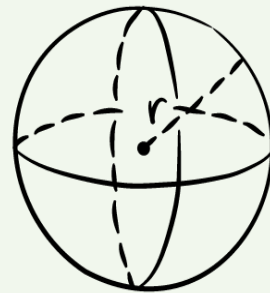
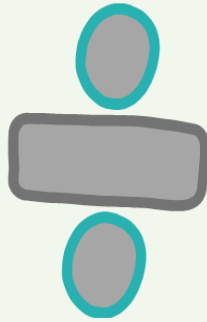
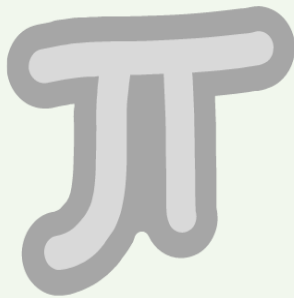


MathStep 2

(Revised/ SNC Version)



$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$V = \frac{4}{3} \pi r^3$$

Lesson Planner

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LearningWell

Unit 1: Numbers to 1000

Suggested Number of Lessons: 5 to 6

Lesson 1

Objective(s): Count and write numbers 1 to 999 in figures and words

Recognise that 1000 is one more than 999 and the first 4-digit number

Teaching Resources: Countable items such as balls, blocks, sticks, pencils, etc.

Introduction (5 min)

Recall counting numbers from 1 to hundred with the children. Write a 5 numbers such as 19, 27, 49, 76, 80 on the board and ask the children write the numbers in words. Similarly give some numbers (less than 100) in word form and ask the children to write them in figures. Recall the concept of tens and ones with the children as well.

Attempt the activity on page 8 as a light revision.

Teaching procedure (25 min)

Ask children what happens when we count one more than 100. It becomes one hundred and one. 10 more than one hundred becomes one hundred and ten. Tell children that we can count in ones, tens or hundreds to form a 3-digit number. Remind children that just like 10 ones make 1 ten and 10 tens make 1 hundred, similarly 10 hundreds make 1 thousand. Tell children that 1000 is the first 4-digit number.

Write the numbers 271, 346 and 620 on the board. Take responses from children and write the numbers in words on the board. Similarly write a few 3-digit numbers in words on the board and ask the children to tell you the figures. Refer to pages 9 to 11 of the textbook for reinforcement.

Task (10 min)

Exercise 1, Question 1	Children should read the numbers in figures and match them to their correct word form. The first one is done for them.
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Lesson 2

Objective(s): Recognise the place value of 3-digit numbers
Identify the place value of a specific digit in a 3-digit number

Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap place values with the children. Write the number 43 on the board and ask the children how many tens and ones are there. Say that there are 4 tens and 3 ones. 4 tens and 3 ones make forty-three. Give a few more examples.

Teaching procedure (25 min)

Use base-10 blocks to explain the concept of place values. Emphasise that 10 ones make 1 ten and 10 tens make 1 hundred. Use the blocks to represent the following numbers: 123, 340 and 661 and ask the children to tell you the number. Similarly write 587 on the board and ask children to use base-10 blocks to represent them. Tell them that 5 is in the hundreds place and its value is 500, 8 is in the tens place and its value is 80. Lastly, 7 is in the ones place and its value is 7. Discuss a few more examples. Refer to the textbook pages 12 to 14 for reinforcement.

Task (10 min)

Exercise 1, Question 2	Children should count the blocks and write the correct number in figures and words.
Exercise 1, Question 3, parts a to e	Children should read the numbers and fill the blanks accordingly.
Exercise 1, Question 5	Children should read the numbers and state the place value of the digits.

Homework

Ask children to complete: Exercise 1, Question 3, parts f to j.
Exercise 1, Question 4

Lesson 3

Objective(s): Recognise the place value of 3-digit numbers
Identify the place value of a specific digit in a 3-digit number

Teaching Resources: Base-10 blocks or counters
Simple abacus showing Hundreds, Tens and Ones

Introduction (5 min)

Recap place values of 3-digit numbers.

Teaching procedure (25 min)

Either use the abacus or draw a simple abacus on the board. Write the number 316 on the board. Represent the number on the abacus by drawing small beads in the correct bar accordingly. There will be 3 beads in the hundreds bar, 1 bead in the tens bar and 7 beads in the ones bar. Discuss a few more examples.

Similarly draw an abacus with a certain number of beads in each bar and ask the children to tell you the number it represents. Discuss a few more examples.

Task (10 min)

Exercise 1, Question 6	Children should count the beads on the abacuses and write the correct number they represent.
Exercise 1, Question 7	Children should read the numbers and fill in each abacus with the correct number of beads.

Lesson 4

Objective(s): Compare 2-digit and 3-digit numbers (more or less)

Count and write in 10s and 100s

Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap comparing 2-digit numbers in terms of tens and ones. Write a few 2-digit numbers on the board and ask the children to compare the numbers using the symbols $>$ and $<$. Write a few numbers on the board and ask the children to arrange them in ascending/descending order. Ask the children to attempt the simple task on pages 20 and 21 for reinforcement.

Teaching procedure (20 min)

Explain the concept of comparing numbers by checking if a number is one more/less, ten more/less or hundred more/less than another number. If it is one more/less, the value of the digit in the ones place changes. If it is ten more/less, then the value of the digit in the tens place changes. If it is hundred more/less, then the value of the digit in the hundreds place changes. We can easily compare numbers by noticing these changes. Refer to pages 22 to 24 for reinforcement.

Task (10 min)

Ask children to complete Exercise 2, Question 2 and 3.

Lesson 5

Objective(s): Arrange numbers up to 999 in ascending and descending order
Identify the smallest and largest number in a given set of numbers

Teaching Resources: Base-10 blocks or counters

Introduction (8 min)

Recap comparing numbers and identifying which number is greater or smaller. Write the numbers 38 and 47 on the board with an empty box in the middle. Ask the children to compare the numbers and tell you which is greater and which is smaller. Recall the symbols $<$ and $>$ with the children and ask them which symbol should be inserted in the empty box. Repeat the activity two more times. You can use base-10 blocks to physically represent the numbers when comparing.

Teaching procedure (20 min)

Tell the class that now that they know how to compare numbers, they will learn how to put them in an increasing (ascending) or decreasing (descending) order. Write the following numbers on the board. Also draw empty boxes below each number:

123	360	254

Ask the children to arrange the numbers in ascending order. Take feedback from them to arrange the numbers. Since these are 3-digit numbers, emphasise that we always start comparing from the hundreds, then the tens and then the ones. Ask them to highlight the smallest and the greatest number. Repeat the activity with more numbers. Ask them to arrange numbers in descending order. Once again start comparing from the hundreds. Observe that pupils are able to arrange numbers according to the orders asked for. Refer to the textbook for reinforcement.

Task (10 min)

Exercise 2, Question 1	Children should observe each set of numbers and identify which is greater or smaller. They should then insert the correct symbol in the box. The first one is done for them.
Exercise 2, Question 5	Children should arrange each set of numbers in ascending order and write in the boxes. The first one is done for them.

Homework

Exercise 2, Question 4	Children should observe and compare the numbers in each set. They should then circle the greatest number and tick the smallest number. The first one is done for them.
Exercise 2, Question 6	Children should arrange each set of numbers in descending order and write in the boxes. The first one is done for them.

Lesson 6

Objective(s): Read and write ordinal numbers from 1st to 20th

Teaching Resources: Countable objects, placards or simple cards with the positions 1st to 20th in figures and words

Introduction (5 min)

Recap positions 1st to 10th with the children which they have covered in Grade 1. Arrange a few objects in a row and ask the children to name their positions. You can also draw a number of objects on the board and then ask children to match them to the correct positions.

Teaching procedure (20 min)

Tell the children that they have already learnt about the first 10 positions and now they will learn about positions up to 20th.

Arrange 20 items in a row and write their positions next to them. Read aloud with the children as they name the positions. You can show placards or just write the spelling of each position on the board for children to identify/memorise. Draw 16 items on the board. Randomly ask the position of an item and check if the children can tell.

Refer to pages 31-32 for reinforcement.

Homework

Ask the children to revise positions 1st to 20th.

Unit 2: Addition within 1000

Suggested Number of Lessons: 7 to 8

Lesson 1

Objective(s): Revise addition within 100.

Teaching Resources: Countable items such as balls, blocks, etc. Base-10 blocks.

Introduction (5 min)

Recall addition within 100 with the children.

Teaching procedure (20 min)

Write the sentence $16 + 3$ on the board and ask the children to add and tell you the total. Ask them to add by using the counting on method. Write another sentence $25 + 42$ on the board. Ask the children to add them vertically and use the tens and ones method. Give a few more examples on the board. Ensure that the children are able to add easily.

Task (10 min)

Recap Questions 1 to 4	Children should be able to attempt the questions easily.
---------------------------	--

Homework

Ask children to complete Question 5 of the Recap section.

Lesson 2

Objective(s): Add 1-digit number to a 2-digit number with carry over

Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap place values with the children. Write the number 26 on the board and ask the children how many tens and ones are there. Recap adding 2-digit numbers using tens and ones. Write $13 + 5$ on the board and ask them the total.

Discuss the opening page of the chapter. Ask the children to count the number of red chairs and the number of blue chairs. Ask them to tell you the total.

Teaching procedure (20 min)

Introduce the concept of carry over to the children. Write the following example in vertical form on the board: $18 + 4$. Ask the children to add the ones. 8 ones and 4 ones make 12 ones. Remind them that 10 ones make 1 ten. So in the example, 12 ones will be regrouped as 1 ten and 2 ones. We write the ones in the ones column and carry over 1 ten to the tens column. Now we add the tens. Remind the children to always add the carry over otherwise the total will be incorrect. 1 ten + 1 ten = 2 tens. So, $18 + 4 = 22$. Give a couple more examples on the board.

Refer to the textbook for reinforcement.

Task (10 – 12 min)

Exercise 1, Question 1	Children should be able to add the given numbers. Make sure they add the carry during their calculations.
---------------------------	---

Homework

Ask children to complete Exercise 1, Question 2.

Lesson 3

Objective(s): Add 2-digit numbers with carry over

Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap addition of 2-digit numbers without carry over. Remind them how we add the ones first and then the tens.

Teaching procedure (20 min)

The children have already completed addition of 1-digit and 2-digit numbers with carry over so they are well aware of the concept of carry over.

Write the following on the board.

$$\begin{array}{r} \text{T O} \\ 22 \\ + 39 \\ \hline \end{array} \quad \rightarrow \quad \begin{array}{r} \text{T O} \\ 1 \\ 22 \\ + 39 \\ \hline 1 \\ \hline \end{array} \quad \rightarrow \quad \begin{array}{r} \text{T O} \\ 1 \\ 22 \\ + 39 \\ \hline 61 \\ \hline \end{array}$$

Solve the sum in steps. Use base-10 blocks. First add the ones. Tell the children that 4 ones and 9 ones is 11 ones. We regroup as 1 ten and 1 one. Carry over 1 ten to the tens column. Now add the tens: 1 ten + 2 tens + 3 tens, which is 6 tens. So, $22 + 39 = 61$. Repeat the activity with another example. Refer to the textbook for reinforcement. Keep reminding children that we always start adding from the ones.

Task (10 min)

Exercise 2, Question 1	Children should be able to add the given numbers. Make sure they add the carry during their calculations.
---------------------------	---

Homework

Ask children to complete Exercise 2, Question 2.

Lesson 4

Objective(s): Add 2-digit numbers mentally

Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap adding numbers within 10 and 20 with the children.

Teaching procedure (20 min)

Write the following on the board and solve it in a stepwise manner:

$$\begin{array}{c} 12 \\ / \quad \backslash \\ 10 \quad 2 \end{array} + \begin{array}{c} 13 \\ / \quad \backslash \\ 10 \quad 3 \end{array} = ?$$

$$10 + 10 = 20$$

$$2 + 3 = 5$$

$$20 + 5 = 25$$

Ask the children to split each number into tens and ones and then add them individually. They can then put the number together to tell the total. Repeat the activity with another example. Refer to the textbook for reinforcement.

Task (10 min)

Exercise 3,
Question 1

Children should be able to add the given numbers mentally. Remind them to split the numbers into tens and ones mentally and then add them.

Lesson 5

Objective(s): Adding a 1-digit number to a 3-digit number without carry
Adding 2-digit number to a 3-digit number without carry
Adding 3-digit numbers without carry

Teaching Resources: Base-10 blocks or counters

Introduction (8 min)

Recap place values (ones, tens and hundreds) and addition of 2 digit numbers without carry over with the children.

Teaching procedure (20 min)

Tell the class that now that they know how to add 2-digit numbers, they will learn how to add 3-digit numbers. Recall the place values up to hundreds with the children then write the following sum on the board:

$$\begin{array}{r} \text{H T O} \\ 2 \ 2 \ 6 \\ + \quad 1 \ 2 \\ \hline \end{array} \quad \rightarrow \quad \begin{array}{r} \text{H T O} \\ 2 \ 2 \ 6 \\ + \quad 1 \ 2 \\ \hline 2 \ 3 \ 8 \end{array}$$

Begin adding from the ones, then the tens and then the hundreds. Repeat the activity by adding 124 and 232. Refer to the textbook for reinforcement.

Task (10 min)

Exercise 3, Question 2 parts a to f	Children should observe each set of numbers and add them. Remind them to start adding from the ones. The first one is done for them.
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Homework

Exercise 3, Question 2 parts g to l	Children should observe each set of numbers and add them. Remind them to start adding from the ones.
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Lesson 6

Objective(s): Adding a 1-digit number to a 3-digit number with carry
Adding a 2-digit number to a 3-digit number with carry
Adding 3-digit numbers with carry

Teaching Resources: Base-10 blocks

Introduction (5 min)

Recap addition of 2-digit numbers with carry with the children.

Teaching procedure (20 min)

Tell the children that they have already learnt about adding 2-digit numbers with carry and now they will learn how to add 3-digit numbers with carry. Write the following sum on the board:

$$\begin{array}{r} \text{H T O} \\ 1 \\ 3 7 \\ + 2 8 \\ \hline 5 \end{array} \quad \Rightarrow \quad \begin{array}{r} \text{H T O} \\ 1 1 \\ 3 7 \\ + 2 8 \\ \hline 0 5 \end{array} \quad \Rightarrow \quad \begin{array}{r} \text{H T O} \\ 1 1 \\ 3 7 \\ + 2 8 \\ \hline 6 0 5 \end{array}$$

Solve the above sum step wise. Add the ones: 7 ones + 8 ones = 15 ones. Regroup as 1 ten 5 ones. Carry over 1 ten to the tens column. Add the tens: 1 ten + 9 tens = 10 tens. Remind the children that 10 tens make 1 hundred. Regroup as 1 hundred and 0 tens. Carry over 1 hundred to the hundreds column. Add the hundreds: 1 hundred + 3 hundreds + 2 hundreds = 6 hundreds. So, $307 + 298 = 605$

Repeat the activity with another example. Refer to the textbook for reinforcement.

Task (10 min)

Exercise 4, Question 1 parts a to f	Children should observe each set of numbers and add them. Remind them to start adding from the ones and remember to add the carry. The first one is done for them.
-------------------------------------	--

Homework

Exercise 4, Question 1 parts g to l	Children should observe each set of numbers and add them. Remind them to start adding from the ones and remember to add the carry.
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Lesson 7

Objective(s): Solve real-life number stories involving addition of 2-digit and 3-digit numbers without and with carry

Teaching Resources: Base-10 blocks

Introduction (5 min)

Recap addition of 2-digit and 3-digit numbers (with and without carry) with the children.

Teaching procedure (30 min)

Write the following story on the board: Amna has 35 marbles, she gets 26 more. How many does she have altogether?

Ask the children to solve the word problem with you on the board. Observe whether children have grasped the idea of carry over constructively.

Write another example, $245 + 472$ on the board and solve it with the children.

Refer to the examples in the textbook and solve them with the children in class.

Homework

Exercise 5, Questions 1 to 3	Children should read and understand each word problem. Remind them to start adding from the ones and remember to add the carry.
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Unit 3: Subtraction within 1000

Suggested Number of Lessons: 7 to 8

Lesson 1

Objective(s): Revise subtracting numbers within 100

Teaching Resources: Countable items such as balls, blocks, etc. Base-10 blocks.

Introduction (5 min)

Recall subtraction within 100 with the children.

Teaching procedure (20 min)

Write the sentence $26 - 5$ on the board and ask the children to subtract and tell you the difference. Ask the children to use the counting back method to subtract. Write another

sentence 48 – 23 on the board. Ask the children to subtract them vertically and use the tens and ones method. Give a few more examples on the board. Ensure that the children are able to subtract easily.

Task (10 min)

Recap Questions 1 to 4	Children should be able to attempt the questions easily.
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Homework

Ask children to complete Question 5 of the Recap section.

Lesson 2

Objective(s): Subtracting 1-digit number from a 2-digit number with borrowing

Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap place values with the children. Write the number 39 on the board and ask the children how many tens and ones are there. Recap subtracting 2-digit numbers using tens and ones. Write 19 – 3 on the board and ask them the difference.

Teaching procedure (20 min)

Introduce the concept of borrowing to the children. Write the following example in vertical form on the board: 25 - 7.

$$\begin{array}{r}
 \text{T O} \\
 25 \\
 - 7 \\
 \hline
 \hline
 \end{array}
 \quad \rightarrow \quad
 \begin{array}{r}
 \text{T O} \\
 \overset{1}{\cancel{2}} 15 \\
 - 7 \\
 \hline
 8
 \end{array}
 \quad \rightarrow \quad
 \begin{array}{r}
 \text{T O} \\
 \overset{1}{\cancel{2}} 15 \\
 - 7 \\
 \hline
 18
 \end{array}$$

Ask the children to subtract the ones. 5 ones is smaller than 7 ones. This means we have to borrow 1 ten from the tens column. We know that 1 ten = 10 ones. So we are borrowing 10 ones. We are left with 1 ten in the tens column. In the ones column, after regrouping we

have 10 ones + 5 ones = 15 ones. We can easily subtract 7 ones from 15 ones to get 8 ones. Subtract the tens: 1 ten – 0 tens = 1 ten. So, $25 - 7 = 18$.

Repeat the activity with another example. Refer to the textbook for reinforcement.

Task (10 – 12 min)

Exercise 1, Question 1	Children should be able to subtract the given numbers. Check if the borrowing procedure is correct.
---------------------------	---

Homework

Ask children to complete Exercise 1, Question 2.

Lesson 3

Objective(s): Subtracting 2-digit numbers with borrowing

Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap subtraction of 2-digit numbers without borrowing. Remind them how we subtract the ones first and then the tens.

Teaching procedure (20 min)

The children have already completed subtraction of 1-digit from 2-digit numbers with borrowing. So we are simply taking the concept further.

Write the following on the board.

$$\begin{array}{r} \text{T O} \\ 5 \ 2 \\ - 1 \ 4 \\ \hline \end{array} \quad \rightarrow \quad \begin{array}{r} \text{T O} \\ \overset{4}{\cancel{5}} \ 12 \\ - 1 \ 4 \\ \hline 8 \end{array} \quad \rightarrow \quad \begin{array}{r} \text{T O} \\ \overset{4}{\cancel{5}} \ 12 \\ - 1 \ 4 \\ \hline 3 \ 8 \end{array}$$

Solve the sum in steps. Use base-10 blocks. First subtract the ones. Tell the children that 2 ones is smaller than 4 ones. We borrow 1 ten as 10 ones. Regroup: 10 ones and 2 ones equals 12 ones. 12 ones – 4 ones = 8 ones. We are left with 4 tens in the tens column after borrowing. Now subtract the tens: 4 tens – 1 ten equals 3 tens. So, $52 - 14 = 38$. Repeat the activity with another example. Refer to the textbook for reinforcement. Keep reminding children that after borrowing 1 ten, we write the remaining tens in the tens column so that no mistakes occur when subtracting the tens.

Task (10 min)

Exercise 2,
Question 1

Children should be able to subtract the given numbers.

Homework

Ask children to complete Exercise 2, Question 2.

Lesson 4

Objective(s): Subtract 2-digit numbers mentally

Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap subtracting numbers within 10 and 20 with the children.

Teaching procedure (20 min)

Write the following on the board and solve it in a stepwise manner:

$$\begin{array}{r} 47 \\ \swarrow \searrow \\ 40 \quad 7 \end{array} - \begin{array}{r} 21 \\ \swarrow \searrow \\ 20 \quad 1 \end{array} = ?$$

$$7 - 1 = 6$$

$$40 - 20 = 20$$

$$20 + 6 = 26$$

Ask the children to split each number into tens and ones and then subtract them individually. They can then put the number together to tell the answer. Repeat the activity with another example. Refer to the textbook for reinforcement.

Task (10 min)

Exercise 3,
Question 1

Children should be able to subtract the given numbers mentally. Remind them to split the numbers into tens and ones mentally and then subtract them.

Lesson 5

Objective(s): Subtracting 3-digit numbers without borrowing

Teaching Resources: Base-10 blocks or counters

Introduction (7 min)

Recap place values (ones, tens and hundreds) and subtraction of 2 digit numbers without borrowing with the children.

Teaching procedure (20 min)

Tell the class that now that they know how to subtract 2-digit numbers, they will learn how to subtract 3-digit numbers. Recall the place values up to hundreds with the children then write the following sum on the board:

$$\begin{array}{r} \text{H T O} \\ 5 \ 6 \ 5 \\ - \quad 3 \ 3 \\ \hline \end{array} \quad \rightarrow \quad \begin{array}{r} \text{H T O} \\ 5 \ 6 \ 5 \\ - \quad 3 \ 3 \\ \hline 5 \ 3 \ 2 \end{array}$$

Begin subtracting from the ones, then the tens and then the hundreds. Repeat the activity by subtracting 204 from 649. Refer to the textbook for reinforcement.

Task (10 min)

Exercise 3, Question 1 parts a to f	Children should observe each set of numbers and subtract them. Remind them to start subtracting from the ones. The first one is done for them.
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Homework

Exercise 3, Question 1 parts g to o	Children should observe each set of numbers and subtract them. Remind them to start subtracting from the ones.
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Lesson 6

Objective(s): Subtracting a 1-digit number from a 3-digit number with borrowing
Subtracting a 2-digit number from a 3-digit number with borrowing
Subtracting 3-digit numbers with carry over

Teaching Resources: Base-10 blocks

Introduction (5 min)

Recap subtraction of 2-digit numbers with borrowing with the children.

Teaching procedure (20 min)

Tell the children that they have already learnt about subtracting 3-digit numbers with borrowing and now they will learn how to subtract 3-digit numbers with borrowing. Write the following sum on the board:

H	T	O		H	T	O		H	T	O	
6	6	3		5 ⁵	16	3		5 ⁵	16	3	
-	2	7	3	-	2	7	3	-	2	7	3
<hr/>				<hr/>				<hr/>			
		0			9	5			3	9	5

Solve the above sum step wise. Subtract the ones: 3 ones – 3 ones = 0 ones. Subtract the tens. 6 tens is smaller than 7 tens, so regroup 1 hundred as 10 tens. We have 10 tens and 6 tens which is 16 tens. 16 tens – 7 tens = 9 tens. After regrouping we have 5 hundred left. Subtract the hundreds: 5 hundreds – 2 hundreds = 3 hundreds. So, $663 - 273 = 395$.

Repeat the activity with another example. Refer to the textbook for reinforcement.

Task (10 min)

Exercise 4, Question 1 parts a to f	Children should observe each set of numbers and subtract them. Remind them to start subtracting from the ones. The first one is done for them.
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Homework

Exercise 4, Question 1 parts g to l	Children should observe each set of numbers and subtract them. Remind them to start subtracting from the ones. The first one is done for them.
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Lesson 7

Objective(s): Solve real-life number stories involving subtraction of 2-digit and 3-digit numbers without and with borrowing

Teaching Resources: Base-10 blocks

Introduction (5 min)

Recap addition of 2-digit and 3-digit numbers (with and without borrowing) with the children.

Teaching procedure (25 min)

Write the following story on the board: Saira has 95 blocks. She gives 27 blocks to her sister. How many blocks does she have left?

Ask the children to solve the word problem with you on the board. Observe whether children have grasped the idea of borrowing constructively.

Write another example, $542 - 256$ on the board and solve it with the children. Ask children to be careful when they are borrowing and to make changes accordingly.

Refer to the examples in the textbook and solve them with the children in class.

Homework

Exercise 5, Questions 1 to 3	Children should read and understand each word problem. They should then solve them. Remind children to start subtracting from the ones and be careful when they are borrowing.
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Unit 4: Multiplication

Suggested Number of Lessons: 7 to 8

Lesson 1

Objective(s): Recognise multiplication as repeated addition and use the '×' symbol

Teaching Resources: Countable items such as balls, blocks, etc. Base-10 blocks.

Introduction (7 min)

Discuss the opening page. Ask the children if they go to bakeries or sweet shops in their areas to buy eatables. What do they notice about the picture? Ask them to look at the plates of sandwiches. How many slices are there on each plate? Can they tell how many are there on four plates?

Teaching procedure (20 min)

Place 6 balls in groups of two on the table. Put a large ring around each group. Ask the children how many groups are there. Now ask them how many balls are there in each group. Ask them to tell you how many balls are there altogether. Write the following sentence on the board: $2 + 2 + 2 = 6$.

Tell them that by making groups we have actually made our task of addition easier. If we know how many objects are there in one group, we can easily calculate the total number of objects in several groups. Multiplication is a form of repeated addition.

Refer to the examples in the textbook for reinforcement.

Task (10 min)

Exercise 1 Question 1	Children should be able to match each statement to the correct set of objects.
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Homework

Ask children to complete Exercise 1, Question 2.

Lesson 2

Objective(s): Complete number sequences in steps of 2
Develop multiplication table of 2
Multiply numbers within multiplication table

Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap grouping of numbers to tell the total with the children.

Teaching procedure (20 min)

Draw the following on the board.



Introduce the concept of skip counting in twos to teach the table of 2. Tell them that in the table of 2, each number is 2 more than the previous number.

Refer to the textbook for reinforcement. Refer to page 90 and ask the children to memorise the table of 2.

Task (10 – 12 min)

Exercise 2, Question 1 and 2	Children should be able to apply the 2's table and solve the questions.
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Homework

Ask children to complete Exercise 2, Question 3 and 4.

Lesson 3

Objective(s): Complete number sequences in steps of 5
Develop multiplication table of 5
Multiply numbers within multiplication table

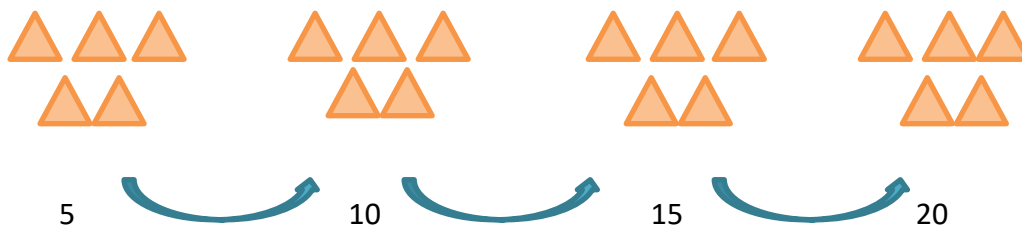
Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap grouping of numbers to tell the total with the children.

Teaching procedure (20 min)

Draw the following on the board.



Introduce the concept of skip counting in fives to teach the table of 5. Tell them that in the table of 5, each number is 5 more than the previous number.

Refer to the textbook for reinforcement. Refer to page 95 and ask the children to memorise the table of 5.

Task (10 min)

Exercise 3, Question 1 and 2	Children should be able to apply the 5's table and solve the questions.
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Homework

Ask children to complete Exercise 3, Question 3 and 4.

Lesson 4

Objective(s): Complete number sequences in steps of 10
Develop multiplication table of 10
Multiply numbers within multiplication table

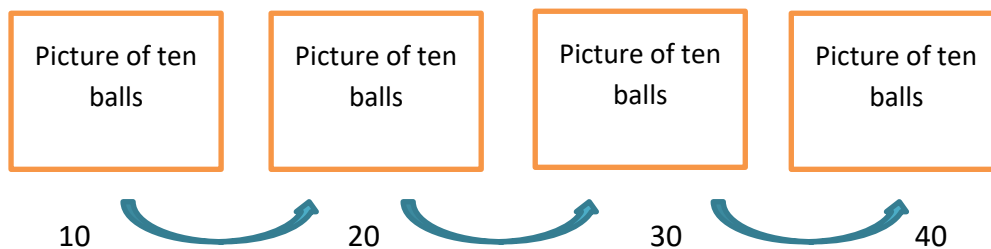
Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap grouping of numbers to tell the total with the children.

Teaching procedure (20 min)

Draw the following on the board.



Introduce the concept of skip counting in tens to teach the table of 10. Tell them that in the table of 10, each number is 10 more than the previous number.

Refer to the textbook for reinforcement. Refer to page 99 and ask the children to memorise the table of 10.

Task (10 min)

Exercise 4, Question 1 and 2	Children should be able to apply the 10's table and solve the questions.
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Homework

Ask children to complete Exercise 3, Question 3.

Lesson 5

Objective(s): Complete number sequences in steps of 3
Develop multiplication table of 3
Multiply numbers within multiplication table

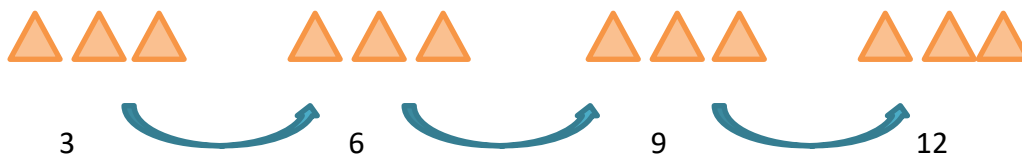
Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap grouping of numbers to tell the total with the children.

Teaching procedure (20 min)

Draw the following on the board.



Introduce the concept of skip counting in threes to teach the table of 3. Tell them that in the table of 3, each number is 3 more than the previous number.

Refer to the textbook for reinforcement. Refer to page 103 and ask the children to memorise the table of 3.

Task (10 min)

Exercise 5, Question 1 and 2	Children should be able to apply the 3's table and solve the questions.
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Homework

Ask children to complete Exercise 3, Question 3 and 4.

Lesson 6

Objective(s): Complete number sequences in steps of 4
Develop multiplication table of 4
Multiply numbers within multiplication table

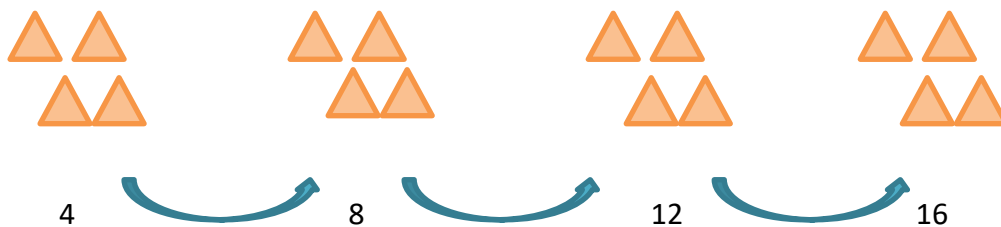
Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap grouping of numbers to tell the total with the children.

Teaching procedure (20 min)

Draw the following on the board.



Introduce the concept of skip counting in fours to teach the table of 4. Tell them that in the table of 4, each number is 4 more than the previous number.

Refer to the textbook for reinforcement. Refer to page 108 and ask the children to memorise the table of 4.

Task (10 min)

Exercise 6, Question 1 and 2	Children should be able to apply the 4's table and solve the questions.
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Homework

Ask children to complete Exercise 6, Question 3 and 4.

Lesson 7

Objective(s): Write multiplication sentences for multiplication from pictures

Solve real-life number stories involving multiplication up to 1-digit numbers

Teaching Resources: Base-10 blocks

Introduction (5 min)

Recap the tables of 2, 3, 4, 5 and 10 with the children.

Teaching procedure (30 min)

Write the following story on the board: Amna buys 5 packets of biscuits. Each packet has 3 biscuits. How many biscuits are there altogether?

Ask the children to solve the word problem with you on the board. Observe whether children have grasped the idea of multiplication constructively.

Write another example on the board: There are 3 plates. Each plate has 4 cherries. How many cherries are there altogether? Solve it with the children.

Refer to the examples in the textbook and solve them with the children in class.

Homework

Exercise 7, Questions 1 to 4	Children should read and understand each word problem. Ask children to memorise tables properly and apply them in each question. The first one is done for them.
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Unit 5: Division

Suggested Number of Lessons: 8 to 9

Lesson 1

Objective(s): Recognise division as successive subtraction and use the '÷' symbol

Teaching Resources: Countable items such as balls, blocks, etc. Base-10 blocks. Bowls, baskets or containers

Introduction (7 min)

Discuss the opening page. Ask the children if they have brought sweets or chocolates to school and shared them with their friends. Ask them if they shared them equally or not. Lead them to the concept of division.

Teaching procedure (20 min)

Place three baskets or bowls on the table. Call a pupil to the front of the classroom and give him/her 9 balls or blocks. Ask him/her to place one block in each basket. Ask how many are left. Write the statement on the board: $9 - 3 = 6$.

Now ask him/her to place one block in each basket again and tell you how many are left. Write the statement on the board: $6 - 3 = 3$. Repeat the action again and ask how many are left. Write the statement on the board: $3 - 3 = 0$.

Now ask the class how many blocks were removed each time: 3

How many times were the blocks removed: 3

Tell them that by subtracting repeatedly we have actually shared the 9 balls/blocks into three groups equally.

Refer to the examples in the textbook for reinforcement.

Task (10 min)

Exercise 1 Question 1 and 2	Children should be able to subtract repeatedly and answer the questions.
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Lesson 2

Objective(s): Understand the concept of division by grouping equally

Teaching Resources: Base-10 blocks or counters, countable objects, containers such as bowls, basket, bags, etc.

Introduction (5 min)

Recap tables of 2, 3, 4, 5 and 10 with the children.

Teaching procedure (20 min)

Place 5 bowls on the table. Call a pupil to the front of the class. Ask him/her to distribute 10 balls among the bowls equally. Ask 'how many balls are there in each bowl?' The children should be able to tell you the answer. Tell them that grouping equally also means that we are dividing.

Task (10 min)

Exercise 2, Question 1 to 3	Children should be able to solve the questions
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Homework

Ask children to complete Exercise 2, Questions 4 to 6.

Lesson 3

Objective(s): Divide numbers within the multiplication table of 2 with remainder zero

Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap the table of 2.

Teaching procedure (20 min)

Draw the following on the board.



Ask the children to divide the triangles in 2 groups. Now ask them how many triangles are there in each group. The children should be able to divide and tell you the correct answer. Make sure that they are able to make equal groups.

Repeat with another example.

Refer to the textbook for reinforcement.

Task (10 min)

Exercise 3, Question 1 and 2	Children should be able to apply the 2's table and solve the questions.
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Homework

Ask children to complete Exercise 3, Questions 3, 4 and 5.

Lesson 4

Objective(s): Divide numbers within the multiplication table of 5 with remainder zero

Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap the table of 5.

Teaching procedure (20 min)

Draw the following on the board.



Ask the children to divide the triangles in 5 groups. Now ask them how many triangles are there in each group. The children should be able to divide and tell you the correct answer. Make sure that they are able to make equal groups.

Repeat with another example.

Refer to the textbook for reinforcement.

Task (10 min)

Exercise 4, Question 1 to 3	Children should be able to apply the 5's table and solve the questions.
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Homework

Ask children to complete Exercise 4, Questions 4 and 5.

Lesson 5

Objective(s): Divide numbers within the multiplication table of 10 with remainder zero

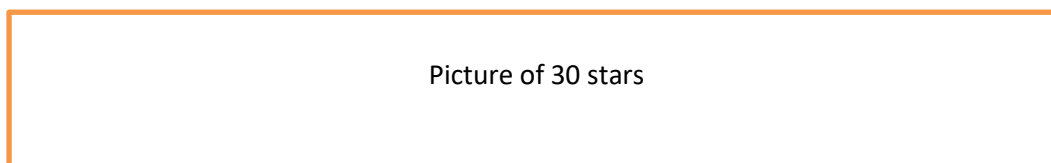
Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap the table of 10.

Teaching procedure (20 min)

Draw the following on the board.



Ask the children to divide the stars in groups of 10. Now ask them how many groups they made. The children should be able to divide and tell you the correct answer. Make sure that they are able to make equal groups.

Repeat with another example.

Refer to the textbook for reinforcement.

Task (10 min)

Exercise 5, Question 1 and 2	Children should be able to apply the 10's table and solve the questions.
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Homework

Ask children to complete Exercise 5, Question 3.

Lesson 6

Objective(s): Divide numbers within the multiplication table of 3 with remainder zero

Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap the table of 3.

Teaching procedure (20 min)

Draw the following on the board.



Ask the children to divide the triangles in groups of 3. Now ask them how many groups they made. The children should be able to divide and tell you the correct answer. Make sure that they are able to make equal groups.

Repeat with another example.

Refer to the textbook for reinforcement.

Task (10 min)

Exercise 6, Question 1 to 3	Children should be able to apply the 3's table and solve the questions.
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Homework

Ask children to complete Exercise 6, Questions 4 and 5.

Lesson 7

Objective(s): Divide numbers within the multiplication table of 4 with remainder zero

Teaching Resources: Base-10 blocks or counters

Introduction (5 min)

Recap the table of 4.

Teaching procedure (20 min)

Draw the following on the board.



Ask the children to divide the triangles in 4 groups. Now ask them how many triangles are there in each group. The children should be able to divide and tell you the correct answer. Make sure that they are able to make equal groups.

Repeat with another example.

Refer to the textbook for reinforcement.

Task (10 min)

Exercise 7, Question 1 to 3	Children should be able to apply the 4's table and solve the questions.
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Homework

Ask children to complete Exercise 7, Questions 4 and 5.

Lesson 8

Objective(s): Solve real-life number stories involving division up to 1-digit numbers

Teaching Resources: Base-10 blocks

Introduction (5 min)

Recap the tables of 2, 3, 4, 5 and 10 with the children.

Teaching procedure (30 min)

Write the following story on the board: Sara has 12 flowers. She places them equally in 3 vases. How many flowers are there in each vase?

Ask the children to solve the word problem with you on the board. Observe whether children have grasped the idea of division constructively.

Write another example on the board: There are 20 oranges. Ahmed packs 4 oranges in one bag. How many bags does he pack? Solve it with the children.

Refer to the examples in the textbook and solve them with the children in class.

Homework

Exercise 8, Questions 1 to 4	Children should read and understand each word problem. Ask children to memorise tables properly and apply them in division in each question. The first one is done for them.
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Unit 6: Fractions

Suggested Number of Lessons: 3 to 4

Lesson 1

Objective(s):

- Recognise fractions as equal parts of a whole
- Identify half, one-third and quarter in objects and figures
- Represent half, one-third and quarter in numerical form

Teaching Resources: cut-out of a pizza divided into 2, 4 and 6 equal parts, cut-out of shapes such as rectangles, squares divided into equal parts

Introduction (5 min)

Discuss the opening page with the children. Ask them if they have ever cut a pizza or a rectangular cake into equal slices. Ask them how many parts of the large pizza have been removed. How many parts are remaining? Lead them on to the concept of fractions.

Teaching procedure (18 min)

Use the cut-out of a pizza cut in to 2 equal parts. Introduce the concept of one half to the children. Tell them that each part represents one half of the whole pizza.

Write the fraction $\frac{1}{2}$ on the board label the numerator and denominator. Tell them that the numerator shows the number of parts being talked about or used. The denominator shows the total number of parts in the whole object.

Similarly draw a square on the board and divide it into 4 equal parts. Tell the children that each part is one-fourths or one quarter.

Refer to the textbook for reinforcement.

Activity (10-12 min)

Give the children cut-outs of rectangles, circles and squares. Ask them to divide the circle into 4 equal parts, the square into 2 equal parts and the rectangle into 6 equal parts. Ask them to colour 1 part of each shape and then tell you the fraction.

Lesson 2

Objective(s): Recognise and name unit fractions up to $\frac{1}{10}$

Teaching Resources: cut-out of shapes divided equally to represent fractions

Introduction (5 min)

Recap the concept of parts of a whole with the children.

Teaching procedure (15 min)

Draw a circle on the board. Divide it into 4 equal parts and shade one quarter. Ask the children to tell the fraction that has been shaded. They should be able to say one-fourth.

Now draw a rectangle and divide it into 3 equal parts. Shade one part and ask the children to tell you the fraction for the shaded part. Repeat the activity with two more shapes cut into 6 equal parts and 9 equal parts.

Tell the children that all the above fractions are called unit fractions as they represent one part of the whole shape/object. Refer them to page 151 of the textbook and help them recognise all the unit fractions.

Activity (15 min)

Give them strips of paper of equal length. Now ask them to fold the strips to represent different unit fractions. For example, fold a strip once to divide it into two equal parts. Fold another strip such that it has three equal parts and so on. Can they fold and divide a strip into five equal parts? Can they fold and divide a strip into 10 equal parts?

Lesson 3

Objective(s): Shade the equal parts of a given figure to match a given fraction
Recognise fractions like two-thirds ($\frac{2}{3}$), three-fourths ($\frac{3}{4}$), four-fifths ($\frac{4}{5}$), up to nine-tenths ($\frac{9}{10}$)

Teaching Resources: cut-outs of shape divided into equal parts to represent fractions

Introduction (5 min)

Recap fractions as part of a whole with the children.

Teaching procedure (25 min)

Use a pizza cut-out and divide it into 6 equal parts. Show two slices missing. Tell the children that two slices of the pizza have been eaten. How many parts are left? They should be able to say: 4 parts. Represent the missing parts and the remaining parts as fractions on the board. Say that $\frac{2}{6}$ of the pizza has been eaten. $\frac{4}{6}$ of the pizza is remaining.

Show a picture of a rectangular cake to the children. Now represent the cake as a rectangle on the board and divide it into 5 equal parts. Shade three parts of the rectangle showing that 3 slices of the cake have been eaten. Ask the children to tell you what fraction of the cake has been eaten ($\frac{3}{5}$). Now ask them what fraction of the cake is remaining ($\frac{2}{5}$).

Draw a circle on the board and divide it into 4 equal parts. Shade 1 part and ask the children what fraction of the circle is not shaded ($\frac{3}{4}$).

Refer to the textbook for reinforcement.

Task (10 min)

Exercise 1, Question 1	Children should look at each figure and recognise how many parts of each figure is shaded. They should then represent each figure as a fraction.
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Homework

Exercise 1, Question 2	Children should look at each fraction and they shaded the adjacent figure accordingly.
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Unit 7: Length, Mass and Capacity

Suggested Number of Lessons: 13 to 14

Lesson 1

Objective(s): Compare lengths and masses

Teaching Resources: Objects of different lengths (ribbons, sticks, strings, rulers, etc.), objects of different masses (feather, stones, books, pencils, etc.)

Introduction (5 min)

Discuss the opening page with the children. Ask them about measuring the length of items using rulers and tapes. Have they ever stood on a weighting machine? What is that machine used to measure? Tell them that they will study the topic of measurement in much detail.

Teaching procedure (20 min)

Show a set of ribbons to the class – one short and one long. Ask them which is short and which is long. Repeat the activity using a long and short stick, a long and short string, long and short ruler, etc.

Call two children to the front of the class. Give each two items of different masses and ask them to tell you which is heavy and which is light.

Draw a tall tree and a short tree on the board. Ask the children to tell you which is tall and which is short.

Task (10 min)

Recap, Questions 1 and 2	Children should be able to identify the object and colour accordingly.
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Homework

Ask children to complete Recap, Question 3.

Lesson 2

Objective(s): Compare lengths of different objects

Teaching Resources: stack of blocks, strings of different lengths, ropes of different lengths, pearls, marbles, etc.

Introduction (5 min)

Recap the concept of long and short, tall and short with the children.

Teaching procedure (20 min)

Place a long rope and a short rope on the table. Ask the children to tell you which is short and which is long.

Tell the class that they will learn how to measure the length of the ropes. Introduce use non-standard objects such as marbles or paper clips to measure the length of the ropes. For example, rope A is 12 paper clips long and rope B is 15 paper clips long. So rope B is longer than rope A. Repeat the activity with two ribbons of different lengths and use marbles to measure the lengths.

Children should be able to understand the concept of measuring length.

Refer to the examples in the textbook for reinforcement.

Activity (10 min)

Ask children to sit in groups. Give them different objects to measure the length. Ask them to use marbles, paper clips, Lego blocks, etc. to measure the length of the items and record the readings. They should then compare and tell you which object is long/short and how long/short.

Lesson 3

Objective(s):

- Recognise the units of length – metre and centimetre with abbreviations
- Use standard units of length (metre and centimetre) to measure and record lengths of different objects

Teaching Resources: objects of different lengths to measure, measuring tape, rulers

Introduction (5 min)

Recap the concept of measuring length of objects using non-standard items.

Teaching procedure (20 min)

Show a metre ruler to the class. Tell them that the standard unit of measuring length is metres and centimetres. Show the children how to use a 15 cm ruler to measure the length of an eraser and a crayon. Use the metre ruler to measure the length of a book or the length of the table. Tell them that we measure the length of shorter objects with a small ruler. The unit is centimetres (cm). We use a metre ruler to measure the length of an object that is about 1 metre (m) in length.

Show the measuring tape to the class. Tell them that for objects longer than 1 metre, we use a measuring tape. Demonstrate the use of a measuring tape by measuring the height of a child or the height of a cupboard. Remind the children that while measuring, they should ensure that the starting point coincides with the 0 mark of the ruler.

Tell the children that 1 metre = 100 centimetres.

You can also tell them that for very little objects, we measure the length in millimetres (mm). Ask them to note the small markings on their rulers.

Refer to the examples in the textbook for reinforcement.

Task (10 min)

Example 2	Children should be able to measure the lengths of the objects and write them in the boxes.
Exercise 1, Question 1	Children should be able to decide which objects can be measured in centimetres. They can encircle or tick the pictures.

Homework

Ask children to complete Exercise 1, Question 2.

Lesson 4

Objective(s): Use addition within 100 to solve real-life situations involving length in same units

Teaching Resources: objects of different lengths to measure, measuring tape, rulers

Introduction (5 min)

Recap the concept of measuring length of objects.

Teaching procedure (20 min)

Write the following word problem on the board: the height of a pencil is 16 cm. The length of a crayon is 11 cm. What is the total length of both items?

Solve the above question with the children.

Write another example: The length of a rope is 16 m. The length of another rope is 23 m. What is total length of both ropes?

Solve the question with the children. Refer to the examples in the textbook for reinforcement.

Task (10 min)

Exercise 2, Question 1 parts (a) to (e)	Children should be able to do the addition sums easily.
Exercise 2, Question 4	Help the children to understand the word problem and then solve it accordingly.

Homework

Ask children to complete Exercise 2, Question 1 (remaining parts), 2 and 3.

Lesson 5

Objective(s): Use subtraction within 100 to solve real-life situations involving length in same units

Teaching Resources: objects of different lengths to measure, measuring tape, rulers

Introduction (5 min)

Recap the concept of measuring length of objects.

Teaching procedure (20 min)

Write the following example on the board: The height of a tree is 14 metres. The height of a large bush is 8 m. What is the difference in their heights?

Solve the question with the children.

Give another example: The length of a ribbon is 87 cm. Sara cuts off 23 cm of the ribbon. What is the length of the remaining ribbon?

Ask the children to solve the question with you on the board. Refer to the textbook for reinforcement.

Task (10 min)

Exercise 3, Question 1 parts (a) to (f)	Children should be able to do the subtraction sums easily.
Exercise 3, Question 4	Help the children to understand the word problem and then solve it accordingly.

Homework

Ask children to complete Exercise 3, Question 1 (remaining parts), 2 and 3.

Lesson 6

Objective(s): Compare masses of different objects

Teaching Resources: objects of different masses – ball, bag, book, stapler, eraser, chalk, etc., a weighing scale, marbles, small balls of equal masses

Introduction (5 min)

Ask children if they are familiar with the terms heavy and light.

Teaching procedure (30 min)

Ask the children to lift a book and then lift a pencil. Which object feels heavy? Which object feels light? Ask them to pick up a few more items and find out for themselves which items feel heavy and which feel light.

Place the weighing scale in front of the class. Use non-standard items such as marbles to measure the mass of objects. Ask the children to note that the mass of the object is noted when both pans of the scale are balanced. Demonstrate by measuring the mass of objects such as a pencil case, a small book, board duster, etc.

Put children in groups and ask them to measure the mass of two objects in terms of marbles and then tell you which is heavy/light. Refer to the textbook for reinforcement.

Homework

Ask children to revise everything done in class.

Lesson 7

Objective(s):

- Recognise the units of mass – kilogram and gram with abbreviations
- Use standard units of mass (kilogram and gram) to measure and record masses of different objects

Teaching Resources: objects of different masses, manual weighing scale and digital weighing scale

Introduction (5 min)

Show the weighing scale to the class and ask them if they have seen it before. Children may say that they have seen it at a grocery shop or at a vegetable stall. Tell them that this instrument is used to measure the mass of objects.

Teaching procedure (20 min)

Tell them that the standard unit of measuring mass is kilograms and grams. Tell them that we measure the mass of larger objects in kilograms (kg) and the mass of smaller objects in grams (g).

Demonstrate the use of the weighing scale by measuring the weight of different objects. Remind the children that while measuring, they should ensure that the reading on the digital scale is 0. If it is a manual weighing scale, then the pointer should be at 0.

Refer to the examples in the textbook for practice and reinforcement.

Task (10 min)

Exercise 4, Question 1	Children should be able to decide which objects are heavy and which are light.
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Homework

Ask children to complete Exercise 4, Question 2.

Lesson 8

Objective(s): Use addition within 100 to solve real-life situations involving mass in same units

Teaching Resources: objects of different masses to measure, weighing scale

Introduction (5 min)

Recap the concept of measuring mass of objects.

Teaching procedure (20 min)

Write the following word problem on the board: the mass of a bag of sugar is 24 kg. The mass of a bag of flour is 13 kg. What is the total mass of both items?

Solve the above question with the children.

Write another example: The mass of a cabbage is 635 g. The mass of a brinjal is 320 g. What is total mass of both vegetables?

Solve the question with the children. Refer to the examples in the textbook for reinforcement.

Task (10 min)

Exercise 5, Question 1 parts (a) to (e)	Children should be able to do the addition sums easily.
Exercise 5, Question 2	Help the children to understand the word problem and then solve it accordingly.

Homework

Ask children to complete Exercise 5, Question 1 (remaining parts) and 3.

Lesson 9

Objective(s): Use subtraction within 100 to solve real-life situations involving mass in same units

Teaching Resources: objects of different masses to measure, weighing scale

Introduction (5 min)

Recap the concept of measuring mass of objects.

Teaching procedure (20 min)

Write the following example on the board: The mass of a bag of rice is 45 kg. A chef uses 23 kg of rice. What mass of rice is left?

Solve the question with the children.

Give another example: Aliya has 950 g of sugar. She uses 125 g. How much sugar is left?

Ask the children to solve the question with you on the board. Refer to the textbook for reinforcement.

Task (10 min)

Exercise 6, Question 1 parts (a) to (d)	Children should be able to do the subtraction sums easily.
Exercise 6, Question 2	Help the children to understand the word problem and then solve it accordingly.

Homework

Ask children to complete Exercise 6, Question 1 (remaining parts) and 3.

Lesson 10

Objective(s): Compare capacities of different objects

Teaching Resources: containers of different capacities – jar, jug, bottle, glass, etc., water

Introduction (5 min)

Ask the children if they have ever measured how much water or liquid is present in a container. How did they find out?

Teaching procedure (30 min)

Show a large bottle and a medium sized jug to the children. Tell them that they will find out which container can hold more liquid.

Fill the bottle and the jug with water. Place plastic cups of equal size alongside each container. Pour the water from the bottle into the plastic cups and ask the children to note how many glasses were filled. Now pour the water from the jug into glasses and note how many glasses are filled. Now ask the children to compare and tell you which container held more water.

Lead them onto the concept of capacity. Tell them that capacity means how much liquid a certain container can hold.

Put children in groups and ask them to measure the capacity of different containers in terms of number of glasses filled and then tell you which holds more/less. Refer to the textbook for reinforcement.

Homework

Ask children to revise everything done in class.

Lesson 11

Objective(s):

- Recognise the units of capacity – litre and millilitre with abbreviations
- Use standard units of capacity (litre and millilitre) to measure and record capacities of different objects

Teaching Resources: containers of different capacities, measuring jug

Introduction (5 min)

Show the measuring jug to the class and ask them if they have seen it before. Tell them that this instrument is used to measure the capacity of containers.

Teaching procedure (20 min)

Tell them that the standard unit of measuring capacity is litres and millilitres. Tell them that we measure the capacity of larger containers in litres (l) and the capacity of smaller containers in millilitres (ml).

Demonstrate the use of the measuring jug by measuring the capacity of a small bottle and a glass. Fill each container with water. First pour the content of the bottle into the measuring jug. Now ask the children to read the marking on the jug and tell you the reading. Repeat the activity with the glass. Tell the children that by noting the difference we can tell the capacities of both containers.

Refer to the examples in the textbook for practice and reinforcement.

Task (10 min)

Example 2	Children should be able to measure the capacities and fill in the boxes.
Exercise 7, Question 2	Children should be able to encircle the correct capacity of each container.
Exercise 7, Question 3	Children should be able to compare the capacities of the containers and fill in the boxes.

Homework

Ask children to complete Exercise 7, Question 1 and 4.

Lesson 12

Objective(s): Use addition within 100 to solve real-life situations involving capacity in same units

Teaching Resources: containers of different capacities

Introduction (5 min)

Recap the concept of measuring capacities of containers.

Teaching procedure (20 min)

Write the following word problem on the board: The capacity of a bottle is 600 ml and the capacity of a jug is 520 ml. What is the total capacity of both containers?

Solve the above question with the children.

Write another example: There 16 litres of water in a tank. Aamir pours 28 litres of water into the tank. How much water is there in the tank altogether?

Solve the question with the children. Refer to the examples in the textbook for reinforcement.

Task (10 min)

Exercise 8, Question 1 parts (a) to (d)	Children should be able to do the addition sums easily.
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Homework

Ask children to complete Exercise 8, Question 2.

Lesson 13

Objective(s): Use subtraction within 100 to solve real-life situations involving capacity in same units

Teaching Resources: containers of different capacities, measuring jug

Introduction (5 min)

Recap the concept of measuring capacities of containers.

Teaching procedure (20 min)

Write the following example on the board: Sabeen makes 36 litres of orange juice for a party. The guests drink 18 litres of juice. How much juice is left?

Solve the question with the children.

Give another example: There are 975 ml of lotion in a bottle. Mrs Ahmed uses 220 ml of the lotion in a week. How much lotion is left?

Ask the children to solve the question with you on the board. Refer to the textbook for reinforcement.

Task (10 min)

Exercise 9, Question 1 parts (a) to (d)	Children should be able to do the subtraction sums easily.
Exercise 9, Question 2	Help the children to understand the word problem and then solve it accordingly.

Homework

Ask children to complete Exercise 9, Question 1 (remaining parts) and 3.

Unit 8: Time

Suggested Number of Lessons: 5 to 6

Lesson 1

Objective(s):

- Revise telling time to o'clock

Teaching Resources: Analogue clock, digital clock

Introduction (5 min)

Recap telling time with the children. Discuss telling time to o'clock.

Teaching procedure (20 min)

Use an analogue clock and show 4 o'clock on it. Ask the children to tell you the time. Ask them to identify the hour hand and the minute hand.

Similarly use a digital clock and ask them which numbers tell the hours and which tell the minutes.

Ask the children if they know how many minutes are there in an hour.

Refer to the examples in the textbook for reinforcement.

Task (10 min)

Ask the children to complete Recap, Question 1 parts (a) to (f).

Lesson 2

Objective(s):

- Recognise the number of minutes in an hour
- Recognise, read and write time in hours and minutes with five-minute interval

Teaching Resources: Analogue clock, digital clock

Introduction (5 min)

Recap telling time with the children.

Teaching procedure (20 min)

Show the analogue clock to the children. Remind them that they have learnt that there are 60 minutes in an hour. Draw their attention to the small markings between the numbers and tell them that each marking represents 1 minute. So there are 5 minutes between one number and the other. If the minute hand is at 1, it means that 5 minutes have passed the hour.

Refer to the examples in the textbook for reinforcement.

Task (10 min)

Exercise 1, Question 3	Children should match the time to the correct clock.
Exercise 1, Question 5	Children should draw the minute hand in the correct position after reading the time given.

Homework

Ask children to complete Exercise 1, Question 4.

Lesson 3

Objective(s):

- Recognise the number of hours in a day
- Recognise a.m. and p.m.

Teaching Resources: Analogue clock, digital clock

Introduction (5 min)

Recall the contents of the previous lesson.

Teaching procedure (20 min)

Draw a clock similar to the one in the textbook. Ask the children how many times during the day do they see the time 7 o'clock on their watches/clocks. Observant children will say twice. Tell them that each time on the clock occurs twice during the day. Tell them that this means that there are 24 hours in the day.

Introduce them to the terms a.m. and p.m. Draw a timeline on the board as shown in the textbook. Tell the class that the time from midnight to noon is termed as a.m. The time between noon and midnight is termed as p.m.

Refer to the textbook for reinforcement.

Task (10 min)

Exercise 1, Question 2	Ask the children to read the statements and write a.m. or p.m. in the given blanks.
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Homework

Ask children to complete Exercise 1, Question 1.

Lesson 4

Objective(s):

- Use the solar calendar to find a particular date/day

Teaching Resources: solar calendar

Introduction (5 min)

Bring and display a solar calendar in the class. Ask the children if they have seen a calendar in their homes. What is it used for? Tell them that a calendar tells us the date of a particular day.

Teaching procedure (20 min)

Recall the number of days in a week. Remind them that there are 7 days in a week. Tell them that weeks make up a month and months make up a year. There are 12 months in one year. Recall the names of the months with the children.. Ask them on what date do they celebrate their birthdays. Ask questions such as whose birthday comes in the month of October/January/June?

Refer to the textbook for reinforcement.

Task (10 min)

Exercise 2, Question 1	Children should recall the months in a year and also use the given calendar to answer the questions.
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Lesson 5

Objective(s):

- Use the lunar calendar to find a particular date/day

Teaching Resources: lunar calendar

Introduction (5 min)

Bring and display a lunar calendar in the class. Ask the children if they have seen a calendar in their homes. Ask the children if they are familiar with the Islamic months.

Teaching procedure (20 min)

Recall the months of the Islamic calendar with the children. Tell them that the Islamic year starts in Muharram and discuss its importance briefly. Talk about Ramazan and its importance and that we celebrate Eid-ul-Fitr at the end of Ramazan. Ask children if they know about the importance of the month of Rabiul-Awwal – it is the month when the Holy Prophet (PBUH) was born. Talk about Hajj which happens on 10 Zil-Hajj and is followed by Eid-ul-Azha (baqr-eid).

Refer to the textbook for reinforcement.

Task (10 min)

Exercise 3, Question 1	Children should use the calendar to answer the questions.
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Unit 9: Shapes and Patterns

Suggested Number of Lessons: 6 to 7

Lesson 1

Objective(s):

- Identify figures like squares, triangles, rectangles, circles, semicircles and quarter circles

Teaching Resources: cut-outs of simple shapes – circle, square, rectangle and triangle

Introduction (5 min)

Recap the 4 basic shapes with the children – squares, rectangles, triangles and circles.

Teaching procedure (20 min)

Children must be familiar with the basic shapes.

Show them the cut-out of a circle. Fold the circle in half and tell them that the shape is called a semicircle. It is half of the circle. Recall the fraction $\frac{1}{2}$ at this point as well for reinforcement.

Now fold the semicircle into half to form a quarter. Tell them that the shape is called a quarter circle. Draw each shape on the board so that children could relate to them. You can also give them cut-outs of circle and ask them to make semicircles and quarter circles themselves.

Task (10 min)

Ask children to attempt Recap Question 1.

Lesson 2

Objective(s):

- Identify vertices and sides of a triangle, rectangle and square

Teaching Resources: Cut-outs of simple shapes – circle, square, rectangle and triangle

Introduction (5 min)

Refer children to display of shapes and ask them to recall the names of the shapes.

Teaching procedure (15 min)

Highlight the basic attributes of the shapes. Show the cut-out of a square to the class and point out its four corners and its four equal sides. Introduce the term vertex to the class and state that a vertex is a point where two lines meet.

Similarly refer to the cut-out of a rectangle and emphasise that the shape also has four sides but the opposite sides are equal. Children should be able to differentiate a rectangle from a square based on its sides.

Show them the cut-out of a triangle and point out that it has three sides and three vertices.

Show them a circle and ask if they can see vertices in it. A circle has no sides or vertices and it is completely round.

Refer to the textbook for reinforcement.

Task (17 min)

Draw some random shapes on the board and ask children to tell you the number of sides and vertices.

Prepare a box and fill it with cut-outs of squares, rectangles, circles and triangles of different sizes and colours. Call a child to the front of the class and blindfold him/her. Now place a random shape in their hand and ask them to tell you the shape by feeling the vertices and number of sides.

Lesson 3

Objective(s):

- Differentiate between a straight line and a curved line
- Identify a straight line and a curved line from drawings

Teaching Resources: Pictures/photographs of a curved road and a straight road.

Introduction (5 min)

Show the pictures of a straight road and a curved/bendy road to the children. Can they tell you the difference?

Teaching procedure (20 min)

Draw a straight line and a curved line on the board and help children differentiate between them. A straight line can be vertical, horizontal or diagonal and can be extended in any direction. A curved line has no specific shape and it can also be extended in both directions.

Help them understand a line segment. Tell them a line segment helps to join two points.

Refer to the examples in the textbook for reinforcement.

Task (10 min)

Exercise 1, Question 1	Children should be able to recognise the straight and curved lines in the given shapes.
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Lesson 4

Objective(s):

- Use a ruler to draw straight line of given length

Teaching Resources: a ruler and marker

Introduction (5 min)

Recall the concept of a straight line.

Teaching procedure (20 min)

Tell the children that they will learn how to draw a straight line of specific length using a ruler. Draw their attention to the markings on their rulers. Help them recall that length is measured in centimetres and metres. Tell them that since they will be drawing small lines, they will be measuring in centimetres.

Show the class how to draw a straight line using a ruler. Remind them that they should start at the '0' mark and stop drawing the line when they reach the desired length.

Refer to the textbook for reinforcement.

Task (10 min)

Exercise 2, Question 1 parts (a) and (b)	Children should be able to draw the lines in their notebooks.
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Homework

Ask the children to complete Question 1 parts (c) and (d).

Lesson 5

Objective(s):

- Complete geometrical patterns on a square grid according to one or two of the following attributes - shape, size, orientation

Teaching Resources: Pattern chart, basic shape cut-outs – different colours, sizes, etc.

Introduction (5 min)

Recall the basic shapes with the children.

Teaching procedure (20 min)

Bring cut-outs of basic shapes to class. Arrange them in a manner that shows a pattern, for example, place a square, then a circle, then a square and then a circle, and so on. Ask the children to observe the pattern and then ask them what would be the next shape if the pattern is continued.

Tell the children that patterns can be made in various ways. Patterns can be made by using shapes of different sizes and also by changing their orientation. Refer to the textbook for reinforcement.

Demonstrate making patterns on a grid. Refer to the examples in the textbook for reinforcement.

Task (10 min)

Patterns parts (c) to (f)	Children should be able to continue the patterns on the grid.
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Lesson 6

Objective(s):

- Recognise and name 3-dimensional shapes and objects

Teaching Resources: 3-D shapes – dice (cube), shoe box (cuboid), can (cylinder), party hat (cone), ball (sphere)

Introduction (5 min)

Recall the basic shapes with the children.

Teaching procedure (20 min)

Show a dice or a Rubik's cube to the class and ask them if they know its name. Tell them that it is called a 'cube'.

Show a shoe box to the children and say that such a shape is called a cuboid. Point at the corners of the box and say that these are called vertices. The surfaces of the cuboid are called faces. Faces can be flat or curved depending on the shape. Show the edges to the children and say that edges join vertices. Refer to the textbook for reinforcement.

Discuss the attributes of each of the shapes with the children – cube, cuboid, cylinder, cone, and sphere. Refer to page 211 for reinforcement. Help children relate each 3D shape with real life objects.

Task (10 min)

Exercise 3	Children should be able to identify 2D and 3D shapes and colour them accordingly.
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