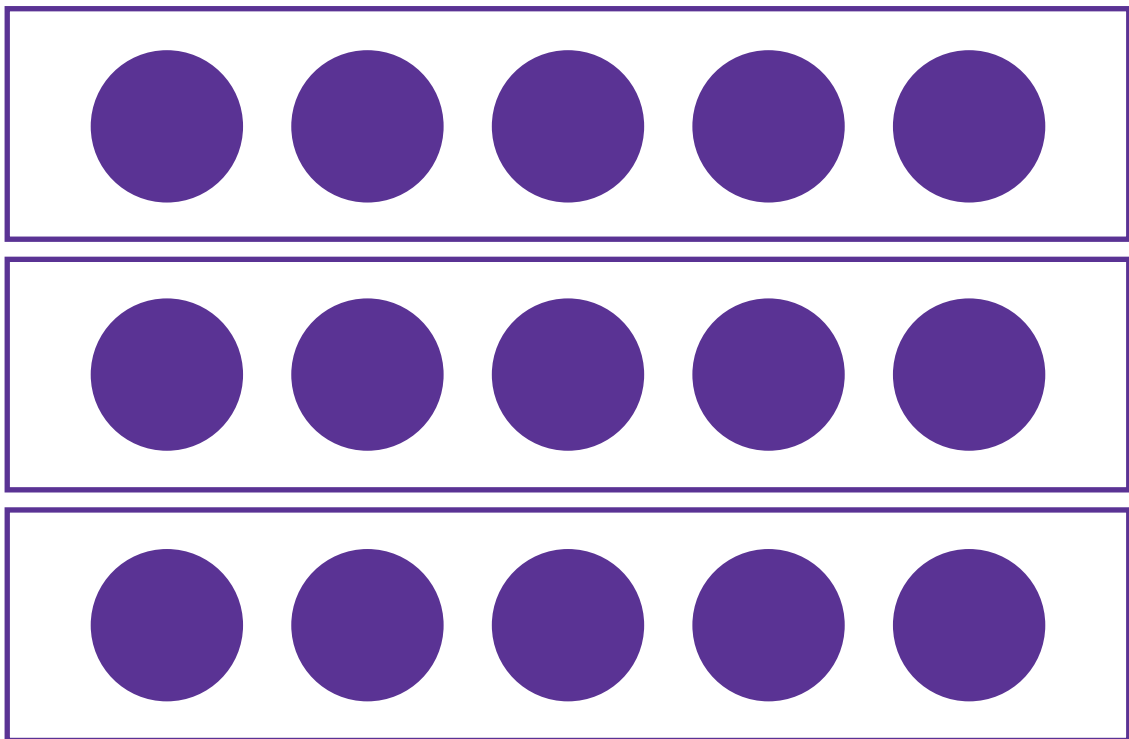


Multiplication Strategies

Array

Rows and columns with an equal amount in each.



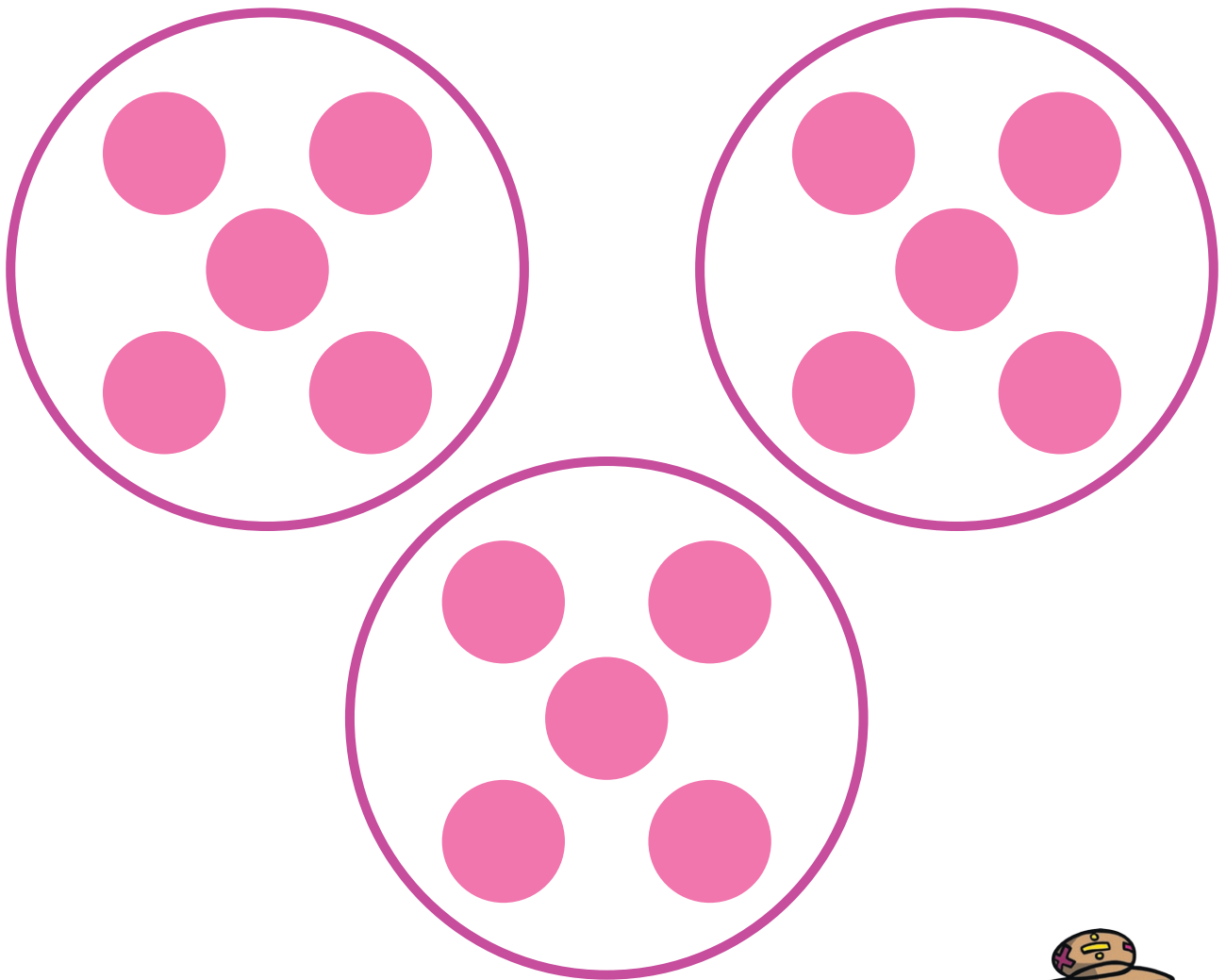
$$3 \times 5 = 15$$



Multiplication Strategies

Equal Groups

Use the same number of ones in each group.

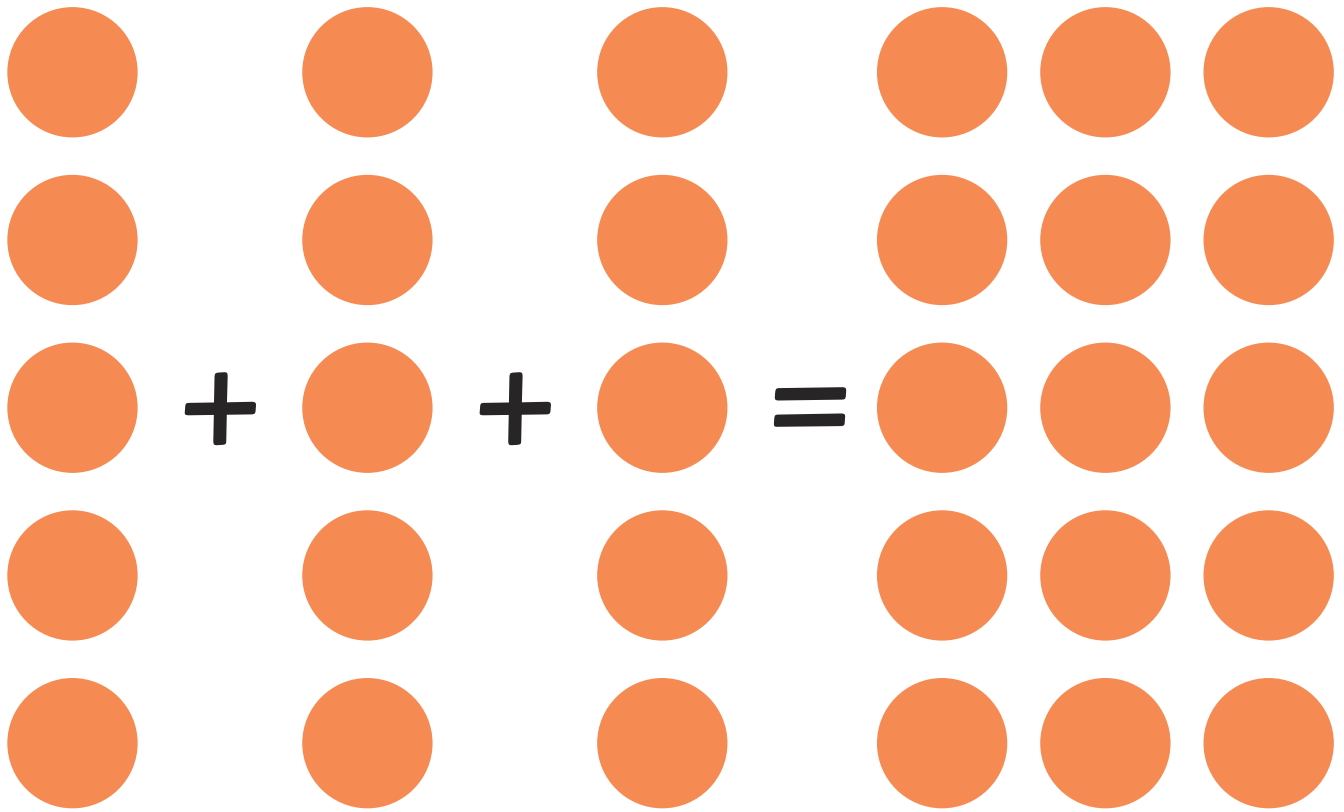


$$3 \times 5 = 15$$



Multiplication Strategies

Repeated Addition



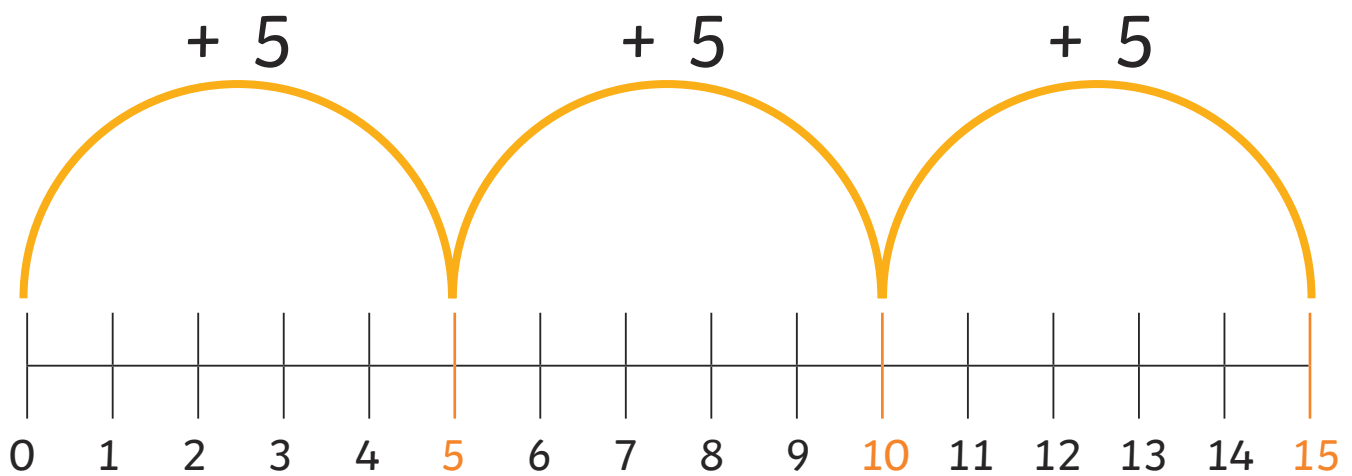
$$3 \times 5 = 15$$



Multiplication Strategies

Number Line

Starting from zero, hop 5 at a time.
Where do you land?



$$1 \text{ hop of } 5 = 5$$

$$2 \text{ hops of } 5 = 10$$

$$3 \text{ hops of } 5 = 15$$

$$3 \times 5 = 15$$



Multiplication Strategies

Lattice/Italian

Draw a grid to match the numbers.

Write the partitioned number on top and to the right.

	5	2	
			3
			8

Draw diagonals.

Multiply the numerals.

Write the answers in the relevant box, writing the digits either side of the diagonal.

	5	2	
1	/	0	3
	5	/	6
4	/	1	8
	0	/	6

Add the diagonals in turn.

Carry any "tens" as required.

	5	2	
1	1	0	3
	5	/	6
9	4	1	8
	0	/	6
	7	6	

$$52 \times 38 = 1976$$



Multiplication Strategies

Partitioning

$$36 \times 3$$

Multiply each partition together and add the products.

$$\begin{array}{r} 36 \times 3 = \\ 30 \times 3 = 90 \\ 6 \times 3 = 18 \\ \hline 108 \end{array}$$

$$36 \times 3 = 108$$



Multiplication Strategies

Grid Method

×	40	8
8		

Draw a grid.

Write the partitioned numbers at the top left of the grid.

×	40	8
8	320	64

Multiply the partitioned number.

$$\begin{array}{r} 320 \\ + 64 \\ \hline 384 \end{array}$$

Add the products.

$$48 \times 8 = 384$$



Multiplication Strategies

Expanded Column Method

Line up the ones and the tens.

Multiply the ones.

Multiply tens.

Add the totals together.

$$\begin{array}{r} 42 \\ \times 5 \\ \hline 10 \\ + 200 \\ \hline 210 \end{array} \quad \begin{array}{l} (2 \times 5) \\ (40 \times 5) \\ (200 + 10) \end{array}$$

$$42 \times 5 = 210$$



Multiplication Strategies

Column Method



$$\begin{array}{r} 52 \\ \times \quad 3 \\ \hline \\ \hline \end{array}$$

$$\begin{array}{r} 52 \\ \times \quad 3 \\ \hline 6 \\ \hline \end{array}$$

Multiply the ones digit in the two-digit number by the one-digit number.

$$2 \times 3 = 6$$

Write the answer in the answer section.

$$\begin{array}{r} 52 \\ \times \quad 3 \\ \hline 156 \\ \hline \end{array}$$

Multiply the tens digit in the two-digit number by the one-digit number.

$$5 \text{ tens} \times 3 = 15 \text{ tens} = 1 \text{ hundred and } 5 \text{ tens}$$

Write the answer in the answer section.

$$52 \times 3 = 156$$