



1. Adding equal groups

Fluency:



There are ____ equal groups with ____ in each group.
There are ____ 3s.
____ + ____ = 6



There are ____ equal groups with ____ in each group.
There are three ____s.
____ + ____ + ____ = 12

Problem solving:

Which one does not belong?



Two 5s



Ten

5 + 5



What do we need to change to make them all represent the same?

Reasoning:

True or False?

$$5 + 5 = 2 + 2 + 2 + 2 + 2$$

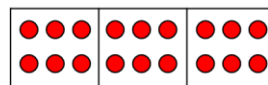
Draw an image or use cubes to help you explain your answer.

2. The Multiplication Symbol

calculate mathematical statements for multiplication and division within the multiplication tables and write them using $\times$ or $\div$ signs

Fluency:

Complete the sentences to describe the equal groups.



$$___ + ___ + ___ = 18$$

$$___ \times ___ = 18$$

There are ____ equal groups with ____ in each group.
There are three ____

Complete:

Three 2s	Draw It	Addition	Multiplication
There are 3 equal groups with 2 in each group.			

Complete:

Addition	Multiplication	Story
10 + 10 + 10		
	6 x 5	

Problem solving:

Use $<$, $>$ or $=$ to make the statements correct.

$$3 \times 5 \quad \bigcirc \quad 5 + 5 + 5 + 5$$

$$2 \times 2 \quad \bigcirc \quad 2 + 2$$

$$10 \times 2 \quad \bigcirc \quad 5 + 5 + 5$$

Reasoning:

Think of a multiplication to complete:

$$6 + 6 + 6 > ___ \times ___$$

The total is 12, what could the addition and multiplication be?

3. Multiplication pictures

solve $\times$ problems, using materials, arrays, repeated addition, mental methods, $\times$ facts, including problems in contexts

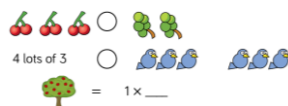
Fluency:



$$___ \times ___ = ___$$

$$___ \text{ lots of } 3 = ___$$

$$___ \text{ multiplied by } ___ = 12$$



Complete the table.

Picture	Multiplication	Sentence
	$4 \times 10 = 40$	4 lots of 10 is equal to 40
	$35 = 7 \times 5$	
		6 lots of 3 is equal to 18

4. Arrays

solve $\times$ problems, using materials, arrays, repeated addition, mental methods, $\times$ facts, including problems in contexts

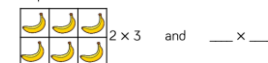
Fluency:

On the image, find 2×5 and 5×2



Can you represent this array using another object?

Complete the number sentences to describe the arrays.



Draw an array to show:

$$4 \times 5 = 5 \times 4$$

$$3 \text{ lots of } 10 = 10 \text{ lots of } 3$$

Problem solving:

Write a story for the calculation 4×10

Draw an image to illustrate your story.

Reasoning:



$$2 \times 5$$

$$5 + 5$$

$$5 \times 2$$

Each calculation could explain the image.

Explain why.

Problem solving:

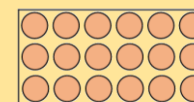
With 12 cubes, how many different arrays can you create?

Once you have created your array complete:

$$___ \times ___ = ___ \times ___$$

Reasoning:

Find different ways to solve six lots of three.



Part of this array is hidden.



The total is less than 16

What could the array be?



5. The 2 x Table

· recall & use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers

Fluency:

Count in 2s to calculate how many eyes there are.



There are ___ eyes in total.
___ x ___ = ___

Complete the number track.

2	4		8		12
14	16	18			24
	2	4	6	8	

How many wheels are there on five bicycles?



If there are 14 wheels, how many bicycles are there?

Problem solving:

Fill in the blanks.

$$3 \times \underline{\quad} = 6$$

$$\underline{\quad} \times 2 = 20$$

$$\underline{\quad} = 8 \times 2$$

Reasoning:

Eva says,



Every number in the 2 times-table is even.

Is she correct? Explain your answer.

sticky knowledge

· recognise repeated addition contexts, representing with multiplication equations, calculating the product (2x, 5x, 10x tables)

6. The 5 x Table

· recall & use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers

Fluency:

How many petals altogether?



Write the calculation.

There are 35 fingers.
How many hands?

$$\underline{\quad} \times 5 = 35$$



Use <, > or = to make the statements correct.

$$2 \times 5 \bigcirc 5 \times 2$$

$$3 \times 2 \bigcirc 4 \times 5$$

$$10 \times 5 \bigcirc 5 \times 5$$

Problem solving:

Is Mo correct?

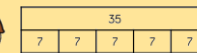
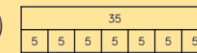


Every number in the 5 times table is odd.

Explain your answer.

Reasoning:

Tommy and Rosie have both drawn bar models to show 7×5



What's the same and what is different about their bar models?

Draw your own bar model to represent 4×5

sticky knowledge

· recognise repeated addition contexts, representing with multiplication equations, calculating the product (2x, 5x, 10x tables)

7. The 10 x Table

· recall & use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers

Fluency:

How many crayons are there altogether?



There are ___ crayons altogether.

$$\underline{\quad} \times 10 = \underline{\quad}$$

Altogether there are 30 bottles, how many walls are there?



$$\underline{\quad} \times 10 = 30$$

Think of a multiplication fact for 10s to go in each box.

2×10		9×10		0×10		2×10
smallest		greatest		smallest		greatest

Problem solving:

On sports day, Jack runs 10 metres, 7 times.



Which of these calculations do not describe this word problem?

$$10 + 7$$

$$7 \times 10$$

$$7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7$$

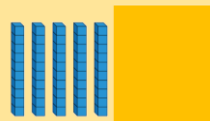
$$10 + 10 + 10 + 10 + 10 + 10 + 10$$

Reasoning:

Some Base 10 is hidden.

The total is less than 100

What could the calculation be?



$$\underline{\quad} \times 10 = \underline{\quad}$$

Tim says it could be 10×10
Is he correct? Explain your answer.

Vocabulary

array

an arrangement of objects, pictures, or numbers in rows and columns

groups of

another way of saying lots of

lots of

how many multiples of a set e.g. 4 lots of 3 is the same as 4 multiplied by 3

multiply

adding repeatedly e.g. $5 + 5 + 5 + 5$ is 4 lots of 5, or 5 multiplied by 4

repeated addition

adding equal groups repeatedly e.g. $5 + 5 + 5 + 5 = 20$

times

another way of saying multiply

sticky knowledge

· recognise repeated addition contexts, representing with multiplication equations, calculating the product (2x, 5x, 10x tables)