Teacher's Guide

TEACHING GUIDE

Mathematics

For Class 4

Sylleabus Division

TERM	Unit
FIRST	1 to 4
SECOND	5 to 7

Unit 1:

Whole Numbers and Operations

Suggested Time Frame: 26-28 periods

Frequently Made Mistakes

- The students mix in place values while dealing with bigger numbers.
- They make mistakes in writing numbers in the correct columns while adding or subtracting.
- They get confused in distinguishing between the dividend and divisor.
- They make mistakes in multiplication and division sums because they have not learnt the times tables.

Summary of Key Facts:

- Comparing numbers is the same as knowing which number is smaller and which number is bigger.
- Symbolically, a smaller sign is denoted as '□' and a greater sign is denoted as '>'.
- The multiplicand is the number or quantity to be multiplied. The multiplier is the number or quantity by which the multiplicand is to be multiplied. The product is simply the end result of the multiplication.
- The dividend is the number or quantity to be divided. The divisor is the number or quantity by which the dividend is to be divided. The quotient is simply the answer of the division.
- 'Remainder' is the quantity which is left after division.

Suggested Activities

Lesson 1, 2, 3

- Greet students.
- Encourage them to talk about importance of knowing numbers.
- Write different numbers on the board and ask them to read numbers.
- Ask them to do try this given on page no. 2 and 3 in pairs.
- Have the board practice of the same ,
- Invite them for activities.

1)   Roll the Dice

What You Need:

- 6 dice
- Several players
- Paper
- Pencil

What You Do:

1. Decide who will go first. The first player should roll all 5 dice. Each player should add up the total from their roll and record it.
2. The player with the highest sum from round 1 earns 3 points. The player with the second highest sum earns 2 points. The rest of the players receive 1 point.

3. Play will continue for 10 rounds or decide a time limit.

4. After the game is finished, have the players add up their scores.

5. The player with the highest sum wins.

2) Top of the Heap (20 min)

What You Need:

- Deck of playing cards   • 1 die
- Scratch paper, 1 per player   • Pencil, 1 per player

What You Do:

1. Ask your child to shuffle the cards and place them face down in a pile in the center of the table.

2. Have her roll the die twice. The first roll determines the number of piles of cards she'll need to create. The second roll shows how many playing cards she'll need to place face down on each of the piles she creates.

3. After she makes the piles of cards based on the rolls, she should add up the total number of cards she placed in the piles. Ask her to try multiplying them in her head first, then count them aloud.

4. Ask her to write her score down on the scratch paper.

5. Repeat this process with each player.

6. Play for 10 rounds. Whoever ends up using the most cards wins!

Lesson 4, 5, 6

- Invite them to go through page no. 3 and 4.
- Encourage them to do exercise 1A.
- Focus on all examples and questions given in the book. Always solve a few questions on the board by yourself. Then encourage students to solve other questions there. For notebooks work, begin by pair work and finally ending with individual work. Suppose you have an exercise consisting of 5 questions. Each question further consists of 5 parts then your strategy should be:

Question No.	Done by the teacher	Board practice by the students	Pair work	Individual work	Home work
1	Part i	Part ii	Part iii	Part iv	Part v

Lesson 8,9,10 and 11

- Ask students about how to compare different numbers.
- Encourage them to write rules on the board.

- Invite them to go through the book.
- Invite them to do exercise 1B individually.
- Provide them correct answers and let them check their own work.

Lesson 7 and 8

- Ask them to do the revision exercise and check the work of their partners.

- Provide them correct answers and let them evaluate their work.

Lesson 9, 10, 11 and 12

- Ask them about the practical utilization of the concept of addition.
- Invite them for activities.

Individual/Pair Activity (10 mins)
Learning Outcome: Add numbers up to 6 digits.
Resources: Activity Cards.
Instructions:
- Prepare the activity cards for each student.
- Sample of the activity card given.
- Student has to add the rows horizontally and columns vertically and write the answer in the given space.
- Get the activity cards peer checked.

Sample Activity Card

Complete these addition squares. Add the rows and columns to find the totals.		
357890	29541	
378201	268975	

- Invite them to go through page no. 9 and 10 of the book and a maximum board practice.
- Invite students to do exercise 1C.
- Follow this strategy.

Question No.	Done by the teacher	Board practice by the students	Pair work	Individual work	Home work
1	A	b and c	d	e and f	g and h
2	A	b and c	d	e , f	g and h
3	A	b and c	d	e, f and g	

Lesson 13, 14, 15 and 16

- Ask students about the practical utilization of subtraction.

- Invite them for activity.

Individual/Pair Activity (10 mins)

Learning Outcome: Subtract numbers up to 6 digits

Resources: Activity Cards

Instructions:

- Provide each student with an activity card with subtraction sums of complex numbers.
- Time the activity and get the activity cards peer checked.
- Sample of the activity card is given below.

Activity Card

Work out the difference between
the pair of numbers:

123456

543210

- Invite them to go through page no. 12 .
- Have a maximum board practice.
- Invite them to do exercise 1D.
- Follow this strategy.

Question No.	Done by the teacher	Board practice by the students	Pair work	Individual work	Home work
1	A	b and c	d	e and f	
2	A	b and c			
3	A	b and c	d	e, f	

- Invite them to do page no. 14 individually.

Lesson 17, 18, 19 and 20

- Ask students about multiplication.
- Invite them to do page no. 15 in pairs.
- Invite them for activity.

Individual Activity

Learning Outcome: Multiply/divide numbers up to 4 digits by 2 digits.

Resources: Activity Cards

Instructions:

- Provide each student with an activity card with two word problems.
- Time the activity and get the activity peer checked. (Sample of the activity card is given below).

_____ biscuits each day.	Noor has 45 biscuits to evenly split up into her 3 school lunches for the week . How many biscuits will she get to eat each week?
_____ words in an hour.	Shahid started typing his story book over the week end. He typed for 3 hours and completed 15 pages with 240 words on each page. How many words did he type in an phur?

- Invite them to go through page no. 16 and 17.
- Have a maximum board practice.
- Invite them to do exercise 1E.
- Follow this strategy.

Question No.	Done by the teacher	Board practice by the students	Pair work	Individual work	Home work
1	A	b and c	d	e and f	g, h and i
	2	3	4	5	

Lesson 20, 21, 22 and 23

- Ask students about division
- Ask them about dividend, divisor, quotient and reminder.
- Invite them to go through page no. 18 to 21.
- Ensure a maximum board practice.
- Invite them to do exercise 1F.
- Follow this strategy.

Question No.	Done by the teacher	Board practice by the students	Pair work	Individual work	Home work
1	A	b and c	d	e and f	g to l
2	a	B and c	d	E to i	

- Ask them to do question no. 3 individually.
- Introduce division of 4 digit number with 2 digit number.
- Invite them to go through page no. 22 and 23 of the book and a maximum board practice.
- Invite them to do exercise 1G.
- Follow this strategy.

Question No.	Done by the teacher	Board practice by the students	Pair work	Individual work	Home work
1	a	b and c	d	e and f	g to h
2	a	b and c	d	e to g	

Lesson 20, 21, 22, 23 and 24

- Ask students about patterns.
- Let them go through page no. 24, 25 and 26.
- Invite them to do exercise 1H in pairs.
- Invite students for the revision exercise.
- Follow this strategy.

Question No.	Done by the teacher	Board practice by the students	Pair work	Individual work	Home work
1	a	b and c	d	e and f	g to l
2	a	b and c	d	e to i	
3	a	b	c	D	

- Invite them to do the page no. 27 and 28.
- Take test.

Unit 2:

Factors and Multiples

Suggested Time Frame: 9 -12 periods

- Frequently Made Mistakes
- Students get confused in identifying factors and multiples.
- Errors due to not remembering the times tables.
- Summary of Key Facts
- Any number with 0, 2, 4, 6, 8 at the unit place is divisible by 2.
- If the digits of any number add up to a number which is divisible by 3, then the original number is also divisible by 3.
- Any number with 0 or 5 at the unit place is divisible by 5.
- Any number with 0 at the unit place is divisible by 10.
- A prime number has only two factors that is 1 and the number itself.
- Composite numbers have more than two factors.
- Factors of a number are limited.
- Multiples of a number are unlimited.
- Every number is a factor of itself.
- 1 is a factor of every number.
- Composite numbers can always be arranged in exact rectangles.

Lesson 1, 2, 3 and 4

- Greet students.
- Ask them about factors and multiples.
- Invite them for activity.

Pair Activity (20 mins)

Learning Outcome: Use divisibility tests for 2, 3, 5, and 10 to numbers up to 5 digits.

Resources: Activity Cards

Instructions:

- Revise the divisibility rules with the class.
- Provide each pair with an activity card (sample given below).
- Time the activity and announce the winning pair.

Use the divisibility rules to check whether each given number is divisible by 2, 3, 5 or 10. Write Yes or No.				
Number	**Divisible by 2**	**Divisible by 3**	**Divisible by 5**	**Divisible by 10**
18702	YES	YES	NO	NO
24900				
15672				
87534				
42207				
59345				

- Invite them to go through page no. 30 of the book.
- Ask them about prime and composite numbers.
- Invite them for activity.

Individual Activity (20 mins)

Learning Outcome: Differentiate between Prime and Composite Numbers.

Resources: Activity Cards

Instructions:

Provide students with the activity cards and allow them some time to think about prime numbers and composite numbers. Use their knowledge to solve the question on the activity card.

Activity Card

Identify the prime numbers and add them together

1	3	7	11	15	19
23	3	10	16	18	25

Is the total a prime number? _____

Complete the equations and circle the answers that are prime.

1.	$7 \times 5 =$ _____	**2.**	$15 + 14 =$ _____	**3.**	$10 + 11 =$ _____
4.	$12 + 2 =$ _____	**5.**	$60 + 29 =$ _____	**6.**	$4 + 8 =$ _____

- Invite them to do page no. 32 individually.
- Invite them to go through page no. 33.
- Invite them to do an activity.

Factor Flowers

Let your kids practice factorization with this fun and simple math activity. Factorization is an important skill that help with division, simplifying fractions the GCF of two or more numbers.

What you will need:

1. Cardstock in light colors   **2.** Printer   **3.** Scissors

Activity Card

1. Find images of simple flowers and place them such that six flower fit on an A4 size sheet.
2. Make multiple copies of the sheet and save them.
3. Find an image of a large flowerpot and place it such that it fills an A4 size sheet.
4. Make copies of the sheet and save them.
5. On top of the flowerpots, pasts numbers that you want your kids to find the factors of. Ensure the number are bold and clearly visible over the image.
6. Find all the factors for each of the numbers and paste them over the flowers. Ensure the numbers are bold and clearly visible over the images.
7. Print the images out on the cardstock.
8. Cut the sheet with the flowers into sic equal spares each.
9. Give each child one or more flowerpots and have them sort flowers into the correct flowerpots.
10. You can make the activity more challenging by setting a time limit or by making it a race among the kids.
- Invite them to do page no. 34 in pairs.
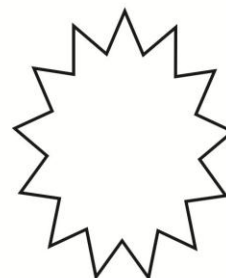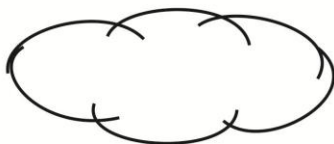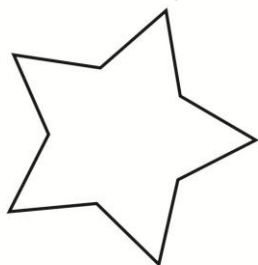- Invite them for an activity.

Individual Activity (10 mins)

Learning Outcome: List the factors of a 2-digit number.

Resources: Worksheet

Instructions: To find all possible factors of a number.

How many different numbers can you use to divide 12? Write them below:

- Invite students to go through page no. 35.
- Let them do page no. 36 in pairs.
- Let them do exercise 2D individually.

<u>Lesson 5, 6, 7, 8 and 9</u>

- Invite students to learn about prime factorization.
- Ask them to go through page no. 38 of the book.
- Invite them to do exercise 2E.
- Follow this strategy.

Question No.	Done by the teacher	Board practice by the students	Pair work	Individual work	Home work
1	a	b and c	d	e and f	l
2	a	b and c	d to h	i to t	
3	a	B	c	d, e and f	g to j

- Introduce two numbers on the board.
- Let students find factors.
- Teach them how to find the common factors.
- Invite them to go through page no. 40.
- Invite them to do 2F individually.
- Introduce two numbers on the board.
- Ask them to find their multiples.
- Teach them to find common multiple.
- Invite them to do exercise 2G.
- Take a test.