पुना International School

Shree Swaminarayan Gurukul, Zundal

Class -III

MATH-MAGIC

Sample Copy

SA - II

Year:- 2022-2023

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Chapter-8 -Who is heavier

❖ Key points to remember

- Introduction
- Find which one of the following is heavier?
- Which unit g or kg will you use to weight the following?
- Conversion of weight
- Addition of weight
- Subtraction of weight
- Word problem
- Activity

❖ Introduction:

- 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 weight lighter objects and kilograms to weight heavier objects. 1 kg = 1000g

  Or

  1000g = 1kg
- The standard unit of measurement of mass is Kilogram.

❖ Find which one of the following is heavier?

1) Lunch box or School bag

- School bag

2) Elephant or Tiger

- Elephant

3) Apple or Pineapple

- Pineapple

4) Leaf or Tree

- Tree

5) Bus or Auto

- Bus

❖ Which unit g or kg will you use to weight the following?

1) Sugar = **Kg**
2) An apple = **G**
3) A dog = **Kg**
4) A ball = **G**
5) A watermelon = **Kg**
6) A bicycle = **Kg**
7) A feather = **G**
8) A key = **G**

❖ Conversion of weight:

A. Convert Kilogram to gram

1 kg = 1000 g

Eg: 5 kg = **5 kg × 1000 g = 5000 g**.

a) 42 kg = **42 kg × 1000 g = 42000 g.**
b) 18 kg = **18 kg × 1000 g = 18000 g**.
c) 14 kg = **14 kg × 1000 g = 14000 g.**
d) 81 kg = **81 kg × 1000 g = 81000 g.**
e) 36 kg = **36 kg × 1000 g = 36000 g.**

B. Convert gram to kilogram

1000 g = 1 kg

Eg: 42000 g = $\frac{\mathbf{42000}}{\mathbf{1000}}$ **= 42 kg**

a) 38000 g = $\frac{\mathbf{38000}}{\mathbf{1000}}$ **= 38 kg.**

b) 51000 g = $\frac{\mathbf{51000}}{\mathbf{1000}}$ **= 51 kg.**

c) 22000 g = $\frac{\mathbf{22000}}{\mathbf{1000}}$ **= 22 kg.**

d) 87000 g = $\frac{\mathbf{87000}}{\mathbf{1000}}$ **= 87 kg.**

e) 95000 g = $\frac{\mathbf{95000}}{\mathbf{1000}}$ **= 95 kg.**

❖ Addition of weight:

- **Step1:** Add the gram column
- **Step2:** Add the kg column

a) Add 75kg 582g and 13kg 410g

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

b) Add 94kg 215g and 6kg 757g

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

c) 75kg 590g + 12kg 619g

	kg	g
	1	1
	7 5	5 9 0
+	1 2	6 1 9
	8 8	2 0 9

d) 28kg 605g + 15kg 095g

e) 68kg 485g + 25kg 654g

❖ Subtraction of weight:

- **Step1:** Subtract the gram column
- **Step2:** Subtract the kg column

a) Subtract 13kg 410g from 75kg 582g

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

b) 38kg 968g from 78kg 954g

	kg	g
	6 17	18 14 14
	~~7~~ ~~8~~	~~9~~ ~~5~~ ~~4~~
-	3 8	9 6 8
	3 9	9 8 6

c) 22kg 505g – 11kg 759g

d) 23kg 256g – 19kg 909g

e) 45kg 375g – 36kg 987g

❖ Word problem:

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

Solution:

Weight of rice = 5kg 300g

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

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

Solution:

Dev's weight = 39kg 900g

Manit's weight = 35kg 600g

Dev weights more by = 39kg 900g – 35kg 600g.

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

3) My weight is 29kg 900g. My friend weight is 28kg 980g. How much more is mine weight?

Solution:

My weight = 29kg 900g

My friend's weight = 28kg 980g

Mine weight more by = 29kg 900g – 28kg 980g.

kg	g
8	18 10
2 ~~9~~	~~9~~ ~~0~~ 0
- 2 8	9 8 0
0 0	9 2 0

4) A vegetable vendor had 24kg 570g vegtables. He sold 12kg 470g in one day. What is the weight of vegetables that are left with him?

❖ Activity:

➢ Using weighing machines, find the weight of your body.

My weight is _____kg.

Chapter -9 -How many times?

❖ Key points to remember.

- Tell how many times?
- Rewrite using + sign.
- Count how many times
- Write the multiplication facts for the following
- Find the product by column method
- Word problem.

❖ Tell how many times?

1) If one honey bee 2 wings then, How many wings do 5 honey bees have?

➢ **2 +2 + 2 +2 + 2 = 10**

Or

5 times of 2 = 10

2) If one car have 4 wheels then, how many wheels do 6 cars have?

➢ **4 + 4 + 4 + 4 + 4 + 4 = 24**

Or

6 times of 4 = 24

3) If one pack 6 cup then, how many cups are there in 9 packs?

➢ **6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 = 54**

Or

9 times of 6 = 54

4) If one pack have 10 pencils then, how many pencils are there in 10 packs?

➢ **10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 = 100**

Or

10 times of 10 = 100

❖ Rewrite using the + sign (repeat addition):

a) 3 × 6 is **6 + 6 + 6**
b) 4 × 12 is 12 + 12 + 12 + 12.
c) 5 × 8 is 8 + 8 + 8 + 8 + 8.
d) 6 × 15 is 15 + 15 + 15 + 15 + 15 +15.
e) 7 × 6 is 6 + 6 + 6 + 6 + 6 + 6 + 6.
f) 2 × 9 is 9 + 9.

❖ Count how many times:

a) 7 + 7 + 7 + 7 + 7 = **5 times**
b) 4 + 4 + 4 + 4 = **4 times**
c) 3 + 3 + 3 + 3 + 3 + 3 = **6 times**
d) 15 + 15 + 15 = **3 times**
e) 20 + 20 = **2 times**
f) 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 = **10 times**
g) 17 + 17 + 17 + 17 + 17 = **5 times**

❖ Write the multiplication facts of the following:

Number	Multiplication facts	
55	**11×5**	**5×11**
45	**9×5**	**5×9**
27	**9×3**	**3×9**
48	**6×8**	**8×6**

64	**16×4** **4×16**
117	**13×9** **9×13**
140	**14×10** **10×14**

- Find the product by column method:

a) 44 × 2

	40	**4**
2	**40 × 2** **= 80**	**4 × 2** **= 8**

80 + 8 = 88

b) 23 × 3

	20	**3**
3	**20 × 3** **= 60**	**3 × 3** **= 9**

60 + 9 = 69

c) 11 × 5

	10	**1**
5	**10 × 5** **= 50**	**1 × 5** **= 5**

50 + 5 = 55

d) 15 × 6

	10	5
6	10 × 6 = 60	5 × 6 = 30

60 + 30 = 90

e) 38 × 2

	30	8
2	30 × 2 = 60	8 × 2 = 16

60 + 16 = 76

❖ Word problem:

1) A box contains 6 apples. How many apples in all will seven boxes have?

Sol: **There are 7 boxes.**

Each box has 6 apples.

Total number of apples = 7×6 = 42

Seven boxes will have 42 apples.

2) There are four fans. Each fan has 3 blades. What is the total number of blades in all?

Sol: **There are 4 fans.**

Each fan has 3 blades.

Total number of blades = 4×3 = 12

There are 12 blades in all.

3) A shirt has 5 buttons. How many buttons would 3 shirts have?

Sol: **There are 3 shirts.**

Each shirt has 5 buttons.

Total number of buttons = 3×5 = 15

3 shirts will have 15 buttons.

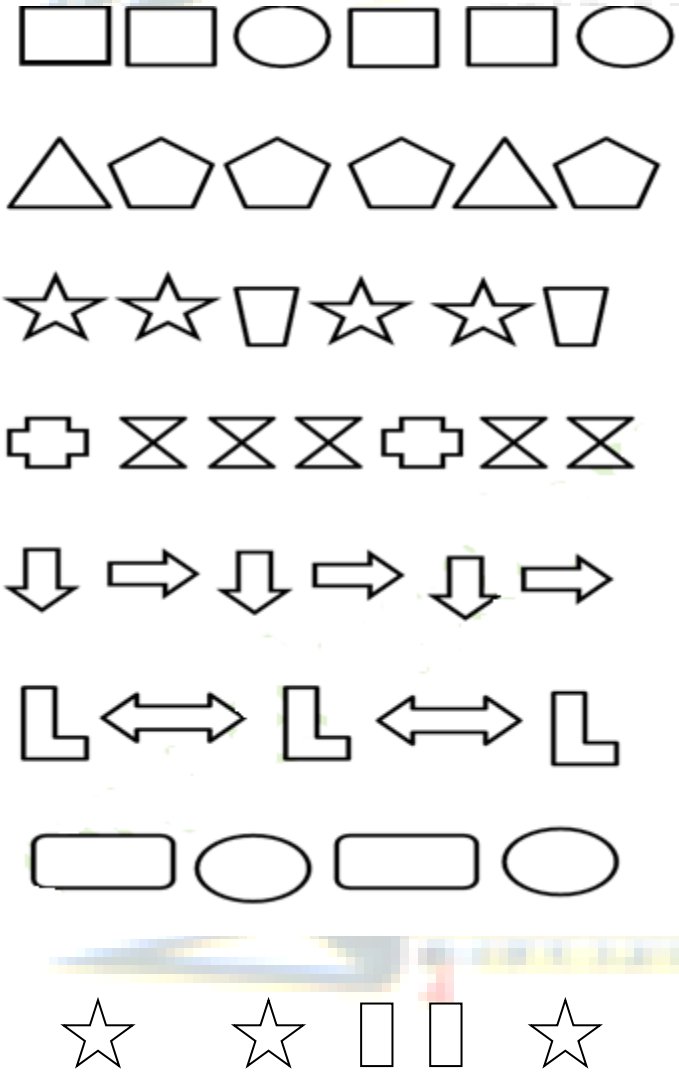
Chapter-10 - Play with patterns

- Key points to remember.
- Introduction
- Complete the repeated patterns
- Complete the following number pattern
- Fill in the blanks
- Solve the following and write Odd or Even against each no.
- Decoding the message
- Arrange these names in alphabetical order and number these names in the box.
- Activity

❖ Introduction:

Patterns are shapes, designs, groups of numbers that repeat themselves in a predictable manner.

❖ Complete the repeated patterns:



_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

A B C A B C _____ _____

12, 12, 13, 13, 14, 14, 15, 15, _____ _____

❖Complete the following number pattern:

a) 12, 22, 32, 42, **52, 62, 72**
b) 99, 89, 79, 69, **59, 49, 39**
c) 5, 10, 15, 20, **25, 30, 35**
d) 7, 9, 11, 13, **15, 17, 19**
e) 99, 199, 299, 399,**499,599,699**
f) 275, 276,277,278,**279,280,281**
g) 63, 61, 59, 57, **55, 53, 51**
h) 142, 144, 146, 148, **150, 152, 154**
i) 48, 46, 44, 42, **40, 38, 36**

❖Fill in the blanks:

1) All numbers that end with 0, 2, 4, 6,8 are called **even** numbers.
2) All numbers that end with 1, 3, 5, 7,9are called **odd** number.
3) Even no. + Even no. = **even no**.
4) Even no. + Odd no. = **Odd no**.
5) Odd no. + Odd no. = **Even no**.
6) The smallest 1 digit odd no. is **1**
7) The smallest 1 digit even no. is **0**

❖ Solve the following and write odd or even against each no.

a) 45 + 21 = **66** **Even**
b) 22 + 23 = **45** **Odd**
c) 81 + 24 = **105** **Odd**
d) 96 + 16 = **112** **Even**
e) 81 + 21 = **102** **Even**
f) 98 + 41 = **139** **Odd**
g) 38 + 41 = **79** **Odd**

❖ Decoding the message:

1) If AB = 3, BC = 5, CD = 7 then, GH = **15**.
2) If Pen = 3, Book = 4, Cycle = 5 then, computer = **8**.
3) If 223 = 334, 45 = 56, 102 = 213 then, 781 = **892**.
4) If AB = 12, BC = 23, CD = 34 then, DE = **45**.

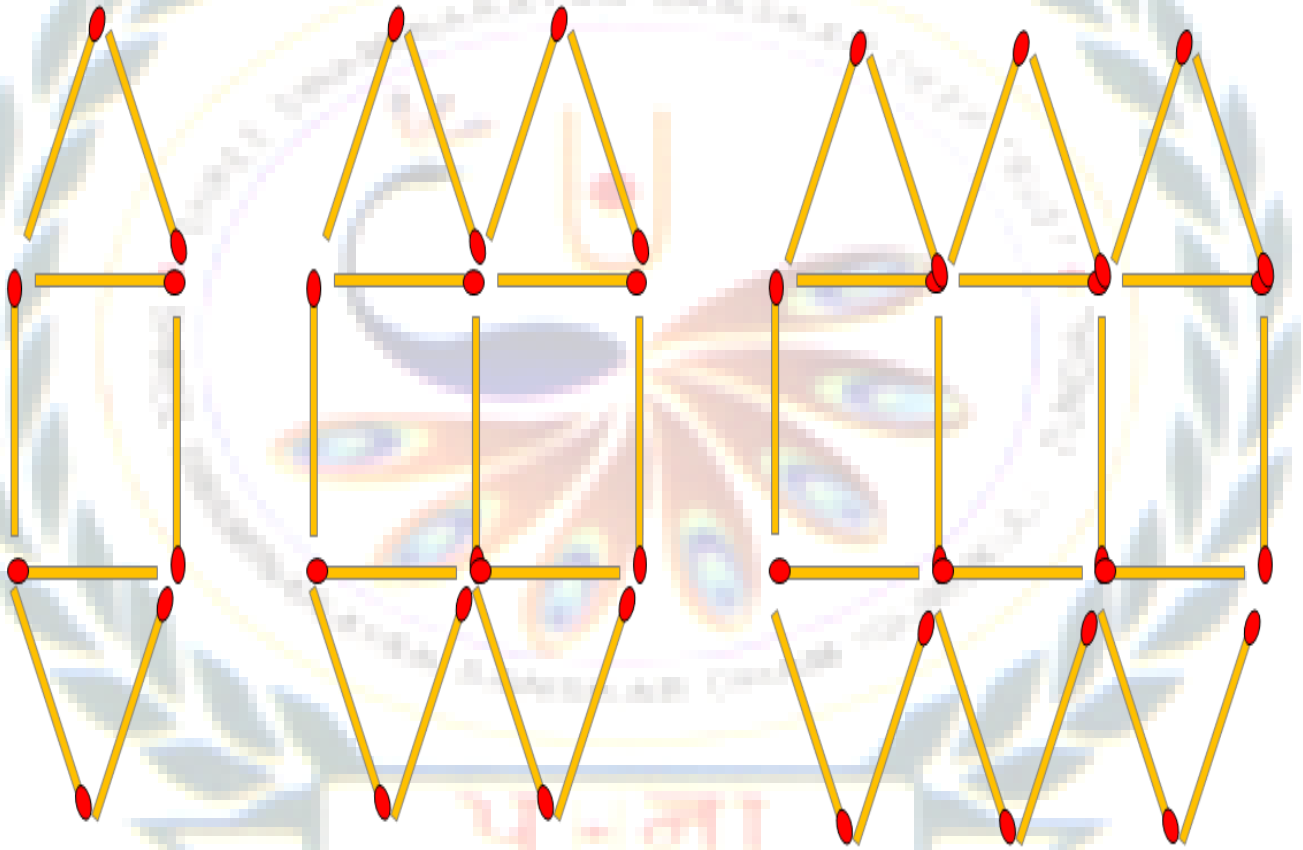
❖ Arrange these names in alphabetical order and number these names in the box.

1) Mohan **3**
2) Lila **2**
3) Ansh **1**
4) Venu **6**
5) Zeenat **7**
6) Shikha **5**

7) Nick | 4 |

❖ Activity

➢ Make some patterns using match sticks.



Chapter-11- Jugs and mugs

Summary

- Introduction
- Addition of capacity
- Subtraction of capacity
- Conversion of capacity
- Word problem
- Activity

❖ Introduction:

- Capacity is a measure of how much space something takes up. We use measuring spoons or measuring jugs to measure capacity. We often measure capacity in liter or milliliter. We measure small quantity of liquid in milliliters and large quantity of liquid in liters.
- The standard unit of capacity is 'Liter'.
- 1 liter = 1000 milliliters
- We use 'ml' for milliliter, 'l' for liter in short form.
- 1L = 1000ml

  Or

  1000ml = 1L

❖ Addition of capacities:

- **Step1:** Add the milliliter column
  Step2: Add the liter column

a) Add 24L 140ml and 35L 130ml

	l	ml
	24	140
+	35	130
	59	270

b) 1L 719ml + 573ml

	L	ml
	1	1
	1	7 1 9
+	0	5 7 3
	2	2 9 2

c) 80L 175ml + 61L 960ml

d) 63L 890ml + 52L 210ml

❖Subtraction of capacities:

- **Step1:** Subtract the milliliter column
  Step2: Subtract the liter column

a) Subtract 14L 130ml from 35L 130ml

	l	ml
	35	130
-	14	130
	21	000

b) Subtract 16L 789ml from 25L 600ml

	L	ml
	1 14	15 9 10
	~~2~~ ~~5~~	~~6~~ ~~0~~ ~~0~~
-	1 6	7 8 9
	0 8	8 1 1

c) 55L 768ml – 34L 345ml

d) 71L 899ml – 70L 798ml

❖Conversion of capacity:

A. Convert litre into milliliter

1L = 1000ml

Ex: 5l = **5L x 1000ml = 5000ml**

a) 15L = **15L x 1000ml = 15000ml**

b) 3L = **3L x 1000ml = 3000ml**

c) 92L = **92L x 1000ml = 92000ml**

d) 54L = **54L x 1000ml = 54000ml**

e) 46L = **46L x 1000ml = 46000ml**

f) 21L = **21L x 1000ml = 21000ml**

B. Convert milliliter into litre:

1000ml = 1l

Ex: 2000ml = $\frac{2000}{1000}$ **= 2 L**

a) 6000ml = $\frac{6000}{1000}$ **= 6 L**

b) 20000ml = $\frac{20000}{1000}$ **= 20 L**

c) 4000ml = $\frac{4000}{1000}$ **= 4 L**

d) 22000ml = $\frac{22000}{1000}$ **= 22 L**

e) 89000ml = $\frac{89000}{1000}$ **= 89 L**

❖Word problem:

1) A shopkeeper brought 77L 550ml of milk in the month of January and 23L 350ml in the month of February. How much milk did he bring in 2 months?

Solution:

Milk bought in the month of January = 77L 550ml

Milk bought in the month of February =23L 350ml

Milk bought in 2 months = 77L 550ml + 23L 350ml

	l	ml
	$^{1}7\ 7$	$^{1}5\ 5\ 0$
+	2 3	3 5 0
	1 0 0	9 0 0

2) A bottle contains 100ml of medicine. 25ml of medicine fell on the ground. How much medicine is left in the bottle?

Solution:

Medicine bottle contains = 100ml

Medicine fell on the ground = 25ml

Medicine left in the bottle = 100ml – 25ml

1 0 0 ml

– 2 5 ml

7 5 ml

❖ Activity:

➢ Paste the pouches of different capacities.

Eg: Milk pouches, shampoo, oil pouches etc.

Chapter-12 - Can we share?

❖Key points to remember.

- Division
- Make equal groups and write the division facts for the following.
- Write two division facts for the following multiplications.
- Division properties
- Division
- Word problems

❖ Defination:

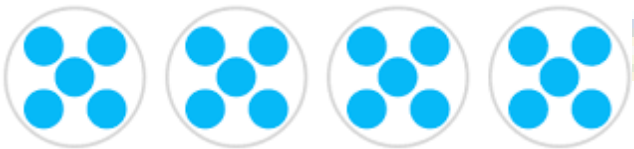
- Division - The division is a method of distributing a group of things into equal parts.

❖ Make equal groups and write the division facts for the following.

1. Make equal groups of 3
   Total dots = 15
   Solve:

   15 ÷3 = 5

2. Make equal groups of 5
   Total dots = 20
   Solve:



20 ÷ 5 = 4

3. Make equal groups of 2
   Total triangle = 10
   Solve:

   10 ÷ 2 = 5

4. Make equal groups of 4
   Total stars = 24
   Solve:

   24 ÷ 4 = 6

❖ Write two division facts for the following multiplications.

Multiplication	Division Facts
9 × 6 = 54	54÷9=6, 54÷6=9
4 × 8 = 32	32÷4=8, 32÷8=4
3 × 5 = 15	15÷3=5, 15÷5=3
5 × 6 = 30	30÷5=6, 30÷6=5
8 × 2 = 16	16÷8=2, 16÷2=8

❖ Division properties:

1) Any number divided by 1 gives the number itself as a quotient.

   Ex $8 \div 1 = 8$

2) Any no. divided by itself will gives 1 as the quotient.

   Ex $5 \div 5 = 1$

3) When 0 divided by any no. the quotient is always 0.

   Ex $0 \div 2 = 0$

4) Division is not possible by zero.

❖ Division:

1) $35 \div 5$

$$\begin{array}{r|rr} & 0 & 7 \\ \hline 5 & 3 & 5 \\ & 0 & \\ \hline & 3 & 5 \\ & 3 & 5 \\ \hline & & 0 \end{array}$$

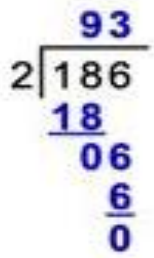
Dividend = 35

Divisor = 5

Quotient = 7

Remainder = 0

2) $186 \div 2$



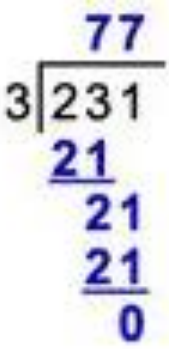
Dividend =186

Divisor = 2

Quotient = 93

Remainder = 0

3) 231 ÷ 3



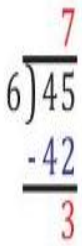
Dividend =231

Divisor = 3

Quotient = 77

Remainder = 0

4) 45 ÷ 6



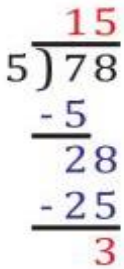
Dividend = 45

Divisor = 6

Quotient = 7

Remainder = 3

5) 78 ÷ 5



Dividend = 78

Divisor = 5

Quotient = 15

Remainder = 3

6) 54 ÷ 10

7) 86 ÷ 4

8) 75 ÷ 8

❖ Word problem:

1) 75 pencils are to be packed in 5 boxes equally. How many pencils will be there in each box?

Solve: No. of pencils = 75

No. of boxes = 5

No. of pencils in each box = 75 ÷5

$$
\begin{array}{r}
15 \\
5\overline{)75} \\
-5 \\
\hline
25 \\
-25 \\
\hline
00
\end{array}
$$

15 pencils in each box.

2) There are 72 mangoes equally placed in 6 trays. How many mangoes are there in each trays?

Solve: No. of mangoes = 72

No. of trays = 6

No. of mangoes in each tray = 72 ÷ 6

```
   1  2
6 | 7  2
  - 6
    ---
    1  2
  - 1  2
    ---
    0  0
```

12 mangoes in each tray.

3) There are 210 beads 10 necklaces are made using equal no. of beads. How many beads are used in each necklace?

Solve: No. of beads = 210

No. of necklaces = 10

No. of beads in each necklace = 210 ÷ 10

```
    2 1
10 | 210
   - 20
     ---
     010
   - 010
     ---
     000
```

21 beads in each necklace.

Chapter 13 - Smart charts!

❖Key points to remember.

- Defination.
- Match the following no’s with their tally marks.
- Sums on tally marks.
- Sum on pictrgraph.
- Activity.

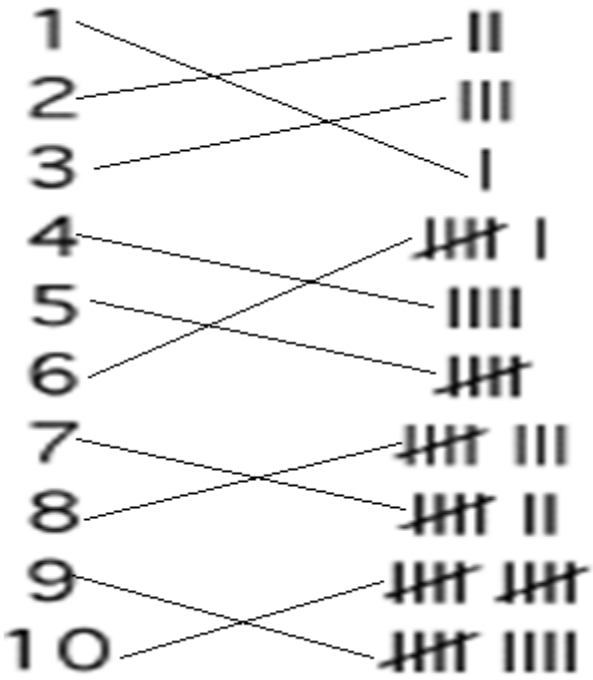
❖ Defination.

- Date: Collection of any information is data.
- Tally marks: Tally marks are a quick way of keeping track of no's in groups of 5.

1	|	6	𝍸 |
2	||	7	𝍸 ||
3	|||	8	𝍸 |||
4	||||	9	𝍸 ||||
5	𝍸	10	𝍸 𝍸

- Tally chart: A tally chart is a table with tally marks to show a data set.
- Pictograph: A pictograph is away of showing data using images or pictures.

❖ Match the following no's with their tally marks.



❖ Sums on pictrgraph:

A. Write the tally marks for the number of stars below:

1) ☆ ☆☆ ☆☆ 𝍸

2) ☆ ☆ ☆ ☆ IIII

3) ☆ ☆ II

4) ☆ ☆ ☆ ☆ ☆ ☆ 𝍸I

5) ☆ ☆ ☆ III

6) ☆ |

B. Write the tally marks for the following numbers:

a) 7 - 𝍸 ||

b) 8 - 𝍸 |||

c) 15 - 𝍸 𝍸 𝍸

d) 12 - 𝍸 𝍸 ||

e) 17 - 𝍸 𝍸 𝍸 ||

❖ Sum on pictrgraph.

- The pictograph below shows the no. of marks obtained by 5 students in their Maths exam out of 100 total marks:

Name	Marks obtained
Sara	☆☆☆☆☆☆☆☆☆☆
Ali	☆☆☆☆☆☆
Marry	☆☆☆
Jay	☆☆☆☆☆
Amit	☆☆☆☆☆☆

1 star is = 10 marks

- Answer the following question.

1) How many marks did Jay get? _____

2) Who got 100 out of 100 marks? _____

3) Who got same no. of marks? _____

4) Who scored the least marks in the test? _____

❖ **Activity**

Make a chart on tally marks 1 to 50

Chapter 14 – Rupees and paise

❖Key points to remember.

- What is money?
- How many coins are needed.
- Addition of money
- Subtraction of money
- Conversions
- Activity

❖ What is money?

- Money can be defined as anything that people use to buy goods and services.
- Money can be rupees and paise.
- Money can be in notes or coins.

❖ How many coins are needed?

1) How many Rs 2 coins are needed to make Rs 40? 20 coins.
2) How many Rs 1 coins are needed to make Rs 21? 21 coins.
3) How many Rs 5 coins are needed to make Rs 25? 5 coins.
4) How many Rs 10 coins are needed to make Rs 100? 10 coins.

❖ Addition of money:

Rs	P
75	20
+ 40	60
11 5	**80**

Rs	P
29	40
+ 30	66
60	**06**

Rs	P
52	50
+ 40	90

Rs	P
25	66
+ 30	45

Rs	P
25	40
+ 28	70

Rs	P
75	80
+ 80	90

❖ Subtraction of money:

Rs	P
35	60
− 30	28
05	**32**

Rs	P
60	50
− 42	40
18	**10**

Rs	P
25	25
− 15	75

Rs	P
39	40
− 31	70

Rs	P
55	65
− 50	28

Rs	P
84	91
− 50	97

❖ Conversions:

A. Convert Rupees to paise.

1 Re = 100 p

a) Rs 12 = 12 × 100p = 1200 p
b) Rs 98 = 98 × 100p = 9800 p
c) Rs 31 = 31 × 100p = 3100 p
d) Rs 290 = 290 × 100p = 29000 p
e) Rs 740 = 740 × 100p = 74000 p

B. Convert paise to rupee

100 P = 1 Re

a) 300 paise = $\frac{300}{100}$ = Rs 3

b) 1000 paise = $\frac{1000}{100}$ = Rs10

c) 1200 paise = $\frac{1200}{100}$ = Rs 12

d) 3900 paise = $\frac{3900}{100}$ = Rs 39

e) 1600 paise = $\frac{1600}{100}$ = Rs 16

❖ Activity.

➢ Paste the picture of Indian currency notes and coins:

Rupees Five Hundred

Rupees Two Thousand

Rupees One Hundred

Rupees Two Hundred

Rupees Fifty

Rupees Ten

“ The End ”