# Teachers' <br> Handbook <br> of <br> Learning Outcomes 



CLASS-IV
MATHEMATICS

## FORWARD

Samagra Shiksha, Education Department, UT Chandigarh has prepared Teachers' handbook based on leaning Outcomes at Elementary level in Hindi, English, Mathematics, EVS, Science \& Social Science.

This Handbook will enable the teachers to ascertain learning skills more accurately in these subjects. While making the document it has been ensured that the learning need of the children with different learning level-pre Basic, Basic, Proficient \& Advanced, are being catered \& the academic progress of the students can be monitored by Faculty Incharges, Cluster Resource Coordinators \& further by Head of the school.

The material in the document can be used as an assessment tool for Elementary classes \& to keep a track of achievement of the learning level.

Teachers' handbook will not only help teachers to focus on teaching learning process but also facilitate State functionaries in their role towards ensuring quality education in schools

To make it user-friendly, simple language has been used as far as possible across the document. To help the teacher understand and achieve the learning outcomes as per the curricular expectations.

This document includes list of learning outcomes (with labeling) and progress sheet for monitoring/ tracking of the progress of the students.

Question prepared in this document are only suggestive for teachers. The teacher can modify these tools as per the need.

## ABOUT THE DOCUMENT

This question bank might prove an effective tool in the hands of the educators \& evaluators. It aims at assisting teachers to assess and improve the performance of the learners.

## Some features of the documents are as follows:

* Proper care has been taken to cover all the learning outcomes.
* The questions have been framed focusing upon the learner's mathematical thinking, reasoning and hence ability to solve daily life problems.
* The teacher can make relevant changes in question bank according to the needs of different levels of learners.
* It provides enrichment material \& remedial material for different level of learners.


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(CRC)
(CRC)

| Code | Learning Outcomes |
| :---: | :---: |
| 4.1 | - counting upto 9999 |
| 4.2 | - complex + |
| 4.3 | - complex - |
| 4.4 | - tables upto 15 |
| 4.5 | - applies operations of numbers in daily life <br> - multiplies 2 and 3 digit numbers |
| 4.6 | - divides a number by another number using different methods like pictorially (by drawing dots), equal grouping or repeated subtraction and by using inter-relationship between division and multiplication |
| 4.7 | - creates and solves simple real life situations/ problems including money, length, mass and capacity by using the four operations <br> - solves problem involving daily life situations related to length, distance, weight, volume and time involving four basic arithmetic operations |
| 4.8 | - works with fractions <br> - identifies half, one-fourth, three-fourths of a whole in a given picture by paper folding and also in a collection of objects. <br> - represents the fractions as half, onefourth and three-fourths by using numbers/ numerals <br> - shows the equivalence of a fraction with other fractions |
| 4.9 | - finds out shapes that can be used for tiling <br> - makes cube/ cuboids using the given nets |
| 4.10 | - estimates the length of an object/distance between two locations and verifies them by actual measurement <br> - converts metre into centimetre and viceversa |
| 4.11 | - estimates the weight of various objects and verifies them by actual measurement |
| 4.12 | - estimates the volume of liquid and verifies them by actual measurement |
| 4.13 | - explores the perimeter of simple geometrical shapes (triangle, rectangle, square) in terms of given shape as a unit. |
| 4.14 | - explores the area of simple geometrical shapes (triangle, rectangle, square) in terms of given shape as a unit. For example, the number of books that can completely fill the top of a table. |
| 4.15 | - identifies the centre, radius and diameter of the circle |
| 4.16 | - reads clock time in hour and minutes and expresses the time in a.m. and p.m. <br> - relates to 24 hr clock with respect to 12 hr clock <br> - calculates time intervals/ duration of familiar daily life events by using forward or backward counting/ addition and subtraction |
| 4.17 | - identifies the pattern in multiplication and division (up to multiple of 9) <br> - observes, identifies and extends geometrical patterns based on symmetry |
| 4.18 | - represents the collected information in tables and bar graphs and draws inferences from these |
| 4.19 | - shows through paper folding/ paper cutting, ink blots, etc. the concept of symmetry by reflection <br> - draws top view, front view and side view of simple objects |

## MATHS LEARNING OUTCOMES ACHIEVEMENT SHEET (CLASS 4)

School:-
Class:-
Class Teacher:-


## QUESTION BANK BASED ON LEARNING OUTCOMES MATHEMATICS CLASS 4

## LEARNING OUTCOME 4.1: COUNTING UPTO 9999.

1. Complete the counting:

| 5931 | 5941 | 5951 | ............. | ........... | 5981 | 5991 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5932 | ............ | .... | ............. | $\ldots$ | $\ldots$ |  |
| .......... | ............ | ........... | ............ | ............ | ............ | ............ |
| ... | 5944 | ...... | ............ | .......... | ............ | ............ |
| 5935 | ......... | ............ | $\ldots$ | ......... | $\ldots$ | ............ |
| ............ | ............ | ............ | ............ | ............ | ............ | $\ldots$ |
| $\ldots$ | 5947 | ......... | ............ | ............ | ........... | $\ldots$ |
| ....... | ....... | ....... | ............ | ............ | ............ | ........... |
| .......... | 5949 | ......... | ............. | ............ | ............. | ............ |
| 5940 |  | 5960 | 5970 |  |  |  |

2. What comes after?
a. 3943
b. 5438
c. 6999
d. 3000
e. 7549
3. What comes before?
a.
1000
b. .................... 2001
c. .................... 9999
d. .................... 4600
e. .................... 3701
4. What comes between?
a. 4000
4002
b. 3979 3981
c. 5999 6001
d. 6438 6440
e. 5800 5802
5. Write the number names:
a. $5381=$ $\qquad$ thousand $\qquad$ hundred
b. $4600=$ $\qquad$
c. $6000=$ $\qquad$
$\qquad$
6. Write the numerals for the followings:

> TH H T O
a. Three thousand eight hundred sixty one
$=$
b. Four thousand seventy eight
$=$
c. Six thousand five hundred ninety
$=$
7. Compare the numbers and fill in the box with proper sign of comparison (>,= or <).
a. 7640 ........... 6740
b. 8000 ............ 6999
c. 4880 ........... 4880
d. 6000 ............ 7000
e. 999 ............ 2431
8. Circle the greatest number.
a. $4000,400,4440,4049$
b. 3990, 3999, 3909, 3099
c. $6130,3610,6310,1360$
9. Circle the smallest number.
a. $2000,2100,2010,2001$
b. $6700,7600,7006,6007$
c. $5999,599,5900,5909$
10. Arrange the numbers in ascending order.

4320, 3420, 2430, 4302
Ascending order:
11. Arrange the numbers in descending order.

4702, 6520, 4908, 5600
Descending order: $\qquad$
12. Write the number in expanded form.

$$
5637=5000+600+30+7
$$

a. $4641=$
b. $3780=$
c. $5908=$
13. Write the correct number for the following expansion.

|  | $\mathbf{6 0 0 0}+$ | $\mathbf{4 0 0}+$ | $\mathbf{2 0}+\mathbf{9}$ | $=$ | $\mathbf{6 4 2 9}$ |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| a. $7000+$ | 300 | + | 30 | + | 4 | $=$ | $\ldots \ldots \ldots$. |
| b. $5000+$ | 900 | + |  |  |  |  | $\ldots \ldots \ldots$. |
| c. $1000+$ | 6 |  |  |  |  |  |  |

14. Write the place value for the following numbers.
$\begin{array}{llll}7 & 6 & 8 & 1\end{array}$

15. Fill in the blanks:

| $6783=$ | 6 thousands+ | 7 hundreds + | 8 tens | + | 3 ones |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a. $4780=$ | __ thousands+ | __ hundreds + | $\ldots$ tens | + | _ ones |
| b. $5300=$ | $\qquad$ thousands+ | _ hundreds + | $\ldots$ tens | + | _ ones |
| c. $7009=$ | _ thousand+ | _ hundreds + | _ tens | + | _ ones |

## LEARNING OUTCOME 4.2: COMPLEX ADDITION ( + ).

1. Solve the following sums:

| 5994 | 5078 |
| ---: | ---: |
| $+\underline{2003}$ | $+\underline{2610}$ |
| - | - |
| 1234 | 2700 |
| $+\underline{2615}$ | $+\underline{+276}$ |
| - | - |
| 3256 | $\underline{1978}$ |
| $+\underline{4543}$ | $\underline{2479}$ |

2. Solve the followings:
a. $8907+454+2031=$
b. $5454+1234+3562=$
c. $3239+544+349+8=$

## 3. Fill in the blanks:

| a. $386+454+3737$ | $=$ | $454+\ldots$ | + | 386 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| b. $8907+362+0$ | $=$ | $362+\ldots$ |  |  |
| c. $1452+101$ | $=$ | +1452 |  |  |

4. Add the followings:
a. $250 \mathrm{~m}+150 \mathrm{~m}=$
b. $1200 \mathrm{~m}+425 \mathrm{~m}+150 \mathrm{~m}=$
5. The table shows the water used in one day by a family of 5 people. Find the total water used by them.

## Activity

a. Cooking and drinking
b. Washing

Water in Litres $(l)$
c. Cleaning pots, pans$30 l$
c. Cleaning pots, pans $40 l$
d. Bathing
$\underline{120 l}$
6. Which numbers add to make more than 500 ?
a. $\quad 152$ and 241
b. 321 and 192
c. 99 and 299
d. 401 and 91
7. Which pan of the balance will go down? Show by drawing an arrow.
a.

b.

8. Find the total number of children in class $I$ to $V$.

Class Number of Children
I 34

II 52
III 56
IV 60
V 65

Total $\qquad$
9. Mental Maths.

10. Add the followings:


## LEARNING OUTCOME 4.3: COMPLEX SUBTRACTION ( - ).

1. Solve the following sums(Subtract):
a.

4545

- $\underline{1432}$
b.

8321

- $\quad 321$
c.

6859

- $\underline{3230}$
d.

4590

- $\underline{3040}$
e.

1976
$-\quad 400$
f.

3206

- 2305

2. Find the answers:
a. 1039 - $1000=$
b. 2031 - $45=$
c. 1515 - 1515 =
d. 999 - $0=$
e. 4000 - $1=$
f. 9000 - $301=$
3. Mental Maths:

4. Subtract the following:

5. Fill in the blanks:

6. There are 342 students in a school. 161 students are absent. How many students are present?

| Total students in the school $=$ | - |
| :--- | :--- | :--- |
| Number of absent students $=$ |  |
| Number of Present students $=$ |  |

7. I had Rs 1000 with me. I spent Rs. 439. How much money is left with me?

| I had | $=$ | - |
| :--- | :--- | :--- |
| I spent | $=$ | - |
| Money left with me | $=$ |  |

8. Subtract the following:

9. Subtract the following:

| $\frac{\boldsymbol{m}}{\boldsymbol{m}}$ | $\frac{\boldsymbol{c} \boldsymbol{m}}{50}$ | $\frac{\boldsymbol{m}}{4}$ |
| :---: | :---: | :---: |
| $\mathbf{c \|} \boldsymbol{\boldsymbol { m }}$ |  |  |
| -2 | 25 | -1 |
|  |  | 50 |

10. Subtract the following:


## LEARNING OUTCOME 4.4: TABLES UPTO 15.

1. Table of 2

| $1 \times 2$ | $2 \times 2$ | $3 \times 2$ | $4 \times 2$ | $5 \times 2$ | $6 \times 2$ | $7 \times 2$ | $8 \times 2$ | $9 \times 2$ | 10x2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ...... | ...... | ... | ...... | ...... | ...... | ...... | ...... | ...... | ...... |

2. Table of $\mathbf{1 0}$

| $1 \times 10$ | 2x10 | $3 \times 10$ | 4x10 | 5×10 | 6x10 | 7x10 | $8 \times 10$ | 9x10 | 10x10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ....... | ....... | ....... | ....... | ....... | ....... | ....... | ....... | ....... | ....... |

3. Table of $\mathbf{1 2}$

| $1 \times 12$ | $2 \times 12$ | $3 \times 12$ | $4 \times 12$ | 5×12 | $6 \times 12$ | $7 \times 12$ | $8 \times 12$ | $9 \times 12$ | 10×12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ....... | ....... | ....... | ....... | ....... | ....... | ....... | ....... | ....... | ....... |

4. Fill in the blanks using multiplication tables.

| a. 5 | x | 2 | $=$ |
| :--- | :--- | :--- | :--- | :--- |
| b. 9 | x | 7 | $=$ |
| c. 12 | x | 4 | $=$ |
| d. 14 | x | 3 | $=$ |
| e. 15 | x | 4 | $=$ |

5. Observe the rule and write the answer.
$8 \mathrm{x} 10=80$
$9 \mathrm{x} 100=900$
a. $73 \mathrm{x} \quad 10=$ $\qquad$ c. $14 \mathrm{x}=1400$
b. $29 \times 10=$ $\qquad$ d. $9 \mathrm{x}-=9000$
6. Solve the following.
a. $5 \mathrm{x} 0=$
d. $12 \mathrm{x} 1=$
b. $0 \mathrm{x} \quad 10=$ $\qquad$
c. $1 \mathrm{x} 255=$ $\qquad$
e. $1 \times 36=$ $\qquad$
7. Observe the pattern and fill in the blanks.

| a. 5 | x | 3 | $=$ | 3 | x | - |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| b. 2 | x | 6 | $=$ | - | x | 2 |
| c. 3 | x | 4 | $=$ | - | x | - |
| d. 7 | x | 8 | $=$ | - | x | - |
| e. 9 | x | - | $=$ | 7 | x | - |

## LEARNING OUTCOME 4.5:

- Applies operations of numbers in daily life.
- Multiplies 2 and 3 digit numbers.

1. A chocolate costs Rs. 5. Ravi wants to buy 7 chocolates. How much money does he need to pay?
2. A boat has a capacity of carrying 6 people at a time. There are total 5 boats available at a time. Maximum how many people can travel at the same time by the boats?
3. There are 4 rows of desks in a class. Each row has $\mathbf{5}$ desks. If $\mathbf{2}$ students sit on each desk, how many students at max can sit in the classroom?
4. Cost of petrol is Rs. $\mathbf{7 5}$ per litre. A scooty has the capacity of $\mathbf{5}$ litres of petrol. Mohit wants to refill his empty scooty tank at the full. How much money will he require for this?
5. There are $\mathbf{4}$ spiders. Each spider has 8 legs. How many legs are there in all?
$\square+\square+\square=\square$

|  | OR |
| :--- | :--- |
| X | $\square$ |

6. There are $\mathbf{6}$ bowls. Each bowl has $\mathbf{3}$ Gulab-jamuns. How many Gulab-jamuns are there in all?

$=$
7. Cost of one bat is Rs. 112.9 such bats will cost Rs.

$$
\begin{aligned}
& 112 \times 9 \times 100+9 \times 2 \\
& =\ldots \ldots \ldots \mathrm{X} \ldots \ldots \ldots . .+\begin{array}{l}
\ldots \ldots \ldots \mathrm{X} \ldots \ldots \ldots . \\
+\ldots \ldots \ldots \mathrm{X} \quad \ldots \ldots \ldots . \\
\hline
\end{array} \\
& =\ldots \ldots \ldots \\
& \ldots \\
& + \\
& =
\end{aligned}
$$

8. Fill in the blanks.
7
$\mathrm{x} \quad 10=$ 70
a. 75
x $10=$
b. $681 \mathrm{x} 10=$
c. $29 \mathrm{x} \quad 100=$
d. $64 \mathrm{x} \quad 1000=$ $\qquad$

## LEARNING OUTCOME 4.6:

- Divides a number by another number using different methods.

1. Divide 21 oranges in the group of $\mathbf{3}$ oranges. How many groups can be formed?

2. Fill in the boxes with correct answer using multiplication facts and division facts.
a.

b.

3. Divide by repeated subtraction.

Divide 20 chocolates among 5 friends. How many chocolates will each get?

|  | - | $=$ | $=$ |
| :--- | :--- | :--- | :--- |
| - |  |  |  |
| - | $\square$ | $=$ | $\square$ |
| - | $=$ |  |  |

Each friend will get $\qquad$ chocolates.
4. Which numbers are exactly between..
a. 100 and $200 \quad[100+200=300,300 \div 2=150]$ -150
b. 50 and 100
$\qquad$
c. 10 and 20
d. 120 and 160

## LEARNING OUTCOME 4.7:

- Word Problems (Create and solves simple real life situations /problems using four basic arithmetic operations.)
- Solves problems involving daily life situations related to length, distance, weight, volume and time involving four basic arithmetic operations.

1. If the cost of one thousand bricks is Rs. 4500 , what will be the cost of 2000 bricks?
2. Dhanu has the longest jump of $4 \mathbf{m ~} 20 \mathrm{~cm}$. Gurjeet is second. His jump is $\mathbf{2 0} \mathrm{cm}$ less than Dhanu's jump. Gopi comes third. His jump is $\mathbf{1 5} \mathbf{~ c m}$ less than Gurjeet's jump.
a. How long is Gurjeet's jump?
b. How long is Gopi's jump?
3. Look at the board and tell how far Kalka from Panchkula is.

4. Find the total cost of the following items. Also find the total amount to be paid for the bill.

| S. No. | Name of Items | Rate per Item | Amount |
| :---: | :---: | :---: | :---: |
| 1 | 5 Pencils | ₹ 5 | $\ldots \ldots \ldots \ldots \ldots \ldots \ldots$ |
| 2 | 3 Notebooks | ₹ 22 | ....................... |
| 3 | 4 Crayons | ₹ 31 | ...................... |
| 4 | 2 Pens | ₹ 10 | ......................... |
| 5 | A Scale | ₹ 18 | ........................... |
| Total Amount $=$ |  |  |  |

5. Tank $A$ has $490 l$ of water and Tank $B$ has $278 l$ of water.
a. How much water do they have in all?
b. Which tank has more water?

How much more water?
6. A family of 8 people needs 80 kg wheat for a month. How much wheat does this family need for 2 months?
7. You have to distribute $\mathbf{7 2}$ tomatoes equally in $\mathbf{3}$ baskets. How many tomatoes will there be in each basket?
8. Look at the postal rates given in the chart.

| Postal Items | Postal Rates |
| :--- | :---: |
| Parcel Weighing: <br> i. 50 grams or less <br> ii. For every additional 50 grams | 10.00 |

How much will you have to pay for posting a parcel weighing -
a. 200 grams? $\qquad$
b. $\mathbf{1 7 5}$ grams? $\qquad$
9. Neetu has an empty 200 ml coconut oil bottle. Ramu has a big bottle of $\mathbf{1}$ litre. How many bottles of Neetu will be sufficient to fill Ramu's bottle?
10. The bus leaves at 9 o' clock in the morning for Bhopal. It will take them about 2 hours to reach Bhopal. At what time should they reach Bhopal?
$\qquad$
11. The train leaves at 11:40 from a station $A$. It will take 1 hour and 30 minutes to reach the next station $B$. At what time the train should reach the next station?

## LEARNING OUTCOME 4.8:

## - Works with Fractions

1. Shade / colour half part ( $1 / 2$ ) of each figure.

2. Shade / colour quarter part ( $1 / 4$ ) of each figure.

3. Shade / colour one-third (1/3) part of each figure.

4. Shade / colour three-fourth (3/4) part of each figure.

5. What fraction of each shape has been shaded/ coloured?

6. Match the shaded part as shown:

| Whole | $4 / 4=1$ |  |
| :---: | :---: | :---: |
| Three-fourth | $2 / 4=1 / 2$ |  |
|  | Half | $3 / 4$ |

7. What fraction of the collection is shaded/coloured?

8. Shade / colour $1 / 4$ of these shapes.


9. Sunita has 30 flowers. She uses $1 / 2$ of them to make a bouquet. How many flowers are used to make bouquet?
10. There are 50 students in a class. $1 / 5$ of them are absent. How many students are absent?
11. Fill in the blanks:
a. $1 / 2+1 / 2$
$=\quad$
b. $1 / 4+1 / 4+$ $\qquad$
$\qquad$ $=$ $\qquad$
c. $1 / 4+1 / 4+1 / 4$
$=$
d. Half is written as $\qquad$ .
e. Quarter is written as $\qquad$ .
f. Two halves make a $\qquad$ .
g. A fraction is a part of a $\qquad$ .

## LEARNING OUTCOME 4.9:

- Finds shapes that can be used for tiling.
- Makes cubes/ cuboids using given nets.

1. Cover your floor with this tile and colour it beautifully.

2. Now create your own tile design and cover your floor.

3. Which of the following tile can be used to cover the floor completely without leaving any gap?
Mark with a tick $\sqrt{ }$.






4. Draw the shapes of cube and cuboid in the following dot grids.

5. Draw the pictures of a brick and a ludo-dice showing three faces of each one of them.
6. The numbers on the opposite sides of this box add up to 7 .

a. Which number was on the opposite side of 5?
b. Which number will be at the bottom?
c. Which number was on the opposite side of 4 ?
d. What will this box look like if you opened it up? Mark the correct picture.

|  | 8 |  |
| :--- | :--- | :--- |
| N | -1 | ロ |
| A | 4 |  |
|  | 6 |  |
|  |  |  |





## LEARNING OUTCOME 4.10:

## - Estimates the length and verifies by actual measurement.

- Converts metres into centimetres and vice-versa.

1. Which unit will you use to measure the following?
(centimetre, metre, kilometre)
a. The height of Qutub Minar is 72
b. The length of the exercise book is about 21
c. The distance from Chandigarh to Delhi is about 250
d. Your classroom is about 4
high.
e. Height of your friend is about 135
2. If height of the given short mug is $\mathbf{8} \mathbf{~ c m}$, than guess the height of the bigger mug.

a. 8 cm
b. 12 cm
c. 16 cm
d. 20 cm
3. Draw a pencil 8 cm in height.
4. Draw a broom double the length of the given broom.

5. This is the $\mathbf{1 0 0}$ metre race for girls.


Mohini is the nearest to the finishing line. She is about $\mathbf{8}$ metres from it.
Behind her is Sunita.
Uma is behind Sunita.
Look at the picture and answer the questions based on your guess.
( 4 metres 12 metres 16 metres 8 metres 20 metres)
a. How far is Sunita from Mohini?
b. How far is Uma from Sunita?
c. How far is Sunita from finishing line?
d. How far is Uma from finishing line?
e. How far is Uma from Mohini?
6. Convert the following.
a. $3 \mathrm{~km}=$
b. $7 \mathrm{~m}=$
c. $2 \mathrm{~m} 45 \mathrm{~cm}=$
$\qquad$ m
d. $4 \mathrm{~km} 315 \mathrm{~m}=$
e. $7000 \mathrm{~m}=$
$=$
f. $600 \mathrm{~cm}=$
g. $7240 \mathrm{~m}=$ $\qquad$ km $\qquad$
h. $320 \mathrm{~cm}=$ $\qquad$ m $\qquad$ cm

## LEARNING OUTCOME 4.11:

- Estimates the weight of various objects and verifies by actual measurement.

1. Tick the estimated weights of the following things.

| a. A suitcase | 25 g | 25 kg |
| :---: | ---: | ---: |
| b. A baby | 4 kg | 400 g |
| c. A pair of shoes | 5 kg | 500 g |
| d. A sack of wheat | 50 kg | 1500 g |
| e. An elephant | 5000 kg | 5000 g |

2. Arrange the following animals according to their weights. Start from the lightest animal.
A puppy, a cow, a cat, a pigeon, an elephant, a goat.
$\qquad$ $<$ $\qquad$ $<$ $\qquad$ $<$ $\qquad$ <
$\qquad$ $<$ $\qquad$
3. Guess and write the weight of each thing in ' $\mathbf{g}$ ' or ' $\mathbf{k g}$ '.
Items Weight $(\mathrm{g} / \mathrm{kg})$
a. Rice
10 $\qquad$
b. Sugar
5 $\qquad$
c. Mustard seeds
50 $\qquad$
d. Wheat
20 $\qquad$
e. Dal
500 $\qquad$
f. Tea
250 $\qquad$
g. Pepper
50 $\qquad$
h. Turmeric
100 $\qquad$
i. Potato
2 $\qquad$
j. Salt
1 $\qquad$
4. Convert the following.
a. 2 kg
$=\quad \mathrm{g}$
b. 12 kg 500 gms
=
$\qquad$
$\qquad$ $\ldots$ g
kg
$=\quad \ldots \mathrm{kg}$
$\qquad$
c. 1500 g
$=$
d. 60000 g
$=$
e. 3750 g
5. Draw the weights that you will use to measure the following objects.






a.

b.

c.


## LEARNING OUTCOME 4.12:

- Estimates the volume of liquid and verifies by actual measurement.

1. Guess how much liquid each can hold.
a. A water bottle
b. A cough syrup bottle $\qquad$
c. A small bottle of ear drops $\qquad$
d. A glass of milk $\qquad$
e. A can of cold drink $\qquad$
f. A mug full of water $\qquad$
g. An inkpot $\qquad$
h. A bucket full of water $\qquad$

## Help box:

$300 \mathrm{ml}, 100 \mathrm{ml}, 150 \mathrm{ml}, 10 \mathrm{ml}, 151$, 1litre, $750 \mathrm{ml}, 50 \mathrm{ml}$
2. Compare the capacity of the following things (using symbols $>,<$ or $=$ ):
a. A water tank $\qquad$ A bucket
b. A glass $\qquad$ A jug
c. A water bottle $\qquad$ An inkpot
d. A cup
-
A mug
3. Classify which things you will measure in $l$ and $m l$.

A cup of milk, Petrol in a car, Ink in your pen, Water in a bucket, Juice in a glass, Water in a tank, Oil in a spoon, Water in a glass .

| $\underline{\underline{l(\text { litre })}}$ | $\underline{\underline{\text { ml(millilitre) }}}$ |
| :---: | :---: |
| - | - |
| - | - |
| - | - |
| $\square$ | - |

4. Convert the following.
a. 9 litres $=\quad \mathrm{ml}$
b. 4 litres $500 \mathrm{ml}=\quad \mathrm{m}$
c. 7 litres $250 \mathrm{ml}=\quad \mathrm{ml}$
d. $3000 \mathrm{ml}=\quad$ litres
e. $1500 \mathrm{ml}=$ litres $\qquad$ ml
5. Amina's water bottle holds one litre of water. She drank 150 ml of water and her friend Govind drank 200 ml of water.
a. How much water did they drink altogether?
b. How much water is left in the bottle?
6. Radha's grandma was ill. The doctor gave her a bottle of syrup having 150 ml of medicine. She has to take the medicine every morning for $\mathbf{1 0}$ days. How much medicine does she have to take every morning?
7. The capacity of a bottle is 500 ml . How many such bottles will be required to fill the containers below?
$\begin{array}{llll}\text { a. A jug of capacity } 2 \text { litres } & = & = & \text { bottles } \\ \text { b. A bucket of capacity } 12 \text { litres } & = & = & \text { bottles } \\ \text { c. A mug of capacity } 750 \mathrm{ml} & = & \text { bottles } \\ \text { d. A tub of capacity } 24 \text { litres } & = & \text { bottles }\end{array}$
8. How many glasses of $\mathbf{2 0 0} \mathbf{~ m l}$ can be filled from a jug of juice having capacity $\mathbf{2}$ litres?

## LEARNING OUTCOME 4.13:

- Explore the perimeter of the given shapes in the term of given shape as a unit.

1. Fill in the blanks:
a. Perimeter is the length of $\qquad$ .
b. Length of boundary is the sum of all $\qquad$ .
c. $\qquad$ is the space covered by an object.
2. For the following figures find the length of boundary.


Sum of all sides= Length of boundary=
b.


Sum of all sides=
Length of boundary=
3. How much fencing is required for the following fields:


Fencing required $=$
b.


Fencing required $=$ $\qquad$
4. Chandu goes for a walk around the field every morning. Every day he takes 4 rounds of the field. What is the total distance that he covers every morning?

5. Ganpati's wife works in a tailor's shop. She has to fix lace around 3 table clothes. Look at the picture and tell :

a. How much lace is required for one table cloth?
b. How much lace will be used in 3 such table cloths?
c. If she bought 100 metres roll of lace, how much lace will be left in the roll?
6.

a. Find the length of boundary (perimeter) of the square $A$.
b. 8 squares of side 1 cm are cut out of the square $A$. now it looks like shape $B$. What is the length of boundary of the shape $B$.

The boundary of square $\mathbf{C}$ is $\qquad$ $+$ $\qquad$ $+$ $\qquad$ $+$ $\qquad$ $=$ $\qquad$ .

## LEARNING OUTCOME 4.14:

- Explore the area of the simple geometrical shapes in the term of given shape as a unit.

1. Count and write.

a. How many small squares of size 1 cm are there in this big square?
b. The area of this big square is $\qquad$ cm squares.
2. Guess and check, how many squares of one centimeter can fill this rectangle.


Write your guess here. $\qquad$
3. Look at the picture. Divide it into 4 equal pieces. Each piece should have the same number of squares.

4. Look at the shapes given here.

a. Write the area of shapes here.

A= $\qquad$ sq. unit $\quad B=$ $\qquad$ sq. unit
$\mathrm{C}=$ $\qquad$ sq. unit $\quad D=$ $\qquad$ sq. unit
$\mathrm{E}=$ $\qquad$ sq. unit $\quad F=$ $\qquad$ sq. unit $\mathrm{G}=$ $\qquad$ sq. unit
b. Which is the biggest shape in this picture?
c. Which is the smallest shape in this picture?
5. How many tiles of size $\mathbf{2}$ feet $\mathbf{x} 1.5$ feet will be required to cover the floor of size 10 feet $\mathbf{x}$ 9 feet exactly without wasting any tile?
tile
Floor
a. Area of 1 tile
= $\qquad$ sq. unit
b. Area of the floor
$=$ $\qquad$ sq. unit
c. Number of tiles required
= $\qquad$

## LEARNING OUTCOME 4.15:

- Acquires understanding about shapes around him/her.
- Identifies the centre, radius and diameter of the circle.

1. Draw the picture of a wheel.
2. Draw a circular design using a compass.
3. Draw a circle of radius $\mathbf{4 c m}$ using compass. Mark its centre, radius and diameter.
4. Mark the centre of the following circles.

5. Measure the length of radius and diameter of the given circle.

6. Fill in the blanks:

| Radius | Diameter |
| :---: | :---: |
| 2 cm | 4 cm |
| 3 cm | $\ldots$ |
| $\ldots$ _ cm | 8 cm |
| 12.5 cm | $\ldots \ldots \mathrm{cm}$ |
| $\ldots$ cm | 15 cm |
| 10 cm | __cm |
| $\ldots$ _ ${ }^{\text {cm }}$ | 30 cm |

7. Fill in the blanks.
a. Length of each radius of a circle is $\qquad$ -.
b. Diameter
$=$ $\qquad$ X Radius
c. Radius $=$ Diameter $\div$ $\qquad$
d. The screw of the compass should be $\qquad$ ( loose/ tight)
8. Mark the circles $\mathbf{1}$ to $\mathbf{5}$ according to the size in ascending order.

9. Which is the biggest circular thing that you have ever seen?
$\qquad$
10. Name two vehicles whose all wheels are not of the same size/ radius.
$\qquad$ , $\qquad$ .

## LEARNING OUTCOME 4.16: Time:

- Reads the time in hour and minutes.
- Express time in am and pm.
- Relates to $\mathbf{2 4}$ hours clock with $\mathbf{1 2}$ hours clock.
- Calculates time intervals.

1. Look at the clock and write the time in the box given below:

|  |  |  |
| :---: | :---: | :---: |
|  |  |  |

2. Three friends read the time from a clock. Who is right?

3. Show the following times in the clocks.

| 3:10 | 12:00 | 8:40 | Half past 5 | Quarter past 6 | Quarter to 9 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |

4. Answer the questions given below. Also use ' $\mathbf{a m}$ '/'pm' in your answers.
a. When do you get up in the morning?
b. At what time do you go to school?
c. When do you come back from school to home? $\qquad$
d. At what time do you go to sleep? $\qquad$
e. When do you do your homework?
5. Answer the following questions.
a. How long is your lunch break?
b. For how much time do you have to stay in the school?
c. How long is your games period?
6. How long will it take for the minute hand to move from ---
a.

To

b.

To

7. How long did each of the following programs last?
a. 4:15-5:00 Sports Programme $\qquad$ minutes
b. 5:00-5:45 Wildlife Programme $\qquad$ minutes
c. 5:45-6:15 Children's Serial $\qquad$ minutes
d. 6:15-6:40 Music Programme $\qquad$ minutes
e. 6:40-7:30 Science Quiz $\qquad$ minutes
f. 7:30-7:45 Local News $\qquad$ minutes
8. Fill in the table by converting the arrival and departure time of the trains in 12 -hour clock time or 24-hour clock time as required.

| Name of the | Arrival Time |  | Departure Time |  |
| :---: | :---: | :---: | :---: | :---: |
|  | By 24-hour clock | By 12-hour clock | By 24-hour clock | By 12-hour clock |
| Kalka Shatabadi | 20:40 |  |  | 8:48 pm |
| Jan Shatabadi | 07:23 |  |  | 07:33 am |
| Kalka Mail | 00:25 |  |  | 01:00 am |
| Paschim Express | 15:57 |  |  | 04:12 pm |
| Himalayan Queen | 17:20 |  |  | 05:28 pm |

9. Write a few activities that will take the time as mentioned below:
a. A few seconds - $\qquad$ _.
b. A few minutes - $\qquad$ -.
c. A few hours $\qquad$ .
d. A few days
e. A few months - $\qquad$ ,
f. A few years $\qquad$ .

## HelpBox:

Boiling milk, drying wet clothes in the sun, growing of a plant, growing a baby, spoiling a bread, switching off a fan
10. Write the time in numerals.
a. 10 minutes past $7 o^{\prime}$ clock =
b. 20 minutes to $9 \mathrm{o}^{\prime}$ clock
c. Half past $8 o^{\prime}$ clock

e. Quarter to 3 o' clock
$=$ $\qquad$ $:$

## LEARNING OUTCOME 4.17:

- Identifies the patterns in multiplication \& division up to 9
- Observes, identifies and extends geometrical patterns based on symmetry.

1. Observe carefully the following number patterns, identify the rules and complete the pattern.
a. $7,14,21,28$, $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$ .
b. $18,27,36,45$, $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$ .
c. $40,50,60,70$, $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$ .
d. $88,80,72,64$, $\qquad$ , $\qquad$ , $\qquad$ .
e. $32,30,28,26$, $\qquad$ , $\qquad$ , $\qquad$ .
f. $40,36,32,28$, $\qquad$ , $\qquad$ , $\qquad$
$\qquad$ .
g. $25,30,35,40$, $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$ .
h. $54,48,42,36$, $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$ .
i. $9,11,18,22,27,33$, $\qquad$ , $\qquad$ , $\qquad$ , $\qquad$ .
j. $5,30,10,24$, $\qquad$ 18, $\qquad$
$\qquad$ , 25, 6.
2. Observe the rule and complete the number tower.

3. Carefully observe the patterns, identify the rules and extend the patterns.
a.

$\qquad$ , $\qquad$ _,
b.

$\qquad$ , $\qquad$ _,
c.

$\qquad$
$\qquad$ , $\qquad$ .
d.

$\qquad$
$\qquad$ ,
e.

$\qquad$ , $\qquad$ , $\qquad$ .
f.

$\qquad$ , $\qquad$
g.

$\qquad$ , $\qquad$ , $\qquad$ .
h.

$\qquad$ , $\qquad$ .
4. Make 3 different patterns using the block.
a. Pattern 1

b. Pattern 2

c. Pattern 3


## LEARNING OUTCOME 4.18: Data Interpretation:

- Represents the collected information in tables and bar graphs and draws inferences from these.

1. If one represents 10 runs, how many runs did each batsman score?

2. On the basic of the above chart and table, answer the following questions.
a. Who scored the maximum runs?
b. Who scored the minimum runs?
c. Who scored equal runs?
d. How many runs did Sachin score?
e. How many more runs did Sehwag score than Dhoni?
f. Who scored more runs- Dravid or Kumble?
g. Who scored less runs- Kaif or Dhoni?
3. Look at the following bar-graph and answer the questions given below.

a. Which fruit is liked by maximum children?
b. Which fruit is liked by the minimum children?
$\qquad$
c. How many children like apples?
$\qquad$
d. Which fruit is liked by more children- Papaya or Grapes?
$\qquad$
e. Which fruit is liked by less children- Banana or Apple?
$\qquad$
4. Look at the chapatti chart that shows the number of students who like sweet, sour and salty things.

5. Draw the chapatti chart for the given data.

| The students like <br> to drink | Number of the <br> Milk <br> Coofee <br> Tea <br> 20 <br> 10 <br> 10 |
| :--- | :--- | :--- |

6. Draw a pictograph to show the number of children who come to school by different means of transportation on the basis of given table.


| Means of Transport | Number of Students |  |
| :--- | :---: | :---: |
| Bus | 15 |  |
| Auto-rickshaw | 50 |  |
| Rickshaw | 60 |  |
| Bicycle | 35 |  |
| Van | 70 |  |
| On Foot | 40 |  |
| Bike | 25 |  |

## LEARNING OUTCOME 4.19:

- Show through paper folding/ paper cutting, ink blots etc. the concept of symmetry by reflection.
- Draws views- top view, front view \& side view of simple objects.

1. Draw the side view and top view of an aeroplane.
$\square$
2. Draw a line of symmetry for the following shapes/ pictures.

3. Draw any four alphabets of English whose mirror halves can be drawn. Also draw a line in each to divide them into mirror halves.
4. Complete the following figures by drawing their mirror halves.

5. Complete the picture by drawing more quarters.

