Teacher's Guide

Mathematics

For Class 2

Syllabus Breaks up

First Term: Unit 1 and 2 From page no 1 to 89
Second Term: Unit 3, 4, 5, and 6 From Page no. 90 to 163

Teacher's Guide 2022

Weekly division of the first term

Week	Page no. of the book	Week	Page no. of the book
1	DISCUSSION+ 1, 2 AND 3	2	4 TO 13
3	14 TO 20	4	21 TO 24
5	25 TO 32	6	33 TO 40
7	41 TO 52	8	REVISION
9 , 10 AND 11	53 TO 64	12	64 TO 78
13	79 TO 85	14	86 TO 89

Weekly division of the second term

Week	Page no. of the book	Week	Page no. of the book
1, 2 AND 3	91 TO 106	4, 5 AND 6	107 TO 129
7	REVISION	8, 9 AND 10	130 TO 141
9	REVISION	10, 11 AND 12	142 TO 162
14	REVISION		

Note:

- Try to make Math fun for the kids.
- Always use concrete materials instead of abstract.
- Introduce vocabulary before giving a new concept.
- Follow the instructions of Math's lab activity given in the book.

Period 1+2   **Time required = 80min**

Discussion

Use the first two periods in discussing importance of numbers and mathematics in real life. Encourage students to interlinked different concepts with their real life.

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Unit 1: Whole Numbers

Ordinal Numbers (Pg. No 2,3)

Period required: 5   **Time required =120 min**

SLO:

- Students will be able to write ordinal numbers from first to twentieth.

Resources: Chalk to draw hopscotch, dice, and cards of ordinal numbers.

Methodology:(Teacher will draw hopscotch before the lesson)

Recap: Teacher will reinforce the ordinal numbers (positions) with the students.

Oracy: Teacher will share objective of the day with the students.

Routine:

       Teacher will take the students to the open area. She will guide the students about the game hopscotch. She will lay the cards of ordinal numbers on the floor. One of the students will roll the dice. The other student will play hopscotch according to the numbers on the dice.
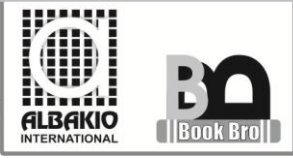
       Teacher will scatter the cards of ordinal numbers. She will make pairs of students. She will guide them to arrange the cards in a sequence. She will invite students for fun activities (given at the end of the topic)

In period no. 2, teacher will explain pg. no 2 to students.

In the next period, she will help the students doing page no. 3 individually.

       In the next period, she will make them write ordinal numbers from one to twentieth in notebooks.

Wrap up: She will say the spellings of ordinal numbers loudly with the students.

Homework: Write ordinal numbers from one to twentieth in notebooks.

Fun activities:

A classroom teacher can extend this lesson by having her student's line up. However, there is a trick to this. She has to make sure to take a picture of everyone in the line, and then show the image to the class. Otherwise, everyone will be stepping out of line to see the first person. The teacher will print out several sets of the image and ordinal number cards. Then have students work together to match the student and the position.

DAYS OF THE WEEK

Another effective ordinal number activity is using the days of the week. The teachers probably say something along the lines of, "Sunday is the first day of the week. Monday is the second day of the week."

If not, just start doing this daily. She'll be amazed at how the consistent practice helps.

MONTHS OF THE YEAR

This is another quick way to practice ordinal numbers on a day-to-day basis. When teacher is discussing the current month, she may months of the year cards to show the position of each month.

She can just print out the months and point to the current month. Let's say she is in the month of March, point to March and say, "This is March. It is the third month of the year." Then she can write 3rd beside March. She can continue this same cycle of sentences and discussion until she has talked about every month and practiced the concepts of first through twelfth.

SEQUENCING

The teacher can teach and practice ordinal numbers just by talking about consistent daily activities. What are the events that kids do every day? First, wake up. Second, put on your clothes. Third, put your pajamas away. Fourth, eat breakfast.

ABC ORDER

This is a great way to combine reading and math! The teacher can either make her own alphabet flashcards with index cards and a sharpie or get a pack of simple alphabet flashcards. Then let students match the first 20 letters of the alphabet with the appropriate ordinal number. She can mix them up to make it more challenging for more advanced learners.

RACE:

- The teacher can carry out this activity in the corridor, or on the school field, or running track. She can mark start and finishing lines and ask students to race against each other to see who is the fastest.

- She will say 'Go' to start the race and give the first 20 pupils to finish ordinal number cards corresponding to their positions. As each pupil finishes, say, e.g. 'Congratulations! You are first!' and hand him/her the card that says '1st'. In the same way, she will give the cards to each student according to their positions.
- She will ask students to stand in a line in order from 1st to 20th and hold up their ordinal number cards.

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Counting in words (Pg. No. 4-8)

Period Required: 4   **Time required =160min**

SLO

- Students will be able to write numbers in words 1-100.

Resources: White board, markers, group tags, dusters.

Methodology:

Recap: Teacher will reinforce number names with the students.

Oracy: Teacher will share objective of the day with the students.

Routine:

Teacher will divide the class into two groups. She will arrange a competition among the class. She will ask the students to recall the number names in order to assess their prior knowledge.

- She will make a score board on the white board.
- Group tags will be delivered.

She will invite a single participant from each group. She will write numbers on the board. And will randomly invite the participants to write number names opposite to that specific number. Correct number name will be reward with scores. All the students of the class will get an opportunity to write numbers in words. She will tell students that 100 is the first three digit number.

- In the next period, she will make the students read pg. no 4, 5.
- In the next period, pg. no 6+7 will be done as c.w. Student can do it individually or in pairs.

- In the next period, she will encourage students to write numbers from 1 to 100 in notebooks.

Wrap up: Teacher will ask the students to say aloud number names of random numbers.

Homework: Pg. no 8 will be assigned as h w.

Fun activities:

Place Value Bingo

Make bingo cards using different numbers. You may want students to make their own bingo cards using one-, two-, or three-digit numbers and then have them swap cards with other students. Then call out different numbers or clues such as "any number with 3 in the ones place" or "any number with no tens." The first person to get bingo can call out numbers in the next round.

Number Clues

Model a number story for your students, such as "There are 7 tens, 1 one, and 9 hundreds." Then have students written their answers. Divide the students into small groups and have them write or tell each other their own number stories. You may want them to use place value charts to help them solve.

Roll to 100

Students work in pairs to play this collaborative game. They take turns rolling one or two dice and then showing the total of their roll with interlocking cubes or base-ten blocks. They keep rolling and amassing more cubes or blocks and when they have a group of 10 ones, they can swap it for a rod of 10. They can keep track of how many cubes they have by lining them up on or next to a hundred chart. When they have collected 100 cubes they can play again.

Numbers up to 1000 (Pg. No. 9-14)

Period Required: 4   **Time required =160min**

SLO:

- Students will be able to read numbers up to 999.
- Students will be able to write numbers up to 999 as numerals.

Resources: (Base than apparatus) white board, duster, marker and book

Methodology:

Recap: Teacher will ask the following questions from the students.

- What is the smallest (one) 1-digit number?
- What is the greatest (one) 1-digit number?
- What is the smallest (two) 2-digit number?
- What is the greatest (two) 2-digit number?
- What is the smallest (three) 3-digit number?

Oracy: Teacher will share objective of the day with the students.

Routine:

- Teacher will ask the students that how many ones are there in 1 ten?
- Teacher will show blocks (rod) to the students.
- First of all she will teach them the use of blocks (rod) She will guide them that one block represents 10 ones will represent 1 ten.
- 10 ones= 1 ten
- Now teacher will ask the students that how many tens are there in one hundred.
- Teacher will use the ''10 base apparatus'' to show hundred.
- Similarly she will make it clear to the students that 10 hundreds will make one thousand.
- She will divide the class into group. She will distribute rods (blocks-ten base apparatus) among the group. She will assign different numbers (in hundreds) to different groups and will ask them to represent those numbers (in hundred) with the help of blocks (rod/ten base apparatus)
- (It needs more and more practice. After group work students will practice it individually)
- In the next 2 periods, she will reinforce the concept from the book (pg.9, 10, 11)
- Teacher will invite the random students to explain (pg. 12+13).

- Students are supposed to tell that how many ones tens and hundreds are there.
- Teacher will guide them to write as well.
- She will use white board for the better explanation.
- She will write represents (H T O) on the board and will invite the students to write the number on the board after counting ''the 10 base apparatus'' displayed by the teacher.
- In the next period, she will encourage students to complete page no. 14.

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Place value and expanded form (Pg. No. 15 to 19)

Period Required: 4   **Time required =160min**

SLO:

- Students will be able to the place value of a 2 and 3-digit number.
- Students will be able to identify the place value of a specific digit in a 3-digit numbers.
- The will be able to write the expanded form of different numbers.

Resources:

Abacus: Ten base apparatus white board, marker, duster, number cards, book and sticky notes.

Methodology:

Recap: Teacher will reinforce the term place value.

- She will show on abacus to the students.
- She will ask what does T O means.

Oracy: She will share objective of the day with the students.

Routine: Teacher will ask the students that how many tens are there in number 36.

- She will write the number on the board as well.
- She will also ask about the ones as well.
- She will ask about the place value of different 2-digit numbers forces the students.
- After reinforcement, she will use the abacus practically. She will invite the students to display the place value of different 2-digit numbers on abacus.
- She will remind them that we can put up to 9 beads in each rod.

- She will give a chance to every student to show and tell the place value of different numbers written of the number cards.
- She will remind them about the smallest two digit number 99.
- She will deliver sticky notes among the students and will ask them to draw an abacus with the beads to show the place value of different numbers.
- Teacher will paste that sticky note in students' notebooks.
- In the next 2 periods, she will reinforce the concept from the book as well (Pg. No. 15). She will practice 3-digit numbers as well. Next she will use rods/blocks/ten base apparatus to clear the concept of 3-digit numbers place value.
- She will write (three) 3-digit number on the board under their represents H T O.
- She will encourage the students to recognize and tell the place value of each number (Pg. No, 16, 17). She will make it clear to the students that the place value of each digit is found by its position in a number.
- In the next period, she will explain the expanded form of a number to the students. (Pg. No. 18)
- After maximum board practice, she will help the students to solve (Pg. No. 18 and Pg. No. 193).

Homework:

- Q no 4 of pg.no 19 will be assigned as H.W.
- Teacher can also give 3-digit numbers to students to draw beads of an abacus to show place value.
- Write the expanded form of the given numbers.

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Comparing 2-digit numbers with 3-digit numbers

(Pg. No. 20+21)

Period required: 3   **Time required = 120min**

SLO:

- Students will be able to compare 2-digit numbers with 3-digit numbers.
- They will be able to compare 3-digit numbers with 3-digit numbers.

Resources: White board, book, marker, duster.

Methodology:

Recap:

Teacher will recall the place value of different 2-digit and 3-digit numbers. She will compare 2-digit numbers with 3-digit numbers. And will ask the students that which is the greater number.

Teacher will compare the 326, 79 numbers using place value table.

Hundred	tens	units
	7	9
3	2	6

Here 326 is a 3-digit number and 79 is a 2-digit number.so 326 is larger than 79.

Secondly she will compare 2 numbers with 3- digits.   663 and 650

Hundred	tens	units
6	6	3
6	5	0

First compare digits in the hundreds place.

- I-e. 6 hundreds=6 hundreds. Now compare the digits in tens place.
- I-e. 6 tens are greater than 5 tens. So 663 is greater than 650 is smaller than 663.

She will write different numbers on the board and invite students for the board practice. She will spend two periods for the maximum practice.

In the third period, teacher will explain pg.no 20 to the students.

Q no 1, 2 will be done in C.W.

Homework: Q no 3 of pg. no 21 will be given as H.W.

Fun activity

HUNGRY CROCODILE ACTIVITY:

- Divide the students into groups of five.
- Provide each group with a cutout crocodile face and numbers cards from 200 to 300 (it can be any numbers).

- Explain to the students that the hungry crocodile turns its mouth towards the larger number.
- Now ask them to place any two number cards on the table and turn the crocodile's face towards the greater number.
- Repeat the activity four or five times.
- Later, replace the crocodile face with cards marked with >, < and =. Let the students work with numbers and cards by themselves.

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Count Backwards (Pg. No. 22)

Period requirement: 3   **Time required = 120min**

SLO: Students will be able to count backward to ten steps down from any given number.

Resources: loose sheets, board, marker, duster, flip chart of backward counting (100-10)

Methodology:

Recap: Teacher will play a game in the class. She will ask the students to say backward counting from 10-1 in one breath.

Oracy: Teacher will share objective of the day with the students.

Routine:

- Teacher will show a flip chart of backward counting (counting in tens)
- She will ask the students to observe it and discuss it what they can understand. Student will share their feedback.
- Teacher will list down few numbers on the board and will ask the students to read them. (From smaller to greater) then she will write those numbers in backward (from greater to smaller)
- Teacher will make pairs of students and will distribute loose sheets among them.
- She will write random numbers on the board and will ask the students to write backward in tens. (At least three numbers should be given to each pair)
- Teacher will guide them for pair checking.
- While checking others work, students will observe more numbers in backward form.
- In the next period, pg. no 22 will be discussed by the teacher.
- Students will solve it individually.
- In the next period, students will write backward counting in notebooks.

Homework:

Teacher will assign at least 5 random numbers to write backward in tens in notebooks.

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Ascending and descending order

(Pg. No. 23, 24)

Period required: 2   **Time required=80min**

SLO:

- Students will be able to arrange numbers up to 999, written in mixed form, in increasing or decreasing order.

Resources:

- Pictures of ascending and descending order (Pg. No. 23). (She can make a big lay out)

Methodology:

Recap: Teacher will show a picture to students to show them ascending and descending order. She can take the students to the stairs and ask them to shoe through their actions.

Oracy: Teacher will share objective of the day with the students.

Routine:

- Teacher will make it clear to students that ascending order means arranging numbers from smallest to largest. Similarly descending order means arranging numbers from largest to smallest.
- Teacher will write few numbers on the board and will invite the students to arrange them in ascending and descending order.
- Teacher will introduce symbols of greater and smaller to students. ($>$ $<$)
- She will invite the students to write any two 3-digit numbers on the board and add the sign of greater or smaller as well.
- She will explain pg. no 23, 24 to students.
- In the next period, students will be guided to solve pg. no 24 individually and independently.

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Count in Tens and Hundreds (Pg. No. 25+26)

Period required: 2   **Time required=80min**

SLO:

- Students will be able to count and write in 10s (e.g. 10, 20, and 30).
- Students will be able to count and write in 100s (e.g.100, 200, and 300).
- Students will be able to identify the smallest /largest number in a given set of numbers.
- Students will be able to recognize that 1000 is one more than 999 and the first 4-digit number.

Resources:

- Play block.
- Hundred base apparatus (sheet).
- Board, marker, duster, book.

Methodology:

Recap: Teacher will take the students to the ground and will guide them to jump and say counting in tens.

Oracy: Teacher will share objective of the day.

Routine:

- Teacher will show ''the base apparatus'' to the students. And guide them that single sheet is equal to 1 hundred. She will help them to count in 100s by using base apparatus sheets.
- Teacher will help the students to read and write the next numbers from the given numbers by counting in 10s and 100s.
- Teacher will invite them to the board to complete the sequence of numbers in 10s and 100s. She will introduce page no 25 to them. Teacher will then help the students to solve pg. no 26. Q no 1, 2.
- She will show the place value of 100 and 1000 to the students by using representatives.
- In the next period, the teacher can ask the students to practice writing these numbers in notebooks.

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Note: The teacher will use period no. 25 and 26 for value based questions, fun time, mental math's and math's lab activity. She will utilize period=27+28 for the revision exercise and period 29 for the test. She will spend period 30 for STEM activity given in the book.

Unit 2: Numbers Operation

Addition (Pg. No. 33 to 40)

Period = 7   **Time required=280 minutes**

SLO:

- Students will be able to
- Add ones and ones.
- Add ones and 2-digit numbers with carrying.
- Add 2-digit numbers and 2-digit numbers with carrying.
- Solve real life number stories involving addition of 2-digit numbers with carrying.
- Add numbers up to 50 mental calculations strategies.

Resources: Flash cards of vocabulary words, white board, duster, crayons, marker, pencils, loose sheets.

- Display of sign of addition.

Methodology:

Recap: In period 1, teacher will reinforce the vocabulary words for addition by showing flash cards to the students.

- Total. Sum. Add. Altogether. In all.

Oracy: Teacher will share objective of the day with the students. And will introduce the symbol to the students (+).

Routine:

- Teacher will reinforce the addition of ones and ones.
- She will invite two students and distribute 9 crayons between them.
- One student will get 4 crayons and other will get 5.
- Now she will call one more student to tell the sum of all the crayons.
- She will write the addition sum vertically and horizontally on the board. Student will be invited to solve board practice will be done.
- In the next period, she will guide the students to solve two-digit sums.
- She will write the numbers under the representations   T   O.
- She will guide the students to write the numbers in columns.

First of all add ones.

Suppose add 26 into 18.

	T	O
	2	6
	1	8
	_____	
	_____	

6 ones and 8 ones are 14 ones.

14 ones=1ten and 4 ones.

Write 4 under ones column and carry over 1 ten to tens column.

Add tens now.

Same procedure will be done for horizontal sums.

T	O		T	O		
1	8	+	2	6	=	44

Ones will be added into ones and tens will be added into tens.

- Teacher will play ''treasure hunt'' with the students.
- Before the lesson she will hide strips within the class. (Addition of 2-digit will be written on them).
- Teacher will ensure maximum board and notebook practice.
- After board practice and notebook practice, teacher will ask the students to play the treasure hunt in the next period and find out the question strip and answer the question written on it.
- She will guide the students about the rules of the game. The group that will find more strips and will give the right answer will be the winner.
- In the next lessons or next two periods , teacher will guide the students to deal with Word Problems. (Word Problem solving depends upon the understanding and listening skills of the students. She will help the students to go through page no 35, 36, 37, and 38 of the book. She will help them to solve page no 39 of the book.
- In the next 2 periods, teacher will create some word problems or will use pg. no 40 of mathematics success 2.
- Teacher will also provide visual aid (concrete material) to make the word problem easy to understand.

- For example:
- She will place 14 notebooks and 17 books in the rank and will ask the students to count them altogether after showing them written word problem.
- There are 14 notebooks and 17 books in the rank. How many things are there in the rank?
- She can use different materials and place for visual aids.
- After practicing a lot she will encourage the students to make their own statements.
- For the activity she will divide the class into groups and will provide them loose sheets. The groups must be of mixed abilities.
- Then students will be asked to create their own word problems with the other groups for pair checking.

Homework: Pg.40 will be assigned as H W.

Fun activities:

FARM MAKING ACTIVITY:

- The teacher should give the students a large sheet of plain paper or fabric and paints.
- Groups of students can make a large mural of a farm, jungle, zoo, etc.
- Students should use plastic farm animals, trees, and sand and make a farm on sand.
- Give them specific numbers of each animal or tree to include and ask them to add them to find a total number.

DICE ACTIVITY:

- Students should be provided with two dice.
- They should roll them and then add the numbers as they appear on the dice. Students can make their own addition sums by drawing pictures and then represent it in numbers.

CARDS GAME:

- The teacher should play an addition card game. In pairs, students should be provided with cards of addition sums and answer cards. One student of each pair should pick up an addition sum card and ask his / her partner the question. The other student should show the correct answer

Add 3-digit numbers and ones without carrying

(Pg. No. 41 to 42)

Period required: 4   **Time required: 160min**

SLO:

- Students will be able to add 3-digit number and ones without carrying.
- Add 3-digit number and 2-digit number without carrying.
- Add 3-digit number and 3-digit number without carrying.
- Solve real life number stories involving addition of 3-digit numbers without carrying.

Resources:

Squares, Rods, Blocks. (Base 10 Apparatus) Board, Marker, Duster, Resource Book.

Methodology:

Recap: To reinforce the concept of addition of 2-digit numbers, teacher will ask students some word problems.

Oracy: Teacher will share objective of the day with the students.

Routine:

- Teacher will make it clear to the students that while adding 3-digit numbers we need to start adding the numbers from ones.
- First of all teacher will present visual aid to students. She will write 3-digit numbers under their represents HTO. Then she will write one more number under ''O''. She will make it clear to students that ones will be added to ones. Then tens will be counted and hundreds will be counted at the end.
- Then the teacher will use square, rods and blocks to show different numbers to the students. She will display the material under the represents. Then she will invite the students to write a sum of 3-digit number by using concrete material.

Teacher will make the students to learn the three steps as key facts.

Steps: When adding 3-digit numbers.

1. First add ones.
2. Then tens.
3. Finally hundreds.

- Teacher will make pairs of students and will share two or three questions of 3-digit addition without carrying to them. When the students will be done, teacher will guide them for pair checking.
- In the next period, she will help them to go through the pages of the books for a better understanding. Students will complete page no. 42 and 43 individually.
- In next periods, teacher will do word problem with the students.
- She will write 2 or 3 word problems on the board and the students will be invited to solve them.
- Then she will invite students to create their own word problems.
- Pg, 44 will be done as c w.
- In h. w. teacher will assign the students to create their own word problems and solve them.

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Addition 3-digit numbers with carrying

Period required: 4   **Time required: 160min**

SLO: students will be able to

1. Add 3-digit number and 1-digit number with carrying of tens and hundreds.
2. Add 3-digit number and 2-digit number with carrying of tens and hundreds.
3. Add 3-digit number and 3-digit number with carrying of tens and hundreds.
4. Solve real life number stories involving addition of 3-digit number with carrying of tens and hundreds.

Resources: White board, marker, books.

Methodology:

Recap: Recall the basic addition facts with students.

Oracy: Objective of the day will be shared.

Routine: Write out a math problem with three digits on the top and one digit bottom. Draw a line between the units, tens and hundreds and use place value represents

<div align="center">

H T U

3 4 7

      4

</div>

Ask the child to answer the units column first, placing both numbers in the correct (lower) position. Do not have them put a ''1'' over the tens yet.

H T U

3 4 7

     4

_____

    1

Ask the students to answer the tens column next.

H T U

3 4 7

     4

_____

  5 1

_____

    Tell the students that the problem is not finished yet. Review what you have completed so far.

Now guide the students to answer the hundred column next.

H T U

3 4 7

     4

_____

  1 1

_____

  5

_____

3

Now guide the students to arrange the answer.

```
H  T  U

3  4  7

      4
_____

3  5  1
```

During practicing this method tell the students that instead of writing the ''1'' under the tens digit, they are to place the '1' over the tens column.

```
 H   T   U                    Carrying

 3   4   7

         4
_____

_____
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Ask the child to add the '1' to the top number of the 'tens' column, then add the bottom number to that sum. Tell the child that this is a shortcut we call carrying and more commonly called 'regrouping' now a days. Help them to go through page no. 45 of the book.

   In the next period, pg. no 46 will be done as C.W.

In the next lesson teacher will give concept of adding 3-digit numbers and 2-digit numbers with carrying.

Same process will be followed.

```
H   T   O

3   4   7

    4   6

    1   3

    9

3
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Pg. no 47 will be practiced as C.W.

Teacher will assign some sums of adding 3-digits and 2-digit numbers in H.W.

Finally in the next period, teacher will teach of 3-digit numbers addition to 3-digit numbers by following the same method.

H   T   O

3   4   7

4   5   6

    1   3

1   0

8

After board practice, teacher will invite students for addition of numbers using mental strategy.

She will invite them to complete page no. 49.

Homework: Pg. no 48 will be done as H.W.

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Note: Next two periods will be used for revision exercise, and other activities like, mental math and math lab activity.

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INVEST THE NEXT WEEK IN REVISION

Subtraction: (page 53 to 54)

(Left. how many more, less, fewer)

(Remaining. difference)

Period required: 5   **Time required : 160min**

SLO: Students will be able to

- Subtract 1-digit form 3-digit number without borrowing.
- Subtract 2-digit number from 3-digit number without borrowing.
- Subtract 3-digit number from 3- digit number without borrowing.
- Solve real life number stories of subtraction up to 3-digits without borrowing.

Resources: display of symbol flash cards of.

Vocabulary:

- White board, marker, duster.

- Beads, crayons, blocks.

Methodology:

Recap: Teacher will reinforce the skill of subtraction.

Oracy: Teacher will share objective of the day. Teacher will introduce symbol of subtraction.

Routine

- Teacher will use different objects to reinforce one-digit subtraction.
- She will select two students. She will give 9 crayons to one student and will ask the other student to take 5 crayons from the first student. She will ask the class to tell the number of crayons left with the first student. She will practice it with different objects. She will do some written questions. She will write the Math's Problem with two-digits for subtraction on the board and will call the students randomly to solve the problems.
- After reinforce the subtraction of two-digit numbers without borrowing. She will give the concept of 1-digit number subtraction from 3-digit number without borrowing.
- She will reinforce the key fact with the students that whether it is addition or subtraction, always start solving the problem from unit. Then solve ten and then hundred. She will write 3-digit numbers on the board under their representatives. 3-digit numbers on the top and 3-digit number at the bottom.

```
H   T   O
6   7   5
-2   3   4
_____

_____
```

She will invite the students to solve it. She will encourage the students to participate actively.

She will give problems to students to solve on their notebooks.

After written task, she will assess the students learning through a competition. She will divide the students into groups. Each group will get five turns to solve the problems. Each member of the group will be encouraged to come to the board. Teacher will make a score board in the corner of white board. It mark will be given for 1 right answer.

In three periods, she will focus on the maximum board practice.

In the next two periods, she will invite the students to go through page no. 53 and 54 of the book and focus on the maximum board practice.

Fun activities:

FACT FAMILIES:

The teacher can bring in old picture frames or have students make their own pictures frames using craft sticks or construction paper. Then have students make "family photos" using related facts. Students may want to draw or cut out numbers and pictures from magazines for their photos. Remind her students that fact families use the same three numbers. Doubles fact families use the same two numbers. Have students create a few photos and post them around the room or make a fact family photo album.

COUNT BACK:

The teacher will draw a large number line on the floor. Then write different story problems or number sentences on the chalkboard for students to solve. For example, for the number sentence 10 – 3, have a student stand on the number 10 and then step backwards 3 times. Continue to switch roles or have students make up their own number sentences and have partners solve them on the number line.

ACT IT OUT:

The teacher will write different number stories on the board or pass them out to students. She may wish to mix addition and subtraction word problems. Then have small groups or pairs read the word problems out loud and point to all the key words that give clues about what operation to use. Then have the groups or pairs act out the stories to solve it. Each group should also write a number sentence to solve the story. Challenge her students to use different strategies to solve the word problem.

SNACK COUNTERS:

The teacher will have her child use healthy snacks such as raisins, grapes, baby carrots, nuts, or whole-grain cereal as counters to solve word problems. She can model a story problem such as, "Maria had ten raisins. She ate five. How many are left?" and have your child model the problem to find the answer. Then she can switch roles and have your child make up a story problem. Then ask him or her to explain why your answer is correct or incorrect. She may want her child to write down his or her word problems to practice and develop writing skills.

Subtraction (with borrowing)

Period required: 5   **Time required: 200min**

SLO: Students will be able to

- Subtract 1-digit number from 2-digit numbers with borrowing.
- Subtract 2-digit numbers from 2-digit numbers with borrowing.
- Solve real life number stories of subtraction of 2-digit numbers with borrowing.

Resources: Board, marker, duster, tape, slips of story problem.

Methodology:

Recap: Teacher will reinforce subtraction by recalling the vocabulary used for subtraction (Clue words).

Oracy: Objective of the day will be shared.

Routine: Teacher will reinforce the key notes. Always start from the unit, then tens and then hundreds.

Also keep in mind.

More on top…….

No need to stop.

But today we will do subtraction of those numbers that have small number on the top. E.g.:

  1   3   three is smaller than five

 _   5

_____

_____

More on the floor ……

Go to next door.

For example:

Sara has 8 cookies. Can she give me 11 cookies?

No, it is impossible. How she can when she has less number of cookies with her. Definitely Sara will have to take help form someone.

Teacher will guide them to always subtract in the ones place.

T U

8 3

_ 6

_____

_____

Here in this example we have more on the floor. You have to go to next door to take help from.

Here next door is tens. (8). It will 1 end you 1 and will remain with 7.

As we know that 1 tens is equal to 10 (units) ones. So when we will add into ones, that 3 will become 13.

T   O

7   13

8   3

     6

_____

_____

Teacher will repeat the same method to introduce subtraction of 2-digit numbers from 2-digit numbers with borrowing.

Sometimes we have to regroup in more than one place to take away for example.

T   O

9   4

_ 6   6

_____

_____

If need more on the floor, go next door.

Take one tens, left over will be 8.

When this one ten will be given to units (ones) it will increase to 14 because 1 tens is equal to 10 ones Now 14 – 6 is 8.

In tens 8 is left after taking 1 tens from it. More on top…..

No need to stop.

So simply take off 6 from 8. The answer will be 2.

In this way 94-66 is 28.

Teacher will focus on board practice and notebook practice.

Teacher will explain pg. no 55.

In the next periods, pg. no 56 will be solved in C.W.

More practice will be given as H.W.

Next day teacher will introduce story problems to the students. She will guide the students that only smaller number can be taken out of the bigger number.

She will guide the students about pg. no 57. Students will solve it in pairs.

For the reinforcement Treasure hunt will be played. Teacher will paste small slips of papers with story problem written on them under student's chair.

Instructions for the game will be given to the students.

Teacher will call the names of students randomly. The called students have to stand and clap. Then find out the slip under the chair. Read the story problem to the class. Rest of the students will raise their hands to answer.

Selected student will solve the sum on the board.

In H.W teacher will assign the students to create their own word (story) problems.

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Subtraction

Period required: 5   **Time required: 200min**

SLO: Students will be able to

- Subtract 1-digit number from 3-digit number with borrowing.
- Subtract 2-digit number from 3-digit number with borrowing.
- Subtract 3-digit number from 3-digit number with borrowing.
- Solve real life number stories of subtraction up to 3-digits with borrowing.

- Analyze simple situations identifying correct operation of addition and subtraction with carrying/borrowing in mixed form.

Resources: Flip chart of subtraction poem.

Methodology:

Recap: Teacher will recall the method of subtracting 2-digit number from 2-digit number.

- She will recall the subtraction poem.
- More on top……..
- No need to stop.
- More on the floor……..
- Go to next door.

Oracy: Objective of the day will be shared.

Routine:

- Teacher will practice 2-digit number subtraction with the students of the board. Mostly students will be called to the board to solve the problems.
- After reinforcement of the taught skill, teacher will introduce a 3-digit sum on the board. She will ask the students if anyone can solve it. (Voluntarily many students will solve).
- Then teacher will make it clear to all the students that by following the same strategies we need to take one hundred from the hundreds and give it to tens to increase the number.

For example:

H   T   O

7   6   5

_   7

_____

_____

Then

H   T   O

7   6   5

_   8   7

_____

_____

Finally

H	T	O
7	6	5
-6	8	7

_____

_____

- Teacher will explain it to students that always take out smaller amount from the bigger amount.
- Always start solving the problem from ones (units) than tens and at last hundreds.
- Pg. no 57, 58, 59 will be done in C.W in three days. More practice will be given in the form of sums in H.W.
- In the next periods, pg. no 60 and 61 will be done in C.W after explanation.

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Note: Next two periods will be used for the revision exercise and other activities given in the book.

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Multiplication

Period required: 8   **Time required: 240min**

SLO: Students will be able to

- Recognize multiplication as repeated addition (e. g 2+2+2=6 is equivalent to 3 times 2 = 6 and 3 x2=6) and use multiplication symbol ''x''.
- Complete number sequences in steps of 2,3,4,5 and 10 (e. g in steps of 2 the sequence is expressed as 2,4,6 …)
- Develop multiplication tables 2,3,3,5 and 10 till the multiplication of 10x10.
- Multiply numbers within multiplication table.
- Write number sentence for multiplication from the picture such as 2x_____=6.
- Solve number stories on multiplication up to 1-digit numbers.

Resources:

- Physical manipulative such as buttons, pencils bottle caps.
- Display of symbol of multiplication.

Methodology:

Recap: Teacher will recall addition of 1-digit number in repetition such as.

2+2+2=6,   3+3+3=9

Oracy: Objective of the day will be selected and share with the students.

Routine: To teach multiplication to the students 5 steps will be followed.

Step One:

- Countable manipulative will be distributed among the students and they will be guided to make their sets.
- Let's assume you are working with the sum 3x4.
- Students will be divided into groups and manipulative will be divided among them. They will be guided to use those manipulative to sets of four either by drawing three circles around them or placing them into three separate boxes.
- After arranging the manipulative students will discover that the three rows of four make 12-not 7.
- More practice will be done for concept celerity with different numbers and manipulative.
- Teacher will explain pg.65 for better understanding.

    Pg.66 will be done in c.w.

    Pg.67 & 68 will be explained and done by students.

- In the next periods, step 2 will be explained.

Step Two:

Introduce skip counting

    Arranged sets are still helpful. Now that they knew each row or set contains a given number of units, they can start adding them together to reach an answer more quickly.

So the problem 3x4 will become:

4+4=8,   8+4=12

They can also practice skip counting by lots of two using their fingers.

Pg. 68+69 will be done. In the next periods, step 3, 4 and 5 will be taught.

Step Three:

Teacher will make it clear to the students that the multiplication is the ability to reverse are sun and still get the same result. That why 3x4 and 4x3 both equal to 12.

Step Four:

Drill and practice multiplication facts.

Once the students understand the concept of multiplication, it's time for students to memorize the facts. All the way up to their 12 times tables.

1) Any number multiplied by one remains the same.
2) Any number multiplied by two is just that number plus itself.
3) Any number multiplied by 10 gets a zero at the end.
4) Any number multiplied by zero gets zero.
5) Any number up to nine multiplied by 11 is the same digit repeated twice.

Drill of tables should be done on daily basis.

Step Five:

Work with words.

The shift to words can be tricky, so ease students in by visualizing it. Or students can draw to solve the problems.

Teacher will provide the students with different fun filled activities.

Quizzes can be played with agentive.

Teacher can create simple word problems like ''I have [my number who has x times]''.

Or she can make it more engaging by providing strips of answers to the students and the students with the corresponding number must answer after listening to the word problem.

Pg. no 69 to 79 will be done as C.W.

Practice will be given as H.W.

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Note: Next four periods will be used for the revision exercise and other activities given in the book.

Fun activities:

FINGER FUN:

It is more of a learning tactic than an activity.

The teacher will take a marker and write numbers of her fingers. So each division on the finger gets a number. Mark till 15.

Now she will not only ask her kid a question but also ask them to show it on her fingers. For example, if she asks them 3*3 they show you 9.

Keeping playing this game and explain to the kid that 3 * 3 = 9 is same as 3 + 3 + 3 on the fingers.

FRUIT LOOPS IN A CUP:

The teacher can play this any of the favorite snacks or toys. Cookies, gems, candies, blocks, balls, clay etc. Let her kid have a say in it.

We will pick fruits for the example.

The teacher will take 5 bowls and place 6 berries or bead in each. She will as her kid to count all the berries. Once he/she tells you a number, ask them the multiplication of the same numbers. In this case, she will ask them 5 * 6.

She will keep playing this game with various combinations and her kid will quickly learn to add up for multiplication.

Division

Period required: 6   **Time required: 240min**

In-house time division will be done by the teacher

SLO: Students will be able to

- Recognize and use division symbol.
- Recognize division as successive subtraction.
- Divide numbers within the multiplication tables with remainder zero.
- Solve number stories involving division up to 1-digit numbers.

Resources: Display of sign (symbol) of division concrete materials.

Methodology:

Recap:

Teacher will recall the method of subtraction. She will call the students randomly towards boards and will ask them to solve problems of subtraction.

Oracy:

- Teacher will share objective of the day with the students.
- She will introduce them with the symbol of division concerned.
- Vocabulary will be introduced.

Routine:

Teacher will students that division is usually called sharing and it's done using concrete items like counters blocks or even items of food such as pasta or beans.

For example: Share 9 oranges between 3 boys.

- Count the number of oranges first.
- Then oranges them into 3 groups.
- Check are the groups the same size.

Pg.84 will be explained to the students.

In primary school the following 3 methods of division are the best.

It is known as chunking or repeated subtraction.

Chunking is a method that is use to divide larger numbers that cannot be divided mentally by the young ones.

When using the chunking method. Children will repeatedly subtract the deviser from the divided unit there is an answer.

For example:

12 – 3,   9 – 3,   6 – 3,   3 - 3

Zero

When all the time 3 have been subtracted from 12 is counted up 4 it becomes clear that the answer is 4.   12 3 = 4

Teacher will help students to practice more.

Pg. 85 and 86 will be done in the class.

Teacher will make these three terms clear to the students through a display or board.

- The dividend is the number you are dividing (the number inside the bus stop).
- The divisor is the number you are dividing by.
- The quotient is the amount each divisor receives to the answer in most cases.

Dividend divisor = quotient

Pg. 87, 88 will be explained and practice will be done.

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Note: Next two periods will be used for the revision exercise and Value based questions.

Fun activities:

Take one of these painting trays.

Now, write down numbers on each of the sections. I have divided the inner circle because I wanted the tray to have at least 10 divisions.

Now, in the space left write down a problem with a erasable marker.

For example, "10 ÷ 2 = "

In the second tray (or a cup) put a lot of beads. Now ask your kid to pick 10 beads and start placing it the sections one by one in a way where each will have two beads.

Once the 10 beads are over, you will have 2 beads in each of the 5 sections.

Don't leave it here. At this stage tell them how 2 * 5 = 10 and 2 + 2 + 2 + 2 + 2 = 10

Once you bind all the concepts together it will be easier for them to remember.

DIVISION BOARD GAME:

You can easily create fun board games to teach division.

One way is to replicate snake and ladder but instead of number put out various division problems. Roll the dice and move steps. You have to solve the problem you land on.
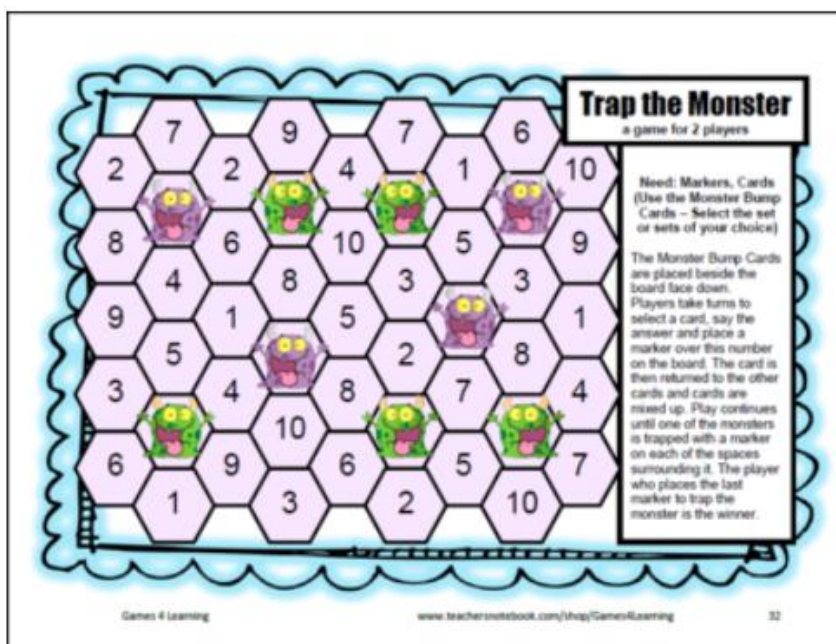
or

Pair up with someone and choose yourself a coloured counter. Take turns to move. Once you have found your answer, move on that number of spaces!

| 12 ÷ 3 | 12 ÷ 2 | 6 ÷ 2 | | 14 ÷ 7 | 18 ÷ 6 | 36 ÷ 3 | Move forward 1 space! | 9 ÷ 1 | 6 ÷ 2 | 16 ÷ 8 |

Board spaces:

- Column 1: 12 ÷ 3, 16 ÷ 4, Miss a go!, 10 ÷ 5, 6 ÷ 3, 8 ÷ 4, 4 ÷ 2, START
- Column 2: 12 ÷ 2, 15 ÷ 3, 18 ÷ 6, 21 ÷ 7, Go back to the start!, 2 ÷ 1, 24 ÷ 3, 9 ÷ 3, 27 ÷ 9, 30 ÷ 10
- 6 ÷ 2
- 14 ÷ 7, Move forward 2 spaces!, 42 ÷ 6, 18 ÷ 3, 19 ÷ 1, Move back 5 spaces!, 4 ÷ 4
- 18 ÷ 6
- 36 ÷ 3, 18 ÷ 3, 24 ÷ 3, 12 ÷ 3, 14 ÷ 7, FINISH
- Move forward 1 space!, 10 ÷ 5, Miss a go!, 18 ÷ 3, Advance to finish!
- 9 ÷ 1, 15 ÷ 3, 28 ÷ 4, 23 ÷ 3
- 6 ÷ 2, Move backwards 3 spaces!, 30 ÷ 3, 9 ÷ 3
- 16 ÷ 8, 21 ÷ 7, 36 ÷ 9, 8 ÷ 4, 36 ÷ 3

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Divide it!

CARD WARS:

Play with the entire deck. Instead of taking out the high cards, assign them higher numbers which are divisible by 2-10. Jack = 18, Queen = 12, King = 12, and so on.

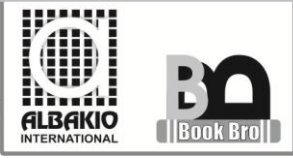Shuffle all the cards and place it. Each player will turnover 2 cards in one turn.

Player A = King (12) and 2

Player B = 4 and 6

The kids have to create a division problem with the available cards. For example: $12 \div 2 = 6$. Whoever comes up with a problem first, get a point.

Take back the unused card and keep it with you. You can use it the next time in case the numbers don't match up.

Unit 3: Fractions

Period required: 19

SLO: Students will be able to recognize fractions as equal parts of a whole.

- Identify half one third and quarter with the help of objects.
- Represent half, one third and quarter in numerical form (1/2, 1/3 and 1/4).
- Shade the equal parts of a given figure to match a given fraction.
- Recognize and name unit fractions up to 1/10.
- Recognize fractions like two thirds (2/3), three fourths (3/4), four fifths (4/5) up to nine tenths (9/10).

Resources:

Methodology:

Recap:

Teacher will discuss about the personal experiences of students. She will ask the students if they have/had shared a half of their chocolate bar with their siblings or friends.

Students will share their personal experiences.

Teacher will ask them the way they made their chocolate half.

Oracy:

Teacher will share objective of the day with students.

Routine:

Teacher will show a cake or its picture to the students. She will have a discussion about its shape, colour and taste.

Then she will cut it into two equal halves.

Teacher will focus on the (words) vocabulary half.

Then she will cut those two equal half parts into further two into equal parts and introduce the word quarter to the students after showing them a slice (1/4).

She will give a paper to all students to cut it into half and then into another half.

In the next periods, pg. no 91, 92 and 93 will be explained to the students. Teacher will focus on half and quarter.

She will ask the students to draw different shapes or pictures and colour their halves or quarters.

In the next periods, she will introduce the written fraction to the students.

Half ½ and total parts (whole).

Numerator 1/2=dominator.

In the next periods, teacher will give the concept of one third.

She will show any shape with three equal parts and will introduce that each equal part is called one-third.

Three thirds make one whole.

Teacher will use pasta, shapes, pizza, cake or any food item to reinforce the concept of whole, half and one third.

Pg. no 94 will be introduced.

In the next periods, pg. no 95, 96, 97 will be solved in class.

Students will be given homework to draw shapes and colour them to show fractions, whole half one third.

In the next periods, teacher will teach the students to write the fractions.

Pg. no 98 will be introduced.

After concrete description fraction will be written in numerical form.

1/2, 1/3, 1/4 ………1/10.

Next pg. no 99,100 and 101 will be done in C.W in 2 lessons.

Teacher will use a spinning wheel of two colours to show fraction to the students.

Teacher will ask the students about the total parts of the spinning wheel. **8**

Then she will ask them about the coloured parts.   **4**

She will teach them that we write the fraction like this.

4   (fourth tenths) coloured parts.

——

8   total no of parts.

Teacher will use different shapes to show fraction.

In the next periods, pg. no 102-3 will be used for reinforcement.
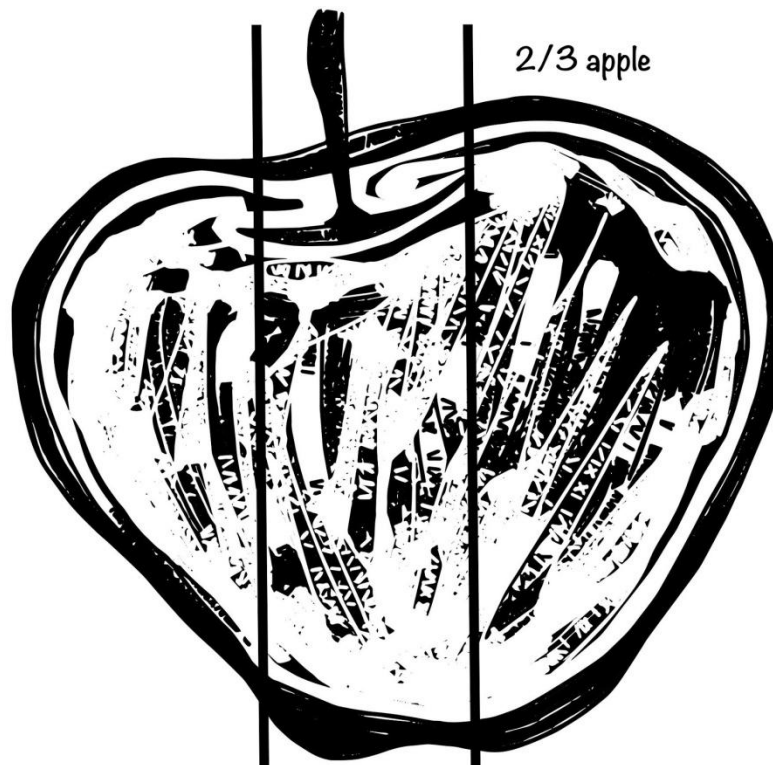
Pg. no 104 will be given as H.W.

Pg. no 105 will be done as C.W.

Fun activity:

FRACTION PICTIONARY:

The teacher will take a few papers and cut them into several squares. She will write down fractions on them in terms of an image. For example, ¼ of a window or ½ of an apple.

She will put all of them in a jar and shuffle it.

2/3 apple

Ask your kid to pick up one card and start drawing. You (or the other kids) have to guess the image as well as the fraction. If you guess it correctly, they get a point.

You can also create two teams if you are playing this with a few kids.

Note: The next four periods will be used for the revision and activities given in the book and test purpose.

Unit 4: **Measurement**

Length

Period required: 4 to 6

SLO: Students will be able to

- Compare the lengths of different objects.
- Recognize the units of length (meter and centimeter).
- Use standard metric units of length (meter and centimeter) and their abbreviation to measure and record lengths of variety of objects.
- Use addition and subtraction within 100 to solve real life situations involving lengths in same units.

Resources:

- Different objects of different lengths.
- Anchor charts, meter roads, yarn, scale, straws.

Methodology:

Recap:

Teacher will ask the students about the tallest and the shortest child of the class. She will encourage the students to read Anchor chart.

Oracy: She will share objective of the day with the students.

Routine:

Teacher will start by comparing sizes of different objects.

Bigger or smaller, taller or shorter.

Teacher will encourage students to measure different objects lying around with their hands.

Then she will encourage the students to measure the length of bookcase, floor tiles and more by pacing it off with their own two feet. Then she will introduce scale to the students. She will introduced cm and meters to students.

She will introduce hand-span to measure the length.

To make learning fun for children measure children's height in yarn. Then have them compare the yarn's length to other objects around the room.

Teacher can also create a fun display by taping up a picture or name tag of each child with their yarn to show their height.

Teacher will ask students to cut straws of different lengths and paste them on loose sheets and measure their length with scales.

Unit of length will be introduced.

In the next periods, pg. no 111, 112 and 113 will be done as C.W.

Pg. no 114 will be assigned as H.W.

Pg. no 115 will be introduced through addition (subtraction) and will be done as C.W.

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Mass (pg. no 117to 122)

Period required: 4 to 6

SLO: Students will be able to

- Compare the mass of different objects.
- Recognize the units of mass I-e kilogram, gram.
- Use standard metric unit of mass (kilogram and grams) and their abbreviation to measure and record mass of variety of objects.
- Use addition and subtraction within 100 to solve real life situations involving mass in same units.

Resources: Reap life objects.

Hanger, small baskets, tiny objects, thread, balance, weights, book.

Methodology:

Recap: Teacher will ask the students to think for a while and recall the heaviest thing they have ever lifted.

Oracy: Objective of the day will be shared.

Routine:

Students will be guided to estimate the weight of different objects. Students will be encouraged to use classroom belongings. Teacher can make her own balance to weight the

objects by using a hanger. Tie to small cups or basket with the rope to the hanger. Add tiny objects in both the basket and measure their weight. Hold the hanger as a balance.

They will estimate the difference between two objects.

They will easy recognize the difference of weight between smaller and bigger objects.

Teacher will introduce unit of weight to students.

She will guide them that we measure the weight of objects in kilogram and grain.

1 kilogram has 1000 grams

1 kg: 1000 gram

Teacher will explain pg. 177-178 to students.

Students will find the weight of all the students through weight machine.

In the next periods, teacher will guide the students to solve pg. 119 individually.

She will show scale (balance) to the students.

Students will experience by themselves. They will weight different objects and will note them.

Pg. 121, 122 will be done as c.w after explanation.

Pg. 120 will be assigned as h.w.

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Capacity

Period required: 4 to 6

SLO: Students will be able to

- Compare capacity of different objects using nest and units. (Jag, glass, cup, etc.)
- Recognize and use the standard metric units of capacity i.e. liter and milliter.
- Use addition and students within 100 to solve red life situations involving capacity in same units.

Resources: Jag, bucket, writer, glass and cup.

Methodology:

- Teacher will ask the students that which can carry more water, a glass or a jug?
- A bucket or a jug?

Oracy: Teacher will share objective of the day.

Routine:

Teacher will tell the students that capacity is the maximum amount that something can contain.

Teacher will fill a glass of water. Then she will fill the jug by using the same glass.

She will show to students that jug has more capacity to hold more water than a glass.

She will use different containers or objects to show their capacity to students.

She will tell the students about the unit of measurement of liquid that is liter "1".

In the next periods, she will explain pg. 122,123 students.

Pg. 125 will be done by the students individually after discussion and practice.

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Note: The next four periods will be used for the revision exercise, activities given in the book and the test.

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Fun Activities:

Size Up Your Stuffed Animal: A Measurement

What You Need:

- A favorite stuffed toy or doll
- Kitchen string
- Ruler, with both centimeters and inches
- Approximately 40 plastic linking blocks or cubes, depending on the size of the toy
- Balance scale
- Bathroom or food scale
- Lined or graph paper to record results (optional)

What You Do:

1. *Open the activity*. Share with your child that she is going to get to learn more about her toy friend by using her measuring skills to find the toy's weight, its height, and its measurement around.
2. *Make predictions*. Let your child take a look at her stuffed toy and make predictions. Encourage her to think about how tall it is, how big around it is, and how much she thinks it weighs. You can use the lined paper to create a chart and record the various measurements and estimates. Creating a chart for the results of each measurement (the estimate and the actual) is a good visual and can be a starting point to discuss the difference between estimates and actual measurements.
3. *Find the height of the toy*. Using blocks, have your child estimate how many blocks or cubes tall she thinks her toy is. Stack the blocks to figure out the toy's actual height. If you're keeping a chart, record your results. Follow the same procedure with both the inch side and centimeter side of the ruler: have her estimate first, perform the actual measurement, then record the results. Discuss how close her estimates were with the actual measurements.
4. *Find the distance around the toy*. Ask your child to estimate how many cubes it will take to measure around the toy like a belt. After she makes her estimate, take the kitchen string, wrap it around the toy, and cut it when it circles the toy once. Now, use the measuring tools to measure the length of the string. Measure the string using the cubes first.
5. Record and discuss the results compared to her estimate. Follow the same steps and measure the string using both the inch and centimeter sides of the ruler. Discuss with her which of her estimates was the closest.
6. *Find out how much the toy weighs*. Again, encourage your child to estimate the number of cubes she thinks her toy friend weighs. Use the balance scale: place the toy on one side of the scale, and keep adding cubes to the other side until the scale balances. Let your child figure out the difference between her estimate and the toy's actual weight; you may want to help her set up a subtraction problem for this. Follow the same procedure to

figure out the weight of the toy in pounds. Have her make an estimate, then place her toy on the food or bathroom scale.

7. *Discuss*. Discuss your findings. Were the predictions correct? Were the estimates accurate? What are the differences between the estimate and the actual measurements?

WEIGHT WONDERS:
BIG AND LIGHT...HEAVY AND SMALL?

What You Need:

- Variety of objects from around the house (examples: empty egg carton, full juice box, apple, banana, box of raisins, toy block, magazine, small wicker basket, picture frame, toothbrush, coffee mug)
- Kitchen scale (for small items)
- Bathroom scale (for large items)
- Lined paper
- Clipboard
- Pencil

What You Do:

1. **Set it up.**

   Start by telling your child that you will be doing some science together. You'll begin by looking at some regular things and making guesses (hypotheses) about which one is heavier. Check your young scientist's knowledge: how will we know which items are heavier than others? (Expect the answer, "I'll hold them," and don't be surprised if your kid adds, "Duh.") Do continue, however: remind your child that to be absolutely accurate, he'll also need to weigh the items. Depending on your scale, you may even want to introduce the concept of weighing in either pounds and ounces, or in grams. Now help your child make an "observation" chart on his lined paper. Write "Heavy or Light" on the top, and then fold the paper in half lengthwise. He'll use the chart to write the names of objects, or a picture of them if he prefers, and to record which is heavy or light.

2. **Gather the items.**

   Assemble all of the chosen objects on a table or countertop. Ask your child to name or point to two objects. Move those objects so they are next to each other and separate from the other objects. It's important for *you* to do this step, as your child will get a chance to handle the objects later in the activity.

3. **Make predictions.**

    Ask your child just to look at both objects she selected. Look at their height, length, shape, and any other distinctive features. Ask her to tell you, just from looking at them, which object she thinks is heavier.

4. **Evaluate.**

    Once your child has guessed, ask her to pick up the objects. Ideally one in each hand works the best, but if an object is too heavy, it may be picked up individually. Ask your child if she wants to change her guess or keep it the same.

5. **Weigh in.**

    Using a kitchen or bathroom scale (whichever is more appropriate) weigh the two objects. Was your child right? If not, can she figure out why their guess was wrong? Talk about how the scale measures the mass (weight) of an object, but some things may have lots of volume (size) with very little mass. Write the weight of each object below its name or picture on the observation chart.

6. **Repeat.**

    Place those objects aside and ask your child to pick two more to compare.

7. Repeat these steps as long as your child is interested in the activity…and don't hesitate to pull it out as you explore new things, whether it's seashells from the beach or pinecones from the forest. The world is crammed with exciting reminders that when it comes to volume and mass, what you see is not always what you get…and that's a very cool thing indeed.

PLAY THE MEASURING GAME:

What You Need:

- Deck of cards with the face cards (jacks, queens, and kings) removed
- Metric ruler
- Pencil
- 2 sheets of white paper
- Scissors
- Markers
- Penny

What You Do:

1. Have your child trace a penny on white paper, cut out the circle and draw an ant on the cut-out circle.
2. Shuffle and place the deck face down on the table.
3. Have him place his ant at the bottom of a sheet of white paper that's positioned vertically.
4. Encourage him to draw the first card. Have him measure the distance from his ant in a straight line up the page, drawing both a line to the end point and marking the end of the line with a pencil dot. (Example: If he draws a 5 card, he measures a line 5 centimeters long and draws a dot at the end of the line.)
5. Have him write the number of centimeters his ant traveled next to the drawn line.
6. Move the ant up the line and have him stop on the dot.
7. Continue drawing cards and measuring until the ant reaches the top of the page.

Variation:

Create an abstract line drawing by allowing your child to measure out an ant path, or maze. How many centimeter measurements and lines does it take to complete a full ant path?

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Time

Period required: 17

SLO: Students will be able to

- Recognize the number of hours in a day and numbers of minutes in an hour.
- Read and write the time from a clock in hours and minutes (with five minute intervals) e.g. read 8:15 as eight fifteen and 8:50 as eight fifty.

- Recognize am and pm.
- Draw hands of a clock to show tome in hours and minutes (with five minutes intervals).
- Use solar calendar to find a particular date/day.
- Use Islamic calendar to find a particular date/day.

Resources: Clock, Calendar (Solar & Islamic) Digital and Analog clock.

Methodology:

Recap:

- Teacher will ask the students at what time they usually wake up.
- At what time their school starts?
- At what time they do have their (break) lunch time?
- How do you come to know about the time?

Oracy: Teacher will share objective of the day with the students.

Routine:

Teacher will show both the clocks to the students. (Analog and digital).

Teacher will tell the students that the analog clock has intervals of fives between each number.

She will make the students to read it.

She will show them the table and explain them that:

1 day=24 hours

1 hour=60 min

1 min=60 sec

Then she will teach the students to read the clock.

She will tell the students that the fastest hand on the clock is for seconds. The smaller hand show hours and the bigger arm show minutes.

She will make them read the clock by adjusting its hands on different times.

Teacher will guide them to write the time as well.

In next periods, she will explain pg. no 131 and 132 to students.

                    Hours   9: 40   minutes

Then she will show the students to draw hands on a blank clock. Pg. no 133 will be done as C.W.

The next step is to tell the difference between a.m. and p.m. In the next periods, teacher will tell the students that a.m. is for the first part of the day and p.m. is for the 2nd part of the day.

Teacher will explain pg. no 134 to students.

Pg. no 135 will be given as H.W.

Pg. no 136 will be done as C.W.

In the next periods, teacher will guide the students about o'clock and half past time.

Teacher will explain pg. no 137 to the students. She will guide the students to solve the pg. individually.

Pg. no 138 will be assigned as H.W.

In the next periods, teacher will recall the names of all the months of the year to the students.

She will show a calendar to the students and will guide them to find a date and day from the solar calendar.

Pg. no 139 will be practiced.

Teacher will sing a song of Islamic months with the class.

She will show Islamic calendar to the students. She will guide them to find date and day from Islamic calendar.

Pg. no 140 will be practiced.

Teacher will assign the students to find the date of third week of April.

Find the date if fourth week of August.

What was the date on 2nd Saturday of May?

What was the date in 1st Friday of November?
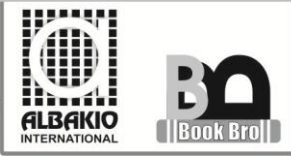
Practice will be done.

Fun activity:

MAKE A CLOCK!

What You Need:

Old frisbee, or a thick paper plate

Markers

Scissors or a drill

Poster board or heavy paper

Paper fasteners (available at any stationery store)

Circle-shaped stickers

Paper

Pencil

What You Do:

Start by making a small hole in the center (With a plate, you can use scissors. With a frisbee, you'll need to use a drill). Let your child know he's going to make his very own clock and that the frisbee or paper plate will serve as the clock face. If you have an analog watch or clock somewhere in the house, bring it to the table to use as a model.

Ask your child to place one sticker at the top of the "clock face" and one directly opposite, on the bottom. With the marker, have him write the number 12 on the top sticker and the number 6 on the bottom sticker. Now ask him to place one sticker on each side, halfway in between the top and bottom. He should write 3 on the right-hand sticker, and 9 on the left-hand

sticker. Then, referring your analog clock as a model, ask him to fill in the other numbers on the clock using the stickers and his marker.

Now it's time for the clock hands! Using the poster board, cut two arrows—a longer one for the minute hand, and a shorter one for the hour hand. Pierce the ends of the arrows with the paper fastener, slide it through the hole in the center of your clock face, and secure it at the back.

Pick a day of the week and, with your child's help, create a list of his activities. This might include soccer practice, a Quran lesson, going to school, a shopping trip with grandma…or just time spent eating a snack. Next to each entry, write the time the activity begins, rounding to the nearest half hour.

Make it concrete! Help your child identify the hour hand and the minute hand on the clock face. Remind her that the hour hand shows the hour and the minute hand shows the minutes. Now, make sure she knows which hand of the clock is longer (the minute hand) and which hand of the clock is shorter (the hour hand). Pick an activity and find its time on the clock. Start with the activities that begin on the hour and then move to the activities that are on the half hour.

If your child is having trouble, move the hands around the clock, naming each hour as you go. Then give your kid a go at it. Not quite there yet? Don't worry. Telling time always becomes easier with practice…and time of course!

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Note: Use three to four periods for the revision ex and other activities given in the book.

Unit 5: Geometry

Two Dimensional Shapes

Period required: 17

SLO

- Students will be able to recognize and identify shapes of similar objects in the daily life.
- They will be able to identify the basic shapes.
- Distinguish basic shapes by considering their sides.
- Classify 2-D shapes according to number of sides and corners.

Resources: Shapes (model) sticky notes cut out of action table.

Methodology:

Recap: Teacher will reinforce the names of basic shapes rectangle square circle triangle.

Oracy: Teacher will share objective of the day with the students.

Routine:

- Teacher will take the students out of the class to take a round of the school to identify the objects with the similar shapes.
- She will guide the students to do it individually.
- She will focus on the sides/corners of the shapes.
- Teacher will distribute sticky notes among the students and will ask them to draw the basic shapes and label the corners.
- Teacher will recall the sides of basic shapes.
- How many corners a triangle has?
- How many corners a square has?
- How many corners a rectangle has?
- How many corners a circle has?
- She will ask the students to observe the sizes of the shapes they have drawn on sticky notes.
- She will guide them to find the different in sizes in pairs.
- She will explain activities to the students and will guide them to do it.

Sing the Songs:

- The teacher should provide students with four basic shape cut-outs and should sing this shape song (to the tune of: 'Frere Jacques'). Students have to learn and follow.

- *This is a square. This is a square.*
- *How can you tell? How can you tell?*
- *It has four sides,*
- *All the same size.*
- *It's a square. It's a square.*
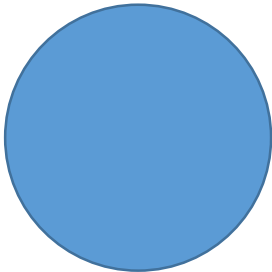
- *This is a circle. This is a circle.*
- *How can you tell? How can you tell?*
- *It goes round and round,*
- *No end can be found.*
- *It's a circle. It's a circle.*

- *This is a triangle. This is a triangle.*
- *How can you tell? How can you tell?*
- *It only has three sides,*
- *That joins to make three points.*
- *It's a triangle. It's a triangle.*
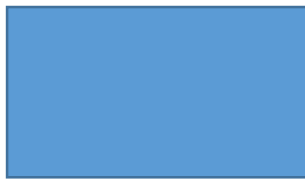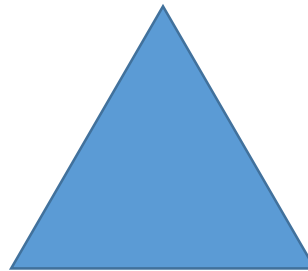
- *This is a rectangle. This is a rectangle.*
- *How can you tell? How can you tell?*
- *It has two short sides,*
- *And it has two long sides.*
- *It's a rectangle. It's a rectangle.*

Let us Walk:

- Make huge shapes in the form of a path on the floor with a chalk. Play music and ask students to walk on these. When the music stops they have to identify the name of the 2D shape they are standing on.

Play the Shape Twister Game:

- Set the stage. Explain that this is a fun game using colours and shapes, while following a set of directions that can be a little tricky. Let your child know you consider this a challenge—but one that she can also do well.

- Make the game. Have your child use crayons or markers to draw 2 of each of the following shapes: square, rectangle, triangle, diamond, circle, & star. Make them fairly large—at least 6-8" across, and use plenty of different colours of paper. Then lay them in rows on the floor.

- Make directions. Ask your child to create a list of directions. Either you or he can write them on a sheet of lined paper. Examples: "Place your right hand on the ____ ." "Place your left hand on the _____ ." "Place your right foot on the _____ ." "Place your left foot on the _____ ." "Move your right hand and place it on the _____ ."

- Make a spinner. Help your child use crayons and construction paper to create a paper spinner showing each of the coloured shapes they have created. Draw a circle on white paper, and divide it into sections using a pencil. Have your child colour each section with one colour crayon. Have your child draw a picture on each coloured section to match the shapes they created. Then cut out an arrow from another piece of construction paper, cut it to fit the spinner circle, and fasten it at the center with the paper fastener.

- Play! Help your child play the game by reading a direction from their list. Then spin the spinner to determine which coloured shape they will land on. Continue until they have identified all of the colours and shapes.

- Teacher will lay the cut outs in a sequence on action table.

- She will invite different students to make the same pattern with the cut outs.

- She will also ask them to extend the pattern.

- She will give turn to each student.

- Bring real-life objects for example shirts, purses, gift papers etc. with a definite pattern in them, encourage students to identify the pattern in i.e. red stripe, blue stripe, red stripe, and so on.

- The teacher should divide a soft board into four sections, one for each season. Provide pictures related to these seasons and let children sort and decorate the board. Talk about how the four seasons come in an order and make a pattern. Have a brainstorming session and talk about what other things around us has a pattern, for example days of week, lines in a poem etc.

- The teacher should use objects related to the four seasons for example, buttons, bottle caps, plastic wooden shapes and make a pattern using them. The students should identify the single unit of that pattern for example, a red triangle, a green triangle (initially change only one category, for example the colour, then gradually two or more categories can be changed including the shape, size, type of the object).

- In the next periods, invite them to read page no. 144 and 145 of the book. Help them to cut a circle into 4 equal parts to understand the concept of semi and quarter circle.

- The teacher will help students to count the sides and vertices of different shapes.

- She will help them in reading page no. 145 and doing page no. 146 and 147 of the book.

- She can assign the next two pages as homework.

- In the next periods, she will draw different lines on the board and encourage the students to talk about these lines. She will use the real thread to introduce the concept of the straight lines and curved lines

- She will invite the students to read page no. 150

- She will introduce a ruler and talk about its uses in the next period.

- She will help students to draw a straight line with it.

- She will invite students to complete the pages of the book.

- In the next periods, she will show a picture of a zebra to students and invite them to talk about the patterns.

- She will help them to go through the book and give more examples of natural patterns.

- She will help students to complete page no. 156 and 157 of the book.

- The teacher will show the pictures of 3D shapes to students and ask if they know about these. She will invite them to go through the book to develop better understanding about 3 D shapes.

- She will encourage them to name objects having 3D shapes.

- She will help students in completing their book work in pairs.

- She will take them for shapes' hunting walk in the school.

Wrap up:

Teacher will make the class to read the name of the shapes loudly and to learn the spellings by heart.

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Note: The next four periods will be used for revision and the other activities given in the book.