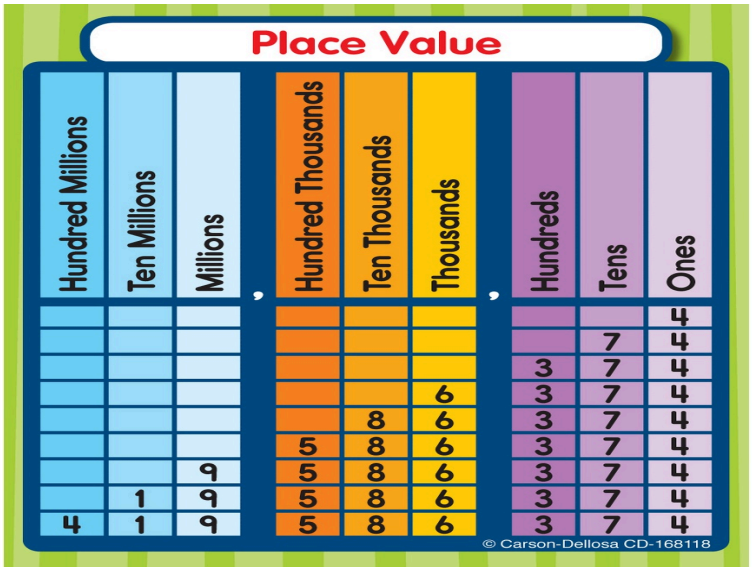
General Topic: Large Numbers and Place Value

Lesson Overview:

Understanding **large numbers** helps us read, write, and compare big quantities accurately.

Key Concepts and Subtopics:

1. Place Value – The value of a digit based on its position (ones, tens, hundreds, thousands, etc.)



2. Reading Large Numbers – Group digits into periods (thousands, millions, billions)

3. Comparing Numbers – Use >, <, and = to compare values

2	Is less than	3		3	=	3	4	is more than	3
2	<	3					4	is greater than	3
2	Is fewer than	3		III	=	III	4	>	3

Real-Life Example:

Population of countries, prices in millions, distance between planets.

Remember This!

- *Each place is **10 times** the value of the place to its right.*

General Topic: Advanced Addition, Subtraction, Multiplication, Division

Lesson Overview:

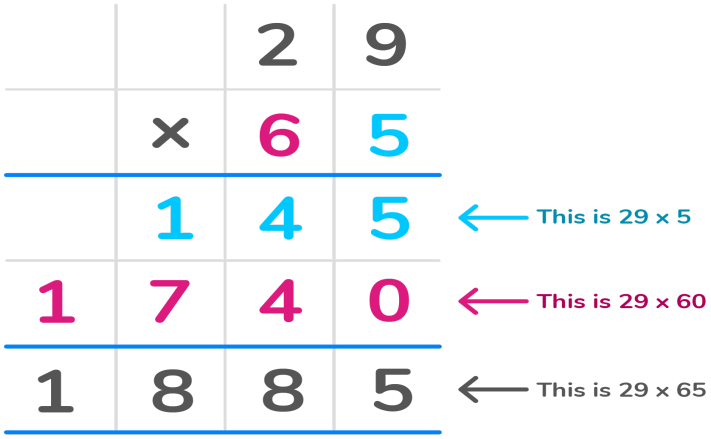
Mastering **operations** with large numbers is important for solving complex problems in daily life.

Key Concepts and Subtopics:

1. Addition & Subtraction – Line up digits according to place value

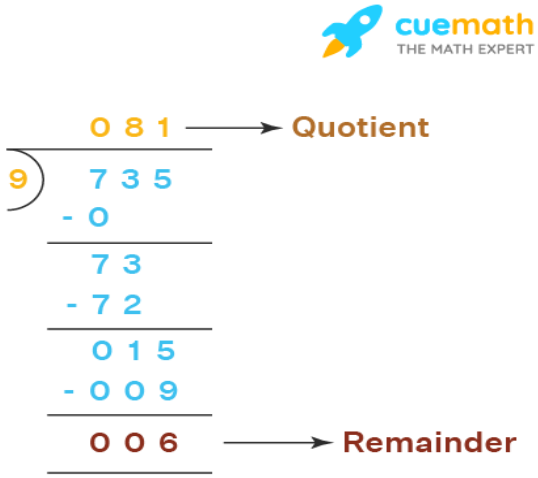
Advanced Addition	Advanced Subtraction
1. 6,457 + 9,832 = **16,289**	1. 15,000 − 8,765 = **6,235**
2. 78,654 + 125,987 = **204,641**	2. 92,568 − 47,389 = **45,179**
3. 1,248,573 + 984,926 = **2,233,499**	3. 1,000,000 − 987,654 = **12,346**
4. 53.47 + 298.56 = **352.03**	4. 725.45 − 398.78 = **326.67**
5. 8,765 + 2,498 + 9,872 + 5,234 = **26,369**	5. 10,000 − 3,456 − 2,789 = **3,755**

2. Multiplication – Use long multiplication for multi-digit numbers



Reference: https://doodlelearning.com/us/math/skills/multiplication/long-multiplication

3. Division – Use long division with or without remainders



Real-Life Example:

Adding total expenses, dividing candies equally, multiplying prices for bulk buying.

Remember This!

- *Check answers by performing the inverse operation.*

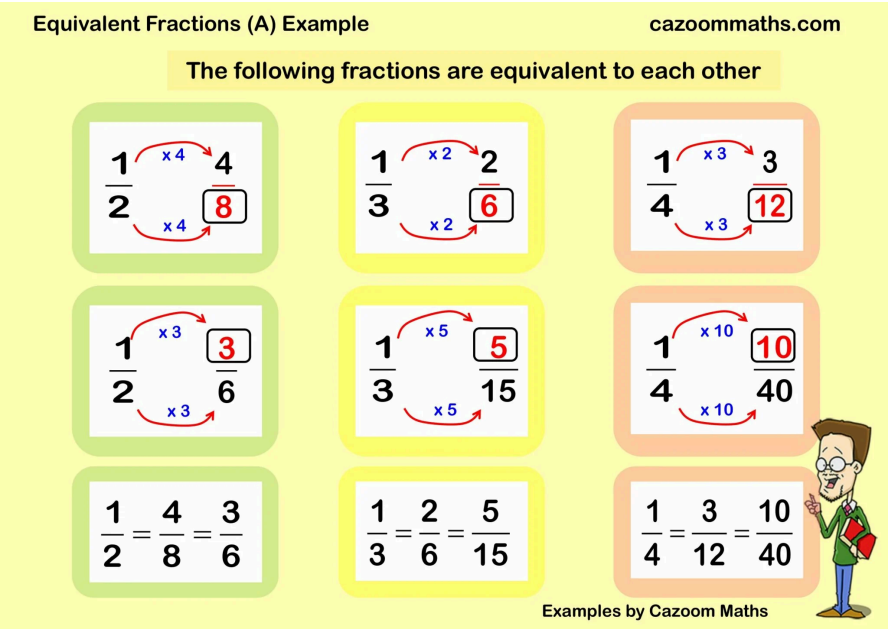
General Topic: Fractions and Decimals

Lesson Overview:

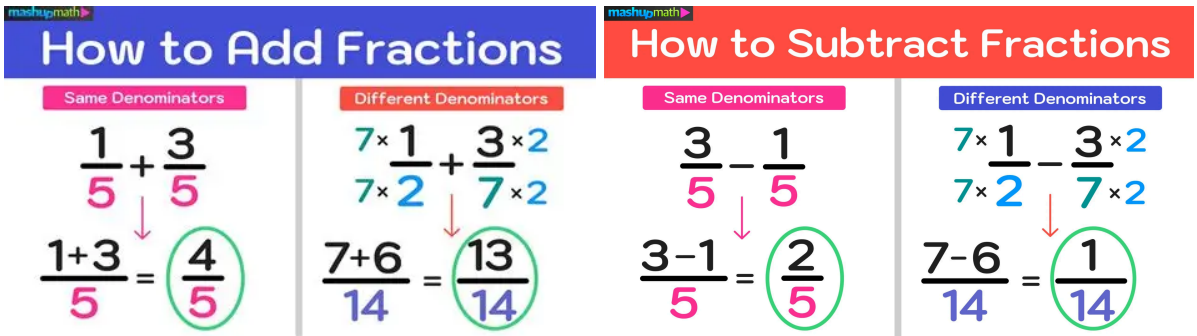
Fractions and decimals represent parts of a whole and can be converted into each other.

Key Concepts and Subtopics:

1. Equivalent Fractions – Different fractions with the same value

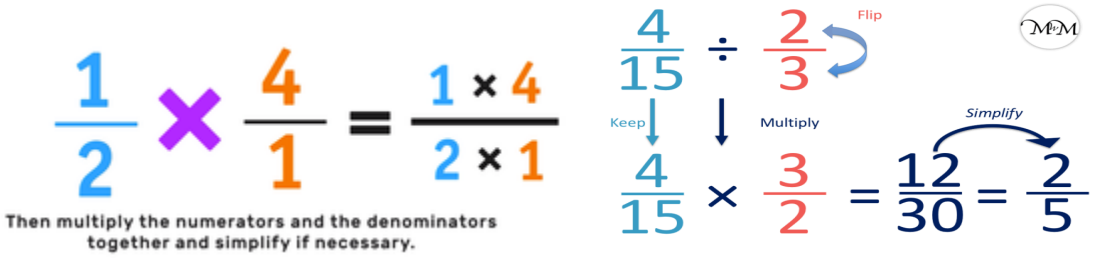


2. Adding/Subtracting Fractions – Common denominator needed



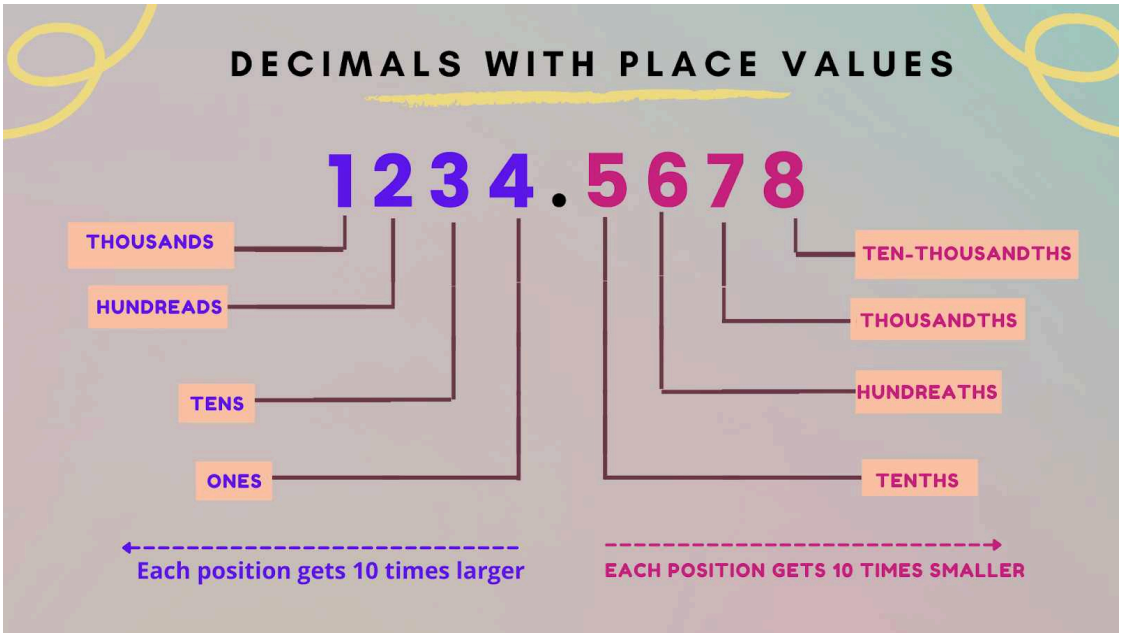
Reference:https://www.mashupmath.com/blog/how-to-add-fractions

3. Multiplying/Dividing Fractions – Multiply numerators and denominators, flip the second fraction when dividing



Reference: https://www.mathswithmum.com/dividing-fractions/;https://www.mashupmath.com/blog/multiplying-fractions-by-whole-numbers-examples

4. Decimals – Tenths, hundredths, thousandths



Reference: https://www.vedantu.com/maths/understanding-decimal-number-system

Real-Life Example:

Measuring ingredients in cooking, reading money amounts in pesos and centavos.

Remember This!

- *Fractions and decimals can represent the same value (e.g., 1/2 = 0.5).*

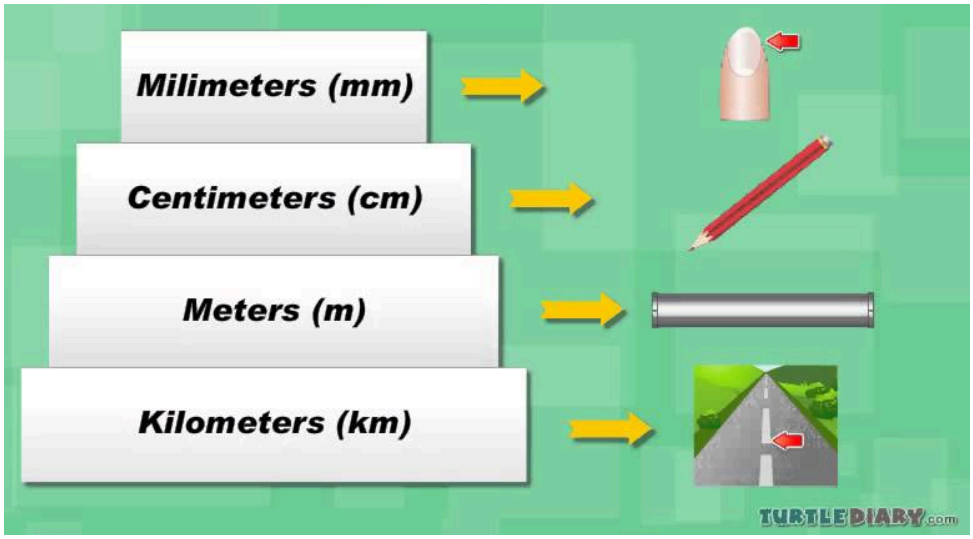
General Topic: Measurement and Conversions

Lesson Overview:

Measurement is used in daily activities, and **converting** units helps compare and compute values easily.

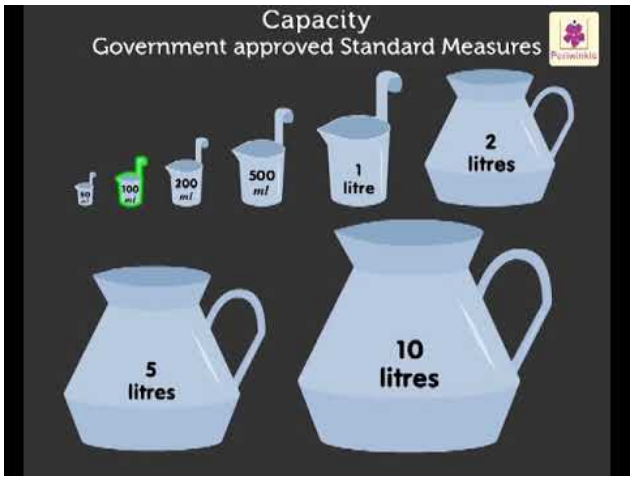
Key Concepts and Subtopics:

1. Length – meter, centimeter, kilometer



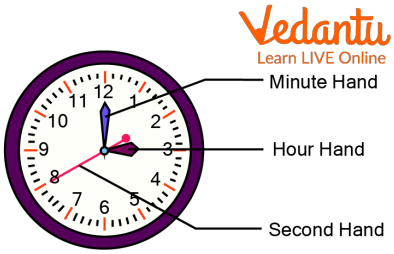
2. Mass – gram, kilogram

3. Capacity – liter, milliliter



Reference:https://sayngon.com/are-liters-or-milliliters-bigger/

4. Time – seconds, minutes, hours



5. Conversions – Use multiplication/division to change units

Real-Life Example:

Converting meters to kilometers when measuring running distances.

Remember This!

- *Always match units before adding or subtracting measurements.*

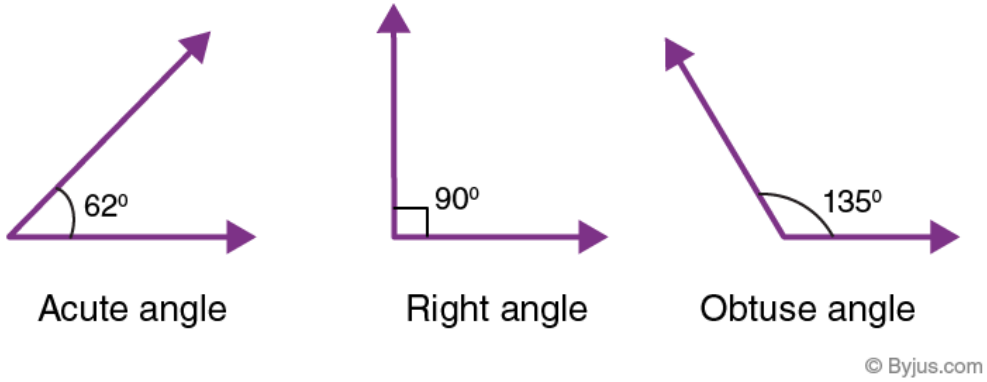
General Topic: Geometry: Angles, Triangles, Quadrilaterals

Lesson Overview:

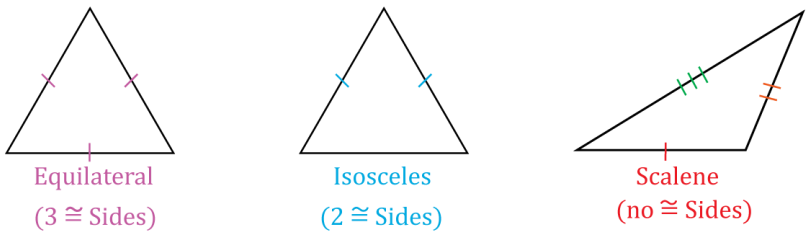
Understanding **shapes** and angles is essential in construction, art, and design.

Key Concepts and Subtopics:

1. Angles – Acute (<90°), Right (90°), Obtuse (>90°)



2. Triangles – Classified by sides (equilateral, isosceles, scalene) or angles (acute, right, obtuse)



Calcworkshop.com

3. Quadrilaterals – Square, rectangle, parallelogram, rhombus, trapezoid

Quadrilaterals

SHAPE	SIDES	ANGLES	PARALLEL LINES
Square	4 same length	4 right angles	2 sets
Rhombus	4 same length	2 acute 2 obtuse	2 sets
Trapezoid	different lengths	different angles	1 set
Rectangle	2 long, 2 short	4 right angles	2 sets
Parallelogram	2 long, 2 short	2 acute 2 obtuse	2 sets

Reference: http://driverlayer.com/img/parallelogram%20compared%20to%20trapezoid/20/any

Real-Life Example:

Measuring angles in carpentry, identifying road signs.

Remember This!

- *The sum of angles in a triangle is always 180°, in a quadrilateral 360°.*

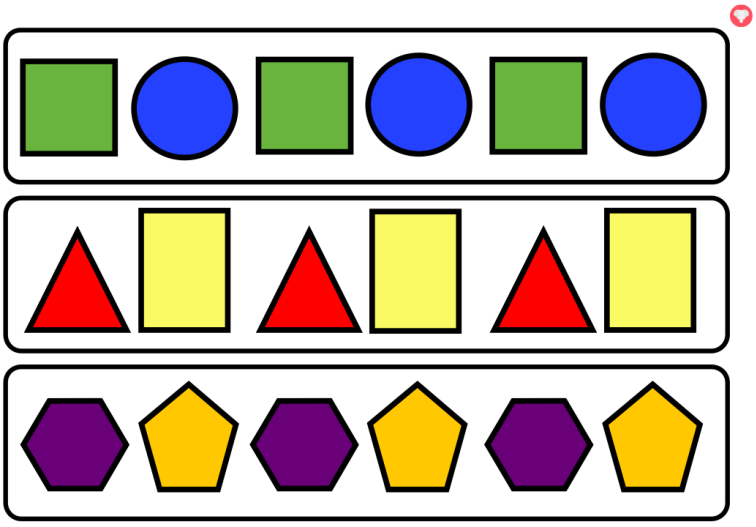
General Topic: Patterns and Sequences

Lesson Overview:

Patterns help predict future terms and understand mathematical relationships.

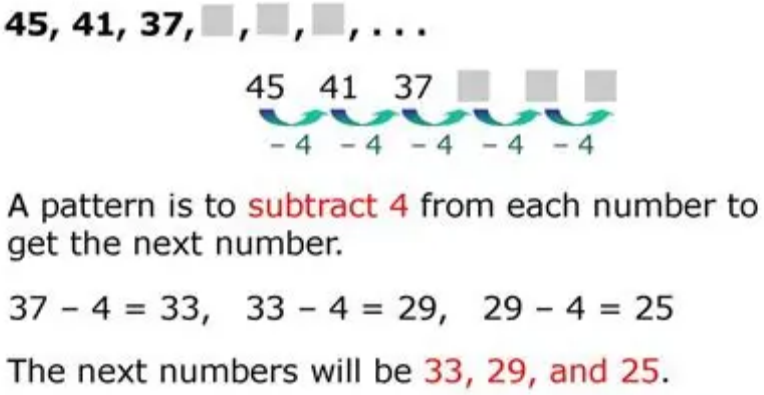
Key Concepts and Subtopics:

1. Repeating Patterns – Cycle repeats (shapes, colors)



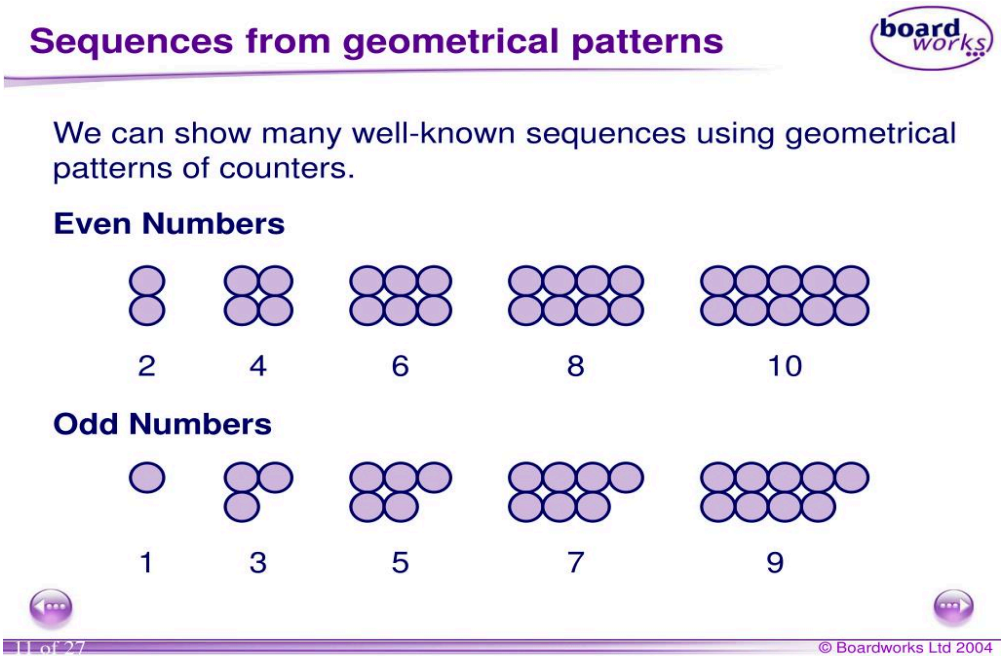
Reference:https://www.pinterest.com/pin/195977021260027458/

2. Number Patterns – Add, subtract, multiply, or divide to find the next term



Reference: https://slideplayer.com/slide/14557219/

3. Geometric Patterns – Multiply by a fixed number to continue sequence



Real-Life Example:

Number of chairs in each row, color designs in tiles.

Remember This!

- *Look for the rule before continuing a pattern.*

General Topic: Data Representation and Interpretation

Lesson Overview:

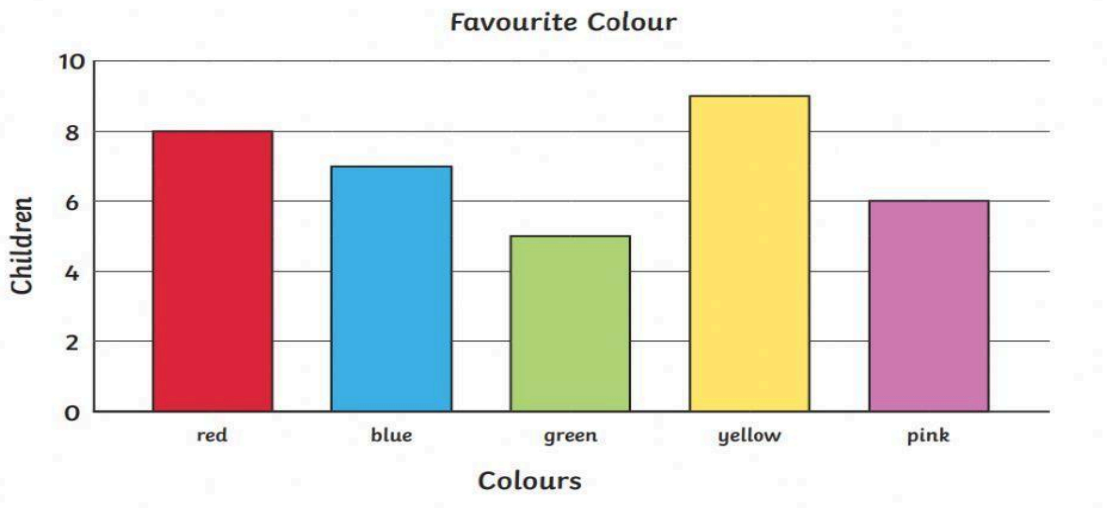
Data is easier to understand when shown in tables, charts, or graphs.

Key Concepts and Subtopics:

1. Tables – Organize data in rows and columns

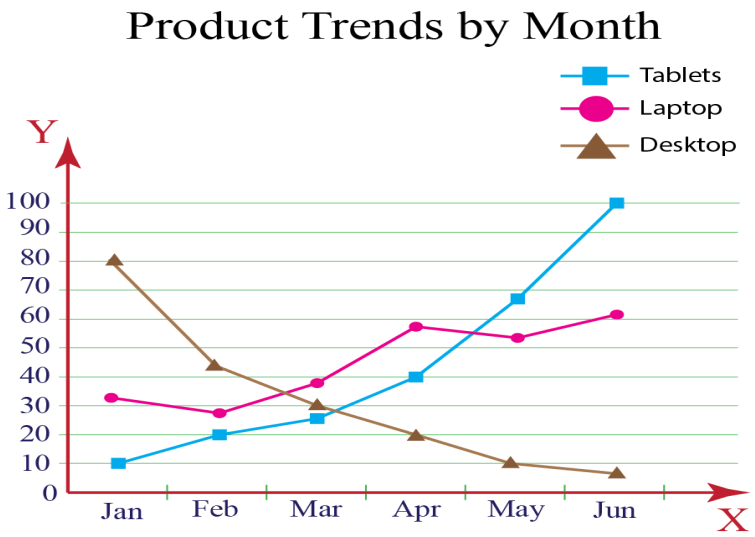
Fruit	Monday	Tuesday	Wednesday	Thursday	Friday	Total
Mango	12	15	10	8	14	59
Banana	20	18	25	22	19	104
Apple	8	6	12	10	15	51
Total Sold	**40**	**39**	**47**	**40**	**48**	**214**

2. Bar Graphs – Compare quantities



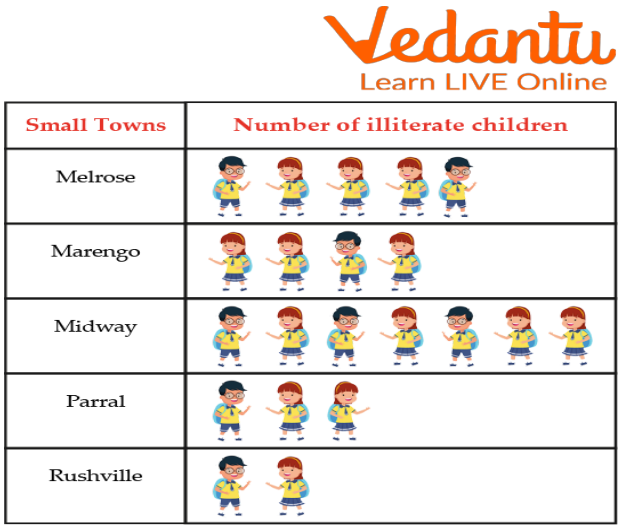
Reference:https://worksheets.clipart-library.com/worksheet/bar-graph-worksheet-4th-grade-26.html

3. Line Graphs – Show trends over time



Reference: https://printableliblappets.z21.web.core.windows.net/interpretation-of-line-graph.html

4. Pictographs – Use pictures to represent data



Real-Life Example:

Graphing the class's favorite fruits, recording daily temperature.

Remember This!

- *Always check the title, labels, and scale before interpreting a graph.*