



Walter Infant School and Nursery

To be the best I can be



Key Stage One

Calculation Methods

Multiplication



Multiplication Vocabulary

- **lots of**
- **times**
- **multiply**
- **groups of**
- **product**
- **multiplied by**
- **multiple of**
- **repeated addition**
- **array**



Counting patterns

0 2 4 6 8 10 12 14 16 18 20

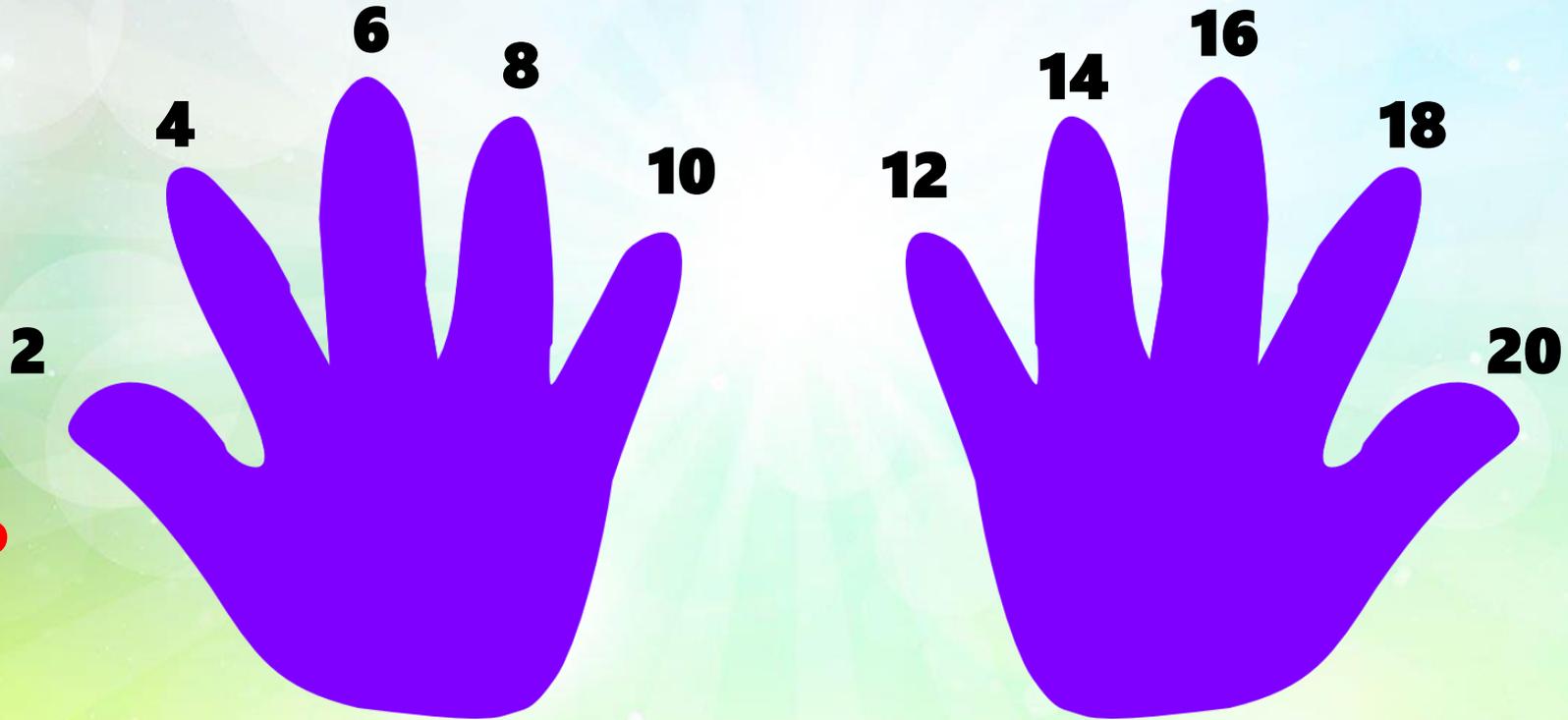
0 3 6 9 12 15 18 21 24 27 30

0 5 10 15 20 25 30 35 40 45 50

0 10 20 30 40 50 60 70 80 90 100

We practise counting in 2s, 3s, 5s and 10s forwards and backward regularly. This helps with multiplication and division. We always start on 0 (zero).

Counting patterns using fingers



zero

We count in 2s, 3s, 5s and 10s using our fingers forwards and backwards (we always start with zero).

Counting coins



= 12p



= 35p

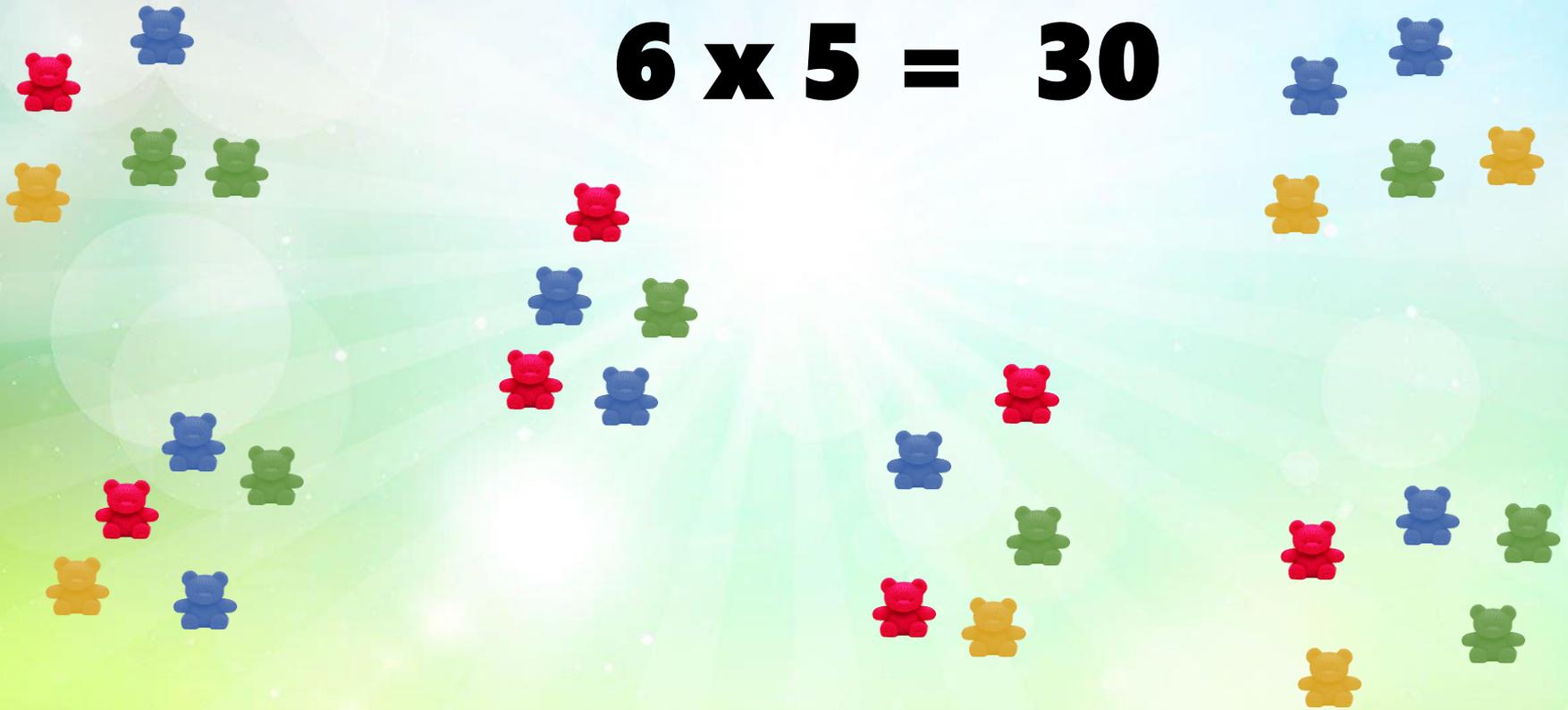


= 70p

We might count coins using the counting patterns.

Counting objects in groups

$$6 \times 5 = 30$$



We group objects in groups of 2, 3, 5 or 10.

Sorting objects into arrays

$$6 \times 5 = 30$$

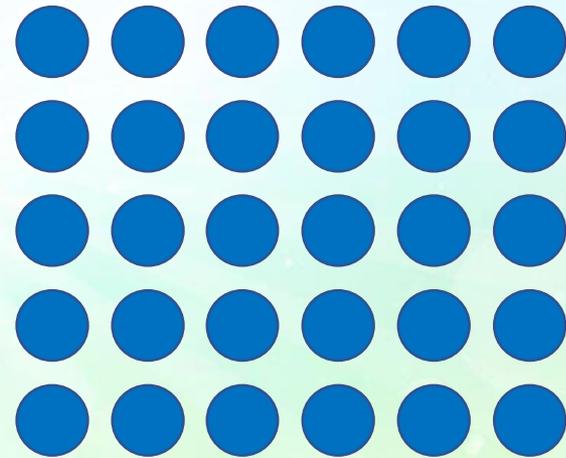
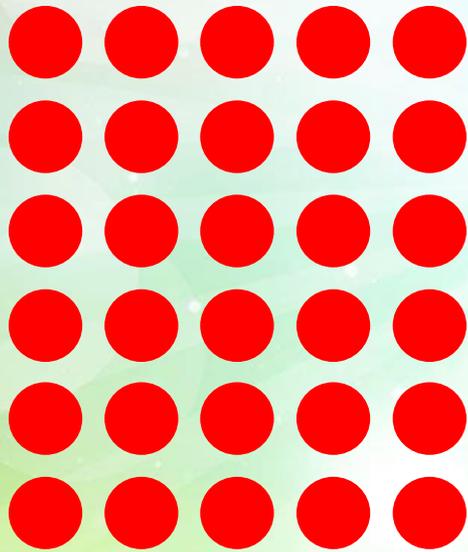


5 columns

**We group objects in a more structured way.
This is called an array.**

Drawing arrays

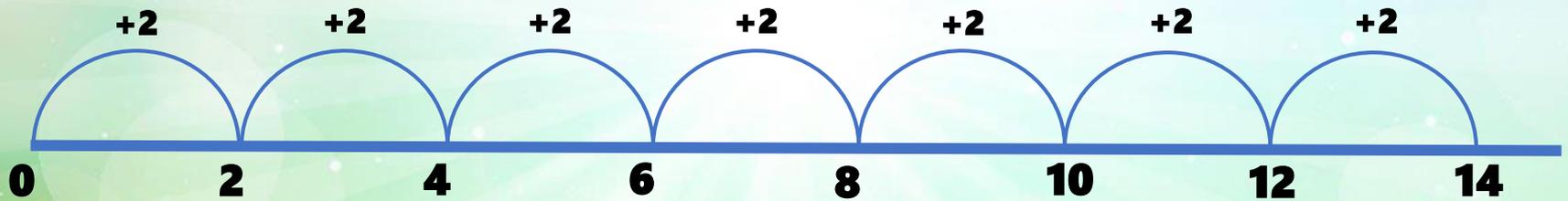
$$6 \times 5 = 30$$



We draw the arrays in our books. These can be done either way (6 x 5** or **5 x 6**)**

Repeated addition using a number line

$$7 \times 2 = 14$$

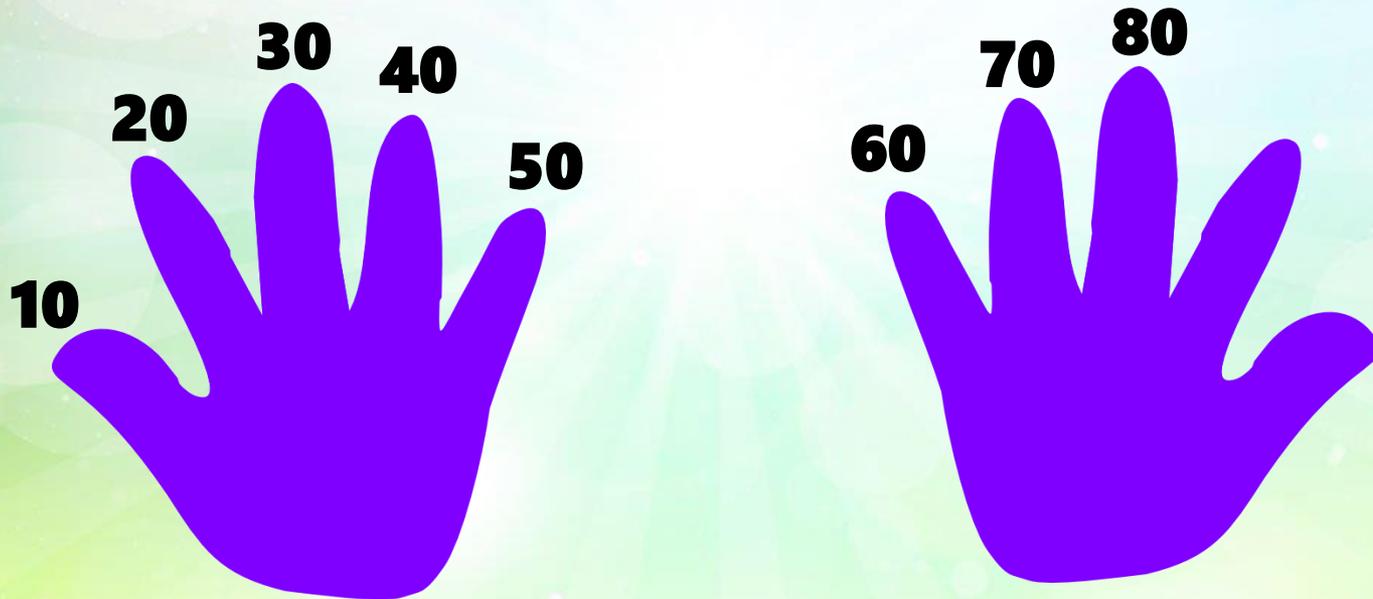


Draw an empty number line starting from 0 (zero). Make jumps for the known counting pattern (2, 3, 5 or 10). In the example above there are 7 jumps or +2 repeated.

Multiplying using fingers

$$8 \times 10 = 80$$

$$10 \times 8 = 80$$



Using fingers count in the known counting pattern (2, 3, 5 or 10) up to the other number in the calculation.

Commutativity and bar modelling

$$4 \times 5 = 20$$

$$5 \times 4 = 20$$

5	5	5	5
20			

We use bar modelling to show repeated addition.

Commutativity and bar modelling

$$4 \times 5 = 20$$

$$5 \times 4 = 20$$

5	4
20	

We use bar modelling to show commutativity – multiplications can be done either way.