

# INTRODUCTION TO MULTIPLICATION — GROUPS AND ARRAYS

## — Number

### 1. What is Multiplication?

- Multiplication means equal groups.
- 3 groups of 4 means  $4 + 4 + 4 = 12$ .

$$3 \times 4 = 12$$

'3 groups of 4' or '3 times 4'

### 2. Using Arrays

- An array is objects arranged in rows and columns.
- Example: 3 rows of 5

• \* \* \* \* \*

• \* \* \* \* \*

• \* \* \* \* \*

•  $3 \times 5 = 15$

Turn the array sideways: 5 rows of 3 also = 15.  
This shows  $3 \times 5 = 5 \times 3$  (order doesn't matter).

### 3. Repeated Addition

- Multiplication is a shortcut for adding the same number.

$$2 \times 6 = 6 + 6 = 12$$

$$4 \times 3 = 3 + 3 + 3 + 3 = 12$$

$$5 \times 2 = 2 + 2 + 2 + 2 + 2 = 10$$

### 4. Counting by Groups

- Skip count to find the total quickly.
- 4 groups of 5: skip count by 5s
  - 5, 10, 15, 20 ... so  $4 \times 5 = 20$
- 3 groups of 10: skip count by 10s
  - 10, 20, 30 ... so  $3 \times 10 = 30$

## 5. The Times Symbol

- The  $\times$  symbol means 'groups of' or 'times'.
- The  $=$  symbol means 'equals' or 'the answer is'.

$$\begin{array}{ccccccc} \text{number of groups} & \times & \text{size of each group} & = & \text{total} \\ 3 & \times & 4 & = & 12 \end{array}$$

## 6. Practice

- Draw an array for  $2 \times 7$ .
- Write  $5 \times 3$  as repeated addition.
- There are 4 bags with 5 apples each. How many apples?