



FACILITATOR'S MANUAL



CLASS 2

MATHS

2026-27

Contents

1.	3 Digit Numbers	5
2.	Addition	11
3.	Subtraction.....	17
4.	Multiplication	23
5.	Division.....	30
6.	Fraction	36
7.	Time And Calendar	39
8.	Money	47
9.	Measurement.....	53
10.	Data Handling	60



Guideline For Using The Teacher's Manual

Teachers' Manual for Fun With Maths Grade 2 is thoroughly planned and designed to serve as a complete guiding resource for teaching mathematics to Grade 2 students. Methodologies that are included here are precisely chosen to meet the requirements of National Curriculum Framework (NCF) 2005 and maintains the standards as specified in Continuous and Comprehensive Evaluation (CCE). Teachers' Manual contains the following sections meant to help the educators in the ways as mentioned below:

Complete Table of Lessons

The table is given in the beginning to provide a consolidated overview Of the sequence Of chapters that are present in the Fun With Maths Grade 2 (A set Of 4 books) together with the key concepts covered in each chapter.

Lesson Plan

This section carries the detailed processes/methods that the teachers are to follow to train the class. A lesson plan for each chapter is chalked out taking proper care to explain the topics in training and acquiring in a class with different types of learners (Visual, Auditory and Kinaesthetic: VAK; Multiple intelligences) in simple and graspable manner. Adequate Teacher's Tips and Activities are furnished to help the teachers in training and acquiring the desired Learning Outcome from the students Of aforesaid intelligence There are icons used in the Teacher's Tips to denote the suggested teaching methods for elaborating a particular topic- Importance is given in incorporating these teaching methods in such a way so that teachers can present the topic in the class in an interesting and encouraging way. Teachers are suggested to keep in mind the mentioned objective while they impart the specified method. The used icons are given below:

 Explain	 Demonstrate	 Interact	 Motivate/Revise	 Board Book	 Linked Activity
Describe and calls student's attention to the important point(s)	Properly show the important point(s) as mentioned and check student's response	Make a face-to-face connection With the class and gather student's ideas on the important point(s)	Encourage students to think themselves (individually or collectively)/ Recapitulate on already discussed points	Clearly show the important point(s) graphically/textually and check student's response	Conduct the related hands-on activity and check student's level of perception on the important point(s)

Answer Keys

Solutions to unsolved problems are provided in this section to serve the purpose of evaluating student's answers correctly and easily. Sufficient number of unsolved problems of different types/difficulty levels are provided in Fun With Maths Grade 2 that are thoughtfully placed in suitable places of respective chapters for student's enrichment and assessment. Exercises are meant to serve the following objectives:

- **Introduction:** Introduction of lessons with poems or stories
- **My Maths Vocabulary:** to build relevant maths vocabulary
- **Let Me Learn:** Pictorial explanation of the concept

- **Let Me Do:** Independent Exercises to master the concept
- **Two-Minute Math:** Simple Mathematical Operations for Quick Calculations
- **Think Some More:** Higher order Thinking Questions
- **Activity:** Simple activities for experiential learning
- **Quick Maths:** Mental math exercises related to the concept
- **Now I know:** Quick exercise for self -assessment.
- **I Can Now Do:** Simple checklist of learning outcomes

Part	Lesson	Chapter	Page Number
Part 1	Lesson 1	3-Digit Numbers	
	Lesson 2	Addition	
	Lesson 3	Subtraction	
	Lesson 4	Multiplication	
Part 2	Lesson 5	Division	
	Lesson 6	Fraction	
	Lesson 7	Time and Calendar	
	Lesson 8	Money	
	Lesson 9	Measurement	
	Lesson 10	Data Handling	

3 Digit Numbers



Explain



Demonstrate



Interact



Motivate/Revise



Board Work



Linked Activity

Note: Structure the lesson so that the students get the broader perspective Of numbers, their applications and usefulness in real life. Use visual modes for explaining the concepts of place value and expanded form in order to give a clear idea of how numbers are formed. Provide a solid platform to make them motivated in formulatng new numbers as well as understand the importance of place, place value and face value of digits in a number.

Pg No. 5

Topic: 3-digit Numbers

TLM: objects like pencils, books, water bottles, crayons, etc. that students carry to school

Learning Outcome: Recognise 3-digit numbers

TEACHER TIPS	STUDENT ACTIVITY
 Recollect 1-digit and 2-digit numbers they have studied in the previous class, before you introduce students with 3-digit numbers. Call out a few 1- and 2- digit numbers. Remind on how students started with single digit numbers and used these digits to form 2-digit numbers. Since, students will be learning higher order numbers, encourage students to think and describe what happened when 1-digit number increased to a 2-digit number, how they compared numbers, how a number is read and written in numeral and word forms. Refer to .  Chit-chat about the emergency vehicles. Ask if they know how to call those vehicles. Discuss the emergency numbers that they should remember. Tell them numbers that have three digits. Refer to .	 Activity 1: Ask the class to complete the Activity given on page 5.  Activity 2: Work in group of 10. 1. Call one group to come in front and ask each student of the group to stand in a row and count backward starting from 100. 2. The next group will start from the last number said by the former group. CW: pg 5 of TM-2

Topic: Place and Place Value**TLM:** Abacus

Learning Outcome:

- Understand place value in 3-digit numbers
- Identify, read and write place and place value of a digit in a 3-digit number

TEACHER TIPS	STUDENT ACTIVITY
 Use an abacus to show a 3-digit number putting beads in ones, tens and hundreds rods. Make a place value table on board to show the number you have shown in the abacus. Remind the class again that in abacus, we can put digits till 9 in ones, tens and hundreds places. Mention that 0 which has no value cannot be put in the highest place of a number.  Ask students to observe the base 10 blocks given on page 6. Help them understand how ones, tens, hundreds are grouped in the respective places. Use the table given on page 6 to explain the place value assigned to each digit in the 3-digit number. Refer to .  Motivate the students to enhance their conception on how a digit represents number of ones/tens/hundreds with the practice given on pages 7-9. Check their understanding and assist if needed.	 Activity: Ask the class to do the activity given on page 6. Note: Students should be able to understand how value of a digit changes when its place is changed. Further, bring to student's notice that a number is always read starting from the highest place in the left. You may give other sets of digits and ask the students to make some other 3-digit numbers. CW: pg 6-9 of TM-2 HW: pg 7, 8 (Q 1-4) of Math PB-2

Topic: Place Value and Face Value**Learning Outcome:** Read and write place value and face value of a digit in a 3-digit number

TEACHER TIPS	STUDENT ACTIVITY
 Let the students observe the table on page 10.  Explain the difference of place value and face value using the table given on page 10. Emphasise that place value of a digit is always	CW: pg 10-11 of TM-2 HW: pg 8 (Place Value and Face Value) of Math PB-2



assigned with the value of the place whereas face value refers to the value of the digit without any place value assigned.

 Make students be careful while solving problems where they are to identify a digit and say its place value and face value.

Pg No. 11-14

Topic: •Expanded Form •Numbers in Real Life

Learning Outcome: • Show a standard 3-digit number in expanded form
• Link numbers with some of their real life uses

TEACHER TIPS	STUDENT ACTIVITY
 Explain with the help of the image given on page 11 that we can write a standard number by adding together ones, tens and hundreds in an expanded form.  The first question given on page 11 will help students to visualise and express a number in standard and expanded form. Other practices will help the students to understand the formation of numbers in a better way.  Link the expanded form of a number with how it can be used in real life with the practice given in 'Numbers in Real Life' section on page 14.	 Activity: Conduct an oral Question-Answer round. 1. Call three girls and two boys. 2. Make them stand side by side separately. 3. Say aloud 'add 3' and '2' and then make them stand altogether. 4. Ask the class to give their answers raising fingers to show the answer and say aloud the number. 5. Say aloud that the total is '5'. Note: Repeat the activity with other sets of students to practice. CW: pg 11-14 of TM-2 HW: pg 9-10 (Q1-4) of Math PB-2

Pg No. 15-16

Topic: Comparing Numbers **TLM:** Sheet of paper (one for each student)

Learning Outcome: Compare two numbers of 3-digits

TEACHER TIPS	STUDENT ACTIVITY
 Explain the three rules given in the book for comparing 3-digits numbers. Tell them to look at the hundreds place first.  Together with the comparison given on page 15, give examples	(After explaining the comparison given on pages 52–53)  Activity: Work in pairs. 1. Write some digits on the board.

of comparison of 3-digit numbers with 2- and 1-digit numbers using place value tables. Make it clear to students that at the time they compare numbers, at first they should check the highest place of the numbers. For example, $101 > 98$. Put the two numbers in separate place value tables. Show that 101 contains '1' in its highest place that is smaller than '9', the digit in the highest place of 98. But, in 101, 1 is placed in hundreds, a place that is greater in its place value than the place of 9 (tens place) of 98.

Refer to .

They can do the exercises after the activity.

2. Ask students of each pair to write the digits that you have written on top of the sheet of paper. Then, each student will make a place value table on the sheet of paper and make a number (Each student can make any one of 1-/2-/3-digit numbers) by putting digit in the table.
3. Once done, students of each pair will show one another's numbers and compare them.

CW: pg 15-16 of TM-2

HW: pg 10 (Comparing Numbers-Q1,2) of Math PB-2

Pg No. 17-18

Topic: Ascending and Descending Order

Learning Outcome: Arrange numbers in ascending and descending orders

TEACHER TIPS	STUDENT ACTIVITY
 Recall ascending and descending order they had done in the previous class. Tell them that ascending order is smallest to bigger and descending order is biggest to smaller. Refer to .  Explain the ascending and descending orders of numbers given on page 17. Ask the students to observe the graph given on page 17. Explain that objects and numbers, are arranged in ascending and descending orders in similar way according to their size.	 Activity: 1. Call a few students in front who have different heights. 2. Make them stand from shortest to tallest first. 3. Then make them stand from tallest to shorter. CW: pg 17-18 of TM-2 HW: pg 10,11 (Ascending and Descending Order Q1,2) of Math PB-2

Pg No. 19-21

Topic: Odd and Even Numbers

TLM: marker pens, bottles, cups, pencil boxes, books, balls, rings (toy), etc.

Learning Outcome:

- Sort numbers as even and odd
- Identify pairs of objects



TEACHER TIPS	STUDENT ACTIVITY
 Read aloud the odd and even numbers poem and ask if they understood anything.  At first, show examples of paired/not paired objects present in real life given on page 19. Let the class observe the examples and form the basic idea on the difference between even/odd numbers. To demonstrate the difference more clearly as explained, arrange the real life objects (marker pens, books, etc.) on the table grouped in pairs/not paired format. Ask students to identify even/odd numbers by carefully observing the objects.  Explain that numbers that can be put together are even numbers such 2 pairs of socks, 1 pair of eyes, etc. Refer to .  Motivate them to respond to the exercises on pages 20-21 on their own while you assess their understanding.	 Activity: Ask the class to complete the Activity given on page 19. Let them touch their body parts and then respond. Note: Tell students that objects can also be sorted based on their total number as ‘Even’ or ‘Odd’. CW: pg 19-21 of TM-2 HW: pg 11,12 (Odd and Even Numbers Q1,2,3) of Math PB-2

Pg No. 22-27

Topic: • Skip Counting • Now I know

Learning Outcome: Make skip counting by 2, 5, 10, 100

TEACHER TIPS	STUDENT ACTIVITY
 Show skip counting of two and three on the number line.  Thereafter, ask them to observe the frog jumping on the number line. Recall how patterns are formed when fixed numbers of steps are jumped. Encourage students to identify the number of steps jumped in a pattern formed by step jumping.  Use the diagram given on page 23 and explain the skip counting by 2. Similarly, explain skip counting by 5, 10, 100. Encourage them to solve the problems on their own while you assist them.	CW: pg 22-27 of TM-2 HW: pg 12, 13 (Skip Counting Q1,2,3,4) 14-15 (Now I Know) of Math PB-2

Website Links:

For teachers:

- https://books.google.co.in/books?id=NQ-aBQAAQBAJ&pg=PA177&lpg=PA177&dq=latest+teaching++of+3-digit+number+sense+HXezaaudb99wJVl+h+lJ+KEwi2-tPVlsnSAh+VBi5QKHdX_CZQ4ChDoAQgd+igit%20numbe+Ise
- https://www.superteacherworksheets_.com/place•valued-digits.html

For students:

- <http://www2.nzmaths.co.nz/LearningObjects/numbers/numbersEN123.html>
- <https://www.funbrain.com/FBSearch.php?Grade=2>

Note: Extra questions for each of the Math concepts are given in the TinkerMath Practice Book-2 which can be answered by the students anytime during the week/weekend the concept is discussed in class or as per their convenience. Parents/ adults may also check the responses given by their wards to assess their understanding.

Answer Keys



Explain



Demonstrate



Interact



Motivate/Revise



Board Work



Linked Activity

Note: Make use of demonstrative approach to allow students understand the usefulness of addition facts and addition without/with regrouping. Provide students sufficient scope to formulate different types of regroupings with numbers and represent them diagrammatically. Give practical examples of addition to make students be familiar with its area of application and use it with no difficulty.

Pg No. 33-34

Topic: Rooma's Garden Addition Facts

TLM: objects like pencils, books, crayons, etc. that students carry to school

Learning Outcome:

- Familiarise with real life addition
- Recapitulate Addition with 2-digit numbers
- Apply addition fact

TEACHER TIPS	STUDENT ACTIVITY
Touch upon the story 'Rooma's Garden' a little. Connect the students with the event of sowing plants in the garden. Begin the chapter by explaining the real life example given on page 33 of how many plants did Rooma had in her garden. Let the class learn that two or more numbers can be added together. Further, let the class observe that the sum obtained in the addition of numbers can be higher in order than the adding numbers. Explain the three facts of addition given on page 34 and let them quickly solve the addition sums.	CW: pg 33-34 of TM-2 HW: pg 16 Q1,2,3 of Math PB-2

Pg No. 35-39

Topic: • Addition of 2-digit Numbers • Addition of 3-digit Numbers

TLM: base 10 blocks (9 flats; 9 longs; 9 units)

Learning Outcome: Add 2-and 3-digit numbers

TEACHER TIPS	STUDENT ACTIVITY
 Give more than one example (including some real life examples, like demonstrate the addition sentences for instances such as ‘A bus picked 5 kids from Stop 1 and 7 kids from Stop 2. Next day, that bus picked 7 kids from Stop 1 and 5 kids from Stop 2.’ etc.) to recall the addition of 1-digit addition.  Motivate them to add 2-digit numbers on page 35.  Explain the addition of 3-digit numbers with the help of the word problem given on page 36.  Solve the sum using the same digits as given on page 36 while mentioning the addition rules given on the left side of the page. Let them observe the table of hundreds/tens/ones to get the sum. Refer to .  At first, write a vertical addition mentioning places on top (Ones (O), Tens (T), Hundreds (H)) on board. Ask the students to describe from which place the addition will start and complete the addition as told by the students. Then, help the students to remember the addition rule by showing the description given on page 36.	 Activity: Work in pairs/groups of 3. 1. Write some 2-/3-digit additions without regrouping on board. Spread base 10 blocks on table. 2. Call a pair/three students to come in front. If you call a pair, ask them to choose an addition with 2-digit numbers. For three students, ask them to choose an addition with 3-digit numbers. When they choose, circle that addition on board. Help the students to demonstrate the addition using base 10 blocks. (In a pair, one student will show addition of ones with units and the other will show addition of tens with longs. Accordingly, in a group of three, one student will show addition of hundreds using flats and the rest two will show addition of tens/ones respectively.) 3. Ask the rest of the class to write the addition in their notebook and make the sum. Ask them to carefully observe the blocks shown by the standing students and match their answer. Let them discuss and correct in case of mistakes. Note: The practices given on pages 37-39 are intended to help students enhance their observation and quick addition ability. Encourage students to make these additions fast. CW: pg 35-39 of TM-2 HW: pg 17 of Math PB-2

Pg No. 40-41

Topic: Understanding Regrouping of Tens and Ones

TLM: abacus/base 10 blocks

Learning Outcome: Regroup tens and ones

TEACHER TIPS	STUDENT ACTIVITY
 Let the students observe the illustration on page 40. Ask them what they understand in this picture.  Explain that Manvi regrouped the pencils in tens and ones and then she was clear about the total number of pencils she had.	CW: pg 40-41 of TM-2 HW: pg 18 Q1,2,3 of Math PB-2



 Use abacus/base 10 blocks to show the regrouping described in illustration (**page 40**). Make it clear that group of 10 ones is always shown as 1 ten.

Students practice independently and respond on **pages 40-41**. Assist them if needed.

Pg No. 42-44

Topic: • Regrouping Ones to Tens and Ones • Addition by Regrouping of Ones

Learning Outcome: • Regroup ones into tens and ones
• Make 2-digit addition by regrouping

TEACHER TIPS	STUDENT ACTIVITY
 Explain with the help of blocks how ones can be regrouped into tens.  Show the example of 2-digit addition with regrouping given on page 42 by drawing block diagram on board. Help the class to understand clearly the process of regrouping of ones to tens and how the carrying over is done.  For more practice, write some other 2-digit additions with regrouping on board. Let the class show the addition by drawing block diagrams. Make them be particular in adding the number carried over to tens.  Write two vertical additions of 2-digit numbers without/with carrying over (both numerically as well as drawing block diagrams) and show the respective additions. Assist students in solving addition sums by regrouping on pages 43-44.	CW: pg 42-44 of TM-2 HW: pg 19 (Addition by Regrouping (Ones to Tens) of Math PB-2

Pg No. 44-47

Topic: 3-Digit Addition by Regrouping - Ones to Tens

Learning Outcome: Make 3-digit addition by regrouping ones to tens

TEACHER TIPS	STUDENT ACTIVITY
 Since you have already explained the process of carrying over ones to tens in addition of 2-digit numbers, write the example of addition of 3-digit numbers with carrying over ones to tens given on pages 44 and help the students to draw block diagrams and show the addition of ones, tens and hundreds. Remind the students to properly identify the place where regrouping is required and make the addition as done before with the help of carrying over.  Once understood, ask students to solve the addition sums by regrouping on pages 44-45 .	CW: pg 45-47 of TM-2 HW: pg 19 (Addition by Regrouping (3-digit Numbers) of Math PB-2

Pg No. 48

Topic: • Regrouping of Tens to Hundreds • 3-Digit Addition by Regrouping **TLM:** 10 longs

Note: Collect them before starting the activity. Arrange objects of one type (number of objects may vary from 5–9 in a row and start the activity. Repeat the activity by replacing the objects with another set of objects).

Learning Outcome: • Make 3-digit addition by regrouping tens to hundreds

TEACHER TIPS	STUDENT ACTIVITY
 Explain regrouping of tens to hundreds with the help of images of blocks on page 48 .  Arrange 10 longs on the table in standing position and ask the students to say how they can regroup these tens. Once you get correct response from the students, use the illustration given on page 48 to explain the formation of 1 hundred obtained by regrouping 10 tens.	CW: pg 48 of TM-2 HW: pg 20 (Regrouping of Tens to Hundreds) of Math PB-2

Pg No. 49-52

Topic: Addition by Regrouping of Ones to Tens and Tens to Hundreds

Learning Outcome: Make 3-digit addition by regrouping tens to hundreds



TEACHER TIPS	STUDENT ACTIVITY
 Use base 10 blocks to show the illustration given on page 49 to explain the addition of 3-digit numbers using regrouping. Encourage students solve the given problems on page 40.  Write another addition ($296 + 105$) on board. Then, ask the students to draw block diagrams and show the addition of ones, tens and hundreds. Ask questions like: - Where students made the regrouping? - How many hundreds are carried over? - How many tens are there in the number obtained as the sum? etc. Students should be able to effectively add 3-digit numbers by regrouping ones to tens and tens to hundreds. . Provide assistance wherever required.	Note: Practices given on pages 50-51 will help the students to improve their computation skill in regrouping tens to hundreds. CW: pg 49-52 of TM-2 HW: pg 21 (Regrouping of Ones to Tens and Hundreds) of Math PB-2

Pg No. 53-58

Topic: • Story Sums • Now I know

Learning Outcome: • Solve word problems by regrouping
• Use addition to decode a coded text

TEACHER TIPS	STUDENT ACTIVITY
 Story sums are given describing simple real life instances (pages 53–55, Addition in real life 57-58) in addition to the numeric addition problems where students will be able to get an idea of how addition is implemented in day-to-day life.  Encourage students to share their own real life experience where they applied addition to solve a problem.  You may ask the students to work in pairs and each one will be writing one simple sentence. Then, ask them to exchange sentences. Ask them to make use of the given number codes to decode the	 Math Lab Activity: Coding-Decoding. Ask the class to complete the Activity given on page 56. CW: pg 53-58 of TM-2 HW: pg 22 (Story Sums) 23 (Now I Know) of Math PB-2

sentences. You may tell stories of how coded messages were used by kings, soldiers and revolutionaries to convey Top

Secret information.

Refer to 🧠.

👍 Motivate them to solve the addition sums quickly on **pages 56-57** and check their accuracy.

Website Links:

For teachers:

- https://emccss-everydaymathonline.com/em-crosswalk/pdf/2/g2_tlg_Lesson_2_1.pdf
- <https://www.education.com/affvity/second-grade/math/>

For students:

- <https://www.turtlediary.com/games/addition.html>
- http://www.softschools.com/math/addition/2_digit_addition/2_digit_addition_with_regrouping/

Note: Extra questions for each of the Math concepts are given in the TinkerMath Practice Book-2 which can be answered by the students anytime during the week/weekend the concept is discussed in class or as per their convenience. Parents/ adults may also check the responses given by their wards to assess their understanding.

Answer Keys



Explain



Demonstrate



Interact



Motivate/Revise



Board Work



Linked Activity

Note: The lesson is suitably planned for teaching the methods of subtraction in 2-/3-digit numbers without/with borrowing to the class. Help the students to get a good conception on the process of regrouping for borrowing in subtraction. Let them properly identify where borrowing is required and where subtraction can be done simply without borrowing. Apart from numeric problems, give examples of real life situations to let them apply subtraction if they come across simple real life problems. Help students to differentiate addition and subtraction properly and identify their relation.

Pg No. 62-64

Topic: • Subtraction • Subtraction Facts

Learning Outcome: • Apply subtraction to solve problems
• Subtract using subtraction facts

TEACHER TIPS	STUDENT ACTIVITY
 Talk about the situation given on page 62 and discuss the answer.  After describing the example, explain how subtraction is used for solving the problem that is just opposite in nature to the situation when addition was used. Unlike addition that is used to find the number of objects altogether, subtraction is used to find the remaining objects when some are taken away. Show how subtraction is used to find the remaining storybooks when 20 books went missing or taken away. Refer to .  Explain the subtraction facts on page 64 and ask students to solve the demonstrative practices for helping them understand the subtraction facts properly. For more stimulation, let students share similar experiences that justify the mentioned subtraction facts.	 Activity 1: Ask the class to do the activity on page 63. CW: pg 62-64 of TM-2 HW: pg 24 (Subtraction Facts) of Math PB-2

Pg No. 65-69

Topic: • Subtraction of 2-digit Numbers • Subtraction of 3-digit Numbers

TLM: • base 10 blocks

• marker pens, pencil boxes, erasers, etc. (to give real life examples of subtraction)

Learning Outcome: Apply subtraction to subtract 2- and 3-digit numbers without borrowing

TEACHER TIPS	STUDENT ACTIVITY
 Recapitulation of subtraction of 2-digit numbers is included to help students recall the concept.  Use base 10 blocks to show subtractions of 2-and 3-digit numbers without borrowing. Make students be aware that in subtraction, smaller number is subtracted from the greater number. Let them understand that the greater number is the number of objects from which the smaller number of objects are taken away and the difference is the number of remaining objects. You may suffice the principle of subtraction with the help of real life objects like marker pens, pencil boxes, etc.  Show how simple subtraction (without borrowing) is done in 3-digit numbers; subtract ones, then tens and then hundreds with the help of the given example on page 66.  A lot of exercises are given for students to get a strong foothold and proceed up to the higher applications of subtraction comfortably.	 Activity 1: Ask the class to do the activity on page 63. CW: pg 65-69 of TM-2 HW: pg 24, 25 (Subtraction of 2-digit and 3-digit Without Borrowing) of Math PB-2

Pg No. 70-74

Topic: • Borrowing and Regrouping in 2-Digit Numbers • Understanding Borrowing and Regrouping

TLM: 3 packs of pencils and some single pencils

Learning Outcome: • Borrow and regroup 2- digit numbers to subtract

TEACHER TIPS	STUDENT ACTIVITY
 With the help of the situation and pictures given on page 70, tell the students how tens are borrowed and regrouped in ones. You may	Note: Both diagrammatic and numeric practices are supplied with the lesson for students to grasp the concept properly.



use real life example here using pencils packs and single pencils to explain where we need to borrow and regroup in subtraction.

 Ask the students to observe the illustration of borrowing and regrouping shown on the **pages 71-72**. Bring to student's attention that the number of tens reduce and the ones grow in the process of borrowing and regrouping. Help them to show the same by drawing block diagrams. Let them circle the ones that are regrouped after borrowing from tens.

Remind them to carefully recheck the number of tens and ones while drawing the block diagrams.

 Write one vertical subtraction without borrowing ($33 - 10$) and another vertical subtraction ($33 - 6$) with borrowing. Make the class understand clearly that borrowing is necessary in subtraction only when there is/are smaller digit(s) in minuend. Show the process of subtraction by borrowing and regrouping on board as given on **page 73 ($83 - 28 = ?$)**. Give the class another subtraction with borrowing and regrouping. For example, $62 - 17 = ?$. Help them make numeric subtraction as well as show it using block diagram in the same way as you have shown. Make it sure that the class gathers a strong idea of how to borrow and where to regroup in the subtraction. Make a discussion on borrowing and regrouping in subtraction to check how much clarity the class has acquired on the concept.

CW: pg 70-74 of TM-2

HW: pg 25 (Q1 A-f Subtraction by Borrowing and Regrouping of 2-digit numbers) of Math PB-2

Pg No. 75-78

Topic: • Borrowing and Regrouping in 3-Digit Numbers

TLM: sheet of paper/notebook

Learning Outcome: • Borrow and regroup 3-digit numbers

• Subtract 3-digit numbers by borrowing and regrouping

TEACHER TIPS	STUDENT ACTIVITY
 Ask students to observe carefully the illustrations given to explain the borrowing and regrouping in 3-digit number on page 75 . Ask students to 'describe' what happened when 1 hundred was borrowed	 Activity: Work in pairs. 1. Write any three number problems of subtraction from page 76 . Ask the students to write the subtractions on paper. Ask one student

and regrouped in tens. Once students are comfortable in understanding why borrowing is required and how we borrow and regroup, ask them to complete the practices given on **page 75**. Once you get correct response from students, ask them to subtract the numbers applying borrowing and regrouping on **pages 76-78**.

Refer to .

of each group to solve the subtraction vertically by crossing out while the other student will solve by drawing/crossing out the block diagram.

2. Once complete, students will show their subtractions and match the answer.
3. Students of each group will then solve the other subtraction by interchanging the process they used to solve the previous problem.

CW: pg 75-78 of TM-2

HW: pg 26, 27 (Q1 g-o Subtraction by Borrowing and Regrouping of 3-digit numbers, Q2) of Math PB-2

Pg No. 79-81

Topic: • Subtracting Across Zeros for 2-Digit Numbers • Subtracting Across Zeros for 3-Digit Numbers

Learning Outcome: • Use borrowing And regrouping to subtract across zeros with 2-digit and 3-digit numbers

TEACHER TIPS	STUDENT ACTIVITY
 Talk about the situation given on page 79 and try to elicit instant answers from the students that how many marbles are left with Tinku.  Show the same subtraction on board and Ask them to identify the place(s) where borrowing and regrouping is required. Once you get correct response, let the students complete the subtraction either by drawing and crossing out block diagram/vertically by crossing out on page 79.  Write the figures of subtraction vertically on board as given on page 80 and ask the students to observe the subtraction carefully and say how they will solve it. Explain that since both tens and ones have 0, borrowing is done from hundreds place and first regrouped in tens place. Then, 1 ten is borrowed and regrouped in ones. Complete the subtraction on board by crossing out and show how tens digit is changing twice. Help students to complete the subtraction vertically by crossing out. Students should keep the process in mind while doing such type of subtraction. Ask them to show the subtraction by drawing block diagram and crossing out.	CW: pg 79-81 of TM-2 HW: pg 27, 28 (Subtracting Across Zeros) of Math PB-2



Remind the students that they should not start subtraction until they complete the borrowing and regrouping of 1 ten in ones. Once the students get clarity, ask them to practice on **pages 80-81**.

Pg No. 82

Topic: Subtraction in Real Life

Learning Outcome: Solve simple real life subtraction problems

TEACHER TIPS	STUDENT ACTIVITY
 Help students to understand the simple real life situations given on page 82 where subtraction is used. Ask them to share their own experience where they needed to know the remaining amount of something. Refer to  .	 Activity: Work in pairs. Invite students to give some real life examples of subtraction by mentioning different objects, number of objects taken away and number of objects left behind. CW: pg 82 of TM-2

Pg No. 83-84

Topic: Addition and Subtraction are Related

Learning Outcome:

- Relate subtraction with addition
- Use addition to check subtraction

TEACHER TIPS	STUDENT ACTIVITY
 Encourage the students to observe the two pictures given on page 83 and fill up the blanks. Ask them to circle the total of addition first. Then, they will locate and circle the same number (total of addition) in subtraction sentence. Use these examples to explain how small groups/sets add together to make a big group/set. Clearly show that in case of subtraction, if one small group/set is taken out from the big group, we get another small group/set. Note: The practices given on the page 83 will help students understand that for one addition sentence, there are two related subtraction sentences. Let the students complete the exercises on page 84 .	CW: pg 83-84 of TM-2 HW: pg 28 (Addition and Subtraction are Related) of Math PB-2

Topic: • Story Sums • Now I know

Learning Outcome: Solve word problems applying subtraction

TEACHER TIPS	STUDENT ACTIVITY
 Explain the word problems and ask the students to solve them. Assist them if required. Refer to  . Let them practice addition and subtraction given on pages 87-89 will help students to develop their understanding on subtraction by borrowing and regrouping with 3-digit numbers in a better way.	 Activity: Work in pairs. Ask the class to complete the Activity given on page 87 . CW: pg 85-88 of TM-2 HW: pg 29,30,31 (Story Sums, Now I Know) of Math PB-2

Website Links:

For teachers:

- http://www.homeschoolmath.net/teaching/a/subtract_mentally_2_digit.php
- <https://www.education.com/worksheets/second-grade/subtraction/>

For students:

- <https://www.varsitytutors.com/aplusmathfrlidden-picture/subtraction>
- <https://in.ixl.com/math/subtraction>

Note: Extra questions for each of the Math concepts are given in the TinkerMath Practice Book-2 which can be answered by the students anytime during the week/weekend the concept is discussed in class or as per their convenience. Parents/ adults may also check the responses given by their wards to assess their understanding.

Answer Keys



Explain



Demonstrate



Interact



Motivate/Revise



Board Work



Linked Activity

Note: Teach the concept of multiplication to make students understand it properly that multiplication is a quick alternative for repeated addition. Use various models as discussed in the chapter to show that multiplication is the mathematical operation to solve problems where same number/group of objects is repeating more than once. Emphasise students to memorize times tables so that they can make column multiplication quickly and accurately.

Pg No. 93-95

Topic: • Multiplication • Repeated Addition • Animal Body Parts Addition

Learning Outcome: Make repeated addition to find the total number of repeating groups of objects

TEACHER TIPS	STUDENT ACTIVITY
 Start the session with an activity. Refer to .  Explain the two repeated additions done with balloons by the two kids described in the picture story on page 93.  While conducting the mentioned activity, give real life examples of repeating groups of objects like boxes of pencils, trays of colas, packets of milk (to show repeating group of one object), etc. Note: Given practices will help students to use repeated addition and find the total of different types of repeating groups. Help them to remember two things while making repeated addition: - Number of objects in one group. - Number of times the group is repeating.	 Activity: - Invite 6 students to come in front. - Arrange these students as '2 groups of 3' and '2 groups of 3' respectively as done with the balloons on page 93. CW: pg 93-95 of TM-2 HW: pg 32 (Repeated Addition as Multiplication) of Math PB-2

Pg No. 96-98

Topic: Repeated Addition in Equal Groups

Learning Outcome: Express repeated addition in the form of multiplication

TEACHER TIPS	STUDENT ACTIVITY
 Arrange groups of marker pens (6 pens–4 groups of 5) to show the groups of children described in the picture story given on pages 95. Ask the students to count and say aloud the number of marker pens in one group and the number of times the group is repeating. Add another group of 5 marker pens and ask the students to say aloud the total number of marker pens. Students should know that repeated addition can be extended further if more repeating groups are added. Refer to .  Students should be able to understand the example given in exercise 1 on page 95. Now ask them to practice the given problems on pages 96-98. Assist the students while they work.	 Activity: The example given on page 95 can be done using the students from class. CW: pg 96-98 of TM-2

Pg No. 99-100

Topic: Skip Counting to Multiply

Learning Outcome: Solve multiplication using skip counting

TEACHER TIPS	STUDENT ACTIVITY
 As skip counting is already discussed, let the students observe the example and the pattern of skip counting on page 99. Ask them to see how each jump is represented by repeated addition.  Ask students to draw a number line and make skip counting by 4 to see after how many steps they take to reach 8. Ask them to write the repeated addition and the multiplication sentence for the skip jumping. Ask them to practice skip jumping and repeated addition on pages 99-100.	CW: pg 99-100 of TM-2

Pg No. 101-110

Topic: Skip Counting and Multiplication Tables

Learning Outcome: • Read, write and say times tables

• Relate the number patterns formed in skip counting with the times table results Make group of 10 and count objects



TEACHER TIPS	STUDENT ACTIVITY
 Write the number pattern sequence formed by step jumping by 2 (2, 4, 8,.....,10) on board. Once done, represent the numbers of the pattern by repeated addition (e.g. $2+0=2$, $2+2=4$, $2 + 2 + 2 + 2=8$, etc.) on board. Write some equivalent multiplication sentences besides corresponding additions and let students say the rest of the multiplications (till $2 \times 10=20$).  Explain that the multiplications written to represent a particular pattern formed out of repeated addition is called times table. For example, in this case, it is the times table of 2. Describe the example of apples on the trees given on page 101.  Tell them that multiplication is a short and fast way of representing repeated addition.  Explain the times tables on pages 101-105. Refer to . Note: Ask the students to complete the following practices given on pages 101-105.  Encourage students to remember the times tables so that they can use the result quickly when needed. Ask them to complete the given practices quickly without looking at the times tables.	 Activity 1: Show the times table of 1 using your fingers. You may use your fingers to show them times table of 2 also. Activity 2: You can call 5 students and ask them to stand facing the class and show their hands a=with fingers straight. You may read aloud the times table of five pointing to the students' fingers. CW: pg 101-110 of TM-2 HW: pg 33 (Multiplication Tables) of Math PB-2

Pg No. 111

Topic: multiplication grid

Learning Outcome: • Make a multiplication grid

TEACHER TIPS	STUDENT ACTIVITY
Refer to .  Help the students understand how a repeating pattern is formed when standing and sleeping lines meet with one another. Ask students to describe how it is similar to the arrangement of objects in rows and columns.	 Activity: Ask the students to complete the activity on page 111. CW: pg 111 of TM-2

Pg No. 112-113

Topic: • Rows and Columns or Columns and rows • Multiplication in Real Life

Learning Outcome: • Use multiplication In rows and columns
• Solve real life multiplication problems using times table

TEACHER TIPS	STUDENT ACTIVITY
 Show how multiplication is same even if you change the order from rows to columns. You can use students to show this or the desk arrangement in the classroom. Ask students to practice multiplication to compare rows and columns on page 112 .  Instruct students to solve the real life multiplication problems given on page 113 using the times tables they have learnt.	CW: pg 112-113 of TM-2 HW: pg 32 (Multiplication of Rows and Columns) of Math PB-2

Pg No. 114-115

Topic: Multiplication Facts **TLM:** paper chits in a box (each containing one multiplication fact different from one another. Chits should be at least 20 in number. No chit should contain a product of value greater than 20), marker pens (20), plastic cups (20)

Learning Outcome: Use multiplication facts in solving problems involving multiplication

TEACHER TIPS	STUDENT ACTIVITY
 Explain the multiplication facts and ask the students to observe the illustration carefully as you describe the related examples. You may use marker pens and plastic cups to show the examples as mentioned in the activity. Refer to  .	 Activity: Note: Before you start the activity, instruct the following: a. Students will show fact 1 by making two different repeating groups with marker pens only. b. To show fact 2 , students are to use only plastic cups. c. To show fact 3 , students are to use both plastic cups and marker pens. You may show one example for each. d. The student should put the chit back inside the box after demonstrating the fact.



	Activity: 1. Put chits, each containing one multiplication fact, inside a box. Keep the box on your table. 2. Call a student to come in front and pick a chit. Ask him/her to demonstrate the fact before the class. 3. Ask the rest of the students to see the demonstration and write the fact in the form of multiplication sentence. 4. Once complete, ask one student to stand up and say aloud the multiplication sentence. Ask others to listen and match their sentences. Note: Repeat the activity for more practice. CW: pg 114-115 of TM-2 HW: pg 34 (Multiplication Facts) of Math PB-2
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Pg No. 116

Topic: Multiplication by Column Method

Learning Outcome: Make multiplication by column method

TEACHER TIPS	STUDENT ACTIVITY
 Before you begin the section, you should make a quick recapitulation on times tables (1–9) so that students can easily understand the concept without the need of repeated addition. Give some other examples of column multiplication on board and make it clear to students so that they write the digits of the product in their respective places.	CW: pg 116 of TM-2

Pg No. 117-119

Topic: Multiply Without Carrying Over in 2- and 3-Digit Numbers

Learning Outcome:

- Solve multiplication without carrying over in 2-digit numbers
- Solve multiplication without carrying over in 3-digit numbers

TEACHER TIPS	STUDENT ACTIVITY
 Show an example of 2-digit multiplication without carrying over on board. Emphasise on the process of how a 1-digit multiplier is multiplied separately with ones and tens digit of the 2-digit multiplicand. You may write some unsolved column multiplications on board and ask the students to solve themselves.  Proceed further to multiplication in 3-digit numbers without carrying over following the same process. Make sure that students remember and make use of times tables properly.	CW: pg 117-119 of TM-2 HW: pg 34, 35 (Q1,2 Multiply without carrying over) of Math PB-2

Pg No. 120

Topic: Multiply with Carrying Over in 2-Digit Numbers

Learning Outcome: • Solve multiplication with carrying over in 2-digit numbers

TEACHER TIPS	STUDENT ACTIVITY
 Before teaching the multiplication with carrying over recall how a ten is carried over and added with the other tens at the time of addition with carrying over. Write the example given on pages 120 on board and conduct interactive session with the students as you explain the steps of solving the multiplication. For example, ask questions like, why '4' is carried over to tens, how many ones will be there in the product, how the digits of the product in the tens place are to be arranged, etc. Write 1–2 more examples of multiplication with carrying over and let the class assist you in solving the problems.	CW: pg 120 of TM-2 HW: pg 36 (Q1--a, b, c Multiply with carrying over) of Math PB-2

Pg No. 121-124

Topic: Multiply with Carrying Over in 3-Digit Numbers

Learning Outcome: Solve multiplication with carrying over in 3-digit numbers



TEACHER TIPS	STUDENT ACTIVITY
 This lesson is a further continuation to the previous section. Let the students observe and understand the example given on page 121 by themselves. Once they are done, let them show the answer to one another and discuss the steps involved in the multiplication. Give some other examples on board and ask the students to help you in solving.	CW: pg 121-124 of TM-2 HW: pg 36 (Q1--d, e, f, Q2 Multiply with carrying over) of Math PB-2

Pg No. 125-129

Topic: Story Sums Now I Know

Learning Outcome: Solve multiplication word problems

TEACHER TIPS	STUDENT ACTIVITY
 Bring students close to the real life multiplication problems through the story sums given on pages 125-128 . Note: The Quick Maths and Now I Know on page 128-129 contains some tricky problems where the students need to have a good command over the times table in order to solve them correctly.	CW: pg 125-129 of TM-2 HW: pg 37 (Story Sums) 38, 39 (Now I Know) of Math PB-2

Website Links:

For teachers:

- [http co. uk/subjects/multiplication](http://co.uk/subjects/multiplication)
- <https://mvw.education.com/worksheets/second-grade/multiplication/>
- <http://www.multiplication.com/teach/classroom-games>

For students:

- <http://www.thegreatmartinicompany.com/Math-Quick-Quiz/multiplication-quiz.html>
- <https://www.turtlediary.com/games/second-grade/math.html>
- <http://www.free-training-tutorials.com/times-tables-games.html>

Note: Extra questions for each of the Math concepts are given in the TinkerMath Practice Book-2 which can be answered by the students anytime during the week/weekend the concept is discussed in class or as per their convenience. Parents/ adults may also check the responses given by their wards to assess their understanding.

Answer Keys



Explain



Demonstrate



Interact



Motivate/Revise



Board Work



Linked Activity

Note: Present equal groups of different types of real life objects to demonstrate the concept of division in the class. Make it clear to students that multiplication gives us the total number of objects in a particular distribution whereas division is the method used to find objects of one group/total number of equal groups. Show multiple real life examples through which students will be able to analyse and decide which operation they will use from multiplication/division to solve a given problem. Consequently, make the class aware that division has a two-sided use while multiplication gives single result.

Pg No. 5-7

Topic: Division **TLM:** marker pens (12)

Learning Outcome: Understand to distribute objects in equal groups

TEACHER TIPS	STUDENT ACTIVITY
 Read aloud the poem given on page 5 and tell the students that the children shared on crayon by dividing it between them.  To explain the Task of Sharing Cookies given on pages 6-7, at first arrange 12 marker pens in a line on the table. Then, call three students to come in front and tell them to stand side by side. Give marker pens one by one to each student and show how all the pens are shared in three students equally. Explain that in the same way, the three friends in the mentioned story shared 12 cookies among them. Students should answer the record sheet by observing the distribution carefully.  Encourage students to answer the questions about the Cookie Sharing task. Refer to .	 Activity: Ask the class to complete the Activity given on page 7. CW: pg 5-7 of TM-2

Pg No. 8-12

Topic: Making Equal Groups Shortest

TLM: picture cards (drawn by each student of the class with a funny character and its name mentioned over it.)



Learning Outcome: Find division by making equal groups

TEACHER TIPS	STUDENT ACTIVITY
 Use 6 picture cards of flowers or real flowers to explain the example given on the page 8. Ask students to observe the distribution as you divide the flowers. Explain in details how division is expressed in different ways as mentioned at the end. Show the division sign ($\div$) properly. Refer to .  Assist them in completing the practices given on pages 8-12. Assist them in writing picture sentence and statement. Note: Lots of practices are provided for students where they can observe, identify and divide objects in equal groups.	 Activity: Note: 1. Instruct the class one day in advance to make one picture card by drawing his/her favourite funny character with its name mentioned over it and bring it to the class. You may suggest some funny characters. 2. Make a table with two columns. Label one column as 'FUNNY CHARACTER WE LIKE' and the other column as 'EQUAL GROUPS THAT WE MADE'. Activity: 1. Ask all the students to submit the cards that they have drawn. Arrange all the cards on the table. 2. Call one student to come in front and find how many cards contain his/her favourite funny character. 3. Ask the student to say aloud his/her favourite character and ask all other students to come in front who have drawn the same character. 4. The students will then count the cards together and discuss the different types of equal groups that they can make with these cards (Help them in making equal groups). Accordingly, write name of the funny character and the equal groups made by students in the table on board. For example, if there are 8 Donald Duck Cards, write DONALD DUCK in Name column and '1 group of 8 cards', '2 groups of 4 cards', '4 groups of 2 cards', '8 groups of 1 card' in Equal Groups column. 5. Repeat the activity with other cards. Once complete, declare the funny character with biggest number of equal groups as BEST FUNNY CHARACTER. For example, if there are 8 Donald Duck Cards and 9 Scooby Cards, Scooby Cards win since we can make 9 equal groups of 1 Scooby card.

CW: pg 8-12 of TM-2

HW: pg 40 (Division in Equal Groups) of Maths PB-2

Pg No. 13-15

Topic: Division as Repeated Subtraction **TLM:** picture cards (that students prepared in the students in the introductory activity)

Learning Outcome: Find division making repeated subtraction

TEACHER TIPS	STUDENT ACTIVITY
 Recall the Task of Sharing Cookies done in the introduction section and ask students to describe the process in which they distributed the cookies. Once they share their ideas, use the example given on the page 13 to show how a fixed number is subtracted each time and distributed in groups till no number is left.  Explain in details the steps of making repeated subtraction as mentioned in the left hand side of the page 13. Assist students when they practice the division sums on pages 14-15. Refer to .	 Activity: 1. Call one student to come in front and give some picture cards. Ask him/her to count and say aloud the total number of cards. The rest of the class will note down the number in their notebooks. 2. Then, ask him/her to divide the cards in equal groups and say aloud the number of cards of one equal group. Ask the rest of the class to make repeated subtraction with the number said by the student from the first number and say aloud the number of steps of repeated subtraction after which they obtained 0. 3. If the number of steps said by the class matches with the number of equal groups, the standing student will raise his/her right thumb up and say aloud “EQUAL SHARE FOUND”, else he/she will show right thumb down and say aloud “INCORRECT SHARE”. Note: Repeat the activity for more practice. CW: pg 13-15 of TM-2 HW: pg 41 (Division as Repeated Subtraction) of Maths PB-2

Pg No. 15-20

Topic: Division Facts **TLM:** marker pens, cards, plastic cups, etc.

Learning Outcome: Identify and use division facts



TEACHER TIPS	STUDENT ACTIVITY
 Explain each fact of division with the help of examples given on pages 15-16. Tell them what dividend, divisor and quotient are.  Demonstrate the division facts showing equal groups formed out of real life objects like marker pens, cards, plastic cups, etc. so that students get a better understanding of the illustrative examples given in the book.	CW: pg 15-20 of TM-2 HW: pg 42 (Q1,2,3-Division Facts) of Maths PB-2

Pg No. 21-25

Topic: • Division by Using Multiplication Facts
• Division Is Reverse of Multiplication

TLM: marker pens, cards, plastic cups, cubic blocks, books, balloons, etc.

Learning Outcome: • Link division and multiplication properly
• Use times table and relate with the correct division fact

TEACHER TIPS	STUDENT ACTIVITY
 Let the students count and say the total number of apples given in the illustrations on the page 21 (Let them study the first illustration first and then come to the second). Ask students in which times table they obtained the number. Tell them to say aloud the multiplication.  Ask the students to observe the number of equal groups of apples and say if they are the same as the multiplicand and multiplier used in the multiplication. Let them identify how the same terms are used in different positions in multiplication and division.  Help students to have a better idea on the relationship between multiplication and division by showing equal groups of real life objects (You may use the same objects that you have used earlier). Show different types of groups so that students are able to use times tables of different numbers and relate them with the equal groups of objects that you will arrange on the table for students to study. For example, arrange 3 equal groups of 4 marker pens, 2 equal groups of	 Activity 1: Let the class do the activity given on page 117. CW: pg 5-7 of TM-2 HW: pg 42,43 (Q1,2,3,4-Division by Using Multiplication Facts) of Maths PB-2

4 plastic cups, etc. Make students understand it clearly that division is a reverse process of the multiplication.

Make sure that students are able to recollect times tables properly.

 Write some unsolved division sums on board and ask students help you to solve the problems. Check whether the students are able to use the correct times tables to solve the division.

Pg No. 25-27

Topic: • Division in Real Life • Long Division

Learning Outcome: • Use division to solve real life problems
• Make simple long division

TEACHER TIPS	STUDENT ACTIVITY
 Give examples of different types of means of transportations like cabs, buses, trains and ask the students to describe how they differ in their capacities. Ask the students to describe some other examples where they have seen division of objects. You may give hints. For example, how students sit in the class, the way their mother distributes food in the family, etc.  Explain the word problem given on page 25 and how it can be easily solved with division. Help the class build the initial idea of how division helps in making equal shares of a whole distribution.  Make the format of long division on board and ask the students to write the positions of the division terms in their notebooks exactly the same way in which you write on board. Solve the long division following the steps as mentioned on page 26. Write some unsolved long divisions on board and ask students help you to solve the problems. Check whether the students are able to use the correct times tables to solve the long division.	 Activity 1: Let the class do the activity given on page 117. CW: pg 25-27 of TM-2 HW: pg 43, 44 (Long Division) of Math PB-2



Pg No. 28-31

Topic: • Story Sums • Now I Know

Learning Outcome: Demonstrate division To solve story sums

TEACHER TIPS	STUDENT ACTIVITY
 Explain the word problems and assist them in practicing division sums on page 28. Refer to  . Assess the students to get a clear picture of students' understanding of division by monitoring their work on pages 30-31 .	 Activity 1: Math Lab Activity: Ask students to complete the Activity given on page 29 . Note: Ask students to bring materials required for the activity in advance. CW: pg 28-31 of TM-2 HW: pg 44, 45 (Story Sums) pg 46, 47 (Now I Know) of Math PB-2

Website Links:

For teachers:

- <http://vmw.teachingideas.co.uk/subjects/division>
- <http://mvw.math-salamanders.com/second-grade-division-worksheets.html>

For students:

- <https://eu.ixl.com/math/grade-2/divisors-and-quotients-up-to-S/>
- <https://eu.ixl.com/math/grade-2/divisors-and-quotients-up-to-10>
- <http://mvw.bbc.co-uk/schools/starship/maths/crosstheswamp.shtml>

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Answer Keys



Explain



Demonstrate



Interact



Motivate/Revise



Board Work



Linked Activity

Note: Help students understand that fractions are numerical representation of parts of a whole object. As examples, two simple fractions (half and quarter) are introduced. Give sufficient examples as well as let students identify/make equal parts of real life whole objects in halves/quarters_

Pg No. 37-38

Topic: Fraction **TLM:** paper strip, chalk, match stick, candle

Learning Outcome: Identify equal and unequal fractions

TEACHER TIPS	STUDENT ACTIVITY
 Ask the students if their parents give them a chocolate and ask them to share it with another friend of theirs. Take responses. Read aloud the situation given on page 37 . Make them understand how the two children divide the different chocolates every day.  Show the formation of fraction by dividing real life objects like chalk, paper strip, etc. in parts.	 Activity 1: Keep some real life objects and their parts spread on the table and ask the students to match the correct whole object with its part. Activity 2: Conduct the Activity given on page 38 . CW: pg 37-38 of TM-2

Pg No. 39

Topic: One-half

TLM: objects (book, pencil box, eraser, sharpener, spoon, pencil, etc.) present in the school bags of the students (any 5 for each group), sheet of paper (one for each group), pencil (one for each student), crayons (at least 6 of Different colours in each group)

For real life examples: chocolate bar/ candle/paper strip/ match stick-one for each pair and one for you to explain

Learning Outcome:

- Divide a shape/object in equal halves
- Show one-half as fraction
- Add two equal halves to make a whole



TEACHER TIPS	STUDENT ACTIVITY
 Use a real apple to show how it can be divided in two equal halves. Call some students to come in front and let them observe the two halves carefully and say whether they are equal in shape and size. Let them join the two halves and check if they form the complete apple or not.  Show it clearly how to represent 'one-half' in numeric form by writing it on board. Explain to students that we write all other fractions in similar way.  Use any other real life object like chocolate bar/candle/paper strip/match stick in each pair. Use a chocolate bar (or the object that you've distributed) to show how the two friends divide it in two equal halves. Show it clearly how two halves are joined together to make whole (1) numerically. Students should know that each half is numerically expressed as '$\frac{1}{2}$' while a whole is represented as '1'. Refer to .	 Activity 1: Work in pairs. 1. The students of each pair will make a table on a sheet of paper with two columns. Ask them to put caption on top of one column as OBJECT and the other as SHAPE. 2. Ask the students of each pair to take out some objects (any 5) from their bags (books, pencil box, erasers, sharpener, spoon, etc.) and discuss if these can be divided in equal halves. 3. Students will fill the table writing names of the object that they think can be divided in halves under OBJECT column and draw their shapes under SHAPE column. 4. Ask the students to make a division line by using crayon and write onehalf ($\frac{1}{2}$) over each equal part. 5. Once complete, the students of each pair will exchange the tables done by them with one another and share their thoughts of how they formed halves. Ask them to check whether these objects can be divided in equal halves in any other ways. If they find such, ask them to show it by making division line using crayon of different colour. CW: pg 39 of TM-2

Pg No. 40

Topic: One-quarter

TLM: paper circles (at least 2) To demonstrate formation of different types of halves and quarters: Fruits-apple, orange, etc., Food materials-cookies, bread, etc., paper strip, chalk, artificial flowers, etc.

Learning Outcome:

- Divide a shape/object in equal quarters
- Show one-fourth as fraction
- Add four equal quarters to make a whole

TEACHER TIPS	STUDENT ACTIVITY
 Use a paper circle instead of a pizza to show the formation of quarters as described on the page 40. Make it clear to the students that each of four quarters is equal in size.  Show clearly how to write one-fourth numerically.  Explain that whenever a whole object is divided in quarters, each quarter is represented as '$\frac{1}{4}$'.  Show, by using two paper circles and dividing one in halves and the other in quarters that one-half is larger in size than one-fourth. Let the students see themselves that four equal quarters join together to make a whole object. Since, both one-half and one-fourth are explained, give different examples of real life objects to make students understand that halves and quarters formed from different objects look different from one another, but are represented in the same way in numeric form. Show both parts of real life objects (divided in quarters) and the numeric representations to explain how new fractions are formed by joining quarters ($\frac{1}{4}$, $\frac{1}{4}$, $\frac{3}{4}$). Refer to .	 Activity 1: Ask the class to do the activity given on page 41. CW: pg 40 of TM-2

Pg No. 41-44

Topic: • Writing Fractions • Now I Know

Learning Outcome: Identify and write different Fractions in shapes and objects

TEACHER TIPS	STUDENT ACTIVITY
 Let students understand how similar fractions can be represented different ways by using different types of shapes. Motivate the students to respond on pages 42-43 on their own.	CW: pg 41-44 of TM-2 HW: pg 48 (Parts of a Whole), pg 49 (Now I Know) of Math PB-2



Website Links:

For teachers:

- http://www.helpingwithmath.com/resources/activities/act_fractionsol.htm
- http://edhelper.com/2nd_Grade_Fractions.htm

For students:

- <https://www.conceptuamath.com/client/PremiumMats.html#t001=identityMat>
- <http://www.learningliftoff.com/2nd-grade-math-ways-show-fractions/#.WOSxxkV96M8>

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Answer Keys

Time And Calendar



Explain



Demonstrate



Interact



Motivate/Revise



Board Work



Linked Activity

Note: Make students more comfortable in telling different types Of times from both analog/digital clocks. Encourage students calculate number of minutes by using times table of 5. Guide the class to read and write clock times Other than full hours. Apart from times with minutes divided in quarters, let students make further exploration and let them identify other positions of clock hands. Give students the basic knowledge of time interval. Make the class be familiar to find, tell and write a date from a calendar. The chapter is intended to make students more savvy' in reading clock times (digital/analog) and calendar dates. Accordingly, provide them enough scope to study real life clocks and calendar.

Pg No. 48

Topic: Introduction to Time

Learning Outcome: Tell times and dates of special activity(ies) of their life

TEACHER TIPS	STUDENT ACTIVITY
 Begin the chapter by asking some basic questions on time and calendar in order to make students aware of the importance of the topics covered in the lesson. Ask them if they know when they get up in morning, take lunch and dinner, which day of each week the school remains closed, etc.  Describe the invitation card given on page 48. You may ask when their birthday falls, what time of the day they celebrate it, etc. Ask the students to say some ways in which they remember important dates and clock. Before they learn the topic in details, let the class understand that clock and calendar are two important tools that help us to check and tell time and date of any event happening in the world accurately.	CW: pg 48 of TM-2



Pg No. 49-50

Topic: Types of Clocks

TLC:

- Analog clocks— watch, table clock, wall clock, etc.
- Digital clocks— smartphone, tab, etc.
- Model analog clock

Learning Outcome:

- Identify analog and digital clocks
- Write time in full hour in words/numbers

TEACHER TIPS	STUDENT ACTIVITY
 Before you read about the clocks, show some commonly used analog and digital clocks in the class. Make students identify the points mentioned about analog and digital clocks on page 49. Use a model analog clock to show the numbers written on clock face and the clock hands (Mention about the second hand of the clock). Use the smart phone digital clock to describe the details. Adjust the clock hands of the model analog clock to show the full hours and ask students to say the time. Ask the students which clock is easier to use to tell time and why.  Explain to the students that an analog clock uses moving hands to show time. The long hand tells the minutes, and the short hand tells the hour. Ask the students what time the analog clock is currently displaying. Tell them that a digital clock shows the time with numbers.  Show clearly by writing on board the different ways in which full hours are written. Refer to .	 Activity 1: Ask students to complete the Activity given on page 49. CW: pg 49-50 of TM-2

Pg No. 50-53

Topic: Reading Time **TLC:** model analog clock

Learning Outcome:

- Measure time shown on the clocks
- Identify clock hands
- Show time in full hour in clock (digital/ analog)
- Identify direction of movements of clock hands as 'Clockwise'

TEACHER TIPS	STUDENT ACTIVITY
 At first, ask students to draw a big analog clock in their notebook. Say a full hour for students to show it by drawing the clock hands on the clock. Ask the students to show the clock hands in their notebooks exactly as you show to them.  Write some full hours on board and discuss with the class on the position of clock hands for these times. Adjust the clock hands of the model analog clock and show the correct answer. Ask the class to say aloud the time.  Tell them about clockwise and anticlockwise directions. Refer to .  Let them respond on pages 50-51 by writing the time shown on the clocks and by drawing the hands in the clocks.	 Activity: Ask students to complete the Activity given on page 53. Activity 2: 1. Call one student to come in front. Give him/her the big analog clock that you are using. Ask him/her to point any of the two hands of the clock without saying its name. 2. Ask any other student to stand up and say aloud the sentence completed by him/her at the bottom of the poem that correctly describes the clock hand shown by the standing student. 3. Ask the rest of the class to point the same hand that is shown by the standing student in the clock drawn by them and say aloud its name. Note: Repeat the activity for more practice. CW: pg 51-53 of TM-2 HW: pg 50 (Reading Time) of Math PB-2

Pg No. 54

Topic: Whole, Quarter or Half **TLM:** Model analog clock

Learning Outcome: Identify the fraction of equal quarters on clock face

TEACHER TIPS	STUDENT ACTIVITY
 Make the students recall the terms whole, half and quarter they studied in the previous chapter. Now tell them that a clock is also divided in four equal quarters.  Show the picture given on the page 54 and explain the movement of minute hand by moving your finger in clockwise direction starting from 12. Using the model analog clock, stop at the point of completion of each quarter and mention how it is expressed in terms of minutes. Adjust the clock hands of the model analog clock to show a time in	 Activity: 1. Say aloud a number at random from 0–39. 2. Ask the students to write the number and its name in words. Note: Repeat the activity so that students gain their speed of writing numbers and their names. CW: pg 54 of TM-2



quarters of an hour and let the students tell the correct time. Repeat the demonstration with different times as quarters of an hour to make students tell the time accurately and quickly.

Pg No. 55-57

Topic: Half Past the Hour **TLM:** Model analog clock

Learning Outcome: Tell and write time in half past the hour

TEACHER TIPS	STUDENT ACTIVITY
 At first, make a quick revision on the number of hours and minutes crossed when an hour hand moves from one hour to another. Explain, by showing the clock and moving your finger starting from 12 and stopping at 6, how to read and tell time in half past an hour. There is a detailed description given on page 55 to show the movement of clock hands from the full hour till the half past an hour. Refer to .  Help students get a better idea on the duration of half an hour. Give examples from real life, like duration of TV serial, duration of lunch break, etc.  Call a student to come in front and help him/her to demonstrate the time in half an hour explained in the practices of page 56 with the help of the model analog clock.  Ask questions on the positions of clock hand for times in half hour while students complete the practice given on pages 56-57.	 Activity: Conduct the activity given on page 55 and ask the students to respond. CW: pg 55-57 of TM-2 HW: pg 51 (Half Past the Hour) of Math PB-2

Pg No. 58-62

Topic: • Quarter Hour • Quarter to the Hour

Learning Outcome: Tell and write time in quarter hour

TEACHER TIPS	STUDENT ACTIVITY
 Revise on the previously learnt clock times while you explain the quarter hour. Help students to understand that every day, they do different types of activities that vary by time. The clock is the handy tool that is used to check how much time is taken to complete a particular work. Ask them which of their activities take quarter hour.  You may write times on board/say aloud and make student write clock times in both digital as well as textually. Make sure that students remember of using multiplication table of 5 to calculate the time in minutes. To calculate time in minutes for quarter hour. Refer to . Note: Different types of practices are provided so that students can make themselves better in terms of watching and telling times. Help them to increase their accuracy as well as discuss on durations of different types of activities happening around them. Make them consider the times other than what they have learnt.	 Activity: 1. Ask students to observe clock given on pages 58-59 and say how many small divisions of 5 are past. 2. Ask them to make the repeated addition to compute the time in minutes for quarter past an hour. 3. Let one student say the times table of 5 and stop when he/ she gets 15 as product. Make the student repeat the corresponding multiplication with 15 as product. 4. Ask the rest of the class write the multiplication and see the relationship between the repeated addition and the multiplication result obtained from the table of 5. Note: Conduct the same activity for quarter to an hour. Here, students should make repeated addition with nine 5s. The standing student is to say times table till 45 is obtained as product. CW: pg 58-62 of TM-2 HW: pg 52, 53 (Time in Quarter Hour-Q1, 2) of Math PB-2

Pg No. 63-65

Topic: After Some Time

TLM: A4 chart paper, scissors, glue stick, 1 board pin, a piece of eraser

Learning Outcome: Read and write time intervals

TEACHER TIPS	STUDENT ACTIVITY
 Explain the illustrations given on page 63. Also, give examples from real life like travel duration, duration of some events (sports, programs, etc.). Help students understand that activities may vary in their durations. Give the basic idea of time interval. Note: Practices are given to help students in becoming more particular in analyzing elapsed time and showing the time interval by means of drawing the clock hands. Refer to .	 Activity: Conduct the activity given on page 65 and ask the students to complete it. CW: pg 63-65 of TM-2 HW: pg 53 (After Some Time) of Math PB-2



Pg No. 66

Topic: • The Calendar • The Days of the Week • Yesterday, Today and Tomorrow

TLM: Calendar (where days are mentioned in short form)

Learning Outcome:

- Define a day in terms of hours
- Read and write days of a week
- Tell a day as 'Yesterday', 'Today' and 'Tomorrow'
- Tell features of a calendar

TEACHER TIPS	STUDENT ACTIVITY
 Recapitulate on the duration of a complete day in terms of hours. See whether the class has a clear understanding on the movement of hour hand and minute hand of the clock.  Tell how a day starts from 12 o'clock at midnight and ends after 24 hours.  Use a calendar to demonstrate the formation of 'week', 'month', 'year'. Call students one by one and let them find a day, date and month from the calendar.  Let students speak aloud the names of the days of the week. Ask the students to share any special activity that they do on a particular day of the week.  You may use a calendar to show how days are written in short form. Alternatively, write the abbreviation of days on board, point an abbreviation and ask the class to say the full name of the day correctly.  This practice is included where students will know how to define a day in terms of 'Yesterday', 'Today' and 'Tomorrow'. Use a calendar and begin by showing 'Yesterday' and 'Tomorrow' with respect to the day in which students are solving the practice. In order to make them more comfortable with calendar days, give some more dates and let the class locate the day properly from the calendar. Then, ask students to say the 'Yesterday' and 'Tomorrow' for that day.	CW: pg 66 of TM-2 HW: pg 54 (Days of the Week) of Math PB-2

Pg No. 67-68

Topic: • Weeks Make a Month • The Months of the Year

TLM: Calendar

Learning Outcome:

- Tell number of weeks of a month
- Read and write months of a year
- Express months in short form
- Find a month from calendar

TEACHER TIPS	STUDENT ACTIVITY
 Call students in groups. Show them the calendar and help them to observe the formation of month. Let them count the number of complete weeks and the days of incomplete week (if any).  Ask the class to study the given calendar month on page 67 and answer the questions correctly.  Use the calendar as well as the image given on page 68 to explain the names of months of one year, their short forms and positions in terms of ordinal numbers.  You may ask students to count and check the number of months in a calendar year. Refer to .	 Activity: Ask students to complete the Activity given on page 68. CW: pg 67-68 of TM-2 HW: pg 54 (Months of the Year) of Math PB-2

Pg No. 69-71

Topic: • Days in a Year • Now I Know

TLM: Calendar of current year

Learning Outcome: • Tell number of days in a month and a year

TEACHER TIPS	STUDENT ACTIVITY
 Use current year's calendar to explain the days in a month.  Tell them about leap year. Use a smartphone to show the previous leap year. Ask them to answer the questions about days, week and months on page 69.	 Activity: Ask students to check the calendar given in their almanac. CW: pg 69-71 of TM-2 HW: pg 55, 56 (Now I Know) of Math PB-2



Let them observe Ria's school calendar and answer questions based on it on **page 71**.

Refer to .

Website Links:

For teachers:

- <http://www.k5learning.com/free-math-worksheets/second-grade-2/telling-time>
- <https://www.superteacherworksheets.com/math-calendars.html>

For students:

- <https://eu.ixl.com/search?q=time+and+calendar>
- http://wmv_softschools.com/grades/2nd_grade/math/

Note: Extra questions for each of the Math concepts are given in the TinkerMath Practice Book-2 which can be answered by the students anytime during the week/weekend the concept is discussed in class or as per their convenience. Parents/ adults may also check the responses given by their wards to assess their understanding.

Answer Keys



Explain



Demonstrate



Interact



Motivate/Revise



Board Work



Linked Activity

Note: Together with the identification and counting of Indian money that is already taught in Grade One, the students will be introduced with the process of writing an amount (combination of rupees and paise) both numbers/words. Further, the chapter covers the use of money in this format. Teach clearly the way money in India is written in numbers and words emphasising the use of 'dot' in representation. This will lead the students to identify and find the value of money in real life. Conduct necessary mock activities in order to make students comfortable in handling

Pg No. 74-75

Topic: • Money • Forms of Money
(GD-show rupee symbol)

TLM: Coins: 1, 2, 5, 10 (GD-show rupee symbol) Notes: 10, 20, 50, 100, 200, 500, 2000

Learning Outcome: • Identify Indian coins/ notes

TEACHER TIPS	STUDENT ACTIVITY
 Let the students observe the image on page 74. Interact with them by asking questions as given on this page and eliciting answers.  Show them some real coins and notes while asking questions.  Give examples of daily use of money. Explain that money is very important part of our life because with the help of money, we can fulfill our day-to-day requirements. Students should know that like the different ways in which we earn and spend money, it is equally important to keep money safely saved. Explain that banks are the standard place where we save money. Refer to .  You may narrate some stories and let the class understand the importance of money. Make students aware of how the use of money has become much safer than the old days with the introduction of ATM.	 Activity: Randomly call students, show them a coin and ask what value the coin has. CW: pg 74-75 of TM-2



Pg No. 76

Topic: • Earlier Coins • Earlier Notes **TLM:** coins

Learning Outcome: • Count money and write the amount using Indian currency symbol
• Identify valid Indian coins of different values

TEACHER TIPS	STUDENT ACTIVITY
 Explain the class that a few years ago, Indian money was of smaller denomination.  Let them observe the coins and notes of earlier times shown on page 76. Tell them that these coins and notes are no longer in use. And the colour of some notes has also changed. Refer to .  Make a 2-column table on board. For one, put 'COINS' as caption and for other write 'NOTES' as caption. Put values of valid Indian Notes/Coins in the respective columns. Make a circle on each column and put the old/outdated notes/coins inside the circle.	 Activity: Ask the class to do the activity on page 76. CW: pg 76 of TM-2

Pg No. 77-78

Topic: • Denomination of Rupees • Denomination of Coins **TLM:** valid Indian notes

Learning Outcome: • Identify valid Indian Notes/coins of different denomination
• Add notes and make the amount equal to note of big value
• Identify the money needed for buying things

TEACHER TIPS	STUDENT ACTIVITY
 Show real Indian coins/notes to demonstrate denomination of rupees/notes as shown on page 77.  Guide the students so that they can identify and denote them quickly/accurately. Remind students once again that in India money comes in two forms, notes and coins. Make students aware of money (5, 10, 20 (show sign of rupee)) that are used both as note/coin. Recall that rupees are always larger in value than paisa.	 Activity: - Clearly show the short forms for Indian rupees (₹) and paise (p) on board. - Show real notes/coins in the class and ask the students to write the amount in their notebooks by putting correct symbol in front. - Ask students to find the corresponding note/coin on page 77 and match them with the amount that they have written.

Refer to .

 Encourage them to match the prices of the objects with notes of the same value on **page 78**.

Give real life examples to explain how we compare prices when you go for shopping.

Note: Repeat the activity for more practice.

Note: Ask students to bring one coin in advance before you conduct the activity.

CW: pg 77-78 of TM-2

HW: pg 57 (Forms of Money) of Math PB-2

Pg No. 79-80

Topic: Reading and Writing Money **TLM:** artificial notes/coins

Learning Outcome: Read/count Indian coins/notes together and write them in numbers/words

TEACHER TIPS	STUDENT ACTIVITY
 Tell the students that an amount of money can be written in different ways.  Clearly show the class the way in which an amount of money is written in numbers/words on the board. You may use chalks/marker pens of three different colours (for demarcating rupees/paise/dot) to write the money in numbers on board. Use chalks/ marker pens of two colours (for demarcating rupees/paise) to express a sum of money in words.  Remind the class to add the symbol of Indian rupees (symbol) in front while they write money in numbers. Refer to .  Note: Practice is given for students to revise on writing the amount of Indian money.	 Activity: Work in groups. 1. Call one student to come in front. Give him/her some artificial notes/ coins. 2. Let him/her call some of his/her friends and show the money. 3. The group will count and write the amount in numbers/words. 4. Once they complete, check their answer. Note: Repeat the activity for more practice. CW: pg 79-80 of TM-2 HW: pg 58, 59 (Reading and Writing Money-Q1, 2, 3) of Math PB-2

Pg No. 81

Topic: Comparison of Money **TLM:** coins

Learning Outcome: Understand to compare money



TEACHER TIPS	STUDENT ACTIVITY
 Prompt the students to recall greater than, smaller than and equal to signs.  Explain the images of coins as greater, smaller or equal amounts.  Draw rectangles (to show rupees) and circles (to show paise) and put the value of notes/coins inside to show the amounts mentioned on page 81 for comparison (Clearly show the amounts to compare as two sets with rectangles/circles). Mention the total amount in numbers below each set for students to understand properly. Explain the process of comparison as mentioned on page 81 by pointing the corresponding notes/coins. Note: The amounts in sets of rectangles/circles to show on board are given at the bottom for reference**. Refer to .	 Activity: Show them real coins of different values in both your hands. Ask them which hand has greater amount. Continue the activity using different amounts of money in both your hands. CW: pg 81 of TM-2 HW: pg 59 (Comparing Money) of Math PB-2

Pg No. 82-85

Topic: Addition and Subtraction of Money

TLM: envelopes containing some artificial notes and coins (sufficient to distribute to each student of the class. Some envelopes can be blank.), a box (to keep all the envelopes), artificial notes and coins (sufficient to put inside the envelopes leaving some envelopes blank), real life items like bottle, bag, pencil box, toys, food wrappers, kids accessories, etc. **Note:** Arrange money inside envelopes in advance and keep them inside the box before starting the activity.

Learning Outcome: Add and subtract money

TEACHER TIPS	STUDENT ACTIVITY
 Show the addition given on page 82 on board. Remind the class the way they did addition with numbers. Let students understand that addition of money follows the same process. Make it clear that rupees and paise are to be added separately.  Now show subtraction of money as given on page 82 on board. Check whether the students are able to subtract smaller number from	 Activity: HOW MUCH MONEY TO USE Note: Before starting the activity: • Arrange the real life items in a line on the table. • Tell the students to listen carefully the price of item mentioned by you and raise hands only if they have enough money to buy that item.

the bigger one. Remind the students that in the case of subtraction too, rupees and paise are subtracted separately.

 Show some real life objects and mention their prices in the class. Let the students calculate the sum of prices by using addition. Ask them whether they know about a Shopping Bill. Tell them that in a shopping bill, the shopkeeper puts the prices of all the items that are purchased and makes total. This helps both the shopkeeper and the customer to know how much to receive/pay.

 Make students aware that subtraction is used to check how much money remains after spending some amount. Let students understand that when there is no money, it is represented as ₹ (symbol) 0.00 in the similar way as represented in case of numbers. Tell students that they can buy items only when they have more money than the price of the item that they want to buy.

Refer to .

1. Pass the box with envelopes in the class and ask each student to pick one envelope. Ask the class to count and write the money inside the envelope in numbers in their notebooks.
2. Touch one object at random and say aloud a price. Ask the class to write the price in their notebooks in numbers.
3. Once some students raise hands, ask these students to subtract the price from the money they have. Ask them to think the difference to be the amount that is left with them. Tell them that they can raise hands only if they hear any price less than the difference.
4. Say aloud 'SOLD' and take away that item.
5. Continue the activity in the same way till no items remain on the table or no students raise hands.

Note: Tell the students who have raised hands after listening a price that is less than the difference left with them to continue making subtraction from the difference in the same way they have done before.

6. Once the game is over, let students show their subtractions to one another and check them. Join them and see how they did subtractions.

CW: pg 82-85 of TM-2

HW: pg 60 (Adding Money), pg 61 (Subtracting Money) of Math PB-2

Pg No. 86-89

Topic: Money in Real Life Now I Know

Learning Outcome: Recognise prices of items and able to make simple payments



TEACHER TIPS	STUDENT ACTIVITY
 Chit chat about shopping and tell the students that people keep a few thoughts in mind while they go for shopping such as ‘expensive’, ‘cheap’, ‘price tags’, ‘price range’, ‘payment’, etc.  Make the class think carefully on where they are to use addition / subtraction when they use money in real life. Encourage the students practice on page 89 while you assist them.	CW: pg 86-89 of TM-2 HW: pg 62 (Story Sums) pg 63, 64 (Now I Know) of Math PB-2

Website Links:

For teachers:

- <https://www.youtube.com/watch?v=hzOUid7fFeA>
- <http://www.math-only-math.com/worksheet-on-sum-and-difference-of-rupees-and-paise.html>
- <http://www.mathsdiary.com/grade-2/money-grade-2/>

For students:

- <http://learnenglishkids.britishcouncil.org/en/category/topics/money>

Note: Extra questions for each of the Math concepts are given in the TinkerMath Practice Book-2 which can be answered by the students anytime during the week/weekend the concept is discussed in class or as per their convenience. Parents/ adults may also check the responses given by their wards to assess their understanding.

Answer Keys

** Reference for board work in comparing money

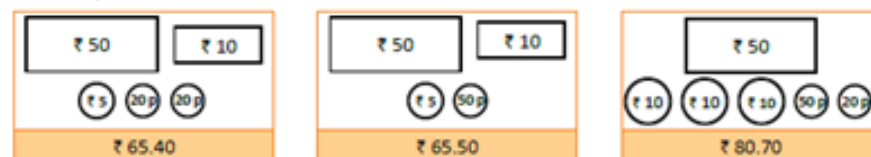
For example 1



For example 2



For example 3



Measurement



Explain



Demonstrate



Interact



Motivate/Revise



Board Work



Linked Activity

Note: Introduce the Standard units Of measuring length, mass and capacity. Make sure that Students able to use Correct units to Show particular measurement. (Gue special emphasis on full forms/shon forms of specific units used for the three different measurement explained in the chapter. Make sure that students are not confused while using them to describe measurements.) Show how to measure length in centimetre using student's ruler. Explain clearly showing the basic examples Oven in the book (you may Show Other examples) that it possible to make Conversion in Standard units. Show Sufficient real lift examples so that Students Can build a good knowledge of estimation on measurement. Make them aware of different types of measuring tools used in daily life.

Pg No. 94-95

Topic: • Measurement • Non-standard Units of Measurement of Length **TLM:** eraser, sharpener and pencil

Learning Outcome: • Identify the distance of houses of different students from their school
• Measure length using non-standard units

TEACHER TIPS	STUDENT ACTIVITY
 Begin the session by asking the students to observe the illustration given on page 94. Ask them questions; what do see in the picture, how many houses, what's in the centre. Thereafter ask the given questions about distance and elicit answers from them.  Tell the students that distance is a term that is related in measurement of length.  Revise on non-standard units of measuring length and ask the students to go through the two distinctive non-standard units of measuring length such as body parts and objects shown on page 95. Ask them to measure items around them (pencil box, book, height of the student sitting next, distance between a bench and board, etc.) using correct non-standard units. Let them compare the measurements taken by them. Refer to .	 Activity: Ask students to complete the Activity given on page 95. CW: pg 94-95 of TM-2



Pg No. 96-97

Topic: Standard Units of Length

TLC: real life length measuring tools -

- student's ruler (compulsory)
- If available - measuring tape, metre ruler, set square, etc.

Learning Outcome:

- Recognise the advantage of standard units over nonstandard methods
- Measure length using standard units
- Express/compare lengths using standard units
- Convert kilometre in metre

TEACHER TIPS	STUDENT ACTIVITY
 Make students understand that standard methods are the proper way of measurement of length.  As you guide them in understanding the given standard units of measurement, write their short forms and read aloud. Ask students to echo read so that they know the correct pronunciation.  Explain the tools used for measuring length as given on page 96.  Show some length measuring tools, particularly a student's ruler (if available then measuring tape, metre ruler, set square. etc. Describe them briefly and mention different ways in which these measuring tools are used. Ask the students to see their own rulers and find which measuring unit is mentioned on their rulers. Help them understand that different types of standard measuring tools are used to measure different types of lengths. Refer to . Note: Ask students in advance to bring a small ruler.  Explain that the length of short objects are measured by using 'millimetre' (mm) and 'centimetre' (cm). Long objects are measured by using 'metre' (m) and the objects that are very long in length are	 Activity: 1. Make a table on board with three columns. Label the respective columns on top as 'SHORT', 'LONG' and 'LONGER'. 2. Ask the students to think and name different types of objects. Let them say in which column the object mentioned by them fits best. 3. Write the name after you get the correct response. Activity 2: Ask students to complete the Activity given on page 97. CW: pg 96-97 of TM-2 HW: pg 65 (Measurements of Length) of Math PB-2

measured in '**kilometre**' (**km**). Now, sort the names of objects written in the table on board according to the units of measurement. You may use marker pens of different colours/draw different types of shapes around the names to help students understand

properly how units are used based on the variations in length. In case, there is no examples for any particular unit, provide corresponding examples. Explain fitted with some examples that a measurement is essentially written along with the short form of the correct unit. Show the conversion of 'metre into kilometre' on board. Ask the students to observe the conversions done in the **page 97**.  Help them to understand the mentioned conversions of kilometer to metre in terms of repeated addition. Show one conversion on board using repeated addition:

$100\text{ m} + 100\text{ m} + 100\text{ m} + 100\text{ m} + 100\text{ m} + 100\text{ m} + 100\text{ m} + 100\text{ m} + 100\text{ m} + 100\text{ m} = 1000\text{ metre or }1\text{ Kilometre}$

Refer to .

Pg No. 98-99

Topic: How much is one centimetre?

Learning Outcome:

- Understand measurement of smaller objects in centimetre
- Take measurement of length in centimetre using small ruler

TEACHER TIPS	STUDENT ACTIVITY
 Use a ruler to measure any real life object like a book, bottle, pencil box, etc. Call students in groups and show how to use the ruler to take measurement. Let students use the ruler correctly and take measurements themselves.  Let them observe the pencil tip and measure their finger tip using the ruler.  Show the small divisions made on the ruler in the centimetre side and explain how '1 cm' is divided in '10 mm' on a ruler. Show example of measurement taken in 'mm' and let students know it	CW: pg 98-99 of TM-2



clearly how much smaller is a ‘mm’ than a ‘cm’.

 Explain millimetre or mm as the smallest unit of measurement of length.

 Ask the students to take out some objects from their bag and let them guess and say how these objects measure. Ask the class not to use any ruler. Explain that we use an ‘about’ with the measurement that we guess. Show examples given on **page 98** and help them to guess and say estimated length in a better way.

Note: Ask students to bring their rulers in advance.

Pg No. 100-103

Topic: How much is one metre? **TLM:** paper strip (1 m long)

Learning Outcome:

- Understand measurement of length in metre
- Convert metre in centimetre

TEACHER TIPS	STUDENT ACTIVITY
 Explain that we measure the length and width of larger objects in metres or m. Tell them that a measuring tape is used for measuring larger objects in metres.  Use a paper strip (1 m long) and make 10 equal divisions of length 10 cm to demonstrate the conversion of ‘centimetre into metre’. Fold the paper strip 10 times and tell them that the total length is equal to 100 centimetres.  Help them to understand the mentioned conversions of metre to centimetre in terms of repeated addition. Show one conversion on board using repeated addition: $10\text{ cm} + 10\text{ cm} + 10\text{ cm} + 10\text{ cm} + 10\text{ cm} + 10\text{ cm} + 10\text{ cm} + 10\text{ cm} + 10\text{ cm} + 10\text{ cm} = 100\text{ centimetre or }1\text{ metre}$ Refer to . Note: Practices are included for students to recapitulate on the measuring tools and to make them more conversant in understanding the length of centimetre and metre.	 Activity: Ask students to measure the length and width of their classroom using their paper strips as given in the activity on page 100. Activity 2: Work in pairs. Ask students to measure the length of their arm span as given in the activity on page 101. Note: Students can use a ruler to take the measurement after estimating the length of their arm span. The pair of students will take the measurement of each other. Let them compare the actual measurement with what they have guessed. CW: pg 100-103 of TM-2 HW: pg 66 (Q2, 3) of Math PB-2

Topic: • Measurement of Weight • Different Tools for Measuring Weight

TLM: ball, eraser, apples, books, football, etc. (For students to compare and estimate weight by matching them with the examples given on pages 104-105.)

Learning Outcome:

- Measure mass (weight) using standard units
- Express/compare mass (weight) using standard units
- Convert kilogram in gram

TEACHER TIPS	STUDENT ACTIVITY
 Recall that the measurement of weight is used to know how heavy or light an object is.  Read aloud to explain the standard units for measuring mass (weight) as given on page 104. Ask the students to observe the illustrations of mass measuring tools on this page and ask students to read aloud their names. Ask them which mass (weight) measuring tool(s) that they have seen most. Let them say the objects that they have seen to be weighed.  Ask the class to observe the weights in grams and kilograms in pictures given on pages 104-105. Let them understand the objects whose mass (weight) are more or less equal to mentioned weights. You may give some available real life objects to the students to hold and compare their weights.  Explain the conversion of kilogram (kg) into gram (g) and show some conversions on board in the same way as done for length. Also tell them that weight of some lighter objects is done in gms and for heavier objects the unit kg is used. Refer to .	 Activity: Ask students to complete the Activity given on page 105. This can be done at home. CW: pg 104-106 of TM-2 HW: pg 67, 68 (Measurement of Weight-Q1, 2, 3) of Math PB-2

Topic: Measurement of Capacity

Learning Outcome: • Measure capacity using standard units



- Express/compare capacities using standard units
- Convert litre in millilitre

TEACHER TIPS	STUDENT ACTIVITY
 Ask the students to observe the illustrations given on page 107. Ask them what is happening in the illustrations. Tell them that the medicine, milk, cleaner and water are in a liquid form.  Tell them that liquids are measured differently. Explain the concept of capacity in similar way as done for the previous measurements. Clearly mention the units and their short forms. Show on board how they are used with measurements. Mention how a big unit 'litre' (l) is converted to small unit 'millilitre' (ml) as given on page 107.  Recall the examples where small containers are used to fill a large container. Relate them to give an idea that containers of small capacity can be used to fill a container of 1 l.  Ask students to observe the illustrative examples given on pages 107-108 again and narrate similar real life instances. Ask students to say where they have seen the use of capacity. Let them share their stories in the class.  Let students see the examples and let them know that small capacities are measured using 'millilitre' (ml). 'Litre' (l) is used for measuring larger capacities. Help them to think and say about similar containers in order to develop their estimation ability. Refer to . Ask students to do the practices on page 109.	 Activity: Ask students to complete the Activity given on page 108. CW: pg 107-109 of TM-2 HW: pg 68, 69 (Measurement of Capacity-Q1, 2) of Math PB-2

Pg No. 110-114

Topic: • Measurement In Real Life • Now I Know **TLM:** pencil, notebook, pencil box, water bottle

Learning Outcome: • Identify the unit of measurement for the given objects
• Estimate/measure length of real life objects

TEACHER TIPS	STUDENT ACTIVITY
Begin the session with an activity. Refer to .  Name a few objects such as juice, tomatoes, distance to park and ask students to tell the unit they would use for measuring that.  Encourage them to do the exercises given on page 110 and page 112-114 thereafter. Make the class form a clear conception on actual measurement that will help them to remember and make correct estimation for similar objects.	 Activity: Ask students to complete the Activity given on page 111. CW: pg 110-114 of TM-2 HW: pg 70 (Now I Know) of Math PB-2

Website Links:

For teachers:

- <http://www.ksleaming.com/free-math-worksheets/second-gradeomeasurement>
- <http://prek-8.com/math/measurementMath.php>

For students:

- <http://www.abcya.com/measuring.htm>
- https://wmv.turtlediary.com/games/units-of-measurement_html

Note: Extra questions for each of the Math concepts are given in the TinkerMath Practice Book-2 which can be answered by the students anytime during the week/weekend the concept is discussed in class or as per their convenience. Parents/ adults may also check the responses given by their wards to assess their understanding.

Answer Keys



Explain



Demonstrate



Interact



Motivate/Revise



Board Work



Linked Activity

Note: Teach the concept of data handling to students in a way to provide them sufficient scope to sort and represent the data collected from their surroundings in the form of simple and readable graphs. Make students build the basic conception on representing a large number of data in terms of a suitable unit.

Pg No. 117-118

Topic: Data Handling

Learning Outcome: Recognise items of each category for data handling and count their number

TEACHER TIPS	STUDENT ACTIVITY
 Describe the instance given on page 117 and bring it to student's attention that when there are lots of items of different types, we first sort similar items in separate groups to make our counting easier. Let the students observe the given items and say how many groups of items are made. Let them count the number of each group and write it. Refer to  .	 Activity: Ask the class to complete the activity given on page 118 . CW: pg 117-118 of TM-2

Pg No. 119

Topic: Data Handling

Learning Outcome: Answer questions based on collecting data

TEACHER TIPS	STUDENT ACTIVITY
 Help the students identify the similar leaves of a group, let them count them and check with the given record given on page 119 . For the second exercise, assist them in collecting data about how children come to school.	CW: pg 119 of TM-2

Help the students to develop their accuracy of spotting and counting similar items needed for data handling.

Pg No. 120-121

Topic: • Picture Graph

Learning Outcome:

- Answer questions based on collecting data
- Read and solve data handling problems

TEACHER TIPS	STUDENT ACTIVITY
 Ask the students to count the bows of each colour and record the data in the table by drawing bows.  Explain them that picture graph is used to clearly show the number of items in separate groups with help of pictures. Mention the importance of 'unit' that are used in the picture graph to show the number of items.  Let students understand that from a picture graph it is much clear and easy to study the number of different types of items than the initial collection of crude ungrouped data. Note: Creating a picture graph based on collected data as well as study of prebuilt picture graph, both are given in the practices. Refer to .	 Activity: Ask the class to complete the Activity given on page 121. CW: pg 120-121 of TM-2

Pg No. 122

Topic: Reading a Graph

Learning Outcome: Study and answer questions by reading data given in a graph

TEACHER TIPS	STUDENT ACTIVITY
 Describe the given instance first and then let students observe the picture graph and understand the representation of necessary data properly.	CW: pg 122 of TM-2 HW: pg 71 of Math PB-2



 Students are already given the basic idea of how to read data shown in picture graph/bar graph. In this section, useful data are collected and represented accordingly.

Encourage them to answer the given questions based on the pictograph.

Pg No. 123-124

Topic: • Now I Know **TLM:** chart paper (for making data collection table and data representation graph) - 1 for each group/individual

Learning Outcome: Read and solve data handling problems

TEACHER TIPS	STUDENT ACTIVITY
 Discuss the instance given on page 123. Tell them it's a real life instance of data collection and representation in the form of a pictograph.  Make the students carefully count the number of books as per the unit mentioned in the pictograph and answer the given questions. Discuss other real life instances like student's attendance for a week, number of goods sold in a day, number of students participating in different sports, etc. to make students aware of the method of data handling and its use in daily life. Refer to . Note: The practices given in the THINK SOME MORE will help students to enrich on the application of real life data handling.	 Activity: <i>Project for individual/group.</i> 1. Ask the students to gather data of their surrounding like trees/plants present in school/their locality, animals they observed in a day, different types of TV shows, etc. and record them in a table. Mention to give correct caption on top of table columns. 2. Students should prepare a graph based on the collected data. Ask them to mention the unit used in the graph. CW: pg 123-124 of TM-2 HW: pg 72 (Now I Know) of Math PB-2

Website Links:

For teachers:

- http://mathsframe.co.uk/en/resources/category/312/data_handling

For students:

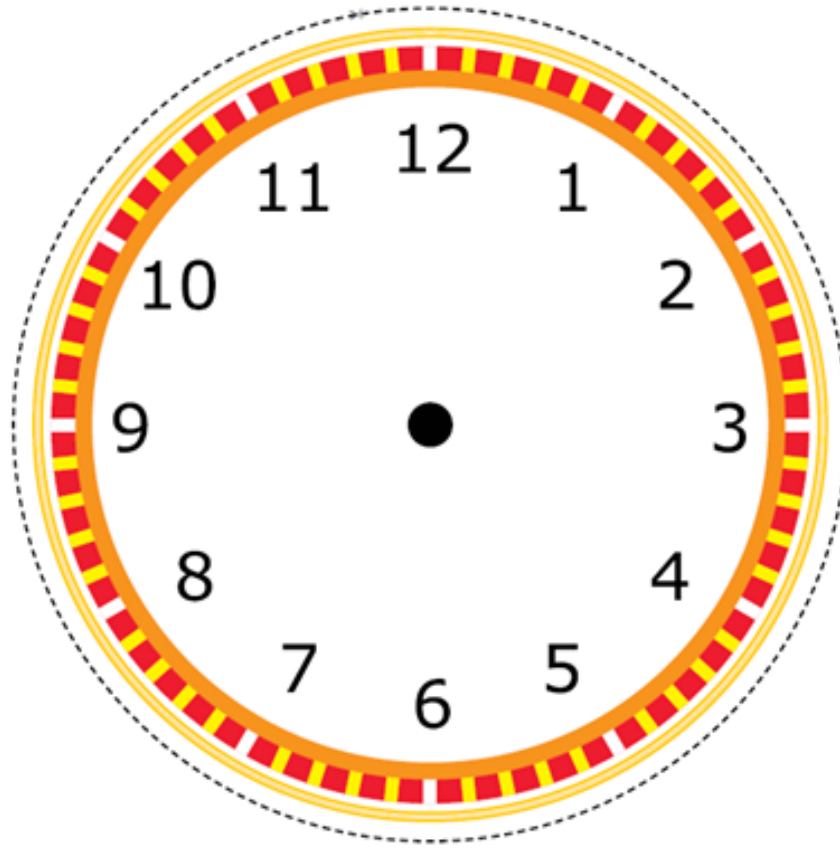
- <http://www.bbc.co.uk/skillswise/game/ma37grap-game-handling-data>

Note: Extra questions for each of the Math concepts are given in the TinkerMath Practice Book-2 which can be answered by the students anytime during the week/weekend the concept is discussed in class or as per their convenience. Parents/ adults may also check the responses given by their wards to assess their understanding.

Answer Keys

MODEL ANALOG CLOCK

Cut the clock face and clock hands across the dotted lines. Use a board pin to attach the clock hands in the centre of the clock face. Move the clock hands to show the times in the chapter of Time and Calendar.



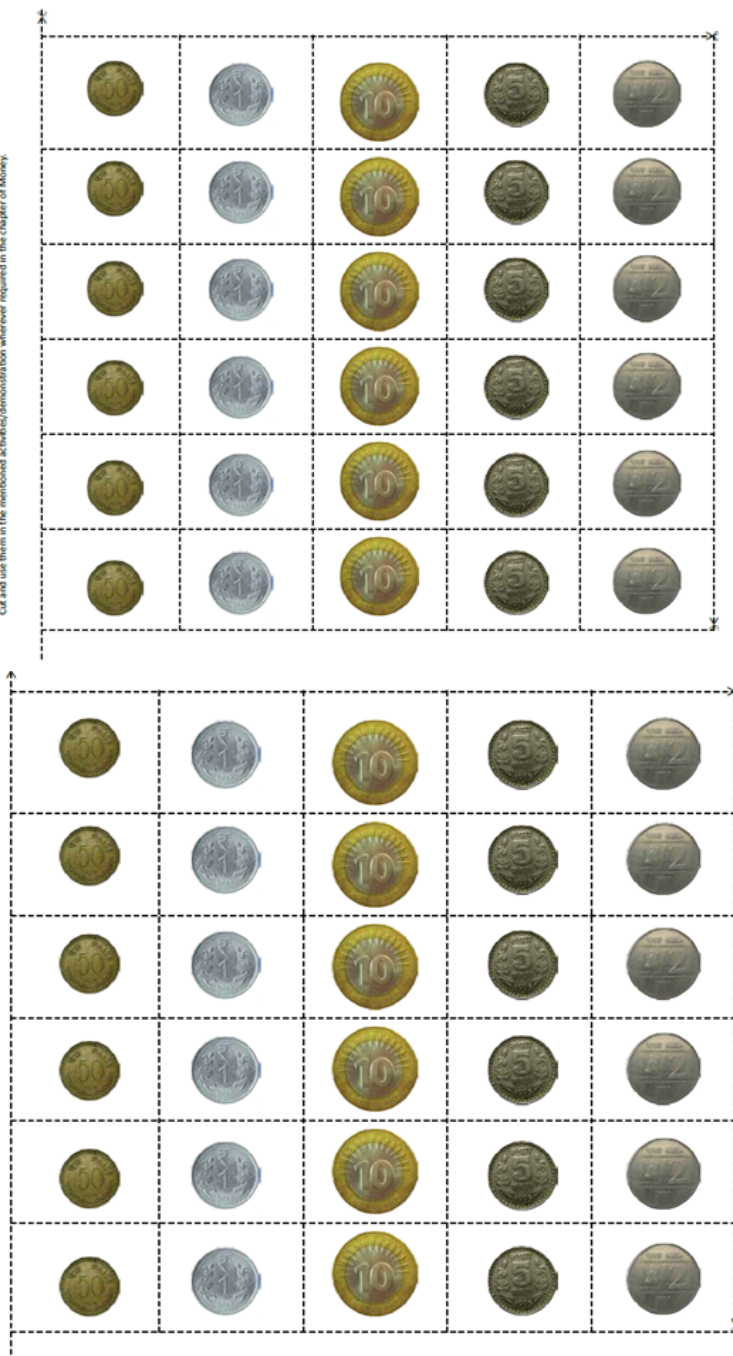
Lesson Plan Class 2





ARTIFICIAL INDIAN NOTES/COINS

Cut and use them in the mentioned activities/demonstration whenever required in the chapter of Money.







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