner to count more groups of 3. Put your counters on the answers. Stop when you find 10 groups of 3.
13. **Ask:** Who can write the numbers you covered on the board? If you are seated, write the numbers on your paper. (Answer: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30)
14. **Ask:** What is 3 times 3? (Answer: 9) **Ask:** If 3 friends each had 3 apples, how many apples would they have altogether? (Answer: 9)
15. **Say:** Let's try this for 6. **Say:** Look at the 100 Chart. I am going to count 1 group of 6. Watch where I stop. Point to the numbers as you count. **Say:** 1, 2, 3, 4, 5, 6.

16. **Ask:** Where did I stop? (Answer: 6) **Say:** Put your counter on the 6.
17. **Ask:** Where would you land if you counted another group of 6? (Answer: 12) **Say:** Put a counter on the 12.
18. **Say:** Work with your partner to count more groups of 6. Put your counters on the answers. Stop when you find 10 groups of 6.
19. **Ask:** Who can write the numbers you covered on the board? If you are seated, write the numbers on your paper. (Answer: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60)
20. **Ask:** What is 3 times 6? (Answer: 18) **Ask:** If 3 friends each had 6 bags of water, how many bags of water would they have altogether? (Answer: 18)

Guided Practice *(8 minutes)*

1. **Say:** We are going to fill in Multiplication Tables for the 3s and 6s. Copy the chart on your paper.
2. **Say:** Try to complete the table for 3s and 6s. Work with your partner if you want to. (Answer: see below)

x	0	1	2	3	4	5	6	7	8	9	10
3	0	3	6	9	12	15	18	21	24	27	30

x	0	1	2	3	4	5	6	7	8	9	10
6	0	6	12	18	24	30	36	42	48	54	60

3. **Ask:** Can someone come to the board and fill in the tables? **Say:** Check to make sure it is correct.

Independent Practice *(10 minutes)*
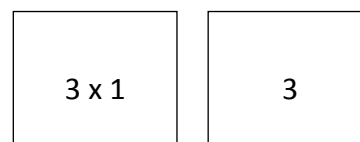
3 x 1	3

1. **Say:** Now, carefully tear 2 pieces of paper out of your exercise book. Fold the pages in half and tear along the fold. Keep folding and tearing until you have at least 20 small pieces of paper.
2. **Say:** On each small piece of paper make a flash card for every multiplication problem on your tables. On 1 side, write the problem, for example 3 x 1. On the other side, write the answer very lightly so it doesn't show through.

Closing *(3 minutes)*

1. **Say**: Use your cards to practise your multiplication facts with your partner. If the answer is incorrect, tell your partner the answer and put the card in pile. When you have finished, start again with the cards in the 'incorrect' pile. **Say**: When your partner finishes, change roles.

[MULTIPLICATION TABLE FOR 3s and 6s]

x	0	1	2	3	4	5	6	7	8	9	10
3	0	3	6	9	12	15	18	21	24	27	30

x	0	1	2	3	4	5	6	7	8	9	10
6	0	6	12	18	24	30	36	42	48	54	60

[100 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

74

Lesson Title: Division table of 3 and 6	**Theme:** Everyday Arithmetic (include financial literacy) Multiplication: 3 and 6 (revision)	
Lesson Number: M-03-088	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson pupils will be able to: 1. Read and write the multiplication table for 3 and 6. 2. Use the Multiplication Table of 3 and 6 to work out the division table for 3 and 6.		**Teaching Aids** Multiplication Tables for 3 and 6 at the end of the plan.		**Preparation** Write the Multiplication Tables for 3 and 6, at the end of the plan, on the board.

Opening *(4 minutes)*

1. **Say:** Let's count in 6s together. Remember, these are the products, or answers, in the 6s Multiplication Table. You may use your table to help you. Are you ready? 0, 6, 12, 18, 24, 30, 36, 42, 48, 54, 60
2. **Say:** Ok, now I will call out the number that we are multiplying 6 times and you tell me the answer. For example, if I say 2, you say 12 because 2 x 6 = 12. Are you ready? 5 (Answer: 30), 10 (Answer: 60), 1 (Answer: 6), 0 (Answer: 0), 8 (Answer: 48), 4 (Answer: 24)
3. **Say:** Today's lesson will continue from our last class. We will read and write the Multiplication Table of 3 and 6 and also use the table to get the division table of 3 and 6.

Introduction to the New Material *(10 minutes)*

1. **Say:** Now let's read the Multiplication Table for 3s.
2. **Say (all together):** 3 x 0 = 0, 3 x 1 =3, 3 x 2 = 6, 3 x 3 = 9, 3 x 4 = 12, 3 x 5 = 15, 3 x 6 = 18, 3 x 7=21, 3 x 8 = 24, 3 x 9 =27, 3 x 10=30
3. **Say:** Now, let's make some division sentences from the Multiplication Table. For example, 6 ÷ 3 = 2. (Possible responses: 15 ÷3 =5; 24÷3 = 8). Let us make a Division Table for 3.
4. Draw the Division Table on the board.

÷	0	3	6	9	12	15	18	21	24	27	30
3	0	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

5. **Say:** Please check your work and make any corrections.

Guided Practice *(8 minutes)*

1. **Say**: Now you can work with a partner to do the same for the Multiplication Table for 6. Please do this in your exercise books.
2. **Write**: Use your Multiplication Table to make a Division Table for 6 in your exercise books.
3. **Ask: Say:** Now, let's make some division sentences from the Multiplication Table for 6. For example, 18 ÷ 6 = 3 (Possible responses: 24 ÷ 6 = 4, 48 ÷ 6 = 8)

÷	0	6	12	18	24	30	36	42	48	54	60
6	0	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

4. **Say:** If you disagree with the answer, check your Multiplication Tables. If you still disagree, raise your hand.

Independent Practice *(10 minutes)*

1. **Say:** Now that we have our Multiplication and Division Tables for 3 and 6, I want you to take turns writing the number sentences for multiplication and division. For example, 3 x 2 = 6; 6 ÷ 3 = 2
2. **Write:** List the multiplication and division number sentences for 3 and 6. (Answers: 3 x 0 = 0, 0 ÷ 3 = 0; 3 x 1 = 3, 3 ÷ 3 = 1; 3 x 2 = 6, 6 ÷ 3 = 2, up to 3 x 10 = 30, 30 ÷ 3 = 10, 6 x 0 = 0, 0 ÷ 6= 0, 6 x 1 = 6, 6 ÷ 6 = 1, 6 x 2 = 12, 12 ÷ 6 = 2,… up to 6 x 10 = 60, 60 ÷ 6 = 10)

Closing *(3 minutes)*

1. **Say:** Say one multiplication sentence to your partner. They will have to respond by saying the division sentence to you. For example, if I say to (pupil name) 3 x 7 = 21, (pupil name) will say 21 ÷ 3 = 7
2. Let pupils play until the end of class time.
3. **Say:** Well done.

[MULTIPLICATION TABLES FOR 3s AND 6s]

x	0	1	2	3	4	5	6	7	8	9	10
3	0	3	6	9	12	15	18	21	24	27	30

x	0	1	2	3	4	5	6	7	8	9	10
6	0	6	12	18	24	30	36	42	48	54	60

Lesson Title: Mental strategies for multiplication by 3 and 6	**Theme:** Everyday Arithmetic Multiplication and Division: 3 and 6	
Lesson Number: M-03-089	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve problems involving multiplication by 3 and 6 mentally.		**Teaching Aids** None		**Preparation** None

Opening *(2 minutes)*

1. **Say:** Let's say the Multiplication Table for 3.
2. **Say (all together):** 3 x 0 = 0, 3 x 1 =3, 3 x 2 = 6, 3 x 3 = 9, 3 x 4 = 12, 3 x 5 = 15, 3 x 6 = 18, 3 x 7 = 21, 3 x 8 = 24, 3 x 9 = 27, 3 x 10 = 30
3. **Say:** Write the answers to the following multiplication problems in your exercise books. 10 x 2 (20), 6 x 2 (12), 7 x 2 (14), 9 x 2 (18), 8 x 2 (16)

Introduction to the New Material *(10 minutes)*

1. **Say:** In our last class, we looked at multiplying by 3 and by 6. Today we are going to use mental strategies to solve problems involving multiplication by 3 and 6.
2. **Ask:** What is the meaning of double? (Possible answer: two times, more)
3. **Say:** Double means 2 times more. When we add the same thing 2 times, we are doubling. When we multiply by 3, it means we are adding the same thing, three times.
4. **Ask:** Who can remember how to write 3 x 4 as a repeated addition? (Answer: 4 + 4 + 4) So when we multiply by 3, we are doubling the number, and adding the number once more. So we will call this strategy doubles plus one. Let's try to multiply any number by 3. Let's say we want to multiply 5 by 3.
5. **Write:** 5 x 3 =
6. **Say:** First, let's double 5. What is double of 5 or 5 x 2? (Answer: 10) Let's add one more 5. What is 10 + 5? (Answer: 15) Now check your multiplication table to see if 5 x 3 is 15.
7. **Say:** Let's try another example, what is 8 x 3?
8. Write 8 x 3 on the board. (Expect pupils to say 24 and explain it as, 'I doubled 8 to get 16 and I added 8 more to get 24.')
9. **Say:** Now let's see how we can mentally multiply by 6. What do we know about 3 and 6? (Possible responses: 3 x 2 is 6, 3 is half of 6). Well then, if we can find a number multiplied by 3, then we can just double it to get the same number multiplied by 6.
10. **Say:** Let's try this.
11. Write 4 x 3=   and   4 x 6 = on the board.
12. **Say:** We know that for 4 x 3, we can double 4 which gives us 8 and add 4 more which gives us 12. So 4 x 3 is 12. Then for 4 x 6 we just double our answer for 4 x 3. So 4 x 6 should be 12 + 12 which is 24. Please check your Multiplication Table to see if 4 x 6 is 24.
13. Walk around the classroom and check on as many pupils as you can while they work.

Guided Practice *(15 minutes)*

1. Write the following on the board:

   a. 7 x 3 = (Answer: 21)   b. 7 x 6 = (Answer: 42)
   c. 9 x 3 = (Answer: 27)   d. 9 x 6 = (Answer: 54)

2. **Say:** Now with your partner, try the following:
3. **Ask:** Can someone come to the board and fill in the rest of the chart? Check to make sure it is correct.
4. **Say:** Please look at your chart to check the answers are correct.

Independent Practice *(5 minutes)*

1. Write the following on the board and **Say:** Please do the following in your exercise books:

   a. 4 x 3 = (Answer: 12)   b. 4 x 6 = (Answer: 24)
   c. 2 x 3 = (Answer: 6)   d. 2 x 6 = (Answer: 12)

2. Ask 4 volunteers to write the answers on the board.
3. **Say:** Give yourself a clap for each question you answered correctly. Pat yourself on the back if you tried your best.

Closing *(3 minutes)*

1. **Say:** Work with your partner.
2. **Say:** Take your flash cards from earlier in the week and take turns to ask each other questions. If you need help, use your Multiplication Table to check. Give pupils 3 minutes to play.
3. **Say:** Well done.

Lesson Title: Word problems involving multiplication by 3 and 6 using pictures		**Theme:** Everyday Arithmetic Multiplication and Division: 3 and 6	
Lesson Number: M-03-090		**Class/Level:** Class 3	**Time:** 35 minutes

Learning Outcomes By the end of the lesson, pupils will be able to solve one-step word problems involving multiplication for 3 and 6 using pictures.	**Teaching Aids** None	**Preparation** None

Opening *(4 minutes)*

1. **Say:** Let's say the Multiplication Table for 3.
2. **Say (all together):** 3 x 0 = 0, 3 x 1 = 3, 3 x 2 = 6, 3 x 3 = 9, 3 x 4 = 12, 3 x 5 = 15, 3 x 6 = 18, 3 x 7 = 21, 3 x 8 = 24, 3 x 9 = 27, 3 x 10 = 30
3. **Say:** Now let's say the Multiplication Table for 6.
4. **Say (all together):** 6 x 0 = 0, 6 x 1 = 6, 6 x 2 = 12, 6 x 3 = 18, 6 x 4 = 24, 6 x 5 = 30, 6 x 6 = 36, 6 x 7 = 42, 6 x 8 = 48, 6 x 9 = 54, 6 x 10 = 60

Introduction to the New Material *(10 minutes)*

1. **Say:** Today, we are going to use what we know about multiplying by 6 and by 3 to solve some word problems.
2. Write the following on the board:
   Isata has 3 boxes. If each box contains 5 bottle tops, how many bottle tops does Isata have in all? (Answer: 5 + 5 + 5 = 3 x 5 = 15, Mona has 15 bottle tops.)
3. **Say:** Let's try another example:
4. Write the following on the board:
   Aminata's mother buys 6 oranges each time she goes to the market. How many oranges has she bought this month if she has gone to the market 5 times? (Answer: 6 + 6 + 6 + 6 + 6 + 6 = 6 x 5 = 30, Aminata's mother has bought 30 oranges.)

Guided Practice *(9 minutes)*

1. Write the following on the board and read the problems out loud to the pupils:
   a. There are 5 rows of pupils in the class. If there are 6 pupils in each row, how many pupils are in the class?
      (Answer: 6 + 6 + 6 + 6 + 6 = 5 x 6 = 30, there are 30 pupils in the class.)
   b. 7 girls went to pick shells at the beach. If each girl picked 6 shells, how many shells do the girls have in all?
      (Answer: 6 + 6 + 6 + 6 + 6 + 6 + 6 = 7 x 6 = 42, the girls picked 42 shells in all.)
2. **Say:** Please do the following in your exercise books with your partner.
3. Call on one pair of pupils to share their solution on the board.

4. **Ask:** What strategy did you use for the multiplication?
5. **Say:** Please look at the board and check your work.

Independent Practice *(8 minutes)*

1. Write the following problems on the board and read them out loud to the pupils:
    a. Umu has 6 chocolate bars in her bag. Each bar has 6 squares. How many squares are there in the 6 bars of chocolate? (Answer: 6 x 6 = 36, Umu has 36 squares in her bag.)
    b. There are 20 pupils in class 1. Their teacher gives each of them 3 pieces of paper. How many pieces of paper did the teacher give out? (Answer: 20 x 3 = 60, the teacher gave out 60 pieces of paper.)
2. **Say:** Answer the problems in your exercise books.

Closing *(4 minutes)*

1. Invite 2 volunteers to the board to write their solutions to the problems. Have the pupils explain the solution to the class.
2. **Say:** Put your thumbs up if you agree with the answer and a thumbs down if you disagree with the answer.
3. **Say:** Well done. Give yourself a pat on the back if you tried your best today.

Lesson Title: Multiplication by 7 and 9 using counters (repeated addition)	**Theme:** Everyday Arithmetic Multiplication and Division: 7 and 9	
Lesson Number: M-03-091	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes		Teaching Aids		Preparation
	By the end of the lesson, pupils will be able to multiply by 7 and 9 using counters.		1. Repeated Addition Charts for 7s and 9s at the end of the plan. 2. Counters (beads, stones)		1. Write the Repeated Addition Chart, at the end of the plan, on the board. 2. Draw the picture of the 7 groups of 3 in the Introduction to the New Material, on the board. 3. Gather enough counters for each pair to have 50.

Opening *(2 minutes)*

1. **Say:** Let's say the Multiplication Table for 6s. I will say the number we are multiplying 6 by and you say the answer. For example, if I say 4, you say 24 because 6 x 4 is 24. Are you ready? 0 (0), 1 (6), 2 (12), 3 (18), 4 (24), 5 (30), 6 (36), 7 (42), 8 (48), 9 (54), 10 (60)
2. **Say:** Write the answers to the following multiplication problems on your paper. 10 x 6 (60), 2 x 6 (12), 6 x 7 (42)

Introduction to the New Material *(10 minutes)*

```
ooo   ooo
ooo   ooo
ooo   ooo
ooo
```
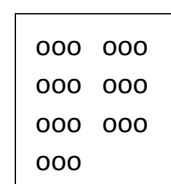
1. **Say:** Today we are going to learn the 7 and 9 times table. But first, let's look at a picture. Use your stones to make this arrangement on your desk.
2. Point to the picture on the board.
3. **Ask:** How many equal groups do you see? (Answer: 7) How many circles are in each group? (Answer: 3) How many circles are in the entire picture? (Answer: 21)
4. **Say:** Copy the picture in your exercise books. Then put your hands on your head.
5. When you see most pupils with their hands on their heads, write 3 + 3 +3 + 3 + 3 + 3 + 3 on the board.
6. **Say:** We can write this as 3 + 3 + 3 + 3 + 3 + 3 + 3. We can also write it as 7 x 3.
7. Write 3 + 3 + 3 + 3 + 3 + 3 + 3 = 7 x 3 on the board.
8. **Say:** To help us learn our 7 times tables, we are going to write out all the addition problems. Please copy the Repeated Addition Chart in your exercise books. I have done the first few for you.
   7 = 7 x 1, 7 + 7 = 7 x (Point to each line as you say it.)
9. **Ask:** Who can read the next line out loud? (Answer: 7 + 7 + 7 = 7 x 3) Why is that 7 x 3? (Answer: You added the number 7 three times, so it is 7 x 3)
10. Give pupils about 2 minutes to fill in all the boxes. The answers are in () after each box.
11. **Say:** And so it continues. Now let's do the same for our 9 times table.
12. **Say:** Trade papers with your partner and check their work. If you are not sure who is correct, please raise your hand.
13. Try to walk around the classroom and check as many pupils as you can while they work.

Guided Practice *(15 minutes)*

1. **Say:** Now try this with your partner.
2. **Say:** Use your counters to find 9 x 3 =
3. **Say:** What addition problem does 9 x 3 represent? (Answer: 9 + 9 + 9 = 27)
4. **Say:** Now try 9 x 5
5. **Ask:** What addition problem does 5 x 6 represent?
   (Answer: 9 + 9 + 9 + 9 + 9 = 45)
6. **Say:** Continue using your counters to make the rest of the addition problems on the chart. You may work with your partner if you want to.
7. Walk around as they work to check the Repeated Addition Charts.
8. While they are working, **Ask:** Can someone come to the board and fill in the rest of the chart? Check to make sure it is correct.
9. **Say:** Please look at your chart. Does it look the same as the one on the board? If not, make the corrections to yours.

```
Guided practice
9 x 3    ooo ooo  ooo
         ooo ooo  ooo
         ooo ooo  ooo

9 x 5  ooo ooo ooo
       ooo ooo ooo
       ooo ooo ooo
       ooo ooo ooo
       ooo ooo ooo
```

Independent Practice *(5 minutes)*

1. Write the following on the board and **Say:** Now, use your counters or use the chart to answer the following:
   a. 9 x 6 = (Answer: 54)   b. 7 x 6 = (Answer: 42)   c. 9 x 10 = (Answer: 90)
2. Call on volunteers to write their answers on the board.
3. Have pupils exchange their books and mark the work.

Closing *(3 minutes)*

1. **Say:** Let's solve the following:
   a. 7 x 5 = (Answer: 35)   b. 7 x 9 = (Answer: 63)   c. 10 x 7 = (Answer: 70)

[REPEATED ADDITION CHART FOR 7s]   *[REPEATED ADDITION CHART FOR 9s]*

```
Repeated Addition Chart for 7s
7 = 7 x 1
7 + 7 = 7 x 2
7 + 7 + 7 = 7 x 7
7 + 7 + 7 + 7 = 7 x 7
7 + 7 + 7 + 7 + 7 = 7 x ☐ (5)
7 + 7 + 7 + 7 + 7 + 7 = 7 x ☐ (6)
7 + 7 + 7 + 7 + 7 + 7 + 7 = 7 x ☐ (7)
7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 = 7 x ☐ (8)
7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 = 7 x ☐ (9)
7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 = 7 x ☐ (10)
```

```
Repeated Addition Chart for 9s
9 = 9 x 1
9 + 9 = 9 x 2
9 + 9 + 9 = 9 x 9
9 + 9 + 9 + 9 = 9 x 9
9 + 9 + 9 + 9 + 9 = 9 x ☐ (5)
9 + 9 + 9 + 9 + 9 + 9 = 9 x ☐ (6)
9 + 9 + 9 + 9 + 9 + 9 + 9 = 9 x ☐ (7)
9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 = 9 x ☐ (8)
9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 = 9 x ☐ (9)
9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 = 9 x ☐ (10)
```

Lesson Title: Multiplication Table for 7 and 9	**Theme:** Everyday Arithmetic Multiplication and Division: 7 and 9	
Lesson Number: M-03-092	**Class/Level:** Class 3	**Time:** 35 minutes

Learning Outcomes By the end of the lesson, pupils will be able to read and write the Multiplication Table for 7 and 9.	**Teaching Aids** 1. Empty Multiplication Table for 7 and 9 at the end of the plan. 2. 100 Chart at the end of the plan. 3. Counters (beads, stones)	**Preparation** 1. Draw a 100 Chart, at the end of the plan, on the board. 2. Draw the empty Multiplication Table for 7 and 9, at the end of the plan, on the board. 3. Gather enough counters for each pupil to have 10.

Opening *(2 minutes)*

1. **Say:** Let's say the Multiplication Table for 3s. I will say the number we are multiplying 3 by and you say the answer. For example, if I say 4, you say 12 because 3 x 4 is 12. Are you ready? 0 (0), 1 (3), 2 (6), 3 (9), 4 (12), 5 (15), 6 (18), 7 (21), 8 (24), 9 (27), 10 (30)
2. **Say:** Write the answers to the following multiplication problems in your exercise books. 10 x 3 (30), 6 x 3 (18), 7 x 3 (21), 9 x 3 (27), 8 x 3 (24)

Introduction to the New Material *(10 minutes)*

1. **Say:** Yesterday, we learned about repeated addition for 7s and 9s. Today we are going to learn multiplication facts for 7 and 9.
2. **Ask:** Who knows what 7 x 1 is? (Answer: 7)
3. **Say:** We are going to use our 100 Chart to help us learn other 7 multiplication facts.
4. Point to the 100 chart on the board. **Say:** Find a 100 chart in your book.
5. **Say:** Look at the 100 Chart. I am going to count 1 group of 7. Watch where I stop.
6. Point to the numbers as you count. **Say:** 1, 2, 3, 4, 5, 6, 7.
7. **Ask:** Where did I stop? (Answer: 7) **Say:** Do the same thing on your 100 Chart. Put your counter on the 7.
8. **Ask:** Where would you land if you counted another group of 7? (Answer: 14)
9. **Say:** Put a counter on the 14. Count another group of 7. Put another counter on the number where you stop.
10. **Ask:** Who can tell me where you put your counter? (Answer: 21)
11. **Say:** Work with your partner to count more groups of 7. Put your counters on the answers. Stop when you find 10 groups of 7.
12. **Ask:** Who can write the numbers you covered on the board? If you are seated, write the numbers on your paper. (Answer: 7, 14, 21, 28, 35, 42, 49, 56, 63, 70)
13. **Ask:** What is 3 times 7? (Answer: 21) **Ask:** If 3 friends each had 7 pencils, how many pencils would they have altogether? (Answer: 21)
14. **Say:** Let's try this for 9.
15. **Say:** Look at the 100 Chart. I am going to count 1 group of 9. Watch where I stop.

83

16. Point to the numbers as you count. **Say:** 1, 2, 3, 4, 5, 6, 7, 8, 9.
17. **Ask:** Where did I stop? (Answer: 9) **Say:** Put your counter on the 9.
18. **Ask:** Where would you land if you counted another group of 9? (Answer: 18)
19. Put a counter on the 18.
20. **Say:** Work with your partner to count more groups of 9. Put your counters on the answers. Stop when you find 10 groups of 9.
21. **Ask:** Who can write the numbers you covered on the board? If you are seated, write the numbers on your paper. (Answer: 9, 18, 27, 36, 45, 54, 63, 72, 81, 90)
22. **Ask:** What is 3 times 9? (Answer: 27) **Ask:** If 3 friends each had 9 book, how many books would they have altogether? (Answer: 27)

Guided Practice *(8 minutes)*

1. **Say:** Now we are going to fill in our Multiplication Table for the 7s and 9s. Copy the chart on your paper.
2. **Say:** Try to complete the tables for 7s and 9s. Work with your partner if you want to. (Answers: see below)

x	0	1	2	3	4	5	6	7	8	9	10
7	0	7	14	21	28	35	42	49	56	63	70

x	0	1	2	3	4	5	6	7	8	9	10
9	0	9	18	27	36	45	54	63	72	81	90

3. **Ask:** Can someone come to the board and fill in the tables?

Independent Practice *(10 minutes)*

1. **Say:** Now, carefully tear 2 pieces of paper out of your exercise book. Fold the pages in half and tear along the fold. Keep folding and tearing until you have at least 20 small pieces of paper.

7 x 2	14

2. **Say:** On each small piece of paper make a flash card for every multiplication problem on your tables. On 1 side, write the problem, for example 7 x 2. On the other side, write the answer very lightly so it doesn't show through.

Closing *(3 minutes)*

1. **Say**: Use your cards to practise your multiplication facts with your partner. If the answer is incorrect, tell your partner the answer and put the card in pile. When you have finished, start again with the cards in the 'incorrect' pile.
2. **Say**: When your partner finishes, change roles.

[MULTIPLICATION TABLE FOR 7s and 9s]   *[100 CHART]*

x	0	1	2	3	4	5	6	7	8	9	10
7	0	7	14	21	28	35	42	49	56	63	70

x	0	1	2	3	4	5	6	7	8	9	10
9	0	9	18	27	36	45	54	63	72	81	90

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

Lesson Title: Division Table for 7 and 9	**Theme:** Everyday Arithmetic (includes financial literacy) Multiplication by 3 and 6 (revision)	
Lesson Number: M-03-093	**Class/Level:** Class 3	**Time:** 35 minutes

Learning Outcomes By the end of the lesson pupils will be able to: 1. Read and write the Multiplication Table for 7 and 9. 2. Use the Multiplication Table for 7 and 9 to deduce the Division Table for 7 and 9.	**Teaching Aids** 1. Multiplication Tables for 7 and 9 at the end of the plan. 2. Division Tables of 7 and 9 at the end of the plan.	**Preparation** 1. Draw the empty Multiplication Tables for 7 and 9, at the end of the plan, on the board. 2. Draw empty Division Tables for 7 and 9, at the end of the plan, on the board.

Opening *(4 minutes)*

1. **Say:** Let's count in 9s together. Remember, these are the products, or answers, in the 9s Multiplication Table. You may use your table to help you. Are you ready? 0, 9, 18, 27, 36, 45, 54, 63, 72, 81, 90.
2. **Say:** Ok, now I will call out the number that we are multiplying 9 times and you tell me the answer. For example, if I say 2, you say 18 because 9 x 2 = 18. Are you ready? 5 (Answer: 45), 10 (Answer: 90), 1 (Answer: 9), 0 (Answer: 0), 8 (Answer: 72), 4 (Answer: 36)
3. **Say:** Today's lesson will continue from our last class. We will read and write the Multiplication Table of 7 and 9and also use the table to make Division Tables of 7 and 9.

Introduction to the New Material *(10 minutes)*

1. **Say:** Draw a Multiplication Table for 7s and fill in the products. (Answer:

x	0	1	2	3	4	5	6	7	8	9	10
7	0	(7)	(14)	(21)	(28)	(35)	(42)	(49)	(56)	(63)	(70)

2. **Say:** Now let's read the Multiplication Table for 7.
3. **Say (all together):** 7 x 0 = 0, 7 x 1 =7, 7 x 2 = 14, 7 x 3 = 21, 7 x 4 = 28, 7 x 5 = 35, 7 x 6 = 42, 7 x 7=49, 7 x 8 = 56, 7 x 9 =63, 7 x 10=70
4. **Say:** Now, let's make some division sentences from the Multiplication Table. For example, 21 ÷ 7 = 2. (Possible responses: 35 ÷ 7 = 5, 21 ÷ 7 = 3). Let us make a Division Table for 7.
5. **Say:** Draw a Division Table for 7s and fill in the answers (Answer:

÷	0	7	14	21	28	35	42	49	56	63	70
7	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

6. **Say:** Check your work and make any corrections.

Guided Practice *(8 minutes)*

1. **Say**: Now you can work with a partner to do the same for the Multiplication Table for 9. Please draw a Multiplication Table for 9s in your book and fill in the products. (Answer: see below)

x	0	1	2	3	4	5	6	7	8	9	10
9	0	9	(18)	(27)	(36)	(45)	(54)	(63)	(72)	(81)	(90)

2. **Write**: Use your Multiplication Table to make a Division Table for 9 in your exercise books.

÷	0	9	18	27	36	45	54	63	72	81	90
9	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

3. **Say:** Now, let's make some division sentences from the Multiplication Table for 9. For example, $18 \div 9 = 2$ (Possible answers: $36 \div 9 =$, $45 \div 9 = 5$)
4. **Say:** If you disagree with the answer, check your Multiplication Tables. If you still disagree, please raise your hand.

Independent Practice *(10 minutes)*

1. **Say:** Now that we have our Multiplication and Division Tables for 7 and 9, you are going to write fact families for multiplication and division. For example, $9 \times 2 = 18$ and $18 \div 9 = 2$ go together to make a fact family because the equations are using the same set of numbers.
2. **Say:** List the multiplication and division number sentences for 7 and 9 that go together to form fact families. (Answers: $7 \times 0 = 0$, $0 \div 7 = 0$, $7 \times 1 = 7$, $7 \div 7 = 1$, $7 \times 2 = 14$, $14 \div 7 = 2$,… up to $7 \times 10 = 70$, $70 \div 7 = 10$, $9 \times 0 = 0$, $0 \div 9 = 0$;, $9 \times 1 = 9$, $9 \div 9 = 1$, $9 \times 2 = 18$, $18 \div 9 = 2$,… up to $9 \times 10 = 90$, $90 \div 9 = 10$)

Closing *(3 minutes)*

1. **Say:** Please say one multiplication sentence to your partner. They will have to respond by saying the division sentence to you. For example, if I say to (pupil name) $3 \times 7 = 21$, (pupil name) will say $21 \div 3 = 7$.
2. Let pupils play until the end of class time.
3. **Say:** Well done.

[MULTIPLICATION TABLES FOR 7s AND 9s]

x	0	1	2	3	4	5	6	7	8	9	10
7											

x	0	1	2	3	4	5	6	7	8	9	10
9											

[DIVISION TABLES FOR 7s AND 9s]

÷	0	7	14	21	28	35	42	49	56	63	70
7											

÷	0	9	18	27	36	45	54	63	72	81	90
9											

Lesson Title: Mental Strategies for Multiplication by 7 and 9	**Theme:** Everyday Arithmetic Multiplication and Division: 3 and 6	
Lesson Number: M-03-094	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve sums involving multiplication by 7 and 9 mentally.		**Teaching Aids** None		**Preparation** None

Opening *(2 minutes)*

1. **Say:** Let's say the Multiplication Table for 7.
2. **Say (all together):** 7 x 0 = 0, 7 x 1 = 7, 7 x 2 = 14, 7 x 3 = 21, 7 x 4 = 28, 7 x 5 = 35, 7 x 6 = 42, 7 x 7 = 49, 7 x 8 = 56, 7 x 9 = 63, 7 x 10 = 70
3. **Say:** Let's say the Multiplication Table for 9.
4. **Say (all together):** 9 x 0 = 0, 9 x 1 = 9, 9 x 2 = 18, 9 x 3 = 27, 9 x 4 = 36, 9 x 5 = 45, 9 x 6 = 54, 9 x 7 = 63, 9 x 8 = 72, 9 x 9 = 81, 9 x 10 = 90

Introduction to the New Material *(10 minutes)*

1. **Say:** In our last class, we looked at multiplying by 7 and by 9. Today, we are going to use mental strategies to solve sums involving multiplication of 7 and 9.
2. **Ask:** Let's begin with multiplication by 7. Let's start with 5 x 7
3. Write 5 x 7 on the board.
4. **Say:** Please look on your Repeated Addition chart and tell me what 5 x 7 is equal to. (Possible answers: 5 x 7 = 7 + 7 + 7 + 7 + 7 or 5 x 7 = 5 + 5 + 5 + 5 + 5 + 5 + 5)
5. **Say:** We know that 5 + 2 = 7. So when we multiply by 7, we can multiply by 5 and add it to the number multiplied by 2.
6. **Ask:** Let's try an example. Let's multiply 4 x 7. We can first multiply 4 x 5 and add it to 4 x 2 or 4 doubled.
7. **Ask:** So for 4 x 7, what is 4 x 5? (Answer: 20)
8. **Ask:** What is 4 x 2 or 4 doubled? (Answer: 8)
9. **Say:** So 4 x 7 = 20 + 8 = 28. Please check your Multiplication Table to see if this is true. Try it for 6 x 7. (Answer: 6 x 5 = 30, add it to double 6 which is 12 so 5 x 7 = 30 + 12 = 42. Check your table to see if it is true.)
10. **Say:** Now let's see how we can mentally multiply by 9. We know that 9 is one less than 10. So for any number multiplied by 9, we just multiply the number by 10 and subtract one of the number. For example, let's use for 4 x 9.
11. **Ask:** What is 4 x 10? (Answer: 40). To find 4 x 9, we subtract 4 from 40 so we have 4 x 9 = (4 x10) - 4 = 40 - 4 = 36. Check your Multiplication Table to see if this is true.
12. Try to walk around the classroom and check on as many pupils as you can while they work.

Guided Practice *(15 minutes)*

1. Write the following on the board:
   7 x 3 = (Answer: 21)   7 x 6 = (Answer: 42)   9 x 3 = (Answer: 27)   9 x 6 = (Answer: 54)
2. **Say:** Now with a partner, please answer these multiplication sums.
3. **Ask:** Can someone come to the board and fill in the answers. Check to make sure it is correct.
4. **Say:** Please look at your chart. Does it look the same as the one on the board? If not, make the corrections to yours.

Independent Practice *(5 minutes)*

1. Write the following on the board and **Say:** Do the following in your exercise books on your own using mental maths:
   7 x 7 = (Answer: 49)   9 x 6 = (Answer: 54)   10 x 7 = (Answer: 70)   8 x 7 = (Answer: 56)

Closing *(3 minutes)*

1. **Say:** Please work with your partner.
2. **Say:** Take turns to ask your partner multiplication sums for 7s and 9s. See how quickly you can answer.
3. Give pupils 2 minutes to work.
4. **Say:** Well done.

Lesson Title: Word problems involving multiplication by 7 and 9 using stories		**Theme:** Everyday Arithmetic Multiplication and Division: 7 and 9	
Lesson Number: M-03-095		**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve one-step word problems involving multiplication of 7 and 9 using stories.		**Teaching Aids** None		**Preparation** None

Opening *(4 minutes)*

1. **Say:** Let's say the multiplication table for 9.
2. **Say (all together):** 9 x 0 = 0, 9 x 1 = 9, 9 x 2 = 18, 9 x 3 = 27, 9 x 4 = 36, 9 x 5 = 45, 9 x 6 = 54, 9 x 7 = 63, 9 x 8 = 72, 9 x 9 = 81, 9 x 10 = 90
3. **Say:** Let's say the multiplication table for 7.
4. **Say (all together):** 7 x 0 = 0, 7 x 1 = 7, 7 x 2 = 14, 7 x 3 = 21, 7 x 4 = 28, 7 x 5 = 35, 7 x 6 = 42, 7 x 7 = 49, 7 x 8 = 56, 7 x 9 = 63, 7 x 10 = 70

Introduction to the New Material *(10 minutes)*

1. **Say:** Today we are going to use what we know about multiplying by 7 and by 9 to solve some word problems.
2. **Write:** Unisa has 6 packs of juice. If each pack contains 7 bottles of juice, how many bottles of juice does Unisa have in all?
3. **Ask:** How do we find the answer? (Answer: 7 + 7 + 7 + 7 + 7 + 7 + 7 = 7 x 6 = 42, Unisa has 42 bottles of juice.)
4. **Say:** Let's try another example:
5. **Write:** Aunty Ellen works 9 hours a day. If she worked for 4 days this week, how many hours did she work this week? (Answer: 9 + 9 + 9 + 9 = 9 x 4 = 36, Aunty Ellen worked for 36 hours this week.)

Guided Practice *(9 minutes)*

1. Write the following word problem on the board read it out loud to the pupils:
   A table has 4 legs. How many legs do 7 tables have?
   (Answer: 7 x 4 = 28, 7 tables have 28 legs)
2. **Say:** Please work out the answer in your exercise books with your partner. Give pupils 4 minutes to solve the problem.
3. **Ask:** What strategy did you use for the multiplication?
4. **Ask:** How many legs do 7 tables have? (Answer: 28).
5. **Say:** Clap for yourself if you got the correct answer.
6. Write the following word problem on the board and read it aloud to the pupils:

Mustapha buys 9 packs of balls. Each pack contains 5 balls. How many balls does Mustapha have? (Answer: 9 x 5 = 45, Mustapha has 45 balls.)

7. **Say:** Please work out the answer in your exercise books with your partner. Give pupils 4 minutes to solve the problem.
8. **Ask:** What strategy did you use for the multiplication?
9. **Ask:** How many balls does Mustapha have? (Answer: 45).
10. **Say:** Clap for yourself if you got the correct answer.

Independent Practice *(8 minutes)*

1. Write the following word problems on the board and read them aloud to the pupils:
    a. *Madam Hussein baked 9 cakes. If each cake had 9 candles, how many candles did Madam Hussein use in all?*
    (Answer: 9 x 9 = 81, Madam Hussein used 81 candles).
    b. *Farmer Fallubah planted 10 rows of maize. Each row has 9 maize plants. How many maize plants are there in all?* (Answer: 10 x 9 = 90, Farmer Fallubah planted 90 maize plants in all.)
2. **Say:** Please answer the problems in your exercise books. Give pupils 8 minutes to solve the problems. Support pupils who are unable to read independently by reading the problems while they work.

Closing *(4 minutes)*

1. **Ask:** Who can explain how they solved the problems? (Example answer: I know that 10 groups of 9 is 90, so I took away 9 to make it 9 groups of 9. I got 81.)
2. **Ask:** Did anyone solve it in a different way? (Example answer: I added 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 + 9 and got 81.)
3. **Say:** Well done.

Lesson Title: Angles as measures of turn	Theme: Geometry Angles	
Lesson Number: M-03-096	Class/Level: Class 3	Time: 35 minutes

| | Learning Outcomes
By the end of the lesson, pupils will be able to form angles by turning clockwise, anti-clockwise, by a whole and half turn. | | Teaching Aids
None | | Preparation
Draw a clock face on the board. |
|---|---|---|---|---|---|

Opening *(2 minutes)*

1. **Say:** Please turn to your partner and tell him what you know about a clock face.
2. Allow pupils a minute to talk.
3. **Ask**: What did your partner say? (Expected answers: there are two hands, one short/little and the other long/big; the hour and minutes hand move in the right direction from 12, the clock is numbered from 12 through 1, 2, 3,... to 12)

Introduction to the New Material *(10 minutes)*

1. **Say:** Today we will learn about how to form angles by turning clockwise, anti-clockwise, by a half and a whole turn.
2. **Say:** Please look at the clock on the board and turn to your partner. Tell your partner anything you notice on the clock.
3. **Ask**: Who can tell me anything he noticed from the clock? (Possible answers: there is an hour/little hand, a minute/big hand, there are numbers starting from 12 through 1,2,3,… to 12, the hour and minute hands move in the right-hand direction)
4. Adjust the clock to read 3 o'clock or draw the hands of the clock on the board.
5. **Ask:** What is the time on the clock? (Answer: 3 o'clock)
6. **Say:** Please look on the clock again. Pay attention to the movements of the hour and minute hands.
7. **Ask:** In which direction does the hour and minute hands of the clock move? (Possible answers: right-side direction).
8. **Say:** When the hour hand of the clock moves in the right-side direction, we say it is moving clockwise. And when it moves in the left-side direction, it is moving anti-clockwise.
9. **Say:** Repeat after me. Clockwise and anti-clockwise.
10. Say the words clockwise and anti-clockwise three times separately for the pupils to repeat after you.
11. **Say**: Draw a clock face and divide it into four parts as shown on the board.
12. **Say**: If we move from 12 to 6 it means we have made a half turn.
13. **Say**: If we move from 12 and back to 12 we say we have made a whole turn.
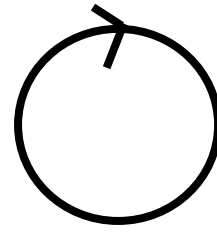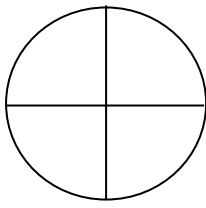
Guided Practice *(10 minutes)*

1. **Say:** Let's find the time if we make half turns with the hour hand on a clock face.
2. **Say:** We will start from 12 o'clock, so both hands will be pointing to the 12 or straight up. We are going to make a clockwise half turn from 12 with the hour hand.
3. **Ask:** In what direction are we going to move? (Answer: right-side direction)
4. Demonstrate a clockwise half turn from 12 using the wall clock or a drawing on the board.
5. **Ask:** Who can tell me the time when the hour hand makes a clockwise half turn from 12? (Answer: 6 o'clock)
6. **Say:** For the next question, please draw a clock in your exercise books showing 3 o'clock. Indicate a clockwise half turn of the hour hand from 3 o'clock.
7. **Ask:** What time will the hour hand fall on? (Answer: 9 o'clock)
8. **Say:** To make a half turn from a particular hour on the clock, stand on the number and draw a line to the other side of the clock such that the line divides the clock into two equal parts.

Independent Practice *(10 minutes)*

1. Write the following questions on the board and read them out loud to the pupils:

   Find the new time if the hour hand makes a:

   a. ANTI-CLOCKWISE half turn from 12 o'clock.
   b. CLOCKWISE half turn from 11 o'clock.
2. **Say:** Please work with your partner to answer the following questions.
3. **Say:** You have 10 minutes to find the time.
4. Go around the classroom to assist pupils when the need arises.

Closing *(3 minutes)*

1. **Ask:** What are your answers?
   (Answers: a. 6 o'clock b. 5 o'clock)
2. **Say:** Explain to your partner how you got your answers. Allow pupils about 2 minutes to talk.
3. Address some of the challenges pupils had ensuring they understand the difference between clockwise and anti-clockwise.
4. **Say:** Well done.

| Lesson Title: Angles as measures of turn	Theme: Geometry Angles	
Lesson Number: M-03-097	Class/Level: Class 3	Time: 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to form angles by turning clockwise, anti-clockwise, by a quarter, three quarters, a whole and half turn.		Teaching Aids Clock		Preparation 1. Find a 12 hour clock. 2. Draw a clock face on the board.

Opening *(2 minutes)*

1. **Say:** Please draw a clock to indicate the time as 3 o'clock in your exercise books.
2. Allow pupils a minute to draw the clock.

Introduction to the New Material *(10 minutes)*

1. **Say:** Today we will continue with our lesson on how to form angles by turning clockwise, anti-clockwise, by a quarter, three quarters, a whole and half turn.
2. Adjust the wall clock to read 12:15.
3. **Ask**: Who can tell me the time from the clock? (Possible answers: 12:15, quarter past 12)
4. Adjust the clock to read 12:45.
5. **Ask**: What is the time from the clock? (Possible answers: 12:45, quarter to 1)
6. **Say:** Draw a wall clock and divide it into 4 equal parts as shown on the board.
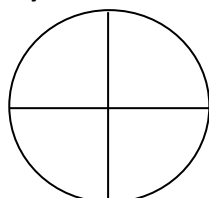
7. **Say:** If you move the minute hand from 12 to 3 clockwise, we say you have made a clockwise quarter turn. This is similar to 12:15 time on the clock.

8. **Ask:** What do we call the turn when the minute hand moves from 12 to 6 in a clockwise direction? (Answer: half turn)
9. **Say:** When the minutes minute hand moves from 12 to 6 in a clockwise direction, we say it has made a clockwise half turn. This is similar to a time of 12:30 or half past 12 on the clock.
10. **Say:** If the minute hand moves from 12 in a clockwise direction to 9, we say it has made a three-quarters turn. This is similar to a time of 12:45 on the clock.
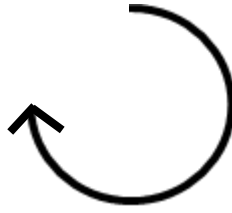
11. **Say:** We can also demonstrate these turns by using our bodies.
12. **Say:** Watch me as I demonstrate a quarter turn, half turn, three quarters turn, and a whole turn with my body.
13. Demonstrate the above turns in both clockwise and anti-clockwise directions while the pupils are watching.
14. **Say**: I need a volunteer to come and demonstrate the above with their body.
15. Invite the volunteer to the front of the class to do the demonstration of the turns.
16. **Say**: Now I want all of you to make quarter turn anti-clockwise.

Guided Practice *(10 minutes)*

1. Write the following problems on the board and read them out loud to the pupils:

    Find the new time if the hour hand makes a:

    a. CLOCKWISE quarter turn from 12 o'clock .
    b. ANTI-CLOCKWISE half turn from 3 o'clock.
2. **Say:** For question a, we are going to make a clockwise quarter turn from 12.
3. **Ask:** In what direction are we going to move? (Answer: right-side direction)
4. Demonstrate a clockwise quarter turn from 12 using the clock or a drawing on the board.
5. **Say**: The time will read 3 o'clock if the hour hand makes a clockwise quarter turn from 12.
6. **Say:** For question number 2, draw a clock in your exercise books. Indicate an anti-clockwise half turn of the hour hand from 3 o'clock.
7. **Ask:** What time will the hour hand fall on? (Answer: 9 o'clock)
8. **Say:** The time will be 9 o'clock if the hour hand makes an anti-clockwise half turn from 3 o'clock.

Independent Practice *(10 minutes)*

1. Write the following problems on the board and read them out loud to the pupils:
    Find the new time if the hour hand makes a:

    a. CLOCKWISE three-quarters turn from 7 o'clock.
    b. ANTI-CLOCKWISE quarter turn from 5 o'clock.
2. **Say:** Please work with your partner to answer the following questions.
3. **Say:** You will have about 10 minutes to find the time.
4. Go around the classroom to assist pupils when the need arises.

Closing *(3 minutes)*

1. **Ask:** What are your answers?
    (Answers: a. 4 o'clock b. 2 o'clock)
2. **Say:** Explain to your partner how you got your answers. Allow pupils about 2 minutes to talk.
3. Address some of the challenges pupils had with the independent practice problem.
4. **Say:** Well done.

Lesson Title: Related descriptions for angles as measures of turn	**Theme:** Geometry Angles	
Lesson Number: M-03-098	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson pupils will be able to: 1. Describe turns as angles: right angle, straight line. 2. Describe angles as measures of turn.		**Teaching Aids** Clock		**Preparation** 1. Find a 12 hour clock. 2. Draw a clock face on the board.

Opening *(2 minutes)*

1. **Say:** Working with your partner, each one of you should stand up and do the quarter, half, and whole turns with your bodies.
2. Allow pupils a minute to do the respective body movements.

Introduction to the New Material *(10 minutes)*

1. **Say:** Today we are going to learn how to describe turns as angles.
2. **Say**: Please draw a clock in your exercise books to indicate a clockwise half turn from 12.
3. Draw a picture of a half turn on the board.
4. **Say:** When we describe a half turn as an angle it is called a straight line.
5. **Say:** Look at the picture of a half turn, when we start from the 12 and go half way around the clock to the 6, we make a straight line through the middle of the clock.
6. **Say:** Draw a straight line in your book and label it 'straight line'.
7. Draw a straight line on the board and label it.
8. **Say**: Draw a clock to indicate a clockwise quarter-turn from 12.
9. Draw a clockwise half-turn on the board.
10. **Say:** When we describe a quarter turn as an angle, it is called a 'right angle'.
11. **Say:** Look at the picture of a quarter turn, when we start from the 12 and go a quarter of the way around the clock to 3, we make a corner shape or a right angle.
12. **Say:** Draw a right angle in your book and label it 'right angle'.
13. Draw a right angle on the board and label it.
14. **Say:** A right angle is represented by a small square inside the angle as shown on the board.
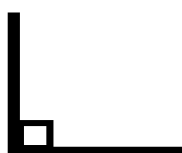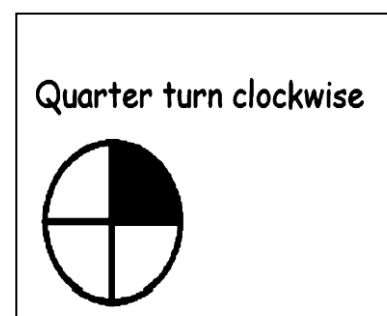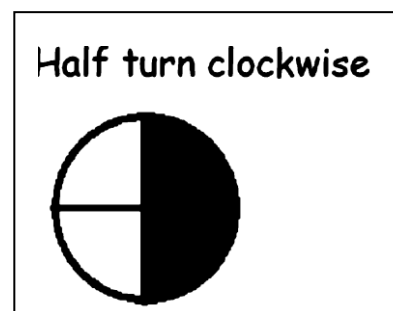
Guided Practice *(10 minutes)*

1. **Say:** There are a lot of straight lines and right angles in our classroom.
2. **Say:** Draw a line down the middle of your page. Write straight lines at the top of one side and right angles at the top of the other.
3. Demonstrate on the board.
4. **Say:** Is the top of the board a straight line or a right angle? (Answer: straight line)
5. **Say:** Write 'top of the board' on the straight line side of your page. Write it on the board.
6. **Say:** Is the corner of your desk a straight line or a right angle? (Answer: right angle)
7. **Say:** Write 'corner of desk' on the right angle side of your page. Write it on the board.
8. **Say:** Find 3 more things in the classroom that have straight lines and 3 more things that have right angles. Write them on the correct side. Give pupils 7 minutes to write.
9. **Say:** Who can tell us some of the items they found with a straight line? Write pupil responses on the board.
10. **Say:** Who can tell us some of the items they found with right angles? Write pupil responses on the board.

Independent Practice *(10 minutes)*

1. Draw the following on the board:
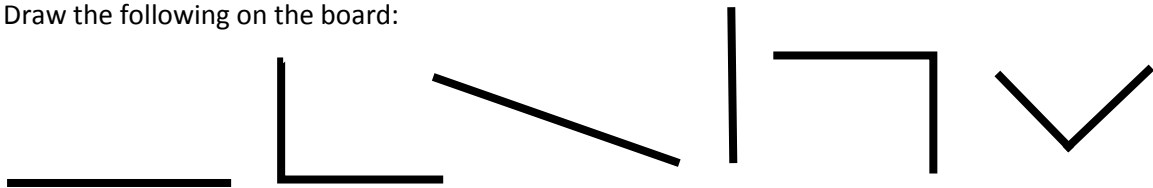
2. **Say:** Draw these in your exercise book. Please work with your partner to label as a 'right angle' or a 'straight line'. If it is a right angle, draw the little square inside the angle to show the right angle.
3. **Say:** You will have about 7 minutes to label the angles.
4. Go around the classroom to assist pupils when the need arises.
5. **Say:** I need 6 volunteers (3 boys and 3 girls) to write the labels for each angle on the board. (Answers: straight line, right angle, straight line, straight line, right angle, right angle)

Closing *(3 minutes)*

1. **Say:** I'm going to point to some angles in the classroom. If I point to a straight line, stomp your feet. If I point to a right angle, clap your hands.
2. Point to various straight lines and right angles in the classroom.
3. **Say:** Well done, today we described turns as angles.

Lesson Title: Using angles as measures of turn to give directions	**Theme:** Geometry Angles	
Lesson Number: M-03-099	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to give directions to locations using angles as measures of turn.		**Teaching Aids** None		**Preparation** Draw a clock face on the board.

Opening *(2 minutes)*

1. **Say:** Draw a straight line and a right angle and label them.
2. **Say:** Draw a quarter turn and match it to the correct angle.
3. **Say:** Draw a half turn and match it to the correct angle.

Introduction to the New Material *(5 minutes)*

1. **Say:** Today we are going to learn how to give directions to locations using angles as measures of turn.
2. **Say**: Please draw a clock in your exercise books to indicate a clockwise quarter turn, half turn, and three quarters turn from 12.
3. Show pupils a drawing of the turns on the board.
4. **Say**: Draw a clock to indicate a clockwise half turn from 12.
5. Show pupils a drawing of a clockwise half turn from 12 on the board.
6. **Ask:** What is a clockwise quarter turn called when we describe it as an angle? (Answer: right angle)
7. **Ask:** What is a clockwise half turn called when we describe it as an angle? (Answer: straight line)

Guided Practice *(15 minutes)*

1. **Say:** Stand up at your desk. Make sure your body is facing the front of the classroom. Make a clockwise half turn with your body. (Answer: Pupils turn to face the back of the classroom.)
2. **Say:** Make an anti-clockwise quarter turn with your body. (Answer: Pupils turn to their left to face the side of the classroom).
3. **Say:** Make a clockwise half turn with your body. (Answer: Pupils turn to their right to face the other side of the classroom).
4. **Say:** Make a clockwise quarter turn with your body. (Answer: Pupils turn to the front).
5. **Say:** Well done! Can I have a volunteer to come to the front to direct the class to make turns with their body.
6. Have 4 pupils (2 boys and 2 girls) take turn to lead the class to turn in half and quarter clockwise and anticlockwise turns.

Independent Practice *(10 minutes)*

1. **Say:** We are going to work in pairs to give each other directions using angles and turns.
2. **Say:** You will have 5 minutes each to direct your partner to make half or quarter turns anti-clockwise and clockwise. I will tell you when to swap roles.
3. Give pupils 5 minutes to direct their partner. **Say:** Now swap roles. Give pupils 5 minutes to direct their partner.

Closing *(3 minutes)*

1. **Say:** I am going to use angles to give you directions to draw a shape. Listen carefully to the directions and do not take your pencil off your paper:
2. **Say:** Make a straight line. Turn a quarter turn clockwise to make a right angle. Make a straight line. Turn a quarter turn clockwise to make a right angle. Make a straight line. Make a quarter turn clockwise to make a right angle. Make a straight line to join where you started.
3. **Ask:** What shape did you make? (Answer: rectangle or square)
4. **Say:** Well done! Tomorrow we will be finding more right angles in shapes.

Lesson Title: Right angles with simple two dimensional shapes	**Theme:** Geometry Angles	
Lesson Number: M-03-100	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to identify right angles in simple two dimensional shapes.		**Teaching Aids** Drawings of 2-D shapes		**Preparation** Draw 2- D shapes, in the Introduction to the New Material, on the board.

Opening *(2 minutes)*

1. **Say:** Working with a partner, please identify objects or areas around the classroom that can form right angles.
2. Allow pupils a minute to discuss their findings.

Introduction to the New Material *(10 minutes)*

1. **Say:** Today we are going to learn how to identify right angles in simple two dimensional shapes.
2. **Say**: Two dimensional shapes are shapes that are flat and can only be drawn on paper. They have two dimensions – length and width. They are sometimes called plane shapes or 2-D shapes.
3. **Say:** An example of a two dimensional shape is a square.
4. **Ask:** Who can mention another example of two dimensional shapes? (Possible answers: rectangle, triangle.)
5. Point to the pictures of shapes on the board.
6. Draw a right angle on the board.
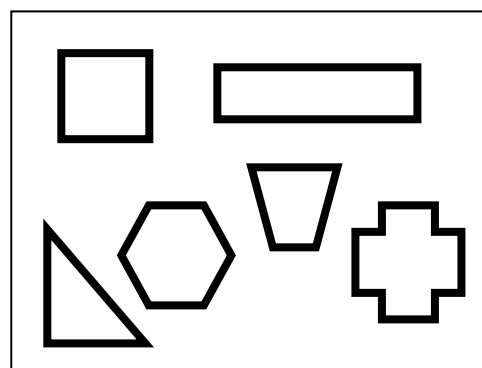
7. **Say:** In 2-D shapes, edges can be at a right angle to one another.
8. **Say:** We know that a right angle is the same as a quarter turn.
9. **Ask:** How do we represent a right angle? (Answer: We draw a small square inside the angle)
10. Draw the small right angle symbol on the angle on the board.
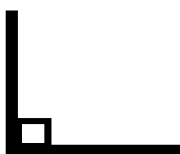
11. **Say:** Look at the shapes on the board. Choose two of the shapes that has a right angle. Draw them in your book and label the right angles with the small square.
12. **Say:** Hold your work up for me to see.

Guided Practice *(10 minutes)*

1. Draw the 2-D shapes to the right on the board.
2. **Say:** Please look at the four shapes I have drawn.
3. **Ask:** In how many of the 2-D shapes can you find right angles? (Answer: only shape 2)
4. **Say:** Look at the first shape. There are three angles in it.
5. **Ask:** Can you find the three angles?
6. Invite a volunteer to come to board and identify the three angles.
7. **Say**: The three angles are formed where two edges of the 2-D shape meet. Are the angles right angles? (Answer: No, they are too small.)
8. **Say**: How many angles does the second shape have? (Answer: 4) Are the angles right angles? (Answer: Yes, each angle is a quarter turn.)
9. **Ask**: Who can come to board to identify the four right angles?
10. Call some volunteers to come to the board to identify the right angles.
11. **Say:** In shape 3, there are three right angles inside the shape. Work with your partner to identify these three right angles.
12. Ask one or two volunteers to come and identify the right angles in the shape on the board.
13. **Ask:** Can you find any right angles outside of the shape? (Answer: Yes, there are 2 right angles outside of the shape)
14. **Ask:** Are there and right angles in the fourth shape? (Answer: no)
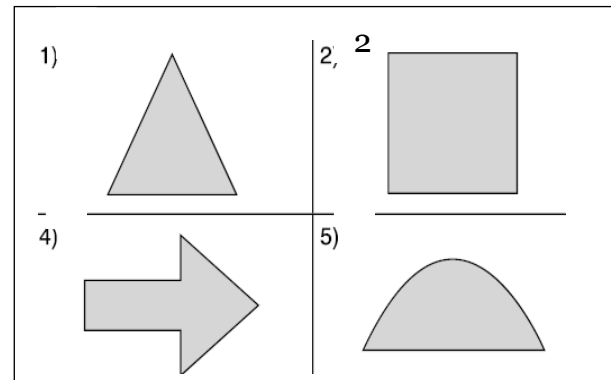
Independent Practice *(10 minutes)*

1. Draw the 2-D shapes to the right on the board:
2. **Say:** Please work with your partner to identify the shapes with right angles inside them and count the number of the right angles. Label the right angles with the small square.
3. **Say:** You will have about 10 minutes to find the right angles.
4. Go around the classroom to assist pupils when the need arises.
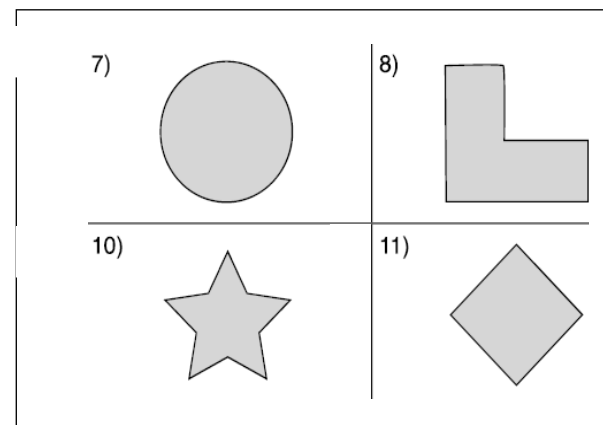
Closing *(3 minutes)*

1. **Ask:** What are your answers?
   Answers: 1) Shape 1—no right angle
             2) Shape 2— five right angles
             3) Shape 3—no right angle
             4) Shape 4—four right angles
2. Allow pupils about 2 minutes to justify their answers.
3. Address some of the challenges pupils had with the Independent Practice problem.
4. **Say:** Well done.

Lesson Title: Multiplication problems using the times table 1 - 5	**Theme:** Everyday arithmetic (include financial literacy) - Multiplication	
Lesson Number: M-03-101	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve multiplication problems using the times table 1-5.		**Teaching Aids** Multiplication Chart 1-5 at the end of the plan.		**Preparation** Write the Multiplication Chart 1-5, at the end of the plan, on the board.

Opening *(2 minutes)*

1. **Say:** Today we will be looking at multiplication problems and will be concentrating on using the times table.
2. **Ask:** What is 2 multiplied by 2? (Answer: 4)

Introduction to the New Material *(11 minutes)*

1. **Say:** Let's recite the 2, 3, 4, 5 times table.
2. **Say:** Multiplication is made easier by using the times table or Multiplication Chart which can be help us find quick answers.
3. Point to the 1 – 5 times table chart on the board.
4. **Say:** Using the times table chart, please find the missing number in the following question.
5. On the board, write: 3 x 4 = _____ **Ask:** What is the answer to the question (Answer: 12).
6. On the board, write: 5 x ____ = 25 **Say:** Use the times table chart to find the number which if multiplied by 5, gives us 25. **Ask:** What will that number be? (Answer: 5)
7. **Ask:** What is 4 x 4? (Answer: 16) **Ask:** Is there anyone who thinks differently?
8. **Say:** Let us find out the answer together.
9. Turn to the times table chart and **Say:** So we are looking for 4 x 4
10. Point to the 4 along the top and the 4 on the left hand side. Move your fingers slowly together until they meet. **Say:** 4 x 4 = 16.
11. On the board, write: 5 x 4 = _____ **Ask:** What is the answer? (Answer: 20)
12. **Say:** Let us find 5 x 4 on the times table chart. Point to the 4 along the top and the 5 on the left hand side. Slowly move your fingers towards each other until they meet. **Say:** 5 x 4 equals 20.
13. **Say:** Find the missing number in the following question. 5 x _____ = 5 (Answer: 1)
14. Give pupils about 30 seconds to discuss a possible answer amongst themselves.

Guided Practice *(10 minutes)*

1. On the board write:
   (a) 5 x ____ = 30   (Answer: 6)   (b) 3 x 5 = _____   (Answer: 15)

   (c) _____ x 12 = 36   (Answer: 3)   (d) 1 x 4 = ___   (Answer: 4)

   (e) 2 x 10 = _____   (Answer: 20)   (f) ____ x 11 = 44   (Answer: 4)

(g) 2 x ___ = 22   (Answer: 11)

2. **Say:** In pairs, please solve the questions on the board using the times table.
3. Go around to the groups to support their work, and help out any groups that are struggling.
4. Ask 7 volunteers to write the correct answers on the board.

Independent Practice *(10 minutes)*

1. Write the following on the board:
    (a) 5 x ____ = 50   (Answer: 10)   (b) 4 x 5 = _____   (Answer: 20)

    (b) _____ x 12 = 48   (Answer: 4)   (d) 1 x 5 = _____   (Answer: 5)

    (c) 3 x 10 = _____   (Answer: 30)   (e) ____ x 11 = 11   (Answer: 1)

    (d) 5 x ____ = 55   (Answer: 11)

2. **Say:** Please use the times table to solve the questions on the board, write your answers in your exercise books.
3. **Say:** Please exchange your book with the person sitting next to you and compare answers.

Closing *(2 minutes)*

1. **Say:** Today we studied how to solve multiplication problems using the 1-5 times table.
2. **Say:** Any number multiplied by 1 is the same number for example 2 x 1 = 2, 5 x 1 = 5.
3. **Say:** In our next lesson, we will continue by looking at how to solve multiplication problems using the 6-10 times table.

[MULTIPLICATION CHART 1-5]

X	0	1	2	3	4	5	6	7	8	9	10
1	0	1	2	3	4	5	6	7	8	9	10
2	0	2	4	6	8	10	12	14	16	18	20
3	0	3	6	9	12	15	18	21	24	27	30
4	0	4	8	12	16	20	24	28	32	36	40
5	0	5	10	15	20	25	30	35	40	45	50

Lesson Title: Multiplication problems using the times table 6 - 10	**Theme:** Everyday arithmetic (include financial literacy) - multiplication	
Lesson Number: M-03-102	**Class/Level:** Class 3	**Time:** 35 minutes

Learning Outcomes By the end of the lesson, pupils will be able to solve multiplication problems using the times table 6 - 10.	**Teaching Aids** Multiplication Chart 6-10 at the end of the plan.	**Preparation** 1. Write the Multiplication Chart 6-10, at the end of the plan, on the board. 2. Write the questions in the Guided Practice and Independent Practice, on the board.

Opening *(2 minutes)*

1. **Say:** Today we will be looking at multiplication problems and will be concentrating on using the times table 6 - 10.
2. **Ask:** What is 6 multiplied by 2? (Answer: 12)

Introduction to the New Material *(11 minutes)*

1. **Say:** Let's recite the 6, 7, 8, 9, 10 times tables.
2. **Say:** Multiplication is made easier by using times table which can be consulted for quick answers.
3. Point to the 6 – 10 times table chart on the board.
4. **Say:** Using the times table chart, find the missing number in the following question.
5. On the board write: 6 x 4 = _____. **Ask:** What is the answer to the question (Answer: 24)
6. On the board write: 10 x _____ = 80
7. **Say:** Please use the times table chart to find the number which if multiplied by 10, gives us 80. **Ask:** What will that number be? (Answer: 8)
8. **Ask:** What is 8 x 8? (Answer: 64)
9. **Say:** Let us find the answer together. Turn to the times table chart and **Say:** So we are looking for 8 x 8. Point to the 8 along the top and the 8 on the left hand side. **Say:** 8 x 8 = 64
10. On the board write: 7 x 4 = _____ . **Ask:** What is the answer? (Answer: 28).
11. **Say:** Let us find 7 x 4 on the times table chart. Point to the 4 along the top and the 7 on the left hand side. **Say:** 7 x 4 is equal to 28.
12. **Say:** Find the missing number in the following question. 9 x _____ = 9. (Answer: 1)
13. Give people about 30 seconds to discuss this among themselves.
14. **Say:** We know that, any number multiplied by 1 is equal to the number in question. So checking on the times table chart we can see that 9 x 1 = 9.

Guided Practice *(10 minutes)*

1. Read through the questions on the board :
    (b) 9 x ____ = 90   (Answer: 10)   (b) 8 x 5 =____   (Answer: 40)

    (c) ____x 12 = 84   (Answer: 7)   (d) 1 x 6 = ____   (Answer: 6)

    (e) 7 x 10 =____   (Answer: 70)   (f) ____ x 11 = 110   (Answer: 10)
    (g) 9 x ____= 99   (Answer: 11)

2. **Say:** In pairs, please solve the questions on the board using the times table.
3. Go around to the groups and inspect their work, help out any groups that are struggling.

Independent Practice *(10 minutes)*

1. **Say:** Please use the times table to solve the following questions, write your answers in your exercise books:

    (e) 6 x ____ = 60   (Answer: 10)   (b) 7 x 5 =____   (Answer: 35)

    (c) ____x 12 = 96   (Answer: 8)   (d) 1 x 9 = ____   (Answer: 9)

    (e) 10 x 10 =____   (Answer: 100)   (f) ____x 11 = 6   (Answer: 66)
    (g) 7 x ____= 77   (Answer: 11)

2. **Say:** Exchange your exercise book with the person sitting next to you and compare answers.
3. **Say:** Those who had some of the questions wrong should now do their corrections.

Closing *(2 minutes)*

1. **Say:** Today we studied how to solve multiplication problems using the 6 - 10 times table.
2. **Say:** Any number multiplied by 1 is the same number for example 6 x 1 = 6, 7 x 1 = 7.
3. **Say:** In our next lesson, we will continue by looking at mental strategies for multiplication 1 – 5.

[MULTIPLICATION CHART 6-10]

X	0	1	2	3	4	5	6	7	8	9	10
6	0	6	12	18	24	30	36	42	48	54	60
7	0	7	14	21	28	35	42	49	56	63	70
8	0	8	16	24	32	40	48	56	64	72	80
9	0	9	18	27	36	45	54	63	72	81	90
10	0	10	20	30	40	50	60	70	80	90	100

Lesson Title: Mental Strategies for Multiplication by 1 – 5	**Theme:** Everyday Arithmetic (include Financial Literacy) - Multiplication	
Lesson Number: M-03-103	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve problems involving multiplication 1 to 5 mentally.		**Teaching Aids** None		**Preparation** None

Opening *(2 minutes)*

1. **Say:** In our last lesson, we looked at solving multiplication problems using the times table 6 – 10.
2. **Say:** Today we are going to look at strategies we can develop to solve problems involving multiplication 1 – 5 mentally.
3. **Say:** We don't always have access to the times table or counters, so it becomes very important to be able to solve multiplication without the help of these things.

Introduction to the New Material *(11 minutes)*

1. **Say:** We practised multiplying by various numbers in our past few lessons, so we are familiar with the answer to certain sums.
2. **Say:** For example, we know that 2 times 2 equals 4. This sum is the easiest multiple of 2. We can memorise it.
3. **Ask:** But what if we have not memorised the answer to the sums? How can we solve the problems?
4. **Say:** We can count by 2s, 3s, 4s, or 5s in our head.
5. **Say:** For example, if we have the sum 2 x 4, we can count in our heads 2, 4, 6, 8. Then we have the answer, 8.
6. **Say:** Let's say the sum is 3 x 8. We can count up in our heads. 3, 6, 9, 12, 15, 18, 21, 24. The answer is 24.

Guided Practice *(8 minutes)*

1. **Say:** Let's apply mental maths together.
2. **Say:** If I have the sum 5 x 3, I know that I need to add the number 5, 3 times.
3. **Say:** 5, 10, 15.
4. **Ask:** What if my sum is 4 x 6? How can I solve it? (Answer: count up by 4s; 4, 8, 12, 16, 20, 24)
5. **Say:** I can count up by 4, 6 times. 4, 8, 12, 16, 10, 24.
6. **Say:** My answer is 24.
7. **Ask:** My sum is now 5 x 9. What is the solution? (Answer: 45)
8. **Ask:** How did you solve the sum?
9. Choose one volunteer to explain how she solved the sum.
10. **Say:** When using mental maths, it is important to keep track of how many times you have added a number.

11. **Say:** Another way to use mental maths is to memorise the multiplication chart and practise the maths facts.
12. **Say:** Let's say the 3 times table together.

Independent Practice *(13 minutes)*

1. Check pupils have an exercise book and a pencil. If they don't, tell pupils to work together with somebody who has. Or give a piece of chalk to some pupils and they can work at the board or a slate.
2. Write the following sums on the board.
a. 3 x 11 = (Answer: 33)
b. 2 x 9 = (Answer: 18)
c. 4 x 5 = (Answer:20)
d. 1 x 10 = (Answer:10)
e. 5 x 7 = (Answer: 35)
3. **Say:** Now it is time to work on your own. Copy down the problems. Use mental maths to solve them. Write the answer to each problem.
4. Give pupils 12 minutes to solve the problems then ask 5 volunteers (a combination of boys and girls) to write the answers on the board.
5. **Say:** Give yourself a clap for each sum you answered correctly.

Closing *(1 minute)*

1. **Say:** Today, we used mental maths to solve multiplication sums for 1-5. In the next lesson, we will look at multiplication 6-10.
2. **Say:** Well done.

Lesson Title: Mental Strategies for Multiplication by 6 – 10	**Theme:** Everyday Arithmetic (includes Financial Literacy) - Multiplication	
Lesson Number: M-03-104	**Class/Level:** Class 3	**Time:** 35 minutes

Learning Outcomes By the end of the lesson, pupils will be able to solve problems involving multiplication from 6 to 10 mentally.	**Teaching Aids** None	**Preparation** None

Opening *(2 minutes)*

1. **Say:** In our last lesson, we looked at mental strategies for multiplication by 1 – 5.
2. **Say:** Today we are going to build on that by looking at solving problems involving multiplication 6 – 10 mentally.
3. **Say:** As we were made aware in our last lesson, it is not all the time that we will have access to the times table or counters, so it becomes very important to be able to solve multiplication without the help of the times table.

Introduction to the New Material *(11 minutes)*

1. **Say:** We practised multiplying by various numbers in our past few lessons, so we are familiar with the answer to certain questions.
2. **Say:** For example, we know that 10 times 2 equals 20. This sum is the easiest multiple of 10. We can memorise it.
3. **Ask:** But what if we have not memorised the answer to the sums? How can we solve the questions?
4. **Say:** We can count by 6s, 7s, 8s, 9s or 10s in our head.
5. **Say:** For example, if we have the sum 10 x 4, we can count in our heads 10, 20, 30, 40. Then we have the answer, 40.
6. **Say:** Let's say the sum is 9 x 4. We can count up in our heads. 9, 18, 27, 36. The answer is 36.

Guided Practice *(8 minutes)*

1. **Say:** Let's apply mental maths together.
2. **Say:** If I have the sum 7 x 3, I know that I need to add the number 7, 3 times.
3. **Say:** 7, 14, 21.
4. **Ask:** What if my sum is 6 x 6? How can I solve it? (Answer: count up by 6s; 6, 12, 18, 24, 30, 36)
5. **Say:** I can count up by 6, 6 times. 6, 12, 18, 24, 30, 36.
6. **Say:** My answer is 36.
7. **Ask:** My sum is now 9 x 9. What is the solution? (Answer: 81)
8. **Ask:** How did you solve the sum?
9. Choose 1 volunteer to explain how she solved the sum.

10. **Say:** When using mental maths, it is important to keep track of how many times you have added a number.
11. **Say:** Another way to use mental maths is to memorise the multiplication chart and practise the maths facts.
12. **Say:** Let's say the 7 times table together.

Independent Practice *(13 minutes)*

1. Check pupils have an exercise book and a pencil. If they don't, tell pupils to work together with somebody who has. Or give a piece of chalk to some pupils and they can work at the board or a slate.
2. Write the following sums on the board.
a. 8 x 11 = (Answer: 88)
b. 6 x 9 = (Answer: 54)
c. 7 x 5 = (Answer:35)
d. 10 x 10 = (Answer:100)
e. 9 x 7 = (Answer: 63)
3. **Say:** Now it is time to work on your own. Copy down the problems. Use mental maths to solve them. Write the answer to each problem.
4. Give pupils 12 minutes to solve the problems then ask 5 volunteers (a combination of boys and girls) to write the answers on the board.
5. **Say:** Give yourself a clap for each sum you answered correctly.

Closing *(1 minute)*

1. **Say:** Today, we used mental maths to solve multiplication sums for 6-10. In the next lesson, we will look at multiplication of 2-digit numbers using pictures.
2. **Say:** Well done.

Lesson Title: Multiplication of two-digit by one-digit using visual representation	**Theme:** Everyday arithmetic (includes financial literacy) - multiplication	
Lesson Number: M-03-105	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to multiply two-digits by one-digit using visual representation.		**Teaching Aids** Counters (beads, stones)		**Preparation** Gather enough counters for each group to have 100.

Opening *(1 minute)*

1. **Say:** In our last couple of lessons, we learned about mental strategies for multiplication.
2. **Say:** Today we are going to go one step further by learning how to multiply two digits by one digit.

Introduction to the New Material *(12 minutes)*

1. **Say:** Let us begin by finding the answer to 11 x 5.
2. **Say:** This can be solved in different ways. We can use our counters to make 11 groups of 5 counters each and then count the total number of counters in all the groups.
3. Draw the following on the board:

0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0

4. **Say:** Now that we have drawn our 11 groups of 5, we have to count all counters in each box.
5. **Ask:** What is the total number of counters? (Answer: 55)
6. **Say:** Let us solve 14 x 6.
7. **Say:** Use your counters to make 14 groups of 6 and count the total counters in all groups together:
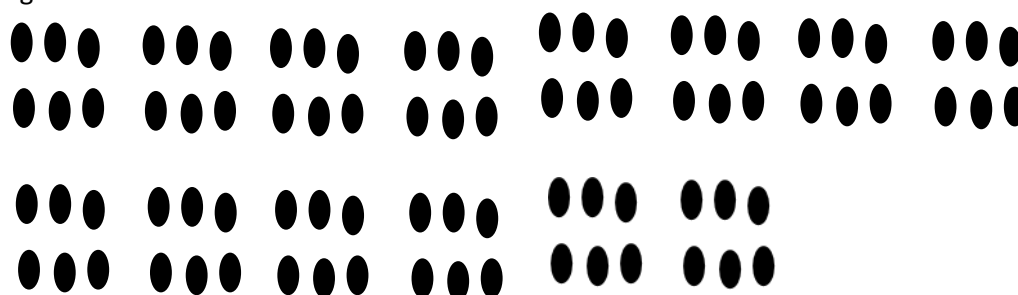
8. **Ask:** What is the total number of counters in the 14 groups all together? (Answer: 84)
9. **Say:** Let us solve another question. **Ask:** What is 12 x 5? (Answer: 60). **Say:** Draw the picture in your book.

Guided Practice *(10 minutes)*

1. Write the following sums on the board:
   (a) 15 x 3   (Answer: 45)
   (b) 12 x 6   (Answer: 72)
   (c) 14 x 3   (Answer: 42)
2. **Say:** In pairs, please use your counters to solve the following questions. Draw your counters for each problem in your book
3. Go around the classroom and check on every pair's work to make sure they are using the required strategy for specific questions. Help groups that are struggling.

Independent Practice *(10 minutes)*

1. Write the following on the board:
   (a) 12 x 7   (Answer: 84)
   (b) 13 x 6   (Answer: 78)
   (c) 11 x 8   (Answer: 88)
   (d) 14 x 2   (Answer: 28)
   (e) 15 x 2   (Answer: 30)
2. **Say:** Please use your counters to answer these questions and draw your answers in your book.
3. **Say:** Exchange your work with the person sitting next to you and check each other's answers.
4. **Say:** Hold up your work for me to see.

Closing *(2 minutes)*

1. **Say:** Today we looked at the multiplication of two-digits by one-digit numbers using visual representation.
2. **Say:** Two-digits by one digit multiplication can be solved in a number of ways.
3. **Say:** Counters can be used to make groups and we can count the total counters in all groups.
4. **Say:** When you get home, please use your counters to practise the multiplication of two-digits by one-digit.
5. **Say:** Well done.

Lesson Title: Multiplication of Three-Digits by one-Digit Numbers using Visual Representation	**Theme:** Everyday Arithmetic - Multiplication	
Lesson Number: M-03-106	**Class/Level:** Class 3	**Time:** 35 minutes

Learning Outcomes By the end of the lesson, pupils will be able to multiply 3-digit by 1-digit numbers using visual representation.	**Teaching Aids** Counters (beads, stones).	**Preparation** 1. Draw a picture of 2 groups of 12, in the Introduction to New Material, on the board. 2. Gather enough counters for each group to have 100.

Opening *(2 minutes)*

1. **Say:** Let's say the Multiplication Table for 4s. You may use your Multiplication Table to help you. I will say the number we are multiplying 4 by and you say the answer. For example, if I say 2, you say 8 because 4 x 2 is 8. Are you ready? 0 (0), 1 (4), 2 (8), 3 (12), 4 (16), 5 (20), 6 (24), 7 (28), 8 (32), 9 (36), 10 (40).

Introduction to the New Material *(10 minutes)*

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1. **Say:** We are good at multiplying a 1-digit number by another 1-digit number. We just practised them. Yesterday we started multiplying 2-digit numbers by 1-digit numbers. Today we are going to learn how to multiply 3-digit numbers by a 1-digit number.
2. Write 12 x 2 on the board and ask pupils to write it in their books
3. **Say:** Use your stones to make 2 rows of 12 on your desk. Count 12 stones and put them on one side of their tables.
4. **Say:** Please count another 12 stones and put them on the other side of the table.
5. **Ask:** How many equal groups are there? (Answer: 2)
6. **Ask:** How many counters are there altogether? Add all the counters together. (Answer:24)
7. **Say:** So 12 x 2 will give us what? (Answer:24)
8. **Say**: Now let us multiply 123 by 2.
9. **Say:** In pairs, make 2 groups of 123 stones.
10. **Ask:** What will be the final answer? (Answer: 246)
11. **Say:** Let us work another 1 together. Write '142 x 3' on the board.
12. **Say**: How will we multiply this? (Answer: Make 2 groups of 142.)
13. **Ask:** What do we get when we add them
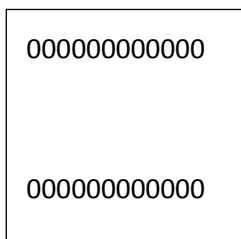
Guided Practice *(10 minutes)*

1. **Say:** Let us find out what we will get when we multiply 111 x 6.
2. **Ask:** What is the first step? (Answer: Make 6 groups of 111.)
3. **Say**: Work with your partner to draw it in your book.
4. Walk around the classroom as they work to check their answers.

5. **Say:** Drawing so many pictures can take a long time.
6. **Ask:** Is there an easier way to solve these problems using what we know about place value? (Example answer: We could break the 3-digit number into smaller numbers)
7. **Say:** If we write the 3-digit number in expanded form we get 100 + 10 + 1.
8. **Say:** We can then easily multiply each number by 6.
9. On the board write: (100 x 6) + (10 x 6) + (1 x 6).
10. **Say:** That is the same as 600 + 60 + 6. When we add the number together we get 666.

Independent Practice *(10 minutes)*

1. Write the following on the board:
a) 103 x 3 (Answer: (100 x 3) + (0 x 3) + (3 x 3) = 100 + 0 + 9 = 109)
b) 211 x 4 (Answer: (200 x 4) + (10 x 4) + (1 x 4) = 800 + 40 + 4 = 844)
2. **Say:** Now work alone and please multiply the following numbers. Draw pictures to show your work and try to write the problem out in expanded form.
3. Give pupils 10 minutes to work.
4. **Say:** Hold your work up for me to see.

Closing *(3 minutes)*

1. **Say:** Let's check our answers together.
2. Ask 2 volunteers to explain to the group how they solved the problems.
3. **Say:** Well done.

Lesson Title: One-step word problems involving multiplication	**Theme:** Everyday arithmetic - multiplication	
Lesson Number: M-03-107	**Class/Level:** Class 3	**Time:** 35 minutes

Learning Outcomes By the end of the lesson, pupils will be able to solve simple one-step word problems involving multiplication up to three-digits by one-digit including money.	**Teaching Aids** None	**Preparation** None

Opening *(2 minutes)*

1. **Say:** Let us look how we multiplied three-digits by one-digit yesterday: 104 x 2. Let us multiply the Units, Tens and Hundreds by the 2 (100 x 2) + (0 x 2) + (4 x 2). Multiply and add them together (200 + 0 + 8). What will this give us? (Answer: 208)

Introduction to the New Material *(10 minutes)*

1. **Say:** We learned how to multiply a three-digit number by one-digit number. We just practiced them. Today we are going to learn how to solve simple word problems.
2. Write the following on the board:
   One pencil costs Le210. Mummy bought three pencils. How much did she pay for them?
3. **Say:** Multiply the cost of pencils by the number of pencils (210 x 3). How do you go about it?
   Write: (200 x 3) + (10 x 3) + (0 x 3)
                   600 + 30 + 0
                   Le630
4. **Ask:** How much did mummy pay for the pencils? (Answer: Le630)
5. **Say:** Pat yourself on the back if your tried your best.

Guided Practice *(10 minutes)*

1. On the board, write:
   A small bag of groundnut costs Le500. How much will 5 bags cost? (Answer: 500 x 5)
2. **Say:** In pairs, do the multiplication and write your answers down.
3. **Say:** Let's check our answers together.
4. Ask a volunteer to explain how they solved the problem to the class.
5. **Say:** If you used the same strategy put your hands on your head.
6. **Ask:** Did anyone use a different method to solve the problems?
7. **Say:** Clap for yourself if you got the correct answer.

Independent Practice *(10 minutes)*

1. Write the following on the board:
    c) One pen costs Le410. How much will 2 pens cost? (Answer: 820)
    d) One bag of water costs Le500. How much will three cost? (Answer: Le1500)
2. **Say:** Now work alone. Please solve the following problems and write how you got your answer.
3. Give pupils 10 minutes to work.

Closing *(3 minutes)*

1. **Say:** Let us see how you got the answers. Ask 2 volunteers (1 boy and 1 girl) to come to the board and show their answers.
2. **Say:** Well done, tomorrow we will practise more difficult problems.

Lesson Title: More one step word problems involving multiplication	**Theme:** Everyday arithmetic - multiplication	
Lesson Number: M-03-108	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve more complex one-step word problems involving multiplication up to three-digits by one-digit, including money.		**Teaching Aids** None		**Preparation** None

Opening *(1 minute)*

1. **Say:** We looked at how to solve word problems in the previous lesson. Today we shall be looking at more word problems.

Introduction to the New Material *(11 minutes)*

1. **Say:** We learned how to multiply a three-digit number by one-digit in word problems.
2. Write the following on the board:
   A cup of groundnut costs Le150. How much will 4 cost? (Answer: 600)
3. Give pupils a minute to work.
4. **Say:** Now let us solve more questions.
5. **Say:** If schools A and B have 100 students each, how many students are in both schools?
6. **Say**: Multiply the 100 by 2. What will we get when we multiply these two numbers? (Answer: 200)
7. **Say:** Let us look at another example
   One pencil costs Le150. How much will three pencils cost?
8. **Say:** Let us multiply the cost of a pencil by 3. And what will we get? (Answer: 150 x 3 = Le450)
9. **Say:** Please write in the answers down in your books.
10. Give pupils about 2 minutes to write their answers.
11. Try to walk around and check as many as you can while they work.

Guided Practice *(11 minutes)*

1. **Say:** We are going to solve more questions just as we did, but this time in pairs.
2. On the board, write:
   A small bag of water costs Le250. 9 pupils bought a bag. How much was spent on the water?
3. Give pupils two minutes to think about this and come up with the answers.
4. **Ask:** Why is the answer Le2250? (Answer: I multiplied Le250 by the number of bags to get Le2250.)
5. Let each partner cross check their answers.
6. **Ask:** Can someone come to the board and show the answer using expanded form? (Answer: (200 x 9) + (50 x 9) + (0 x 9) = 1800 + 450 + 0 = 2250)

7. Walk around the classroom as they work to check their answers.

Independent Practice *(11 minutes)*

1. **Say:** Now you will work alone without help.
2. On the board, write:
   One pack of biscuits costs Le500. If a pupil buys 6 packs, how much will he pay? (Answer: Le3,000)
3. Ask a pupil to to write the solution on the board using expanded form. (Answer: (500 x 6) + (0 x 6) + (0 x 6) = 3,000)

Closing *(1 minutes)*

1. **Say:** When we multiply three-digit numbers by one-digit numbers it helps to write the problem out in expanded form.
2. **Say:** Well done.

Lesson Title: Two-step word problems involving multiplication	**Theme:** Everyday arithmetic - multiplication	
Lesson Number: M-03-109	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve simple two-step word problems involving multiplication up to three-digits by one-digit, including money.		**Teaching Aids** None		**Preparation** 1. Write the word problem in the Introduction to the New Material, on the board.

Opening *(2 minutes)*

1. **Say:** We looked at how to solve word problems in the previous lesson. Today we shall be looking at two-step word problems.
2. **Say:** A two-step word problem is a problem that we need to use 2 operations to solve.
3. **Ask:** What are the operations we know how to use? (Answer: addition, subtraction, multiplication and division)
4. **Say:** Today we will focus on problems that involve multiplication, addition and subtraction.

Introduction to the New Material *(10 minutes)*

1. **Say:** We learned how to multiply a three-digit number by a one-digit in word problems.
2. Write a question on the board for pupils to work on:
   A bag of water costs Le155. How much will 2 cost? (Answer: Le310)
3. Give pupils a minute to work.
4. **Say:** Now let us solve the question that involves two-steps. On the board, write:
   Koroma bought 4 pencils on the first day of school. He bought 3 pencils on the second day of school. If a pencil cost Le100, how much did he spend at the end of the two days?
5. **Say:** Let us find the cost of the pencils for the first day. Multiply Le100 by 4. What will we get? (Answer: Le400)
6. **Say:** Let us also find the cost of the pencils bought on the second day. Multiply Le100 by 3. What will we get? (Answer: Le300)
7. **Ask:** How do we find the total cost for the two days? (Answer: We will add the cost for the two days.)
   Le400 + Le300 = Le700
   What is the total cost of the pencils? (Answer: Le700)

Guided Practice *(10 minutes)*

1. **Say:** Let us practise solving more of these questions.
2. On the board, write:
   Johnson saves Le200 every weekday for 5 days. How much will he have if he saves for 3 weeks?
3. Let pupils work in pairs for 8 minutes.

4. **Say**: Let us multiply the Le200 by 5. What will we get? Le1000. Let us then multiply the Le1000 by 3. What is our final answer? Le3000
5. Walk around the classroom as they work to check their answers to see if they are correct.

Independent Practice *(10 minutes)*

1. **Say:** Now you will work alone.
2. On the board write:
   a) Johnson buys 5 biscuits for school each day. If each biscuit costs Le150, how much will he spend at the end of the fifth day? (Answer: (Le150 x 5) x 5 = Le3,750)
   b) My mother bought 2 pencils for Le150 each. She then bought 3 pens for Le250 each. How much did my mother spend? (Answer: (150 x 2) + (250 x 3) = 300 + 750 = Le1050
3. Ask 2 volunteers (1 boy and 1 girl) to explain how they solved the probelem on the board.
4. **Say:** Clap for yourself for each answer you got correct. Pat yourself on the back if you tried your best.

Closing *(3 minutes)*

1. **Say:** Two-step word problems require 2 operations to solve them. Tomorrow we will continue practicing solving two-step word problems involving multiplication.
2. **Say:** Well done.

Lesson Title: More two-step word problems involving multiplication	**Theme:** Everyday arithmetic - multiplication	
Lesson Number: M-03-110	**Class/Level:** Class 3	**Time:** 35 minutes

Learning Outcomes By the end of the lesson, pupils will be able to solve complex two-step word problems involving multiplication up to three-digits by one-digit, including money.	**Teaching Aids** None	**Preparation** None

Opening *(2 minutes)*

1. **Say:** We looked at how to solve word problems in the previous lesson.
2. **Ask:** What is a two-step word problem? (Answer: A problem that requires two operations to solve.)
3. **Say:** Today we shall be looking at more two-step word problems.

Introduction to the New Material *(10 minutes)*

1. **Say:** We learned how to multiply a three-digit number by one-digit in word problems.
2. Let us solve questions that involve two-steps.
3. On the board, write:
   A pen costs 2 times as much as a pencil. If the pencil costs Le100, what is the cost of the pen and pencil?
4. **Say:** Let us find out the cost of the pen. Multiply Le100 by 2. What will we get? (Answer: Le200)
5. **Say:** Now, let us also find out the cost of the pencil. What will we get? (Answer: Le100)
6. **Ask:** How do we find the total cost of the pen and pencil? (Answer: We have to add the cost for both items.)
   Le200 + Le100 = Le300
7. **Ask:** What is the total cost of the pen and pencil? (Answer: Le300).

Guided Practice *(11 minutes)*

1. **Say:** Let us find out how to solve more of these questions, like we just did.
2. On the board, write:
   The Arts teacher gave 3 A-4 sheets of papers to every pupil in a class. If there are 30 pupils in the class, how many A-4 sheets of paper were given to the pupils? If each paper costs Le50, how much was spent on the papers?
3. Let pupils work in pairs for 8 minutes.
4. **Say:** Let us check our answers: First, multiply the 30 by 3. What will we get? 90 sheets of papers.
5. **Ask**: How many papers were given out? (Answer: 90 sheets)
6. **Say:** Let us then multiply the 90 by Le50.
7. **Ask**: How much was spent to buy the sheets of papers? (Answer: Le4500)

Independent Practice *(11 minutes)*

1. **Say:** Now you will work alone.
2. On the board, write:
   Mummy bought 3 eggs for each day for 5 days. If an egg costs Le800, how much did she spend at the end of the fifth day?
3. Give pupils 8 minutes to solve the problem.
4. **Say**: Let's check our answers. First multiply the Le800 by 3. **Ask:** What will we get? (Answer: Le2400)
5. **Say:** Let us multiply the Le2400 by 5. **Ask:** What will we get? Le12,000)

Closing *(1 minutes)*

1. **Say:** Well done, today you solved some difficult problems. Give yourself a pat on the back for trying your best. Next week we will look at division.

Lesson Title: Division questions using the Division Table 1 - 5	**Theme:** Everyday Arithmetic (including Financial Literacy) - Division	
Lesson Number: M-03-111	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve division questions using the Division Table 1 – 5.		**Teaching Aids** 1. Counters (beads, stones) 2. Division Tables 1-5 at the end of the plan.		**Preparation** 1. Gather enough counters for each pair to have 6. Collect small counters or counters. 2. Draw the Division Tables 1-5, at the end of the plan, on the board.

Opening *(3 minutes)*

1. **Say:** Please answer the following subtraction questions:
a. 6 – 2 = (Answer: 4)
b. 4 – 2 = (Answer: 2)
c. and 2 – 2 = (Answer: 0)
2. Allow pupils 2 minutes to solve the questions.
3. **Ask:** What answers did you get?

Introduction to the New Material *(7 minutes)*

1. **Say:** Today we are going to learn how to solve division questions using the Division Table 1- 5.
2. **Ask:** How do we recite the Multiplication Table for 2? (Answers: 2 x 1 = 2, 2 x 2 = 4, 2 x 3 = 6, 2 x 4 = 8)
3. **Say:** Please turn to your partner. Together, make a pile of 6 counters.
4. **Say:** Working with your partner, each of you should pick a counter, 1 after the other, until there are no counters remaining.
5. **Ask:** How many counters did each of you get? (Answer: 3)
6. **Say:** The activity you performed can also be illustrated by this; 6 - 2 = 4, 4 – 2 = 2, 2 – 2 = 0. This is because at each round, you and your partner take away 2 counters until there were no more counters left.
7. **Ask:** How many times or rounds of picking did you and your partner have before the counters were all gone? (Answer: 3)
8. **Say:** The process of sharing things among people is also known as 'division' in mathematics.
9. **Say:** In mathematics, division is represented by the sign '÷'. There are other signs for division which you will learn as time goes on.
10. **Say:** In mathematics, sharing 6 counters with your friend can be expressed as 6 ÷ 2 = 3. This is read as 6 divided by 2.

Guided Practice *(10 minutes)*

1. Write the following division questions on the board:

a) 20 ÷ 4 =   b) 18 ÷ 6 =

2. **Say:** Please look at the questions on the board.
3. **Say:** We need to share 20 items exactly among 4 people. How can you use the division table to find the answer? (Answer: Look at the Division Table for 4s, put your finger on the 20 and the 4 and bring them together until they meet. You land on the number 5. So 20 ÷ 4 = 5)
4. **Ask:** How many of the items will each person get? (Answer: 5)
5. **Say:** We write this as 20 ÷ 4 = 5. This is read as 20 divided by 4 equals 5.
6. **Say:** For question two, there are 18 apples to be shared equally among 3 people. Explain to your partner how you can use the division table to find the answer.
7. **Ask:** Who can explain to the class how they used the division table to find the answer? (Example answer: I used the Division Table for 3s. I put my finger on the 18 and the 3. I moved my finger together until they met at the number 6.)
8. **Ask:** How many apples will each person get? (Answer: 6)
9. **Say:** This means that 18 ÷ 3 = 6.

Independent Practice *(12 minutes)*

a. Write the following questions on the board:12 ÷ 2 = (Answer: 6)
b. 45 ÷ 5 = (Answer: 9)
c. 15 ÷ 3 = (Answer: 5)
d. 36 ÷ 4 = (Answer: 9)
e. 24 ÷ 4 = (Answer: 6)
f. 20 ÷ 2 = (Answer: 10)
g. 30 ÷ 5 = (Answer: 6)
2. 9 ÷ 3 = (Answer: 3) **Say:** Working with your partner, please find the solution to the questions on the board. Use your Division Tables to help you.
3. **Say:** You will have about 12 minutes to solve these questions. Make sure you write everything down that you did to solve it.

Closing *(3 minutes)*

1. **Ask:** How can you use the division tables to help you solve questions? (Example answer: Put your fingers on the 2 numbers and move them until they meet to find the answer.)
2. **Ask:** What other strategies could we use to solve division questions? (Example answers: share out counters, draw pictures, find a fact family for a multiplication equation)
3. **Say:** Well done.

[DIVISION TABLES 1-5]

÷	0	1	2	3	4	5	6	7	8	9	10
1	0	1	2	3	4	5	6	7	8	9	10

÷	0	2	4	6	8	10	12	14	16	18	20
2	0	1	2	3	4	5	6	7	8	9	10

÷	0	3	6	9	12	15	18	21	24	27	30
3	0	1	2	3	4	5	6	7	8	9	10

÷	0	4	8	12	16	20	24	28	32	36	40
4	0	1	2	3	4	5	6	7	8	9	10

÷	0	5	10	15	20	25	30	35	40	45	50
5	0	1	2	3	4	5	6	7	8	9	10

Lesson Title: Division Problems using the Division Table 6 – 10	Theme: Everyday Arithmetic (includes Financial Literacy) - Division	
Lesson Number: M-03-112	Class/Level: Class 3	Time: 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve division problems using the Division Table 6 – 10.		Teaching Aids 1. Counters (beads, counters) 2. Division Tables 6-10 at the end of the plan.		Preparation 1. Gather enough counters for each pair to have 30. 2. Draw the Division Tables 6-10, at the end of the plan, on the board.

Opening *(3 minutes)*

1. **Say:** There are 20 oranges to be shared equally among 5 people.
2. **Ask:** How many oranges will each person get? (Answer: 4)
3. Allow pupils 2 minutes to work on this problem.

Introduction to the New Material *(7 minutes)*

1. **Say:** We are going to continue our lesson on division using the Division Table 6- 10 today.
2. **Ask:** Who can write the opening problem in mathematical symbols? (Answer: 20 ÷ 5 = 4)
3. **Say:** Now take out 24 counters and place them on your desk. We want to share these 24 counters equally among 6 friends.
4. **Say:** Working with your partner, find out how many counters each of the friends will get.
5. Allow pupils 2 minutes to solve this question.
6. **Ask:** How many counters did each one of them get? (Answer: 4)
7. **Say:** Please write this question using mathematical symbols.
8. **Ask:** Who can write the question in mathematical terms on the board? (Answer: 24 ÷ 6 = 4)
9. Invite a volunteer to come to the board to present the solution.
10. **Say:** 24 divided 6 is written as: 24 ÷ 6 = 4

Guided Practice *(10 minutes)*

1. Write the following question on the board:
a) 30 ÷ 10 = (Answer: 3)   b) 49 ÷ 7 = (Answer: 7)
2. **Say:** Please look at the question on the board.
3. **Say:** We need to share 30 items exactly among 10 people. How can you use the division table to find the answer? (Answer: Look at the Division Table for 10s, put your finger on the 30 and the 10 and bring them together until they meet. You land on the number 3. So 30 ÷ 10 = 3)
4. **Ask:** How many of the items will each person get? (Answer: 3)
5. **Say:** We write this as 30 ÷ 10 = 3. This is read as 30 divided by 10 equals 3.
6. **Say:** For question 2, there are 49 yams to be shared equally among 7 people. Explain to your partner how you can use the division table to find the answer.

7. **Ask:** Who can explain to the class how they used the division table to find the answer? (Example answer: I used the Division Table for 7s. I put my finger on the 49 and the 7. I moved my finger together until they met at the number 7.)
8. **Ask:** How many yams will each person get? (Answer: 7)
9. **Say:** This means that 49 ÷ 7 = 7

Independent Practice *(12 minutes)*

1. Write the following division questions on the board:
a) 27 ÷ 9 = (Answer: 3)
b) 56 ÷ 8 = (Answer: 7)
c) 28 ÷ 7 = (Answer: 4)
d) 36 ÷ 6 = (Answer: 6)
e) 50 ÷ 10 = (Answer: 5)
f) 72 ÷ 9 = (Answer: 8)
g) 18 ÷ 6 = (Answer: 3)
h) 70 ÷ 7 = (Answer: 10)
2. **Say:** Working with a partner, please find the solution to the questions on the board. Use your Division Tables to help you.
3. **Say:** You will have about 12 minutes to solve these questions. Please make sure you write everything down that you did to solve it.

Closing *(3 minutes)*

1. **Ask:** What answers did you get for the question?
2. Write their answers on the board.
3. **Ask:** How can you use the division tables to help you solve questions? (Example answer: Put your fingers on the 2 numbers and move them until they meet to find the answer.)
4. **Ask:** What other strategies could we use to solve division questions? (Example answers: share out counters, draw pictures, find a fact family for a multiplication question)
5. **Say:** Well done.

[DIVISION TABLES 6-10]

÷	0	6	12	18	24	30	36	42	48	54	60
6	0	1	2	3	4	5	6	7	8	9	10

÷	0	7	14	21	28	35	42	49	56	63	70
7	0	1	2	3	4	5	6	7	8	9	10

÷	0	8	16	24	32	40	48	56	64	72	80
8	0	1	2	3	4	5	6	7	8	9	10

÷	0	9	18	27	36	45	54	63	72	81	90
9	0	1	2	3	4	5	6	7	8	9	10

÷	0	10	20	30	40	50	60	70	80	90	100
10	0	1	2	3	4	5	6	7	8	9	10

Lesson Title: Mental Strategies for Division by 1-5	Theme: Everyday Arithmetic (includes Financial Literacy) - Division	
Lesson Number: M-03-113	Class/Level: Class 3	Time: 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve questions involving division by 1 to 5 mentally.		Teaching Aids Counters (beads, counters)		Preparation Gather enough counters for each pair to have 30.

Opening *(3 minutes)*

1. **Say:** There are 15 apples to be shared equally among 5 friends.
2. **Ask:** How many apples will each friend get? (Answer: 3)
3. **Ask:** How did you solve this problem? (Answer: Accept all answers.)

Introduction to the New Material *(7 minutes)*

1. **Say:** We are going to continue practising our division today. We're going to use mental maths strategies to solve division problems.
2. **Ask:** Who can write the opening problem in mathematical symbols? (Answer: 15 ÷ 5 = 3)
3. **Say:** Now take out 27 counters and place them on your desk. We want to share these counters equally among 3 friends.
4. **Say:** Working with your partner, find out how many counters each friend will get. (Answer: 9)
5. **Ask:** How could we solve this question using mental maths? (Example answers: Think about the division table; use the multiplication tables that we know to find a fact family; we can add 3 to 27 to easily divide 30 by 3 and get 10, then subtract one group of 3 to get the answer of 9)

Guided Practice *(10 minutes)*

1. Write the following questions on the board:
a. 24 ÷ 3 = (Answer: 8)
b. 28 ÷ 4 = (Answer: 7)
2. **Say:** Please look at the questions on the board.
3. **Say:** To answer question 1, let's think about an easier division question. We know that 30 divided by 3 is 10. 30 is 6 more than 24.
4. **Ask:** How many groups of 3 is 6? (Answer: 2).
5. **Say:** So, our answer must be 2 groups less than 10 groups.
6. **Ask:** What is the answer? (Answer: 8 groups).
7. **Say:** So, 24 ÷ 3 = 8.
8. **Say:** Write this in your books.
9. **Say**: For question 2, let's think about our fact families.
10. **Ask**: 4 x what equals 28? (Answer: 7)
11. **Say**: If 4 x 7 = 28 then we know that 28 ÷ 4 = 7.

12. **Ask:** What is another mental maths strategy we could use to solve this question? (Example answer: We could use repeated subtraction, we know that $28 - 4 - 4 - 4 - 4 - 4 - 4 - 4 = 0$, we subtract 4 7 times, so we know that $28 \div 4 = 7$)

Independent Practice *(12 minutes)*

1. Write the following division questions on the board:
a) $30 \div 5 =$ (Answer: 6)
b) $18 \div 3 =$ (Answer: 6)
c) $12 \div 4 =$ (Answer: 3)
d) $20 \div 4 =$ (Answer: 5)
e) $27 \div 3 =$ (Answer: 9)
f) $20 \div 2 =$ (Answer: 10)
g) $10 \div 1 =$ (Answer: 10)
h) $45 \div 5 =$ (Answer: 9)
i) $16 \div 2 =$ (Answer: 8)
2. **Say:** Work on your own to find the solutions to the questions on the board. You can use any of the mental maths strategies that you know.
3. **Say:** You will have about 10 minutes to solve these questions. Make sure you write everything down that you did to solve it.
4. Ask 9 volunteers to write the answers on the board.
5. **Say:** Give yourself a clap for each question you solved correctly.

Closing *(3 minutes)*

1. **Ask:** What are some strategies we can use to solve division questions in our heads? (Example answers: Think about the division table, use the multiplication tables that we know to find a fact family, add one or 2 more groups to make the question easier, then take that many groups away from the answer, use repeated subtraction)
2. Write their answers on the board.
3. **Say:** Well done, tomorrow we will keep practising our mental maths strategies for division by 6 - 10.

Lesson Title: Mental strategies for division by 6 - 10	Theme: Everyday Arithmetic (includes financial literacy) - Division	
Lesson Number: M-03-114	Class/Level: Class 3	Time: 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve problems involving division by 6 to 10 mentally.		Teaching Aids None		Preparation None

Opening *(3 minutes)*

1. **Say:** I'm going to say some division problems. Use your fingers to show me the answer as quickly as you can.
2. Call out problems involving division by 1-5 (examples: 15 ÷ 5, 21 ÷ 3, 18 ÷ 2, 9 ÷ 1).

Introduction to the New Material *(7 minutes)*

1. **Say:** We are going to continue using mental strategies for solving division problems.
4. **Ask:** What were some of the strategies we used yesterday to solve division problems in our heads? (Example answers: Think about the division table; use the multiplication tables that we know to find a fact family, add or subtract one or 2 groups to make the problem easier, then subtract or add that many groups from the answer, use repeated subtraction)
2. **Ask:** If I have 72 books and I need to share them between 8 pupils, what strategy could I use to find out how many books each pupil gets? (Example answer: You could add one group of 8 to make it 80 books. We know that 80 divided by 8 is 10, so then we subtract 1 group of 8 to get the total of 9 books for each pupil)
3. **Say:** There are lots of strategies we could use to solve the problem. We could think about our fact families, we could remember our division tables or we could break the problem into smaller easier problems.

Guided Practice *(10 minutes)*

1. Write the following on the board:
a. 48 ÷ 6 = (Answer: 8)
b. 72 ÷ 9 = (Answer: 8)
2. **Say:** Look at the questions on the board.
3. **Say:** To answer question 1, let's split 48 into parts that are easily to divide by 6:
   48 = 36 + 12
   First divide 36 into 6 equal groups = 6
   And then divide 12 into 6 equal parts = 2
   We know that 6 + 2 = 8, so 48 ÷ 6 = 8
   48 ÷ 6 = (36 ÷ 6) + (12 ÷ 6) = 6 + 2 = 8
4. **Say**: For question 2 let's think about our fact families. Think about your multiplication tables.
5. **Ask**: 9 times what equals 72? (Answer: 8)

6. **Ask**: What is another strategy we could use to solve this problem? (Example answer: We could use repeated subtraction, 72 − 9 − 9 − 9 − 9 − 9 − 9 − 9 − 9 = 0, we subtracted 9, 8 times so 72 ÷ 9 = 8)

Independent Practice *(12 minutes)*

1. Write the following questions on the board:
a. 81 ÷ 9 = (Answer: 9)
b. 36 ÷ 6 = (Answer: 6)
c. 90 ÷ 10 = (Answer: 9)
d. 24 ÷ 6 = (Answer: 4)
e. 16 ÷ 8 = (Answer: 2)
f. 28 ÷ 7 = (Answer: 4)
g. 63 ÷ 9 = (Answer: 7)
h. 20 ÷ 10 = (Answer: 2)
i. 49 ÷ 7 = (Answer: 7)
2. **Say:** Working on your own, please find the solutions to the questions on the board. Use any of the mental math strategies that you know.
3. **Say:** You will have about 10 minutes to solve these questions. Please make sure you write everything down that you did to solve it.
4. Ask 9 volunteers to write the answers on the board.
5. **Say:** Give yourself a clap for each question that you solved correctly. Pat yourself on the back if you tried your best.

Closing *(3 minutes)*

1. **Ask:** What are some strategies we can use to solve division questions in our heads? (Example answers: Think about the division table, use the multiplication tables that we know to find a fact family, add one or 2 more groups to make the problem easier, then take that many groups away from the answer, use repeated subtraction)
2. Write their answers on the board.
3. **Say:** Well done, tomorrow we will use our mental math strategies to solve more complex division problems.

Lesson Title: Division of 2-Digit by 1-Digit Numbers using Visual Representation	**Theme:** Everyday Arithmetic (includes Financial Literacy)—Division	
Lesson Number: M-03-115	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to divide 2-digit by 1-digit numbers using visual representation.		**Teaching Aids** Counters (beads, stones)		**Preparation** Gather enough counters for each pair to have 85.

Opening *(3 minutes)*

1. **Say:** I have 40 apples to be shared among 2 friends. Can I have 2 friends come to the front so we can share the apples?
2. **Say:** I'm going to give each friend counters to represent apples. Count how many counters each pupil gets as I share them.
3. Give each pupil 1 counter at a time and encourage other pupils to count out loud.
4. **Ask:** How many apples does each person get? (Answer: 20)
5. Allow pupils a minute to solve this problem.

Introduction to the New Material *(7 minutes)*

1. **Say:** Today, we are going to learn how to divide 2-digit by 1-digit numbers using the visual representation of counters.
2. **Say:** We are going to demonstrate the solution to the above problem using our counters.
3. **Say:** Now in pairs take out 40 counters and place them on your desk.
4. **Say:** Working with your partner, each 1 of you should pick a counter, 1 after the other, until there are no counters remaining.
5. **Ask:** How many counters did each of you get? (Answer: 20)
6. **Say:** This means that 40 ÷ 2 = 20.
7. **Say:** Draw the 2 groups of 20 in you book.

Guided Practice *(10 minutes)*

1. Write the following on the board:
a. 69 ÷ 3 = (Answer: 23)
b. 75 ÷ 5 = (Answer: 15)
2. **Say:** Please look at the problems on the board.
3. **Ask:** In question 1, how many counters do we need to get? (Answer: 69)
4. **Say:** We need to share these counters into 3 equal groups. With your partner, share your 69 counters into 3 groups.
5. **Ask:** How many counters are in each group? (Answer: 23)
6. **Say:** We write this as: 69 ÷ 3 = 23.
7. **Say:** This is read as '69 divided by 3 equals 23'. Draw your 3 groups and write the question.

8. While pupils draw, draw the solution on the board.
9. **Say:** For question 2, there are 75 counters to be shared. How many groups do you need to make? (Answer: 5)
10. **Say:** Share 75 counters into 5 equal groups with your partner.
11. **Ask:** How many counters will be in each group? (Answer: 15)
12. **Say:** Draw your answer and write the question.
13. While pupils draw, draw the solution on the board.

Independent Practice *(12 minutes)*

1. Write the following questions on the board:
a. 42 ÷ 3 = (Answer: 14)
b. 48 ÷ 4= (Answer: 12)
c. 56 ÷ 2 = (Answer: 28)
d. 28 ÷ 4 = (Answer: 7)
e. 36 ÷ 3 = (Answer: 12)
2. **Say:** Working with your partner, please find the solution to the following questions. Use your counters and draw your answers.
3. **Say:** You will have about 12 minutes to solve these problems. Please make sure you write everything down that you did to solve it.
4. Ask 5 volunteers to write the answers on the board.
5. **Say:** Check your answers then hold your work up for me to see.

Closing *(3 minutes)*

1. **Ask:** If I have 84 plantain chips and have to share them between 4 children, how many chips will each child get? (Answer: 21)
2. Give pupils 2 minutes to work.
3. **Say:** Write your answer on your page and hold it up for me to see.
4. **Say:** Well done, each child will get 21 chips.

Lesson Title: Division of three digit by one-digit numbers using visual representation	**Theme:** Everyday Arithmetic (includes financial literacy) Division	
Lesson Number: M-03-116	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to divide three-digits by one-digit numbers using visual representation.		**Teaching Aids** Counters (beads, stones)		**Preparation** Gather enough counters for each pair to have 200.

Opening *(3 minutes)*

1. **Say:** I have 60 apples to be shared among 3 friends.
2. **Ask:** How many apples will each person get? (Answer: 20)
3. **Say:** Draw your answer in your book.

Introduction to the New Material *(7 minutes)*

1. **Say:** Today, we are going to learn how to divide three-digit numbers by one-digit numbers using the visual representation of counters.
2. **Say:** We are going to demonstrate the solution to the above problem using our counters.
3. **Say:** Now take out 60 counters and place them on your desk. Please share the counters among three friends.
4. **Ask:** How many counters did each friend get? (Answer: 20)
5. **Say:** This means that: 60 ÷ 3 = 20
6. **Say:** Now we have 100 apples to be share equally among 5 friends.
7. **Ask:** How many apples will each friend get? (Answer: 20)
8. Take some answers from pupils and ask them to explain how they got their answers.
9. **Say:** To solve this problem, take out 100 counters and share them among five friends.
10. Allow pupils two minutes to do the sharing and the counting of the counters.
11. **Ask:** How many counters did each friend get? (Answer: 20)
12. **Say:** This means that: 100 ÷ 5 = 20

Guided Practice *(10 minutes)*

1. Write the following on the board: 120 ÷ 6 = (Answer: 20)   140 ÷ 5 = (Answer: 28)
2. **Say:** Please look at the questions on the board.
3. **Ask:** In question 1, how many counters will we need to share among 6 people? (Answer: 120)
4. **Say:** We need to share these 120 counters exactly among 6 people.
5. **Ask:** How many counters will each person get? (Answer: 20)
6. **Say:** Take out 120 counters and share them among 6 friends.
7. **Say:** Count the number of counters each person got.
8. **Say:** Draw 6 groups of 20 and write the division sum.

9. **Say:** For question 2, there are 140 apples to be shared among 5 friends.
10. **Say:** Take 140 counters. How many equal groups will you make? (Answer: 5)
11. **Ask:** How many apples will each person get? (Answer: 28)
12. **Say**: Draw 5 groups of 28 and write the division sum.

Independent Practice *(12 minutes)*

1. Write the following on the board:

   160 ÷ 4 = (Answer: 40)   150 ÷ 3 = (Answer: 50)   180 ÷ 6 = (Answer: 30)
2. **Say:** Working with your partner, please find the solution to the questions. Use your counters and draw your answers in your book.
3. **Say:** You will have about 10 minutes to solve these questions. Please make sure you write everything down that you did to solve it.
4. Ask 3 pupils to write the answer on the board.
5. **Say:** 160 shared between 4 groups equals 40 in each group. 150 shared between 3 groups equals 50 in each group. 180 shared between 6 groups equals 30 in each group.
6. **Say:** Put your hands in the air if your tried your best.

Closing *(3 minutes)*

1. **Ask:** If I have 300 books and I want to share them between 6 classrooms. How many books will each classroom get? (Answer: 50)
2. **Say:** Draw your answer and write the division question. When you have solved the problem hold up your work for me to see.
3. **Say:** Well done.

Lesson Title: One-step word problems involving division	**Theme:** Everyday Arithmetic (includes financial literacy) Division	
Lesson Number: M-03-117	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve simple one-step word problems involving division up to three-digits by one-digit, including money.		**Teaching Aids** 1. Counters (beads, stones) 2. Word Problems 1-5 at the end of the plan.		**Preparation** 1. Gather enough counters for each pair to have 150. 2. Write Word Problems 1-5, at the end of the plan, on the board.

Opening *(3 minutes)*

1. **Say:** I have 150 Leones to be shared among 5 friends.
2. **Ask:** How much will each person get? (Answer: 30 Leones)
3. Allow pupils a minute to solve the problem**.**

Introduction to the New Material *(7 minutes)*

1. **Say:** Today we are going to learn how to solve one-step word problems involving division.
2. **Say:** We are going to demonstrate the solution to the above one-step problem using our counters.
3. **Say:** Now take out 150 counters and place them on your desk. Please share the counters among five friends.
4. **Ask:** How many counters did each friend get? (Answer: 3)
5. **Say:** This means that: $150 \div 5 = 3$
6. **Say:** Now there are 20 children in the hall. Please divide them into two teams.
7. **Ask:** Who can write this in mathematical terms for us? (Answer: $20 \div 2 = 10$)
8. Ask some pupils to explain how they got their answers.
9. **Say:** To solve this problem, take out 20 counters and share them into 2 teams.
10. Allow pupils two minutes to do the sharing of the counters.
11. **Ask:** How many counters did each friend get? (Answer: 10)
12. **Say:** This means that: $20 \div 2 = 10$

Guided Practice *(10 minutes)*

1. **Say:** Look at the Word Problem 1 and read with me.
2. **Say:** There are 20 bricks. How many towers of 10 can be made from the bricks?
3. **Ask:** What do we need to find out? (Answer: how many towers can be made)
4. **Ask:** How many bricks do we have? (Answer: 20)
5. **Ask:** How many bricks are in each tower? (Answer: 10)
6. **Say:** Write this statement using mathematical symbols involving the division sign.
7. **Ask:** Who can write this on the board? (Answer: $20 \div 10$)

8. **Say:** Take out 20 counters and share them among 10 friends.
9. **Say:** Count the number of counters each person got.
10. **Ask:** What answer did you get? (Answer: 10)
11. **Say:** This means: 20 ÷ 10 = 2
12. **Say:** This means that I can make 2 towers of 10 bricks each.
13. **Say:** Let's look at problem two together. 40 books are in a box. Divide them into sets of 4.
14. **Ask:** How do we solve problem 2? (Example answer: divide 40 by 4)
15. **Ask:** How many books are in the box? (Answer: 40)
16. **Ask:** How many sets do we need to divide the books into? (Answer: 4)
17. **Say:** To solve problem number 2, divide 40 by 4. That is 40 ÷ 4 =?
18. Allow pupils two minutes to work on this.
19. Call a pupil to give the answer to question number 2 (Answer: 40 ÷ 4 = 10)

Independent Practice *(12 minutes)*

1. **Say:** Write Word Problems 3-5 in your book.
2. Read the problems out loud to pupils.
3. **Say:** Working with a partner, please find the solution to the problems. Use your counters to help you find the answers when necessary.
4. **Say:** You will have about 12 minutes to solve these problems. Please make sure you write everything down that you did to solve it.
5. Go around the classroom to help pupils when necessary. Particularly support pupils who are unable to read independently.

Closing *(3 minutes)*

1. Ask 3 pupils to explain how they solved the problems to the class. (Answers: Problem 3 = 6, Problem 4 = 9, Problem 5 = 20) Write the answers on the board. **Say:** Well done.

[WORD PROBLEM 1]
There are 20 bricks. How many towers of 10 can be made from the bricks?

[WORD PROBLEM 2]
40 books are in a box. Divide them into sets of 4.

[WORD PROBLEM 3]
There are 30 bricks. How many towers of 5 can be made?

[WORD PROBLEM 4]
36 books are in a box. Divide them into sets of 4

[WORD PROBLEM 5]
There are 180 children in the hall. Divide them into teams of 9.

Lesson Title: More one-step word problems involving division	Theme: Everyday Arithmetic (includes financial literacy) Division	
Lesson Number: M-03-118	Class/Level: Class 3	Time: 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve more complex one-step word problems involving division up to three-digits by one-digit, including money.		Teaching Aids 1. Counters (beads, stones) 2. Word Problems 1-4 at the end of the plan.		Preparation 1. Gather enough counters for each pair to have 250. 2. Write Word Problems 1-4, at the end of the plan, on the board.

Opening *(3 minutes)*

1. **Say:** I have 50 Leones to be shared among 5 friends.
2. **Ask:** How much will each person get? (Answer: 10 Leones)
3. **Say:** Draw your answer in your exercise book.
4. Allow pupils a minute to solve the problem**.**

Introduction to the New Material *(7 minutes)*

1. **Say:** Today, we are going to practise solving more difficult one-step word problems involving division.
2. **Say:** We are going to demonstrate the solution to the above problem using pictures.
3. **Say:** Draw 50 coins shared between five friends.
4. **Ask:** How many coins did each friend get? (Answer: 10)
5. **Say:** This means that: 50 ÷ 5 = 10
6. **Say:** Now there are 160 grade 3 pupils in a school. The pupils are to be equally divided into 5 classes.
7. **Ask:** How many pupils do we have in each class?
8. **Ask:** Who can write this in mathematical terms for us? (Answer: 160 ÷ 5= 32)
9. Ask some pupils to explain how they got their answers.
10. **Say:** To solve this problem, take out 160 counters and share them into five equal groups.
11. Allow pupils two minutes to do the sharing and counting of the counters.
12. **Ask:** How many counters did each group get? (Answer: 32)
13. **Say:** This means that: 160 ÷ 5 = 32

Guided Practice *(10 minutes)*

1. **Say:** Look at Word Problem 1. Read along with me.
2. **Say:** Tom had 63 apples. He divides all the apples evenly among 9 friends. How many apples did Tom give to each of his friends?
3. **Ask:** In problem 1, how many apples did Tom have? (Answer: 63)

4. **Ask:** How many friends did Tom divide the apples with equally? (Answer: 9)
5. **Say:** Please write this statement using mathematical symbols involving the division sign.
6. **Ask:** Who can write this on the board? (Answer: 63 ÷ 9)
7. **Say:** Take out 63 counters and share them among 9 friends.
8. **Say:** Count the number of counters each person got.
9. **Ask:** How many apples will each friend get? (Answer: 7)
10. **Say:** This means: 63 ÷ 9 = 7
11. **Say:** Please look at problem two. In your class, you counted 120 hands. How many pupils were in the class?
12. **Ask:** How do we solve question 2? (Example answer: divide 120 by 2 because each person has 2 hands)
13. **Ask:** How many hands were counted in the class? (Answer: 120)
14. **Ask:** How many hands does each pupil have? (Answer: 2)
15. **Ask:** How do we solve the problem? (Answer: divide 120 by 2)
16. **Say:** To solve problem 2, divide 120 by 2. That is 120 ÷ 2 =.
17. Allow pupils two minutes to work on this.
18. Call a volunteer to give the answer to question number 2 (Answer: 120 ÷ 2 = 60)

Independent Practice *(12 minutes)*

1. Point to Word Problem 3 and 4. **Say:** Write these word problems in your exercise book.
2. Read the problems out loud to the pupils.
3. **Say:** Working in pairs, find the solution to the following questions. Use your counters or draw pictures.
4. **Say:** You will have about 10 minutes to solve these problem sets. Please make sure you write everything down that you did to solve it.
5. Go around the classroom to support pupils.

Closing *(3 minutes)*

1. **Ask:** What answers did you get for the problems? (Answers: Problem 3 = 250 ÷ 5 = 50, Problem 4 = 195 ÷ 13 = 15) Write their answers on the board.
2. **Say:** Give yourself a pat on the back if you tried your best.

[WORD PROBLEM 1]
Tom had 63 apples. He divides all the apples evenly among 9 friends. How many apples did Tom give to each of his friends?

[WORD PROBLEM 2]
In your class, you counted 120 hands. How many pupils were in the class?

[WORD PROBLEM 3]

Nancy needs 5 oranges to make a glass of orange juice. If Nancy has 250 oranges, how many glasses of orange juice can she make?

[WORD PROBLEM 4]

Mark baked 195 crackers and divided them equally into 13 packs. How many crackers did Mark put in each packet?

Lesson Title: Two-step word problems involving division	**Theme:** Everyday Arithmetic (includes financial literacy) Division	
Lesson Number: M-03-119	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve simple two-step word problems involving division up to three-digits by one-digit, including money.		**Teaching Aids** 1. Counters (beads, stones) 2. Word Problems 1 and 2 at the end of the plan.		**Preparation** 1. Gather enough counters for each pair to have 30. 2. Write Word Problems 1 and 2, at the end of the plan, on the board.

Opening *(3 minutes)*

1. **Say:** I am thinking of a certain number and if I divide that number by 4 the answer is 5.
2. **Ask:** What is that number? (Answer: 20)
3. Allow pupils a minute to solve the problem.
4. **Say:** How did you solve this problem? (Example answers: I know that 4 x 5 = 20 so I used the fact family to solve the problem, I added 4 + 4 + 4 + 4 + 4 and got 20)

Introduction to the New Material *(7 minutes)*

1. **Say:** Today, we are going to learn how to solve two-step word problems involving division.
2. **Say:** We are going to demonstrate the solution to the above problem.
3. **Say:** To find that number, multiply 4 by 5.
4. **Ask:** What is 4 x 5? (Answer: 20)
5. **Say:** This means that when we divide 20 by 4, the answer is 5. That is: 20 ÷ 4 = 5
6. **Say:** Therefore, that number is 20.
7. **Say:** To solve two-steps problems, you will need to use two operations. For instance, you can use multiplication and subtraction, addition and division.
8. **Say:** Before you solve a two-step problem, first think about the meaning of the problem. Then think about what operation fits with each part of the problem.
9. **Say:** Let us look at an example of a two-step problem.

Guided Practice *(10 minutes)*

1. **Say:** Look at the first problem on the board.
2. **Say:** Peter has 12 apples. There are already 3 apples in a basket. Peter puts all the apples in baskets such that each basket contains 5 apples. How many baskets will Peter need?
3. **Ask:** How many apples did Peter have in total? (Answer: 12 + 3 = 15)
4. **Ask:** Who can explain how to find the total number of apples Peter had?
5. Invite a volunteer to illustrate how to find the total number of apples.
6. **Say:** To find the total number of apples in this scenario, we add 12 and 3. 12 + 3 = 15

7. **Ask:** If there are 15 apples in total, how many baskets will Peter need if each basket can take only 5 apples? (Answer: 3)
8. Allow pupils a minute to think about this problem**.**
9. **Say:** Please write the above statement in mathematical terms using the division sign ($\div$).
10. Invite a pupil to come to the board to write the statement in mathematical terms.
11. **Say:** To find the number of baskets Peter will need, divide 15 by 5. That is: $15 \div 5$.
12. **Ask:** How many baskets will Peter need? (Answer: $15 \div 5 = 3$)
13. **Say:** This means Peter will need 3 baskets.
14. **Say:** To solve this problem, we used two operations before arriving at the answer.
15. **Ask:** What were the two operations we used? (Answer: addition and division)

Independent Practice *(12 minutes)*

1. Point to Word Problem 2 on the board: **Say:** Copy this problem in your exercise book.
2. Read the problem out loud to pupils.
3. **Say:** In pairs, find the solution to the problem. Use your counters when necessary.
4. **Say:** You will have about 12 minutes to solve this problem. Please make sure you write everything down that you did to solve it.
5. Go around the classroom to help pupils.

Closing *(3 minutes)*

1. **Ask:** What answer did you get for the two-step problem?
    (Answer:
    First, find the number present today: $22 - 2 = 20$
    Divide the number today by 4: $20 \div 4 = 5$
    This means that there will be 5 students in each group)
2. **Ask:** What two operations did you use to solve the problem? (Answer: subtraction and division).
3. **Say:** Well done.

[WORD PROBLEM 1]
Peter has 12 apples. There are already 3 apples in a basket. Peter puts all the apples in baskets such that each basket contains 5 apples. How many baskets will Peter need?

[WORD PROBLEM 2]
There are 22 pupils in Mr. Kamara's class. Today, 2 students are absent. Mr Kamara puts the students present today into 4 equal groups. How many students are in each group?

Lesson Title: More two-step word problems involving division	**Theme:** Everyday Arithmetic (includes financial literacy) Division	
Lesson Number: M-03-120	**Class/Level:** Class 3	**Time:** 35 minutes

	Learning Outcomes By the end of the lesson, pupils will be able to solve more complex two-step word problems involving division, including money.		**Teaching Aids** 1. Counters (beads, stones) 2. Word Problems 1 and 2 at the end of the plan.		**Preparation** 1. Gather enough counters for each group to have 100 2. Write Word Problems 1 and 2, at the end of the plan, on the board.

Opening *(1 minutes)*

1. **Say:** Yesterday, we learned about how to solve two-step problems involving division.
2. **Ask:** Who can remind us what a two-step word problem is? (Answers: A problem that requires two operations to solve it.)

Introduction to the New Material *(7 minutes)*

1. **Say:** Today, we are going to solve for more two-step word problems involving division.
2. **Say:** Let us solve this problem.
3. **Say:** Sandra is arranging tins of milk on a shelf. She has one box with 30 tins and another box with 18 tins. She can fit 6 tins in a row on the shelf. How many rows does she make using all the tins of milk in both boxes?
4. **Ask:** How many operations would we use in solving for this problem? (Answer: 2)
5. **Ask:** What are these operations? (Answer: addition and division)
6. **Ask:** Which of the operations will be performed first? (Answer: addition)
7. **Say:** To solve this problem, we need to find the total number of tins of milk Sandra had.
8. **Ask:** What is the total number of milk tins Sandra had? (Answer: 30 + 18 = 48)
9. Invite a volunteer to write the answer on the board.
10. **Say:** Now Sandra has 48 tins of milk. We need to determine the number of rows she will make if each row can take 6 tins of milk.
11. **Ask:** How do we find the number of rows? (Answer: divide 48 by 6)
12. **Say:** To find the number of rows, solve 48 ÷ 6 =
13. **Say:** Now, all of you please solve 48 ÷ 6
14. Allow pupils 2 minutes to solve this calculation.
15. **Ask:** What answer did you get? (Answer: 8)
16. **Say:** This means Sandra will make 8 rows with the 48 tins of milk if each row can take only 6 tins of milk.

Guided Practice *(10 minutes)*

1. **Say:** Please look at the first problem on the board.

2. Read the problem out loud to pupils.
3. **Say:** First, find the number of water bottles each team got.
4. **Ask:** How do we find the number of water bottles each team got? (Answer: 16 ÷ 2 = 8)
5. **Ask:** Who can explain how to find the number of water bottles each team got?
6. Invite a volunteer to draw how to find the number of water bottles each team got on the board.
7. **Say:** To find the number of water bottles each team got, we divide 16 by 2. We write 16 ÷ 2 = 8 Write the sum on the board.
8. **Say:** Each team has 8 water bottles and there are 4 players in a team.
9. **Ask:** How do we find the number of water bottles each player will get? (Answer: divide 8 by 4)
10. Allow pupils a minute to think about this problem**.**
11. **Say:** Since each team of 4 players has 8 water bottles, to find the number of water bottles each player gets, we divide 8 by 4.
12. **Say:** To find the number of water bottles each player gets, divide 8 by 4. That is: 8 ÷ 4. Write this in the board.
13. **Ask:** What is the answer to 8 ÷ 4=? (Answer: 8 ÷ 4 = 2)
14. **Say:** This means each player gets two water bottles.
15. **Ask:** In solving this problem, which operations did we use? (Answer: we used division twice)

Independent Practice *(12 minutes)*

1. Point to Word Problem 2 on the board. **Say:** Write the word problem in your exercise book.
2. Read the problem out loud to the pupils.
3. **Say:** In pairs, find the solution to the problem. Use your counters when necessary.
4. **Say:** You will have about 10 minutes to solve this problem set. Make sure you write everything down that you did to solve it.
5. Go around the classroom to help pupils.
6. **Say:** Check your answer with another pair to see if your solved it in the same way.

Closing *(3 minutes)*

1. **Ask:** What answer did you get for the two-step word problem? (Answer: First, find the number of cups in the 3 packages: 3 x 8 = 24, subtract the 3 cups he gave to his nephew: 24 − 3 = 21, now there are 21 cups to be shared equally among his 3 children; divide the number remaining by the number of children: 21 ÷ 3 = 7, this means that each of his children will get 7 cups of yogurt)
2. **Say:** Well done.

[WORD PROBLEM 1]
There are 16 water bottles that are shared equally between 2 teams. Each team has 4 players. Each player gets an equal number of water bottles. How many water bottles does each player get?

[WORD PROBLEM 2]
Mr. Johnson buys 3 packages of yogurt, and each package contains 8 cups. On his way home from the store, he gives 3 cups of yogurt to his nephew. How many cups of yogurt will each of his 3 children get?

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