Numbers Patterns (with Visualising Number Sequences)

A number pattern is a sequence of numbers that follows a particular rule or logic. By identifying the pattern, we can predict the next numbers in the sequence.

Types of Number Patterns

1. Increasing Number Patterns

These patterns increase as you move forward in the sequence.

Example 1: Addition Pattern

Pattern: 5, 10, 15, 20, 25, …

Rule: Add 5 to the previous number.

Example 2: Multiplication Pattern

Pattern: 2, 4, 8, 16, 32, …

Rule: Multiply by 2 each time.

2. Decreasing Number Patterns

These patterns decrease as you move forward.

Example 1: Subtraction Pattern

Pattern: 50, 45, 40, 35, 30, …

Rule: Subtract 5 from the previous number.

Example 2: Division Pattern

Pattern: 100, 50, 25, 12.5, …

Rule: Divide by 2 each time.

3. Even and Odd Number Patterns

Even Numbers: A sequence where every number is divisible by 2.

Example: 2, 4, 6, 8, 10, …

Rule: Add 2 to get the next number.

Odd Numbers: A sequence where every number is not divisible by 2.

Example: 1, 3, 5, 7, 9, …

Rule: Add 2 to get the next number.

4. Square Number Pattern

A pattern where each number is the square of its position in the sequence.

Example:

Pattern: 1, 4, 9, 16, 25, …

Rule: The numbers are squares of natural numbers.

($1^2 = 1$, $2^2 = 4$, $3^2 = 9$, $4^2 = 16$, …)

Visualizing Number Sequences

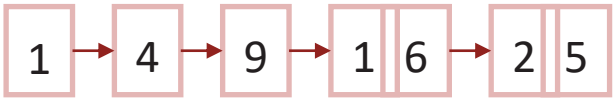
Using a number line or tables, we can understand how the sequence progresses.

Example 1: Increasing Sequence (Adding 3)

2 → 5 → 8 → 11 → 14 → …

(The arrow shows numbers increasing by 3.)

Example 2: Square Numbers



(Squares of natural numbers visualized as blocks.)