पुथना International School
Shree Swaminarayan Gurukul, Zundal

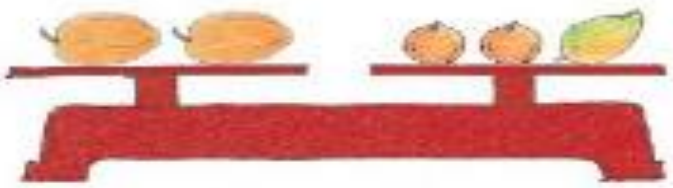
Specimen Copy
2020-2021
GRADE - IV

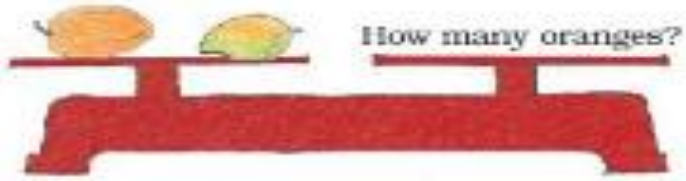
Ch-12

How Heavy and How light?

❖ Summary:

- **Measuring Mass (or weight)**
- **Conversion of kg into g**
- **Which is a better estimate for the weight of the following objects?**
- **Conversion**
- **Addition**
- **Subtraction**
- **Word Problems**





- **Measuring Mass (or weight)**

  Mass is a measure of how heavy something is. We use a balance scales or a weighing scales to measure mass (or weight)

  Mass is measured in grams (g) and kilograms (kg). We use grams to weigh lighter objects and kilograms to weigh heavier objects.

  1 kg = 1000g

  Or

  1000g = 1kg

  The standard unit of measurement of mass is Kilogram.

- **Conversion of kg into g**

  In order to convert kilograms into grams we multiply by 1000

  Example: Change 4 kg into grams.

1 kg =1000g

4kg = 4 x 1000g = 4000g

Example: 1 kg 200 g

= 1 kg 200 g

= 1 x 1000g + 200g

= 1000g + 200 g

= **1200 g**

Example: 5 kg 700 g

= 5 kg 700 g

= 5 x 1000g + 700g

= 5000g + 700 g

= **5700 g**

Note: In conversion of unit, we always multiply when we go from higher unit to lower unit; such as from kg to g.

- **Conversion of g into Kg**

In order to convert grams into kilograms we divide by 1000

Example: Change 8000 grams into kg.

Since 1 kg =1000g

8000 grams = 8000 ÷ 1000 g

$= \frac{8000}{1000}\ g$

= **8 kg**

Example: 7090 g

= 7000 g + 90 g

$= \frac{7000}{1000}\ g + 90\ g$

= **7 kg 90 g**

Example: $4600\ g$

$= 4000\ g + 600\ g$

$= \frac{4000}{1000}\ g + 600\ g$

= 4 kg 600 g

Note: In conversion of unit, we always divide when we go from lower unit to higher unit; such as from g to kg.

- **Which is a better estimate for the weight of the following objects?**

a. Weight of squirrel – kg / g

b. Weight of cell phone – kg / g

c. Weight of muskmelon – kg / g

d. Weight of a camel – kg / g

e. Weigh of 1 carrot – kg / g

f. Weight of washing machine – kg / g

- **Convert the following into grams.**

A. 2 kg =_____

B. 3 kg =_____

C. 1 kg 200 g =_____

- **Convert the following into kilogram.**

  A. 5000 g =_____

  B. 3000 g =_____

  C. 1500 g =_____

- **Addition**

  Step1: Add the gram column

  Step2: Add the kg column

  Example 1:

  Add 75 kg 582 g and 13 kg 410g

	kg	g
	7 5	5 8 2
+	1 3	4 1 0
	8 8	9 9 2

  Example 2:

  Add 94 kg 215g and 6 kg 757g

	kg	g
	9 4	2 1^{1} 5
+	0 6	7 5 7
	1 0 0	9 7 2

- **Subtraction**

  Step1: Add the gram column

  Step2: Add the kg column

  Example 1: Example 2:

Subtract 15 kg 430 g from 70 kg 500 g

	Kg	g
	70	500
-	15	430
	55	070

Subtract 35 kg 600 g from 40 kg 700 g

	Kg	g
	40	700
-	35	600
	15	100

Example 3:

Ravi purchased 5 kg 300 g of a packet of rice and 4 kg 200 g of a packet of wheat flour. How much is the total weight of both the packets?

Solution:

Weight of rice = 5 kg 300 g

Weight of wheat flour = 4kg 200g

Total weight of both the packets = 5kg 300g + 4kg 200g

	kg	g
	5	3 0 0
+	4	2 0 0
	9	5 0 0

- **Subtraction**

Step1: Subtract the gram column

Step2: Subtract the kg column

Example1:

Subtract 13kg 410g from 75kg 582g

	kg	g
	7 5	5 8 2
-	1 3	4 1 0
	6 2	1 7 2

Example2:

Dev weighs 39 kg 900 g. Manit weighs 35kg 600g. Who weighs more and by how much?

Solution:

Dev's weight = 39kg 900g

Manit's weight = 35kg 600g

Dev weighs more by = 39kg 900g – 35kg 600g

	kg	g
	3 9	9 0 0
-	3 5	6 0 0
	0 4	3 0 0

- **Add the following:**

  a. 55kg 540g + 12kg 410g

  b. 25kg 505g + 15kg 045g

- **Subtract the following:**

  a. 78kg 954g – 38kg 603g

  b. 22kg 505g – 11kg 750g

- **Word Problems:**

  a. A vegetable vendor had 24kg 570g. He sold 12kg 470g in one day. What is the weight of vegetables that are left? ----------
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b. Ria bought 4kg 630g of cherries, 2kg 700g of apples and 3kg 345g of grapes. How much is the total weight of the three things? ----------
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c. My weight is 30kg 900g. My friend weight is 28kg 880g. How much more is mine weight?----------
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Ch-13

Field and Fences

❖ Summary:

- **Perimeter (Square, Rectangle,Triangle)**
- **Find the perimeter**
- **Area (Square, Rectangle)**
- **Find the area of rectangle**
- **Fill in the blank**
- **Word Problem**

❖ Perimeter (Only for Explanation)

Let's start the topic with a small activity.

Step 1: Measure all the sides of your table or handkerchief using ruler.

Step 2: Calculate the sum of the length of all sides.

Step 3: Write the final calculated measurement. The final answer we got is the total length of the boundary.

❖ Perimeter (Define)

The length of the boundary surrounded a shape is called perimeter.

Ex. Fencing, Lighting decoration

❖ <u>Perimeter of square (Formula)</u>

= sum of all sides

OR

= 4 x length (Side)

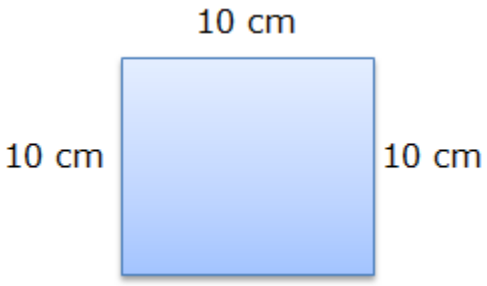
❖ <u>Perimeter of rectangle (Formula)</u>

=2 (L + B)

Or

=2 (Length + Breadth)

Example: Side of square 10 cm



Method 1: Perimeter = 10 + 10 + 10 + 10 (sum of all 4 sides)

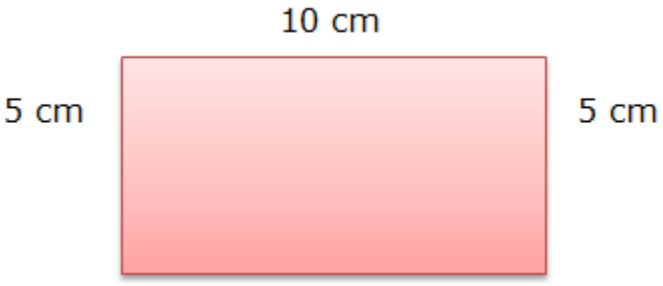
= 40 cm

Method 2: As all sides are equal, we can write 4 times side in place of adding all sides.

Perimeter = 4 x 10 cm

= 40 cm

Example: Length =10 cm and Breadth = 5 cm



Method 1: Perimeter = 10 + 10 + 5 + 5 (sum of all 4 sides)

= 30 cm

Method 2: As opposite sides are equal; we can write sum 2 times length and 2 times breadth. Perimeter = 2 (10 + 5)

= 2 (10 + 5)

= 2 x 10 + 2 x 5

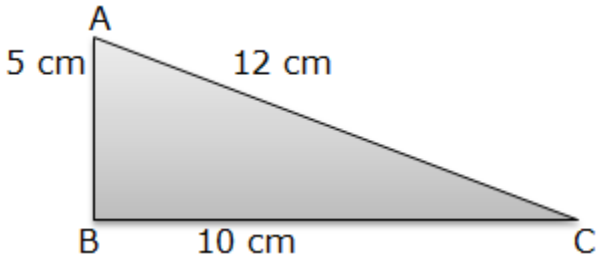
= 20 + 10

= **30 cm**

- **Perimeter of a Triangle**

Perimeter of Triangle = Side 1 + Side 2 + Side 3

Example:



Perimeter of triangle = AB + BC + CA

= 5 cm + 10 cm + 12 cm

= **27 cm**

- **Find the perimeter of rectangle whose measurements are:**
  a. Length = 22 cm, Breadth = 12 cm

  b. Breadth = 2 m, Length = 5 m
- **Find the perimeter of square who's each side is**:
  a. Side = 6cm

  b. Side = 3m

- **Find the perimeter of triangle ABC whose measurement are:**
  a. AB = 5cm, BC = 6cm, CA = 8cm

  b. AB = 7 m, BC = 7 m, CA = 7 m

- **Word Problem**

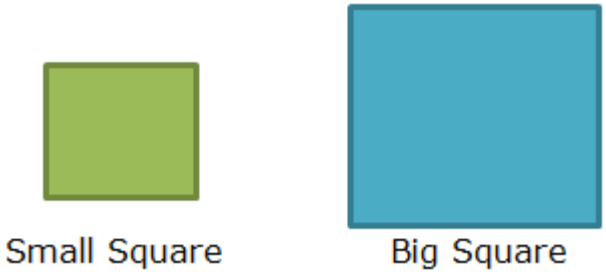
1. Find the length of rope required to fence a kitchen garden whose length is 4 m and breadth 2 m.

2. Find out length wire needed to put a boundary round a square park.

3. A blanket 4 m long and 2 m broad is to be stitched with red ribbon around the edge. How much ribbon is needed? Find out the total cost of ribbon, if 1m cost 3 dollars.

- **Area**

Look at these figures.[For explanation]



Here, we can see the small square encloses lesser space of surface than big square. We use area to measure of surface.

Define:- Area is the region enclosed between the boundaries of a figure.

Area is measured in "square" units. The area of a plane figure is the number of squares needed to cover it completely.

1. **Area of Square**

Area = Side x Side

Example:

Side of square = 10 m

Area = Side x Side(Length X Length)

= 10 m x 10 m

= 100 sq. m

2. Area of Rectangle

Area = Length x Breadth

Example:

Length = 12 cm, Breadth = 6 cm

Area = Length (L) X Breadth (B)

= 12 cm x 6 cm

= 72 sq.cm

Note: Convert the measurement of the figure in same units while calculating area of any figure.

10 mm = 1cm	1 sq. cm = 100 sq.mm
100 cm = 1m	1 sq. m = 10000 sq.cm
1000m = 1km	1 sq. km = 1000000 sq. m

3. Find the area of rectangle whose measurements are:

a. Length = 20 cm, Breadth = 11 cm

b. Breadth = 3 m, Length = 8 m

4. **Find the area of square whose side is:**

a. Side = 15 cm b. Side = 6 m

5. **Fill in the blank.**

a. 11 m x _____ m = 44 m

b. 7 cm x 7 cm = _____ cm

c. ___ m x 5 m = 30 m

6. Word Problem

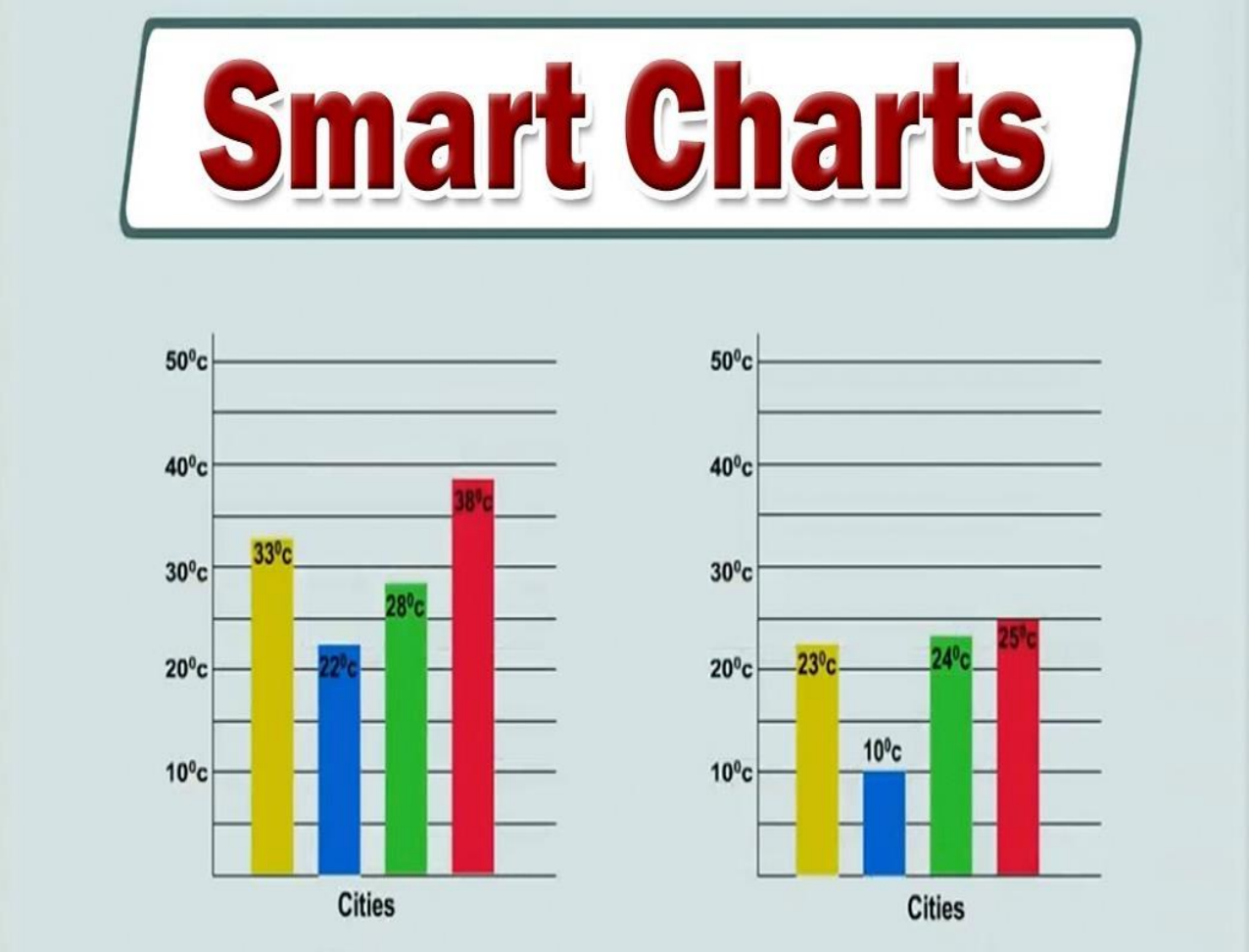
7. Find the area of rectangular garden. The garden is 70 m long and 50 m wide.
8. A square wall is to be painted. Its side is 200 cm. Find the area to be painted.

CH-14

Smart Chart

❖ Summary

- **Data Handling**
- **Pictorial Representation of Data**
- **Pie Chart / Pie Graph**
- **Bar Graph/Column Chart**



- **Data (Define):- Data is a collection of facts or an information.**

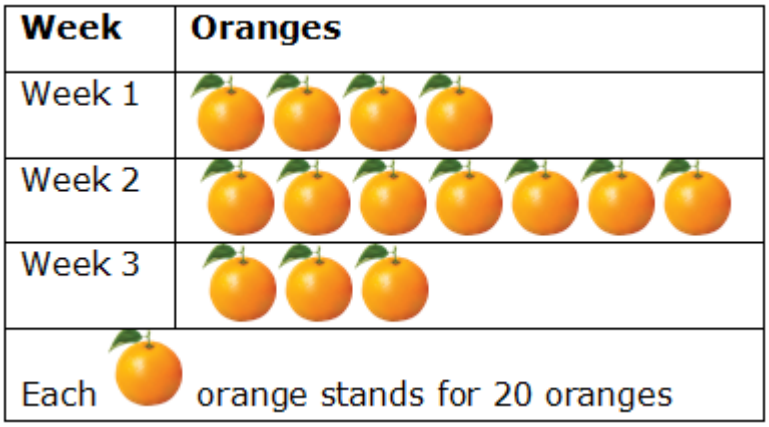
- **Pictorial Representation of Data [For explanation]**

When we represent numerical data through pictures or graph, it is termed as pictorial representation of data. Such visual representation makes our understanding clearer.

In pictograph we use icon, pictures, symbol etc. repetitively, to show the relationship between two variable quantities. Pictograph can also be referred as pictogram, pictorial chart, pictorial graph, or picture graph. The quantity that each symbol or picture symbolizes is specified clearly in the representation, this helps to represent large quantities of data.

[Do in n.b]

Example: The below graph shows how many oranges were sold in 3 weeks



Now, answer the following questions:

Q1. How many oranges were sold during the third Week?

Ans. 20 x 3 = 60 oranges (as each orange stand for 20 oranges)

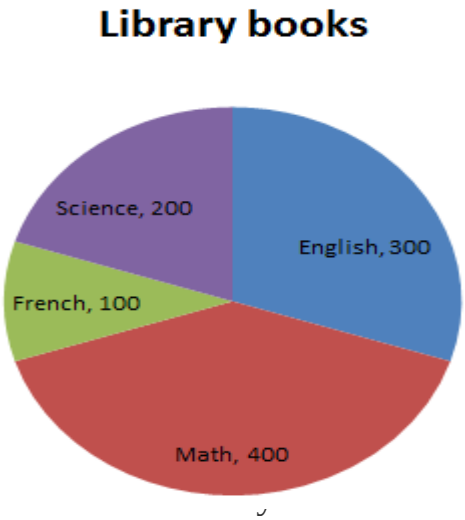
Q2. In which Week the oranges sold were maximum?

Ans. In Week 2

- **Pie Chart / Pie Graph**

  Representing numerical data by dividing a circle into slices or sectors is called pie chart or pie graph or circle graph. Each sector in pie chart represents a fraction of whole. It is simple to understand as it summarizes a large data in visual form.

  Example: In a circle below are the details of library books in the school library.



Now, answer the follow

Q1. How many books ar

Ans. 1000 books

Q2. Name the subject on which least number of books is there in the library.

Ans. French, 100

Q3. Find the number of books on Math subject in the library.

Ans.400

Q4. Work out the difference between the number of French books and English books.

Ans. English Books – 300

French Books – 100

Difference = 300 – 100

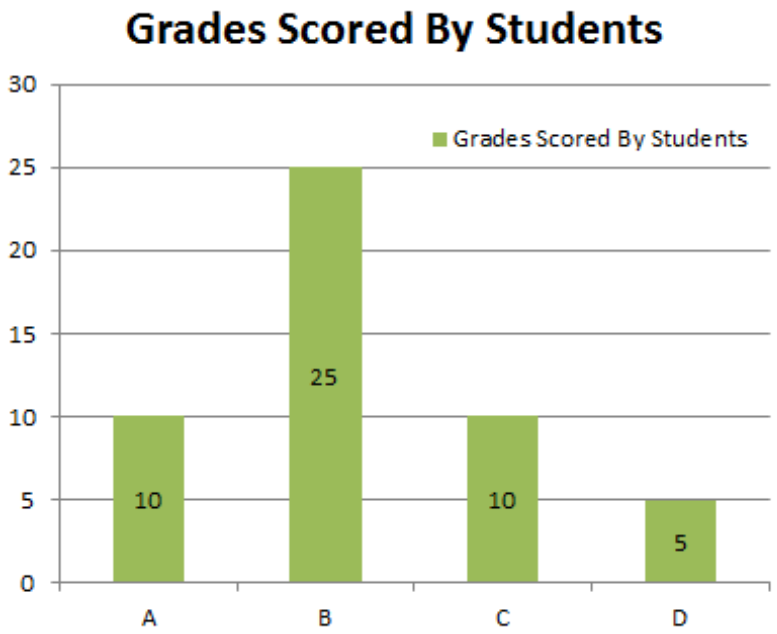
= 200

- **Bar Graph/Column Chart**

  Bar graph is the simplest form of representing data by displaying rectangular bars of different heights proportional to the value they represent. Bar graph can also be referred as bar chart, column graph, and column chart.

  The bars can be plotted vertically or horizontally. Bar graph makes comparison easier. The title of the bar graph tells what the graph is about and bars of different height tell the facts or information. Each bar represents a quantity for a particular group.

  Example: The graph shows different grades scored by students in grade 4.



Now, answer the following questions:

Q1. How many students scored Grade B?

Ans. 25 students

Q2. Which Grade was least scored?

Ans. Grade D

Q3. How many student scored Grade A?

Ans. 10 students

Q4. How many students are there in grade 4?

Ans. 10 + 25 + 10 + 5 = 50 students