



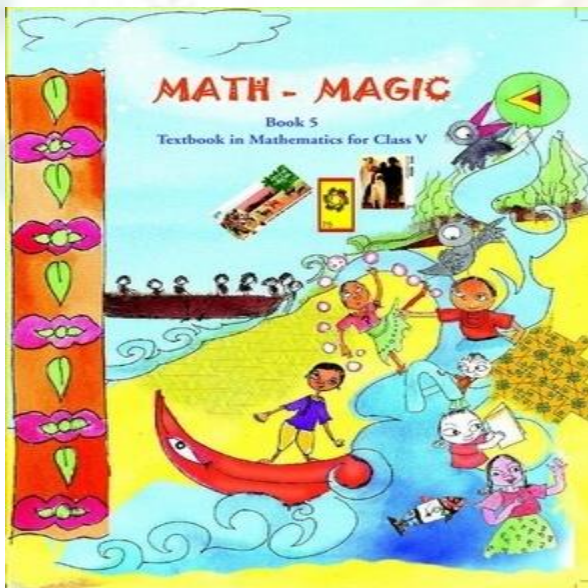
पुर्णा International School

Shree Swaminarayan Gurukul, Zundal

CLASS – V

MATH MAGIC

STUDY MATERIALS



Ch-13 Ways to multiply and divide

❖ Summary:

- Multiplication
- Divide and check your results
- Fill in the blanks
- Word problems
- Activity

Step 1: "How many times?"

Step 2: "Multiply"

Step 3: "Subtract"

Step 4: "Drop it down"

(repeat steps for each number, left to right)

❖ **Introduction:**

- **Multiplication means:** The process or skill of multiplying.
- **Steps of multiplication of two digit**
 - 1) Write the two numbers one below the other as per the places of their digits.
 - 2) Multiply ones digit of the top number by the ones digit of the bottom number.
 - 3) Multiply the tens digit of the top number by the ones digit of the bottom number.
 - 4) Write a 0 below the ones digit as shown. This is because we will now be multiplying the digits of the top number by the tens digit of the bottom number.
 - 5) Multiply the ones digit of the top number by the tens digit of the bottom number.
 - 6) Multiply the tens digit of the top number by the tens digit of the bottom number.
 - 7) Add the two partial products. So, a long division problem will have.
- **Division means:** The action of separating something into parts or the process of being separated.
- **Steps of division:**
 - 1) **Divide** the tens column dividend by the divisor.
 - 2) Multiply the divisor by the quotient in the tens place column.
 - 3) Subtract the product from the divisor.
 - 4) Bring down the dividend in the ones column and repeat.

❖ **Multiplication:**

1) 173×48

$$\begin{array}{r} 173 \\ \times 48 \\ \hline + 1384 \\ + 6920 \\ \hline 8304 \end{array}$$

4) 5638×68

$$\begin{array}{r} 5638 \\ \times 68 \\ \hline + 45104 \\ + 338280 \\ \hline 383384 \end{array}$$

2) 385×56

$$\begin{array}{r} 385 \\ \times 56 \\ \hline + 2310 \\ + 19250 \\ \hline 21560 \end{array}$$

5) 6367×96

$$\begin{array}{r} 6367 \\ \times 96 \\ \hline + 38202 \\ + 573030 \\ \hline 611232 \end{array}$$

3) 7456×28

$$\begin{array}{r} 7456 \\ \times 28 \\ \hline + 59648 \\ + 149120 \\ \hline 208768 \end{array}$$

6) 1059×77

7) 4323×84

❖ Divide and check your result:

1) $4320 \div 7$

$$\begin{array}{r} 617 \\ 7 \overline{) 4320} \\ \underline{-42} \\ 012 \\ \underline{-7} \\ 50 \\ \underline{-49} \\ 01 \end{array}$$

Check

(Quotient \times divisor) +

Remainder = dividend

$$617 \times 7 + 1 = \text{dividend}$$

$$4,319 + 1 = \text{dividend}$$

$$4320 = \text{dividend}$$

3) $768 \div 6$

$$\begin{array}{r} 128 \\ 6 \overline{) 768} \\ \underline{-6} \\ 16 \\ \underline{-12} \\ 048 \\ \underline{-48} \\ 00 \end{array}$$

Check:

$$Q \times D + R = Dd$$

$$128 \times 6 + 0 = Dd$$

$$786 + 0 = Dd$$

$$768 = Dd$$

2) $3946 \div 3$

$$\begin{array}{r} 1315 \\ 3 \overline{) 3946} \\ \underline{-3} \\ 09 \\ \underline{-9} \\ 004 \\ \underline{-3} \\ 16 \\ \underline{-15} \\ 01 \end{array}$$

Check: $Q \times D + R = Dd$

$$1315 \times 3 + 1 = Dd$$

$$3945 + 1 = Dd$$

$$3946 = Dd$$

4) $969 \div 4$

$$\begin{array}{r} 242 \\ 4 \overline{) 969} \\ \underline{8} \\ 16 \\ \underline{16} \\ 009 \\ \underline{8} \\ 1 \end{array}$$

Check: $Q \times D + R = Dd$

$$242 \times 4 + 1 = Dd$$

$$968 + 1 = Dd$$

$$969 = Dd$$

5) $5281 \div 15$

$$\begin{array}{r} 352 \\ 15 \overline{) 5281} \\ \underline{45} \\ 78 \\ \underline{75} \\ 031 \\ \underline{30} \\ 01 \end{array}$$

Check: $Q \times D + R = Dd$

$$352 \times 15 + 1 = Dd$$

$$5280 + 1 = Dd$$

$$5281 = Dd$$

6) $121 \div 8$

7) $3333 \div 11$

8) $1913 \div 13$

9) $9576 \div 21$

10) $4913 \div 17$

❖ Fill in the blanks:

- 1) The number to be multiplied in the **multiplicand**.
- 2) The number with which use multiply is the **multiplier**.
- 3) The answer in multiplication is the **product**.
- 4) Repeated **addition** is known as multiplication.
- 5) $934 \times \underline{726} = \underline{934} \times 726$

- 6) $9728 \times 1 = 9728$
 7) $9869 \times 0 = 0$
 8) $135 \times (297 \times 517) = (517 \times 297) \times 135$
 9) $8304 \times 1 = 8304$
 10) Quotient \times divisor = **dividend**
 11) Quotient \times **divisor** + remainder = dividend

❖ **Word problems:**

- 1) **945 chocolates are to be distributed among 63 students. Find the number of chocolates each student will get.**

Solution: Total number of chocolates = 945

No of students = 63

The number of chocolates each student gets = $945 \div 63$
 $= 15$

15 chocolates each student will get.

- 2) **Soham drinks 8 glasses of water every day. How many glasses he drinks in one year?**

Solution: Total glasses of water Soham he drinks = 8

No of days in one day = 365

No of glasses in one year = 365×8
 $= 2920$

Soham drinks 2920 glasses of water in one year.

- 3) **Anita bought a battery. She read on it life 2000 hours. She uses it throughout the day and night. How many days will the battery run?**

Solution: life of battery = 2000 hours.

Total hours in the day and night = 24

The battery will run = $2000 \div 24$

$$\begin{array}{r} 83 \\ 24 \overline{) 2000} \\ \underline{192} \\ 8 \end{array}$$

The battery will run 83 days and 8 hours.

- 4) **Garima has Rs 500 with her. She wants to buy milk whose cost is Rs 50 per litre. How many liters of milk can she buy?**

Solution: Total money Garima has = Rs 500

Cost of milk per litre = Rs 50

Litters of milk she can buy = $500 \div 50$
 $= 10$ litters

Garima can buy 10 litters of milk.

❖ **Activity:**

- Look for the pattern and take this forward.

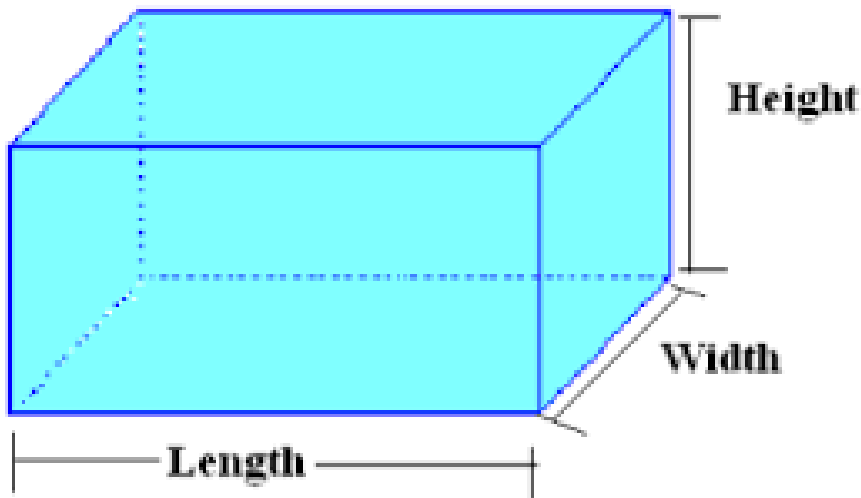
(0×9)	+	1	=	1
(1×9)	+	2	=	11
(12×9)	+	3	=	111
(123×9)	+	4	=	_____
(1234×9)	+	5	=	_____
(12345×9)	+	6	=	_____

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Ch-14 How big? How heavy?

❖ Summary:

- Introduction
- Fill in the blanks
- Complete the table
- Word Problems
- Activity

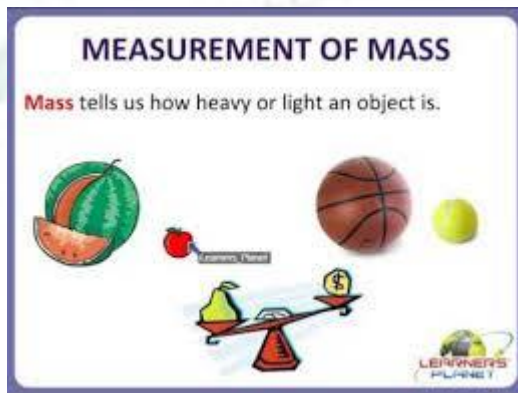


❖ Introduction:

Define:

Mass: Mass is a measure of the amount of matter in an object.

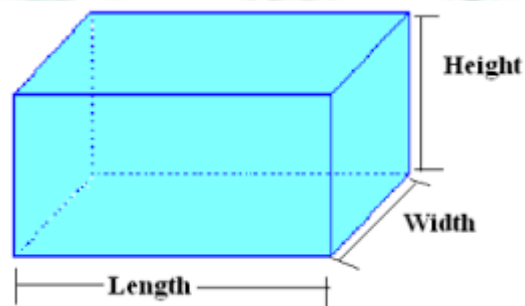
- Mass is measure in kilogram (kg)
- 1 gram = 1000 milligram



Define:

Volume: The Space occupied by the solid it's called Volume.

- Volume of Cube = Side \times Side \times Side = (Side)³
- Volume of Cuboid = Length \times Width \times Height
- Volume is measure in terms of cubic unit.



❖ **Fill in the blanks:**

- 1) The space occupied by a solid is its Volume.
- 2) Two solids of the same shape and same size have same volume.
- 3) Volume is three dimensional.
- 4) Volume is measured in terms of Cubic Unit.
- 5) Volume of liquids is measured in liters
- 6) 1 liter = 1000 cubic cm.
- 7) 1 cubic meter = 1000 liters
- 8) Mass is a measure of the amount of matter in an object.

❖ **Complete the table given below:**

Sr No	Cuboid			Volume = $l \times b \times h$
	L	B	H	
1	6 cm	4.5 cm	3 cm	= 81 cm^3
2	12 cm	0.5 cm	0.5 cm	= 3 cm^3
3	11.5 cm	1.5 cm	3 cm	= 51.75 cm^3
4	8.5 cm	6 cm	1 cm	= 51 cm^3

❖ **Word Problems:**

- 1) A Match box measure $5 \text{ cm} \times 3 \text{ cm} \times 2 \text{ cm}$ find its volume.

Solution: Volume = length \times width \times height

$$= 5 \text{ cm} \times 3 \text{ cm} \times 2 \text{ cm}$$

$$= 30 \text{ cm}^3$$

- 2) The dimensions of a pencil box are $10 \text{ cm} \times 5 \text{ cm} \times 2 \text{ cm}$. Find its volume.

Solution: Volume of pencil box = $10 \text{ cm} \times 5 \text{ cm} \times 2 \text{ cm}$

$$= 100 \text{ cm}^3$$

3) How many soap cakes of dimensions 10 cm × 8 cm × 6 cm can be packed in a box having dimensions 10 cm × 60 cm × 40 cm?

Solution: Volume of box = 10 cm × 60 cm × 40 cm
= 24000 cm³

Volume of Soap = 10 cm × 8 cm × 6 cm
= 480 cm³

$$\text{No of soaps} = \frac{\text{Volume of box}}{\text{volume of soap}}$$

$$= \frac{24000}{480}$$

= 50 Soaps can be packed in box of given dimensions.

4) How many bricks of length 20 cm, breadth 4 cm and height 6 cm will be needed to build a wall of length 10 cm, thickness 6 cm and height 2 m? (1m = 100cm)

Solution: Volume of wall = 10 cm × 6 cm × 200cm (2m = 200 cm)
= 12000 cm³

Volume of brick = 20 cm × 4 cm × 6 cm
= 480 cm³

$$\text{No of bricks} = \frac{\text{Volume of wall}}{\text{Volume of brick}}$$

$$= \frac{12000}{480}$$

= 25 bricks needed to build a wall of given dimensions.

❖ **Activity:**

- **With your friends, collect many empty matchboxes of the same size. Measure the sides and write here and find it's volume.**

My matchbox is _____ cm wide.

It is _____ cm long.



It is _____ cm high.

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