

# General Topic: Numbers and Number Sense

**Definition:** Understanding numbers, their values, and how to use them for counting, comparing, and operations.

## Counting up to 1,000

Example:

- Count by hundreds: 100, 200, 300... up to 1,000.
- Count by fifty: 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000

## Place Value (Ones, Tens, Hundreds)

Example:

- In 774, the digit **7** is tens (**70**), the digit **7** is hundreds (**700**), the **digit 4** is ones

## Reading and Writing Numbers (in symbols and words)

Example:

- **428** → "four hundred twenty-eight".
- **105** → "One hundred five".

## Comparing and Ordering Numbers

Example:

- Which is greater, 256 or 269? → 269 is greater.
- **35 > 21** thirty five is greater than twenty one

## Ordinal Numbers (Up to 20th)

Example:

- First, second, third, fourth, fifth, sixth,... up to twentieth.

## Operations: Addition, Subtraction, Multiplication, and Division (with whole numbers and money)

### Addition

Example:

- **345 + 128 = 473** (with or without regrouping).
- **15 + 8 = 23**

$$\begin{array}{r} 345 \\ + 128 \\ \hline 473 \end{array}$$

### Multiplication

Example:

- Arrays—3 rows of 4 apples = **3 × 4 = 12**. 4+4+4 = **12**
- **2 × 5 = 10** we have a 5 times 2 we have 5 + 5 = **10**

### Division

Example:

- Share **12** candies equally among **3** children → each gets **4**.  
**12** divided by **3** is equal to **4**

$$\begin{array}{r} 4 \\ 3 \overline{)12} \\ \underline{12} \\ 0 \end{array}$$

# General Topic: Properties of Operations

**Commutative Property of Addition:**  $3 + 5 = 5 + 3$ . is the same equal to 8

**Associative Property of Addition:**  $(2 + 4) + 3 = 2 + (4 + 3)$ . is the same equal to 9  
note first add the numbers inside the parenthesis.

**Additive Identity:**  $7 + 0 = 7$ .

**Multiplication by 1 or 0:**

$6 \times 1 = 6$ ; because you multiply 6 by one

$6 \times 0 = 0$ . because you multiply 6 by zero or nothing.

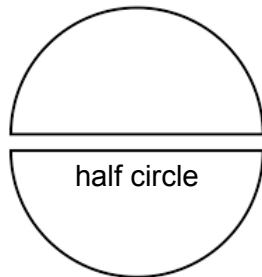
# General Topic: Geometry

**Definition:** Recognizing and describing shapes and their properties.

Sub-topics & Examples:

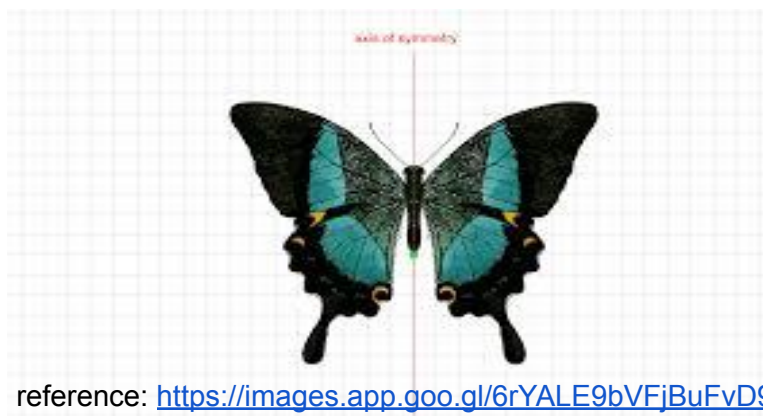
**2D Shapes Creation** — squares, rectangles, circles, triangles, half-circles, quarter-circles.

Example: Cut out a square and a half-circle and name them.



**Symmetry** — Identifying shapes that have symmetry and drawing line(s) of symmetry.

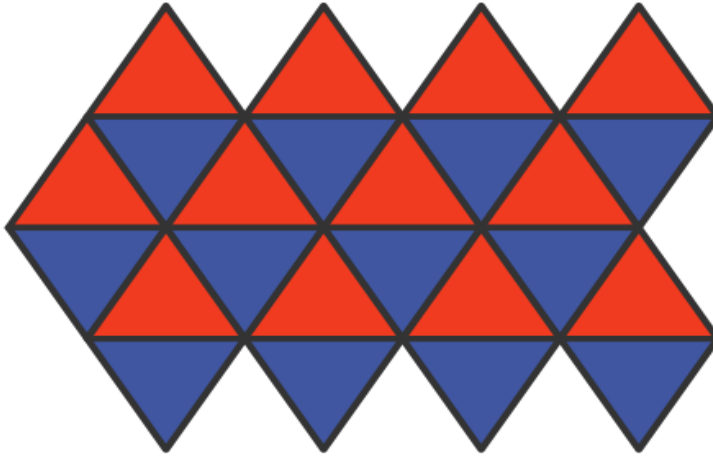
Example: A butterfly drawing folded in half.



reference: <https://images.app.goo.gl/6rYALE9bVFjBuFvD9>

**Tessellation** — Covering a surface using repeated shapes like triangles or squares without gaps.

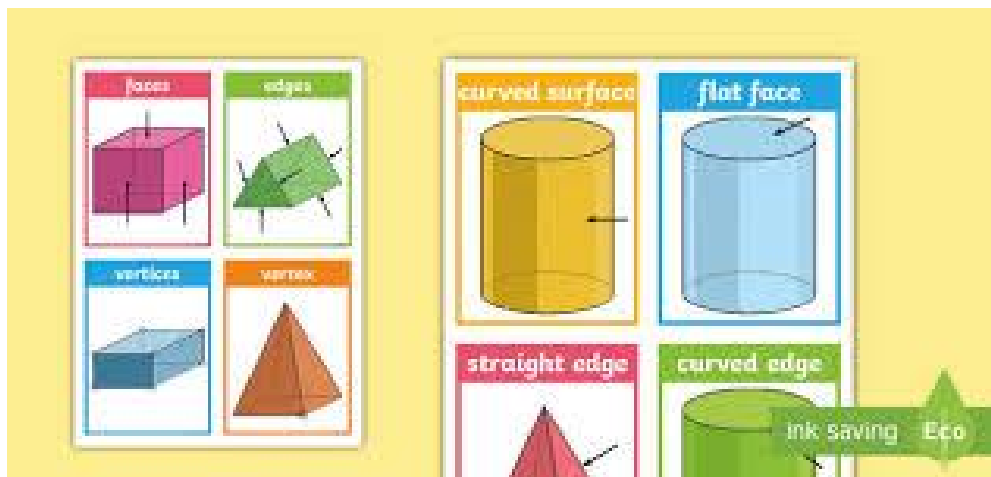
Example: Tiling paper with identical triangles.



reference: <https://images.app.goo.gl/4SKi1nrmHRqPANNU6>

**Lines and Surfaces in 3D Shapes** — Recognizing straight lines, curves, flat faces, and curved surfaces.

Example: A cylinder has curved surface and circle faces.



reference: <https://images.app.goo.gl/tkfm7nyiaAqCTcZs8>

## General Topic: Measurement

**Definition:** Measuring and comparing attributes like length, mass, capacity, and time.

**Length** (using meters and centimeters)

Example: Measure a pen and say it's 15 cm long.

**Mass** (using grams and kilograms)

Example: Compare a mango (500 g) with a watermelon (2 kg).

**Capacity** (liters and milliliters)

Example: Fill a 1-liter bottle halfway (500 mL).

**Time** — Telling and writing time using analog and digital clocks (including AM/PM), and understanding elapsed days.

Example: If class starts at 8:00 AM and ends at 10:00 AM, it lasts 2 hours.

**Area** — Understanding area by counting square units (e.g., tiles).

Example: Count how many square tiles fit inside a shape—5 tiles = area of 5 square units.

## General Topic: Patterns and Algebra

**Definition:** Recognizing and continuing patterns; understanding basic mathematical relationships.

**Continuous Patterns** — Patterns that extend in one direction.

Example: Red, blue, red, blue, \_\_\_\_; next is **red**.

**Repeating Patterns** — Patterns that repeat in cycles of two or more attributes (colors, shapes, numbers).

Example: Circle, square, triangle, circle, square, triangle.

**Number Sentences** — Simple equations or statements.

Example:  $3 + 4 = 7$ ; missing number:  $5 + \underline{3} = 8$ .

## General Topic: Statistics and Probability

**Definition:** Collecting, organizing, and interpreting data; recognizing likelihood of events.

**Data Organization and Presentation** (e.g., tables, pictographs with or without scales)

Example: Showing favorite fruits of class: apple (5), banana (3), mango (7) using a pictograph.

**Data Interpretation** — Reading charts to answer questions.

Example: Who likes mango the most? (mango count highest in picture).

**Probability** (Likely, Unlikely, Equally Likely)

Example: Tossing a coin: Heads or tails are equally likely.