# **Prime and Composite Numbers**

#### **Prime Numbers:**

A prime number is a number that has only two factors: 1 and itself. It cannot be divided by any other number except 1 and itself.

### **Examples of Prime Numbers:**

- 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, ...
- Smallest prime number: 2 (also the only even prime number).

## **Composite Numbers:**

A composite number is a number that has more than two factors.

It can be divided by more than just 1 and itself.

#### **Examples of Composite Numbers:**

• 4, 6, 8, 9, 10, 12, 14, 15, 16, 18, ...

#### Example:

• 6 is composite because its factors are 1, 2, 3, and 6.

#### 3. Special Case: The Number 1

1 is neither prime nor composite because it has only one factor (itself).

# 4. Properties of Prime and Composite Numbers

#### **Properties of Prime Numbers:**

- i. A prime number has exactly two factors: 1 and itself.
- ii. 2 is the only even prime number; all other prime numbers are odd.
- iii. Every prime number is greater than 1.
- iv. There are infinitely many prime numbers.

#### **Properties of Composite Numbers:**

- i. A composite number has more than two factors.
- ii. All even numbers (except 2) are composite.
- iii. Composite numbers can be written as a product of prime numbers (Prime Factorization).

# 5. Identify to Prime and Composite Numbers:

A number is prime if it has only two factors: 1 and itself.A number is composite if it has more than two factors.Use Divisibility Rules to check if a number is prime or composite.

Example: Is 17 a prime or composite number?

Factors of 17: 1, 17 → Prime

Example: Is 18 a prime or composite number?

• Factors of 18: 1, 2, 3, 6, 9, 18 → Composite