<table>
<thead>
<tr>
<th>Skill/competency/concept</th>
<th>Target learning outcomes</th>
<th>Suggested Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Identifies and draws different wall and brick patterns, floor patterns, jaali patterns etc.</td>
<td>Individual Task</td>
</tr>
<tr>
<td>Understanding</td>
<td>Draws lines of symmetry in different patterns/shapes.</td>
<td>Group Task</td>
</tr>
<tr>
<td>Computation</td>
<td>Solves problems based on patterns/shapes</td>
<td>Demonstration Method</td>
</tr>
<tr>
<td>Problem Solving Ability</td>
<td></td>
<td>Play Way</td>
</tr>
</tbody>
</table>

**Sample Activity 1:**

TLO: Identifies and draws different wall and brick patterns, floor patterns, jaali patterns.

Join the dots as directed below:

5 . 6

4 .

1

7

3 .

2

- Join 1 and 2.
• join 2 and 3
• join 3 and 4
• join 4 and 1

You have drawn a four sided figure. Can you tell what is it called?
____________________________________________________

• Now join 4 and 5
• Join 1 and 6
• Join 5 and 6

You have drawn another four side figure. Can you tell what is it called?
____________________________________________________

• Now join 1 and 6
• join 2 and 7
• join 6 and 7

Is it similar to the first figure or the second figure?
____________________________________________________

You have now successfully drawn a brick.
Learning Assessment

1. Draw side view of a brick.

2. Fill in the blanks-
   (a) A brick has____ faces
   (b) A brick has ___ vertex.
   (c) A brick has _____ edges.

3. If cost of 1000 bricks is Rs1000. Find the cost of 3000 bricks?
   ________________________________________________________________

4. If cost of 2000 bricks is Rs 4000. Find the cost of 1000 bricks?
   ________________________________________________________________

5. Draw any three lines of symmetry in given shapes.

   [Drawings of shapes with lines of symmetry]
Subject: Mathematics  
Level: A2  
Class: IV  
Lesson: 2 (long and short)  
Worksheet: 2

<table>
<thead>
<tr>
<th>Skill/competency/concept</th>
<th>Target learning outcomes</th>
<th>Suggested Strategies</th>
</tr>
</thead>
</table>
| Knowledge                | Knows various units of length  
                          | Converts higher units to lower units and vice versa  
                          | Estimates the length of objects  
                          | Solves basic problems based on length measurement. |
| Understanding            |                          | Individual Task  
                          | Group Task  
                          | Demonstration Method  
                          | Play Way |
| Computation              |                          |                      |
| Estimation               |                          |                      |
| Problem Solving Ability  |                          |                      |

**Sample Activity 1:**  
TLO: Estimation of length

Observe the given unit of length and estimate the length of the curve.

- How long is the blue curve?

![Blue Curve]

=2 units

- How long is the red curve?

![Red Curve]
Sample Activity 2:

TLO: Knows various units of length

Look at your shoes, shirt and trouser/skirt. Have you noticed that they have a number marked on them? This number is its size. Find out the size of your own and of your friend’s uniform then fill in the table.

<table>
<thead>
<tr>
<th>Name</th>
<th>Shoe size</th>
<th>Shirt size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Now complete these sentences:

Name the student(s) who has/have the biggest shoe size ______________

Name the student(s) who has/have biggest the smallest shoe size __________

Name the student(s) who has/have biggest shirt size ______________

Name the student(s) who has/have biggest shirt size ______________
Learning Assessment

1. Which unit will you use to measure the following? (cm, m or Km)
   (a) The length of a building.
   (b) The length of a belt
   (c) The height of a man
   (d) The distance between two cities
   (e) The length of a goods train

2. Convert the following into cm.
   (a) 5m2cm =
   (b) 8m35cm =

3. Add following given lengths
   (a) 2m 26cm and 9m 36cm
   (b) 14m 39cm and 5m 28cm

4. Convert the lengths into centimeters and then subtract:
   (a) 66m 79cm from 98m 56cm
   (b) 15m 78cm from 24m32cm

5. A cloth merchant sold 155m 76cm nylon, 26m48cm poplin. How much cloth in total did he sell?
<table>
<thead>
<tr>
<th>Skill/competency/concept</th>
<th>Target learning outcomes</th>
<th>Suggested strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Understands the properties of addition, subtraction, multiplication, division.</td>
<td>Individual Task, Group Task, Play Way</td>
</tr>
<tr>
<td></td>
<td>Solves number puzzles.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Identifies greatest and smallest number from the given numbers.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solves basic problems related to everyday life based on numbers.</td>
<td></td>
</tr>
</tbody>
</table>

Sample Activity 1:

TLO: Solves number puzzles.

Complete the multiplication table given below?

<p>| | | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td>32</td>
<td>33</td>
<td>34</td>
</tr>
<tr>
<td>1 X</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 X</td>
<td></td>
<td>52</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 X</td>
<td></td>
<td></td>
<td>81</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 X</td>
<td></td>
<td></td>
<td></td>
<td>112</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>145</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>180</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>217</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>256</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>297</td>
<td></td>
</tr>
<tr>
<td>10 X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>340</td>
</tr>
</tbody>
</table>
Learning Assessment

1. Who am I? (Words game)
   i) My Ones digit is 9
      My Tens digit is 7 and my hundreds digit is 5
      I am the number -------------------
   ii) My Ones digit is 6
       My Tens digits is 2 more than my ones digit and
       My Hundreds digit is 6 and my thousands digit is 9
       I am the number -------------------

2. Write in words.
   1. 1989
   2. 2999

3. Match the roman number
   i) 158, LXXIV
   ii) 150, C
   iii) 74, CLVIII
   iv) 89, CL
   v) 100, LXXXIX

4. Solve and compare the roman numerals: (Hints <, >, =)
   i) LXXX, CXXIX
By using digits, build the smallest and Greatest number possible repeat digits, if required?

<table>
<thead>
<tr>
<th>No.</th>
<th>Digits</th>
<th>5 digit Smallest Number</th>
<th>5 digit Greatest Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5,0,0,9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3,0,5,3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0,0,0,1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>6,2,3,0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TEST YOURSELF

1. If 1 meter = 100 cm
   So half meter = ______ cm

   300 m = _______ km

2. Which number is exactly between 20 and 40.
   Ans. _____________________________________________________________

3. A bus can carry 52 students. How many students can 5 buses carry?
   ___________________________________________________________________
   ___________________________________________________________________

4. If cost of 1000 bricks is Rs 2000. Find cost of 500 bricks.
   ___________________________________________________________________
   ___________________________________________________________________

5. The doctor told Sunil to run 5km every day to stay fit. He took one round of this field. How far did he run?
   ___________________________________________________________________
   ___________________________________________________________________

6. I gave five apples each to five of my friends and four apples are left with me. How many apples did I have?
   ___________________________________________________________________

7. Draw a Floor Pattern
8. Amit is going to Koilakh which is 17km away. Manraj is going towards Rampur which is 57km away in the opposite direction.

How far is Koilakh from Rampur?

9. If a person runs a tea stall and earns Rs.200 in a day. How much will he earn in 30 days.

______________________________________________________________________________
<table>
<thead>
<tr>
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<th>Target learning outcomes</th>
<th>Suggested Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding</td>
<td>Reads calendar and clock in various formats.</td>
<td></td>
</tr>
<tr>
<td>Computation</td>
<td>Writes time in 12 hours and 24 hours format.</td>
<td></td>
</tr>
<tr>
<td>Problem Solving Ability</td>
<td>Converts time from 12 hours to 24 hours and vice-versa.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solves problems related to time.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Individual Task</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Group Task</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Play Way</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Demonstration</td>
<td></td>
</tr>
</tbody>
</table>

**Sample Activity 1:**

**TLO: Estimation of time**

How much time you will require to run 50m

Let's run on the playground. Ask your friend to record time. How much time you have taken to run 50m

What is the time difference between your actual time duration and your estimation?

2. Graph given below shows the time utilised by Mast Deepak of class V.

Answer the following questions

What is the time utilised by Mast Deepak of class V?

1. Name the activity in which he spent minimum time?

2. Name the activity in which he spent maximum time?

Now students will be encouraged to make their own routine using hints given below
<table>
<thead>
<tr>
<th>Name of activity</th>
<th>Time(hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time spent in school</td>
<td></td>
</tr>
<tr>
<td>Time spent in watching TV</td>
<td></td>
</tr>
<tr>
<td>Time spent in playing outside school</td>
<td></td>
</tr>
<tr>
<td>Time spent in studying</td>
<td></td>
</tr>
<tr>
<td>Time spent in sleeping</td>
<td></td>
</tr>
<tr>
<td>other</td>
<td></td>
</tr>
</tbody>
</table>
1. Fill in the blanks:
   a. 24:00 hours is same as ……………
   b. There are …………… seconds in one hour.
   c. A leap year has …………… weeks and ……….. days.

2. Convert the following time using am/pm.
   a. 7:00 in the morning –
   b. 6:45 in the evening –
   c. 10:30 in the morning –

3. Fill in the blanks:
   a. 1 decade = …………… years
   b. 1 century =………….. Years

4. Convert the lower unit of time into higher unit.
   a. 660 seconds into minutes
   b. 288 hours into days.

5. Draw the hands of clock as per given instruction and also write the time. (Neglect seconds hand)
   Hour hand on 4 and minute hand on 12
<table>
<thead>
<tr>
<th>Subject-Mathematics</th>
<th>Level A2</th>
<th>Class IV</th>
<th>Lesson-5(The way the world looks.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Worksheet-5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skill/competency/concept</th>
<th>Target learning outcomes</th>
<th>Suggested Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Identify different views of an objects</td>
<td>Group activity / individual activity</td>
</tr>
<tr>
<td>Understanding</td>
<td>Reads school map, city map and other maps</td>
<td>Demonstration method</td>
</tr>
<tr>
<td>Computation</td>
<td>Draws simple maps and shapes</td>
<td>Visual testing</td>
</tr>
<tr>
<td>Problem Solving Ability</td>
<td>Applies the concept of maps and shapes in real life</td>
<td></td>
</tr>
</tbody>
</table>

Sample Activity 1: TLO: Draws simple maps and shapes

Make route map from your class room to your principal room, resource room and staff room.

Learning Assessment

1. Draw top view and side view of your pencil box.
2. Draw top view and side view of a pressure cooker.
3. Colour the following shapes and write their views
4. Label the dice (Top, Side, Front view) and then enter the number of dots visible on each side:

1. FRONT

2. RIGHT

3. TOP
<table>
<thead>
<tr>
<th>Subject- Mathematics</th>
<th>Level A2</th>
<th>Class IV</th>
<th>Lesson-6,11 (Junk seller, Tables and shares)</th>
<th>Worksheet-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skill/competency/concept</td>
<td>Target learning outcomes</td>
<td>Suggested strategies</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| ➢ Knowledge  
➢ Understanding  
➢ Computation  
➢ Problem Solving Ability | ➢ Understands factors of a multiple  
➢ Reads and prepares bills  
➢ Applies concept in real life  
➢ Solves problems related to multiplication | ➢ Group task  
➢ Individual task  
➢ Dramatization  
➢ Demonstration activity |

**Sample Activity 1**  
**TLO:** Solving problems on multiplication

Write appropriate numbers in the boxes to complete number pattern.

```plaintext
Observe list properly (p=paisa)
```
How much would it cost to buy the following animals?

Cat = 3 \times 1 \times 5 = 15p

Goat =

Hen =

Dog =

Owl =

Learning Assessment

1. Write the answers applying mental math:

\[ \begin{array}{c}
10 \times x = 50 \\
5 \times 2 = 10 \\
25 \times x = 50 \\
\end{array} \]

\[ \begin{array}{c}
8 \times x = 6 \\
3 \times 6 = 18 \\
\end{array} \]
2. Fun with multiplication:

Each letter a, b, c here stands for a number.

\[
\begin{array}{cccc}
  a & a & a & a \\
\times & a & a & a \\
  a & a & a & a \\
  a & a & a & a & x \\
\hline
  a & a & a & x & x \\
\end{array}
\]

Mention the Value of

b = ........a

c = ........a

3. Fill in the blanks:

A. \(500 \times 2 = 10 \times \_\_\_\_\_\_\_\_\_\_\_\_\_

B. The product of 1 and a number is the ------------------.

C. The product of 0 and a number is always------------------.

4. Solve the word problem?

(a) One set of complete sofa set costs Rs. 23157. How much money did a group of 30 persons pay to the shopkeeper, if all of them purchase sofa set from themselves?

(b) A Shopkeeper has a sale of 5080 gifts in a day. How many gift articles will he sell in six months?
Test Yourself

1. Change into 24 hour clock time:
   (a) 5’o clock in the afternoon____________________________________
   (b) 3 o’clock in the afternoon____________________________________

2. Name two things that you buy in litre:
   (a)------------------------------------------------------------------------
   (b)------------------------------------------------------------------------

3. 200 ml +500 ml +300 ml= _________________ litre

4. Write am or pm for the following:-
   (a) Breakfast at home 8:00 ________________________________
   (b) Dinner at home 9:00 ________________________________

5. Convert given rupees into paise:-
   (a) Rs 58__________________________________________________________
   (b) Rs 11.2______________________________________________________

6. Deenu bought potatoes for Rs 58, tomatoes for Rs 28, fruits for Rs 113 and sugar for Rs 32.75. Prepare a bill for it. How much total money is paid by Deenu?
   ____________________________________________________________________
   ____________________________________________________________________

7. Multiply:
   (a) 768
       X14
       _______
   (b) 101
       X10
       _______

8. Ram’s rate List:-

<table>
<thead>
<tr>
<th>Kind of Junk</th>
<th>Price per Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potato</td>
<td>Rs 12</td>
</tr>
<tr>
<td>Onion</td>
<td>Rs 20</td>
</tr>
<tr>
<td>Tomato</td>
<td>Rs 35</td>
</tr>
<tr>
<td>Cauliflower</td>
<td>Rs 18</td>
</tr>
<tr>
<td>Pumpkin</td>
<td>Rs 10</td>
</tr>
</tbody>
</table>
Find the cost of following items:

(a) 2 kg Potato

(b) 8 kg Tomato

(c) 0.5 kg Cauliflower

(d) 1.5 kg Onion
<table>
<thead>
<tr>
<th>Subject-Mathematics</th>
<th>Level A2</th>
<th>Class IV</th>
<th>Lesson-7(Jugs and mugs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Worksheet-7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skill/competency/concept</th>
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<th>Suggested strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Understands the concept of volume / capacity</td>
<td>Individual task</td>
</tr>
<tr>
<td>Understanding</td>
<td>Knows the units of capacity</td>
<td>Group task</td>
</tr>
<tr>
<td>Application</td>
<td>Estimates the volume of a container</td>
<td>Demonstration</td>
</tr>
<tr>
<td>Problem solving ability</td>
<td>Measures the capacity of a container</td>
<td>Play Way</td>
</tr>
<tr>
<td></td>
<td>Solves problem related to capacity</td>
<td></td>
</tr>
</tbody>
</table>

Sample Activity 1:

TLO: Identify unit of volume to be used

1. Fill in the boxes. (The first one is done for you)

<table>
<thead>
<tr>
<th>How many times the container will be used to measure</th>
<th>1 L</th>
<th>500 ml</th>
<th>200 ml</th>
<th>100 ml</th>
<th>50 ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>250 ml milk</td>
<td></td>
<td></td>
<td>1 time</td>
<td></td>
<td>1 time</td>
</tr>
<tr>
<td>700 ml petrol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 litre 750 ml oil</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. The table shows the amount of water used in a day by family of 2 people.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Water used in Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathing</td>
<td>20L</td>
</tr>
<tr>
<td>Drinking</td>
<td>12L</td>
</tr>
<tr>
<td>Washing cloths</td>
<td>40L</td>
</tr>
<tr>
<td>Cleaning utensils</td>
<td>8L</td>
</tr>
</tbody>
</table>

If you have a measuring pan of volume 5L and 1L, then how will you measure and give water to this family?

E.g. \[8L = 5L + 5L - 1L - 1L\]
Learning Assessment

1. Convert the following into milliliters (ml). (1 L = 1000 ml)
   (a) 5L = 
   (b) 8.2L =

2. Add the following volumes by converting them into ml
   (a) 8 L 26ml and 12 L 36ml
   (b) 14 L 39ml and 5 L 28ml

3. Subtract with conversion
   (a) 66 L 79ml from 98 L 56ml
   (b) 15 L 78ml from 24 L 32ml

4. Sunil bought 2L 500 ml of milk in the morning and 8L 500ml of milk in the evening. How much milk did he buy in all?

5. A bucket contains 5L 750ml of water. If 2L 50ml of milk is taken from it. What quantity of mixture will be left in the bucket.
Sample Activity:

Using compass draw patterns in the space provided. Try making patterns of your own.
Learning Assessment

1. Complete the table (Diameter = 2 x radius)

<table>
<thead>
<tr>
<th>RADIUS</th>
<th>DIAMETER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2cm</td>
<td></td>
</tr>
<tr>
<td>3.5cm</td>
<td></td>
</tr>
<tr>
<td>5cm</td>
<td></td>
</tr>
<tr>
<td>7.5cm</td>
<td></td>
</tr>
</tbody>
</table>

2. For the diameter given, calculate radius.

<table>
<thead>
<tr>
<th>DIAMETER</th>
<th>RADIUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2cm</td>
<td></td>
</tr>
<tr>
<td>3.5cm</td>
<td></td>
</tr>
<tr>
<td>5cm</td>
<td></td>
</tr>
<tr>
<td>7.5cm</td>
<td></td>
</tr>
</tbody>
</table>

3. Draw a circle of radius 2.5cm

4. Mark the centre, and draw the radius and diameter of the following images:
<table>
<thead>
<tr>
<th>Subject-Mathematics</th>
<th>Level A2</th>
<th>Class IV</th>
<th>Lesson-11(Halves and Quarter) Worksheet-9</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Skill/Competency/Concept</th>
<th>Target Learning Outcomes</th>
<th>Suggested Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge, Understanding, Computation, Problem Solving Ability</td>
<td>Understands the concept of half and quarter using chapatti, cake etc.</td>
<td>Individual task</td>
</tr>
<tr>
<td></td>
<td>Estimates fraction of a whole</td>
<td>Group task</td>
</tr>
<tr>
<td></td>
<td>Understands fraction as division.</td>
<td>Demonstration method</td>
</tr>
<tr>
<td></td>
<td>Knows concept of equivalent fraction.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solves problem related to fraction</td>
<td></td>
</tr>
</tbody>
</table>

**Sample Activity-1:**

**TLO:** Estimates fraction of a whole

1. Lalit has drawn some shapes and coloured part of the shape. What part of each shape is coloured? First guess and write the answer in the space provided then check (by using paper folding method) and write the answer in the space provided.

Guess

After Checking
Guess

After Checking

Sample Activity-2  TLO: Knows concept of equivalent fraction.

**SOME FRACTION FUN**

Place the fractions in the balloons below in the puzzle at right so that each row and column has a sum of 1. Two of the fractions have been added to get you started.
Learning Assessment

1. Shade the part/s of shapes:

   \[
   \begin{align*}
   \frac{1}{2} & \quad \text{Circle} \\
   \frac{3}{4} & \quad \text{Rectangle} \\
   \frac{1}{4} & \quad \text{Circle}
   \end{align*}
   \]

2. Follow the instruction given in the table?

<table>
<thead>
<tr>
<th>1. Draw a line to show halves.</th>
<th>2. Draw lines to show one third.</th>
<th>3. Draw lines to show one fourths.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color ( \frac{1}{2} )</td>
<td>Color ( \frac{1}{3} )</td>
<td>Color ( \frac{1}{4} )</td>
</tr>
<tr>
<td>Triangle</td>
<td>Triangle</td>
<td>Octagon</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skill /Competency / Concept</td>
<td>Target learning outcomes</td>
<td>Suggested strategies</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Knowledge</td>
<td>Identifies patterns</td>
<td>Group activity</td>
</tr>
<tr>
<td>Identification</td>
<td>Explores patterns in numbers / alphabets/ shapes etc.</td>
<td>Individual task</td>
</tr>
<tr>
<td>Understanding</td>
<td>Codes and decodes patterns</td>
<td>Games</td>
</tr>
<tr>
<td>Logical thinking</td>
<td></td>
<td>Demonstration method</td>
</tr>
</tbody>
</table>

**SAMPLE ACTIVITY-1**

**TLO: Identification of patterns**

1. Use numbers 8 to 16 and fill in the squares.
   RULE---The numbers on each row and column add up to 36.

<table>
<thead>
<tr>
<th></th>
<th>10</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

2. Remove six match sticks to make the word ‘TEN’
Learning Assessment

1. If RAM is written as SBN, in a certain code language then SHYAM will be written as 
   __________

2. Complete the pattern-
   a)  
   
   b)  

   c)  

3. Add 2 numbers below to get the numbers in the box above them.
TEST YOURSELF

1. Colour the part/s of shape as required-

\[ \frac{3}{4} \quad \frac{1}{4} \]

2. Fill in the blanks -

Radius = _______________
Diameter=______________

3. Take these patterns forward-

<table>
<thead>
<tr>
<th>10AB</th>
<th>20CD</th>
<th>30EF</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Make the number pattern-

\[
\begin{array}{c|c|c|c}
6 & 5 & 7 & 12
\end{array}
\]

5. Draws a circle of radius 3 cm.

6. Make a design using compass.
7. Colour the part –

\[
\begin{array}{cccc}
\hline \\
| & | & | & | \\
\hline \\
\end{array}
\]

\[
\begin{array}{ccc}
\hline \\
| & | & | \\
\hline \\
\end{array}
\]

\[
\begin{array}{c}
\hline \\
| \\
\hline \\
\end{array}
\]

\[
\begin{array}{c}
\hline \\
| \\
\hline \\
\end{array}
\]

\[
\begin{array}{c}
\hline \\
| \\
\hline \\
\end{array}
\]

\[
\begin{array}{c}
\hline \\
| \\
\hline \\
\end{array}
\]

\[
\begin{array}{c}
\hline \\
| \\
\hline \\
\end{array}
\]

\[
\begin{array}{c}
\hline \\
| \\
\hline \\
\end{array}
\]

\[
\begin{array}{c}
\hline \\
| \\
\hline \\
\end{array}
\]

\[
\begin{array}{c}
\hline \\
| \\
\hline \\
\end{array}
\]

\[
\begin{array}{c}
\hline \\
| \\
\hline \\
\end{array}
\]

\[
\begin{array}{c}
\hline \\
| \\
\hline \\
\end{array}
\]

\[
\begin{array}{c}
\hline \\
| \\
\hline \\
\end{array}
\]

\[
\begin{array}{c}
\hline \\
| \\
\hline \\
\end{array}
\]

\[
\begin{array}{c}
\hline \\
| \\
\hline \\
\end{array}
\]

\[
\begin{array}{c}
\hline \\
| \\
\hline \\
\end{array}
\]

\[
\begin{array}{c}
\hline \\
| \\
\hline \\
\end{array}
\]

\[
\begin{array}{c}
\hline \\
| \\
\hline \\
\end{array}
\]

\[
\begin{array}{c}
\hline \\
| \\
\hline \\
\end{array}
\]

8. Make any pattern using alphabets ----

\[\begin{array}{cccc}
| & | & | & | \\
\end{array}\]

9. There are 30 oranges. \( \frac{1}{2} \) of them are ripe. How many oranges are ripe?

ANS-________________________________________

10. There are 32 students in a class. A quarter of them got A+. How many students got A+?

ANS____________________________________________

________________________________________________
SAMPLE ACTIVITY 1.

TLO: Estimates heavy and light objects

Measure your own height and weight and find out actual ratio between height and weight.

<table>
<thead>
<tr>
<th>Height (cm)</th>
<th>Underweight (kg)</th>
<th>Normal Weight (kg)</th>
<th>Overweight (kg)</th>
<th>Obese (kg)</th>
<th>Extremely Obese (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>41 or less</td>
<td>42 – 56</td>
<td>57 – 67</td>
<td>68 – 90</td>
<td>91 or more</td>
</tr>
<tr>
<td>153</td>
<td>43 or less</td>
<td>44 – 58</td>
<td>59 – 70</td>
<td>71 – 93</td>
<td>94 or more</td>
</tr>
<tr>
<td>156</td>
<td>45 or less</td>
<td>46 – 61</td>
<td>62 – 73</td>
<td>74 – 97</td>
<td>98 or more</td>
</tr>
<tr>
<td>159</td>
<td>47 or less</td>
<td>48 – 63</td>
<td>64 – 76</td>
<td>77 – 101</td>
<td>102 or more</td>
</tr>
<tr>
<td>162</td>
<td>49 or less</td>
<td>50 – 65</td>
<td>66 – 79</td>
<td>80 – 105</td>
<td>106 or more</td>
</tr>
<tr>
<td>165</td>
<td>50 or less</td>
<td>51 – 68</td>
<td>69 – 81</td>
<td>82 – 109</td>
<td>110 or more</td>
</tr>
<tr>
<td>168</td>
<td>52 or less</td>
<td>53 – 70</td>
<td>71 – 84</td>
<td>85 – 113</td>
<td>114 or more</td>
</tr>
<tr>
<td>171</td>
<td>54 or less</td>
<td>55 – 73</td>
<td>74 – 87</td>
<td>88 – 117</td>
<td>118 or more</td>
</tr>
</tbody>
</table>

What is your actual weight?

What should be your weight according to the table given above?

What is the difference between your ideal weight and your actual weight?
Learning Assessment

1. Draw pointer on each scale to show the weight

2. Read the following weighing scales and fill in the blanks

Mary  John  Erik
a) The weight of Mary is ................ kg less than Erik
b) ...................... Is the heaviest student.
c) The total weight of Mary, John and Erik is ................ kg

3. Encircle any three objects in the grid which we weigh in gm -

<table>
<thead>
<tr>
<th>L</th>
<th>E</th>
<th>M</th>
<th>O</th>
<th>N</th>
<th>Y</th>
<th>U</th>
<th>I</th>
<th>O</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>S</td>
<td>D</td>
<td>F</td>
<td>G</td>
<td>H</td>
<td>J</td>
<td>K</td>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td>E</td>
<td>Z</td>
<td>X</td>
<td>C</td>
<td>V</td>
<td>B</td>
<td>N</td>
<td>M</td>
<td>L</td>
<td>K</td>
</tr>
<tr>
<td>R</td>
<td>O</td>
<td>B</td>
<td>O</td>
<td>O</td>
<td>K</td>
<td>R</td>
<td>T</td>
<td>Y</td>
<td>U</td>
</tr>
<tr>
<td>A</td>
<td>O</td>
<td>A</td>
<td>S</td>
<td>D</td>
<td>E</td>
<td>R</td>
<td>T</td>
<td>Y</td>
<td>U</td>
</tr>
<tr>
<td>S</td>
<td>O</td>
<td>C</td>
<td>H</td>
<td>I</td>
<td>P</td>
<td>S</td>
<td>B</td>
<td>N</td>
<td>M</td>
</tr>
<tr>
<td>E</td>
<td>C</td>
<td>Y</td>
<td>U</td>
<td>I</td>
<td>O</td>
<td>P</td>
<td>Y</td>
<td>T</td>
<td>R</td>
</tr>
<tr>
<td>R</td>
<td>U</td>
<td>F</td>
<td>G</td>
<td>G</td>
<td>H</td>
<td>J</td>
<td>G</td>
<td>H</td>
<td>V</td>
</tr>
<tr>
<td>B</td>
<td>P</td>
<td>M</td>
<td>G</td>
<td>H</td>
<td>S</td>
<td>P</td>
<td>O</td>
<td>O</td>
<td>N</td>
</tr>
<tr>
<td>T</td>
<td>Y</td>
<td>U</td>
<td>I</td>
<td>O</td>
<td>K</td>
<td>L</td>
<td>U</td>
<td>I</td>
<td>I</td>
</tr>
</tbody>
</table>

4. Standard unit of weight is

a. 1 Kg= __________ g
b. 5 Kg= __________ g

c. 4250 g = __________ Kg __________ g
d. 2356 g = __________ Kg __________ g
Subject-Mathematics | Level A2 | Class IV | Lesson-13(Field and Fences) | Worksheet-12

<table>
<thead>
<tr>
<th>Skill/competency/concept</th>
<th>Target learning outcomes</th>
<th>Suggested Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td> Knowledge</td>
<td> Calculates the total length of the boundary of regular and irregular shapes.</td>
<td> Group activity</td>
</tr>
<tr>
<td> Understanding</td>
<td> Knows the concept of perimeter</td>
<td> Individual task</td>
</tr>
<tr>
<td> Computation</td>
<td> Finds the number of squares inside a regular shape.</td>
<td> Games</td>
</tr>
<tr>
<td> Problem solving</td>
<td> Solves day to day life problems related to area and perimeter</td>
<td> Demonstration method</td>
</tr>
</tbody>
</table>

Sample Activity: 1

TLO: Calculates the total length of the boundary.

1. Find the length of the boundary of the following shapes using thread.
Learning Assessment

1. Find the perimeter of triangle whose sides are given below.
   (a) 14cm, 12cm, 9cm ________________
   (b) 240m, 150m, 150m ________________

2. Find the perimeter of square whose sides are given below.
   (a) 7cm __________

3. Find the perimeter with the help of scale.

4. The perimeter of a square is 200cm. Find the length of its side.

5. Each side of a triangle is 8 cm and side of a square is 7 cm. Which one has more perimeter?
Sample Activity 1:

**TLO:** Draws conclusions and inferences from the data

Make a list of students whose favourite sweet is kaju katali, laddoo, Rasgulla, rasmalai. Every student has to select any one sweet.

<table>
<thead>
<tr>
<th>Name of sweets</th>
<th>No of students/Tally mark</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>kaju katali</em></td>
<td></td>
</tr>
<tr>
<td><em>Laddoo</em></td>
<td></td>
</tr>
<tr>
<td><em>Rasgulla</em></td>
<td></td>
</tr>
<tr>
<td><em>Rasmalai</em></td>
<td></td>
</tr>
</tbody>
</table>

Answer the question given below on the basis of above observation.

a) Which sweet is most favourite among students?

b) Which sweet is liked by least number of students?
c) How many students like laddoo?

Learning Assessment

1. Observe the following bar graph and answer the following questions

   a) How many children were absent on Tuesday?

   ________________________________

   b) How many more children were absent on Thursday than on Monday?

   ________________________________

   c) On which day least number of children was absent?

   ________________________________

   d) On which day the number of children absent was exactly the half of that on Thursday?

   ________________________________
Test yourself

1. Name two things that we usually buy in kilogram?
   (a) ........................................ (b) ........................................

2. Find the boundary of the field

3. Chandan wants to fence his field with the wire. What is the total length of the wire required for fencing the field?

   Ans ........................................................
   ........................................................
   ........................................................

4. Sunil's weight is 78 kg and Deepak's is only 56 kg. What is the difference between their weight?

5. A Football fields is 105m 40 cm long and 65m wide. How long is the boundary of the field?

   Ans ........................................................
5. Guess and write the weight of each thing be bought in gm or kg.

<table>
<thead>
<tr>
<th>Items</th>
<th>Weight</th>
<th>Kg /g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turmeric</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Rice</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Salt</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Sugar</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>