



Boxgrove
Primary
School

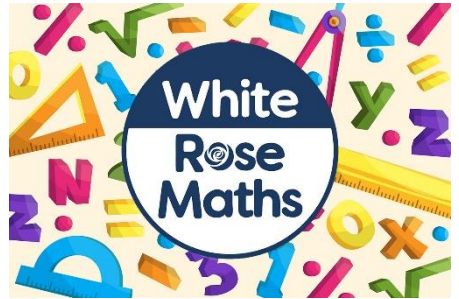
YEARS 3 & 4

**MATHS INFORMATION
FOR
PARENTS**

How maths is taught at Boxgrove:

- How we teach multiplication in years 3 and 4
- How we teach division in years 3 and 4
- How we teach fractions in years 3 and 4
- How you can support your child at home



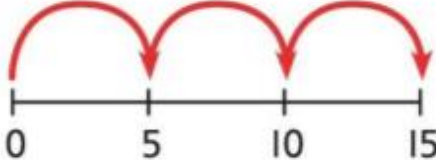
White Rose



Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
--------	--------	--------	--------	--------	--------

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number: Place Value		Number: Addition and Subtraction					Measurement: Money		Number: Multiplication and Division	Consolidation	
Spring	Number: Multiplication and Division				Statistics		Geometry: Properties of Shape	Number: Fractions				
Summer	Measurement: Length and Height	Geometry: Position and Direction		Consolidation and problem solving		Measurement: Time		Measurement: Mass, Capacity and Temperature			Consolidation	

Concrete – Pictorial - Abstract

Year 2 Multiplication	Concrete	Pictorial	Abstract
Equal groups and repeated addition	<p>Recognise equal groups and write as repeated addition and as multiplication.</p>  <p><i>3 groups of 5 chairs 15 chairs altogether</i></p>	<p>Recognise equal groups using standard objects such as counters and write as repeated addition and multiplication.</p>  <p><i>3 groups of 5 15 in total</i></p>	<p>Use a number line and write as repeated addition and as multiplication.</p>  <p>$5 + 5 + 5 = 15$ $3 \times 5 = 15$</p>

Maths in Lower KS2

- The main focus of maths teaching in lower KS2 is for children to become increasingly secure with both place value and the four operations.
- They are taught both mental and written methods, and are encouraged to use the most efficient method to solve a range of problems.
- Children develop their mathematical reasoning to ensure they can explain a problem (using the correct vocabulary) and find the appropriate solution.

Multiplication

Times table focus in year 2:

2, 5 and 10

Times table focus in year 3:

3, 4 and 8

Times table focus in year 4:

All the tables up to 12

Times tables - How do we learn them?

$1 \times 9 = 9$

$6 \times 9 = 54$

$11 \times 9 = 99$

$2 \times 9 = 18$

$7 \times 9 = 63$

$12 \times 9 = 108$

$3 \times 9 = 27$

$8 \times 9 = 72$

$4 \times 9 = 36$

$9 \times 9 = 81$

$5 \times 9 = 45$

$10 \times 9 = 90$

Strategies for multiplication

The children learn the link between repeated addition and multiplication.

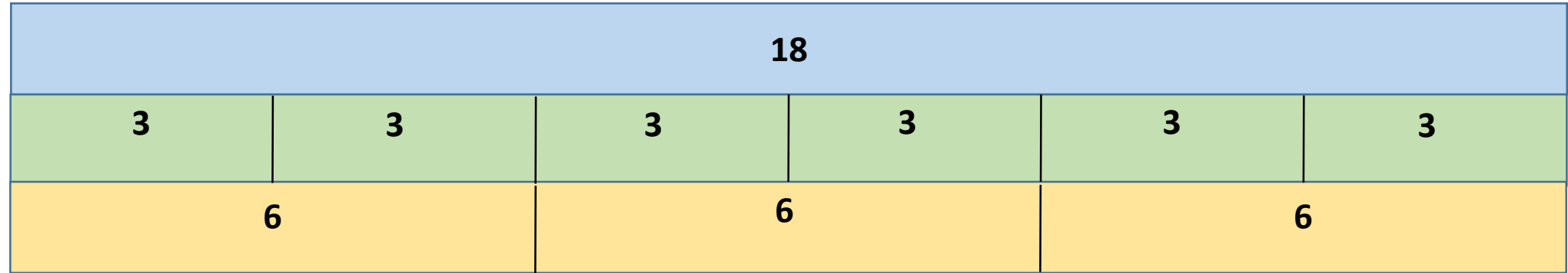
There are five towers with 3 cubes in each tower.
How many cubes are there altogether?

$$\underline{3} + \underline{3} + \underline{3} + \underline{3} + \underline{3} = \underline{15}$$

$$\underline{5} \times \underline{3} = \underline{15}$$



Bar models



$$3 + 3 + 3 + 3 + 3 + 3 = 18$$

$$6 \times 3 = 18$$

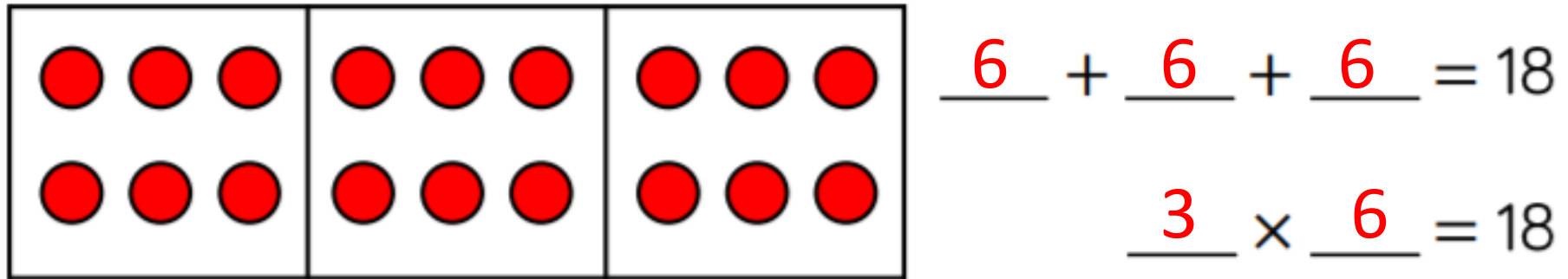
$$6 + 6 + 6 = 18$$

$$3 \times 6 = 18$$

Arrays

- We encourage children to use sentences with the correct vocabulary to explain their mathematical thinking.

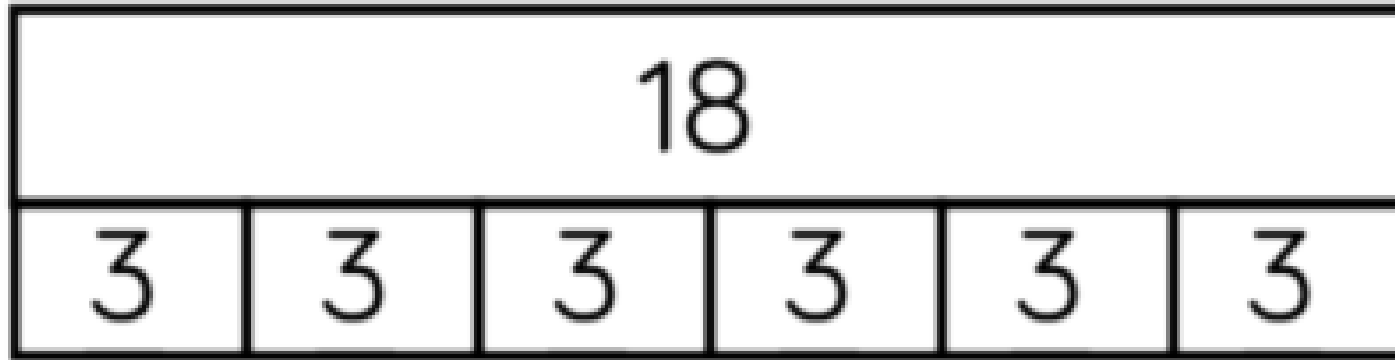
Complete the sentences to describe the equal groups.



There are 3 equal groups with 6 in each group.



Challenge time! :)



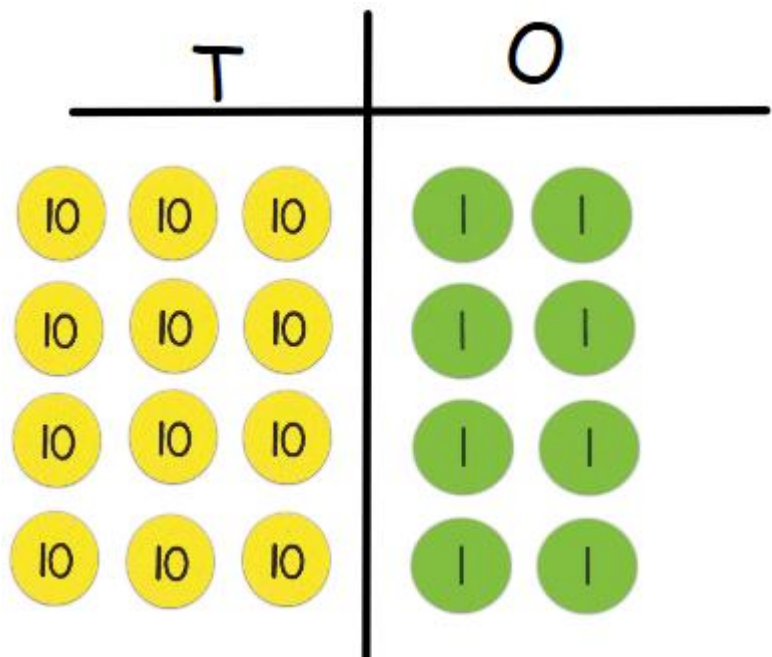
$$\underline{6} \times 3 = 18$$

I have 6 groups of 3 which equals 18

Abstract - Using written methods

$$32 \times 4 =$$

30 2



x	30	2
4	120	8

$120 + 8 = 128$









Short multiplication

Tens			Ones			
10	10	10	1	1	1	1
10	10	10	1	1	1	1

	T	O
	3	4
x		2
	6	8









Challenge time! :)

Write a short multiplication to match the counters.

T	O
	
	
	
	

Challenge time! :)

Write a short multiplication to match the counters.

T	O
	
	
	
	

$$\begin{array}{r} 21 \\ \times \quad 4 \\ \hline 84 \end{array}$$

Reasoning - Year 3



I know that when multiplying 3 by 40, 40 is ten times bigger than 4, so my answer will be ten times bigger than 3×4

Is Mo correct?

Explain your answer.

True or false?

$$5 \times 30 = 3 \times 50$$

Prove it.

Problem solving – Year 4

Teddy and his mum were having a reading competition. In one month, Teddy read 814 pages. His mum read 4 times as many pages as Teddy.

How many pages did they read altogether?

Problem solving – Year 4

Teddy

814

Mum

814	814	814	814
-----	-----	-----	-----

$$\begin{array}{r} 814 \\ \times 5 \\ \hline 4070 \\ \hline 2 \end{array}$$

Division

Children build on their understanding of division as sharing and grouping, using both pictorial representations and place value counters.

Share the 12 cubes equally into the two boxes.

There are 12 cubes altogether.

There are 2 boxes.

There are 6 cubes in each box.



Division - Year 3

Complete the stem sentences.



I have 6 cubes altogether.

There are 2 in each group.

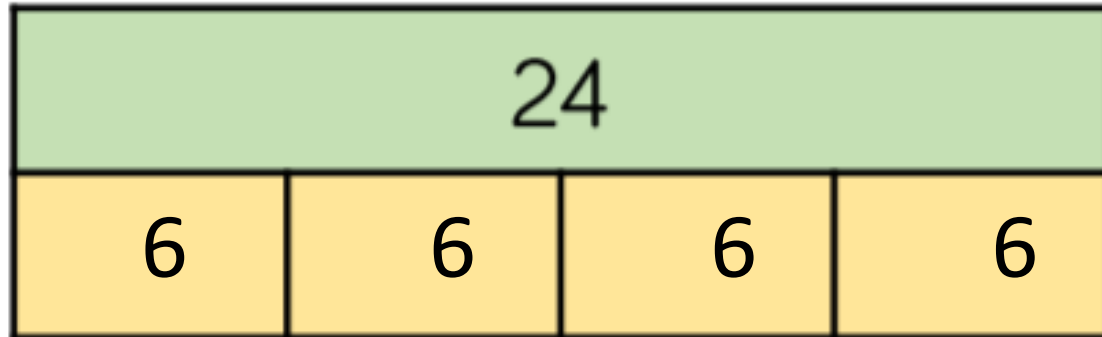
There are 3 groups.

$$\boxed{6} \div \boxed{2} = \boxed{3}$$

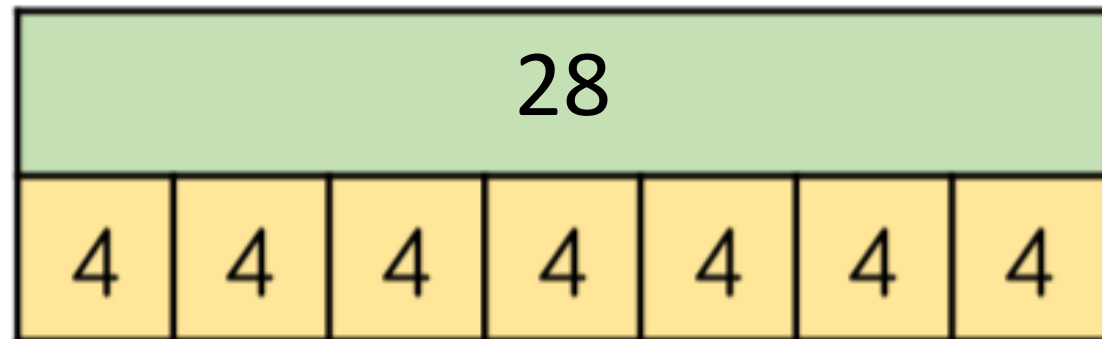
$$\boxed{3} \times \boxed{2} = \boxed{6}$$

Division - Year 3

Complete the bar models and the calculations.



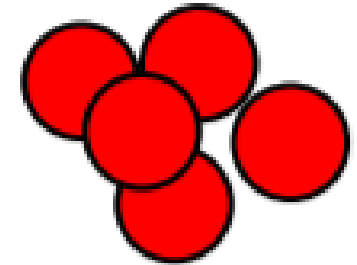
$$24 \div 4 = \underline{6}$$



$$\underline{28} \div 4 = \underline{7}$$

Division - Year 3 - Problem solving

You have 30 counters.

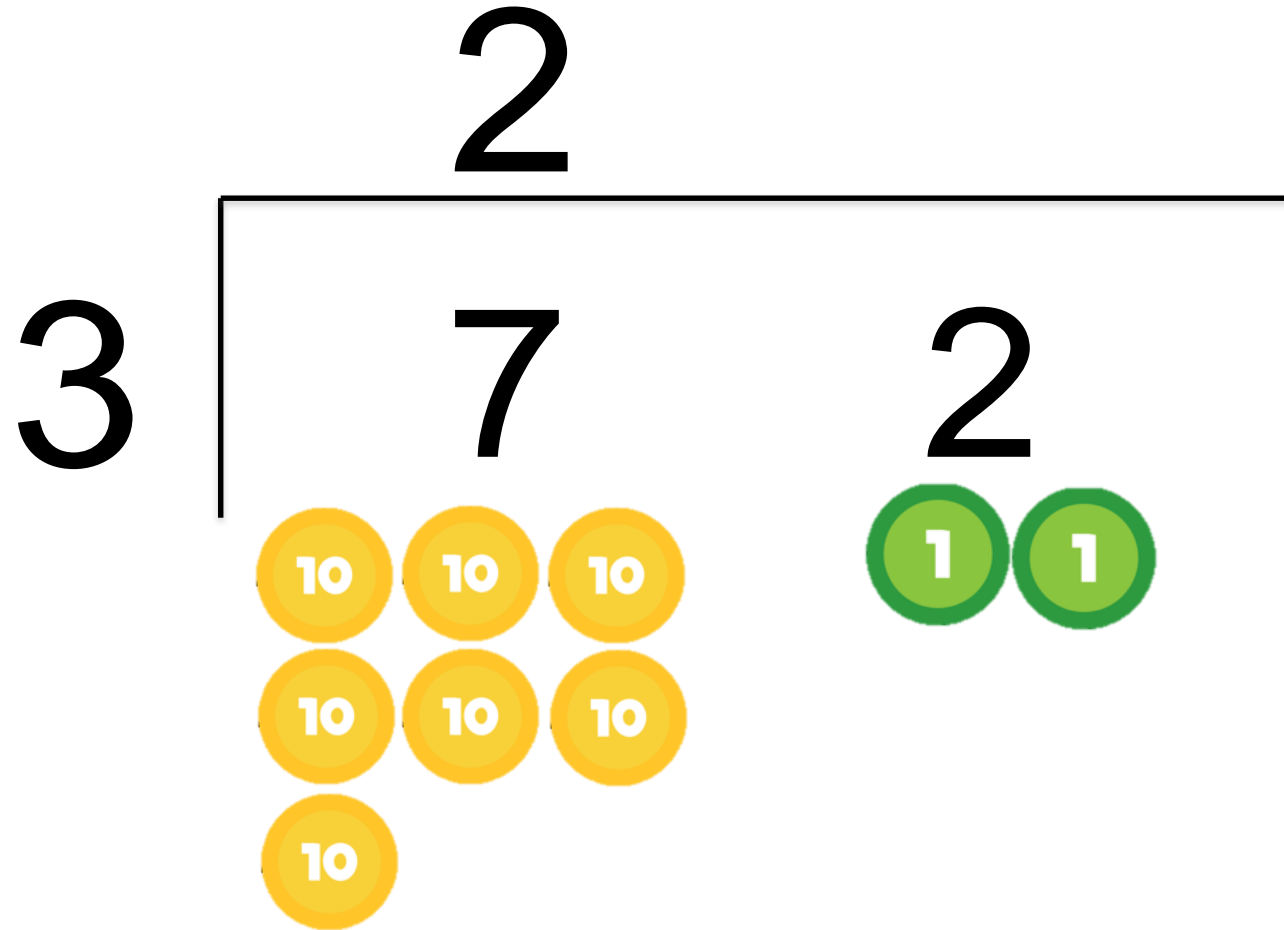


How many different ways can you put them into equal groups?

Write down all the possible ways.

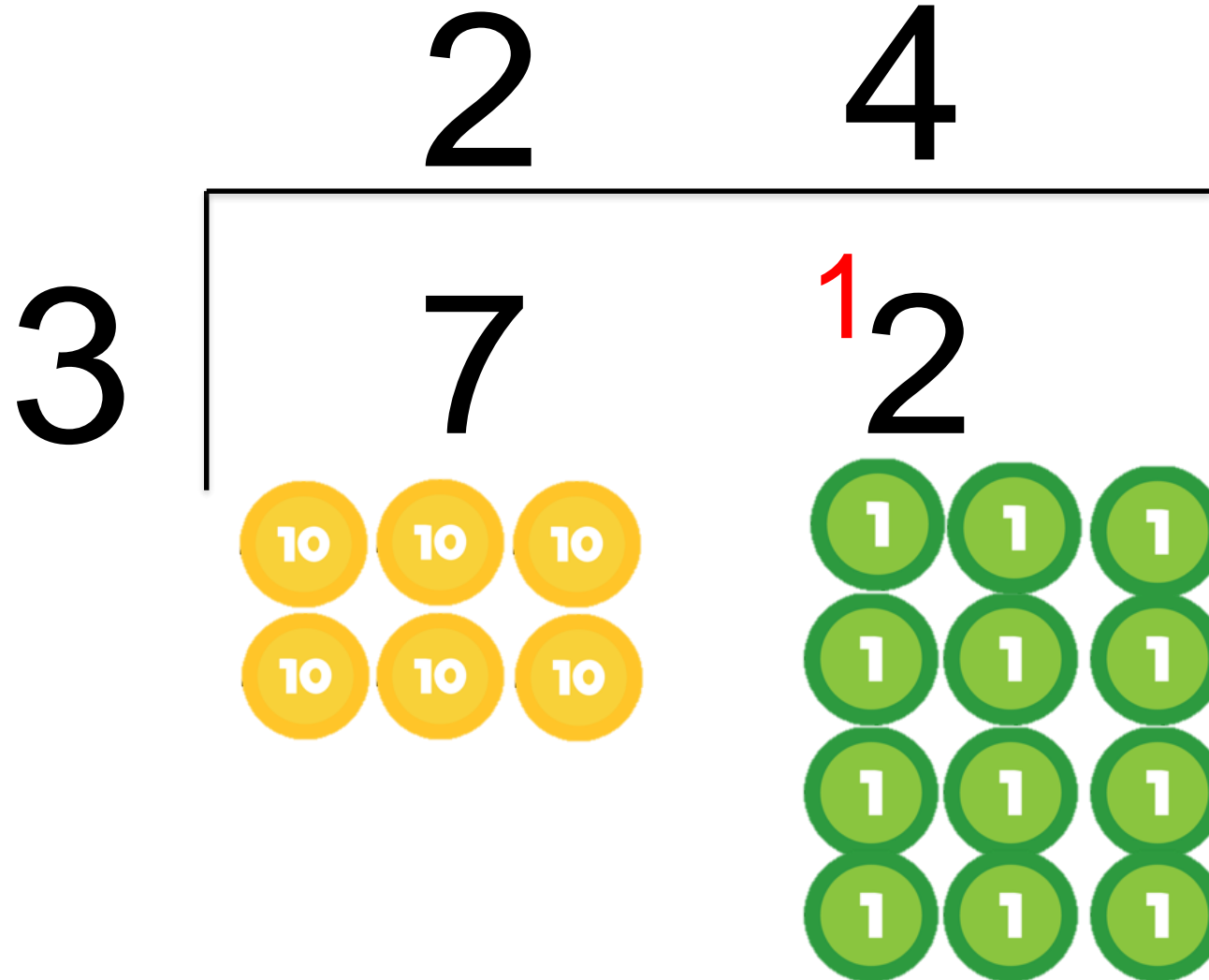
Division - written method (bus stop method)

$72 \div 3$



Division - written methods (bus stop method)

$72 \div 3$



Division – Year 4

Now it's your turn... $48 \div 3$

$$\begin{array}{r} 3 \overline{) 48} \end{array}$$

Fractions - Year 3

Recognising a half.

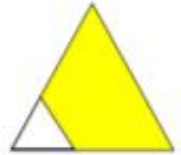
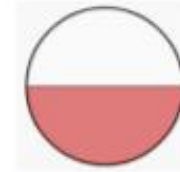
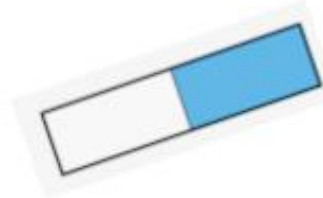
■ The whole gummy bear is split into ____ equal parts.

Each part is worth a _____.

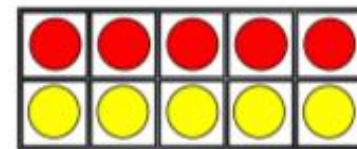
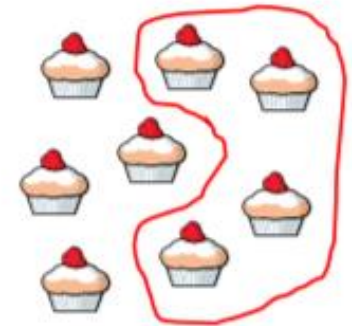
This can be written as $\frac{\square}{\square}$




■ Which pictures show $\frac{1}{2}$?



■ Which pictures show $\frac{1}{2}$?



Fractions - Year 3

 Circle half the cakes.



Circle half the triangles.



 Fill in the blanks. Use counters to help you if needed.

$$\frac{1}{2} \text{ of } 4 = \square$$

$$\frac{1}{2} \text{ of } 40 = \square$$

$$\frac{1}{2} \text{ of } 6 = \square$$

$$\frac{1}{2} \text{ of } 60 = \square$$

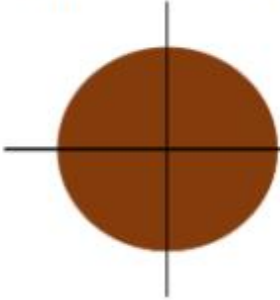
$$\frac{1}{2} \text{ of } 8 = \square$$

$$\frac{1}{2} \text{ of } 80 = \square$$

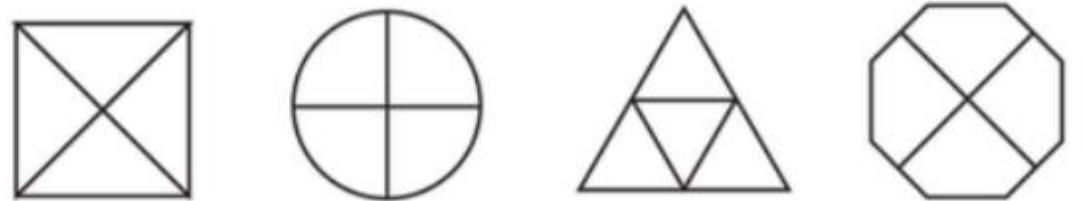
Fractions - Year 3

Finding a quarter

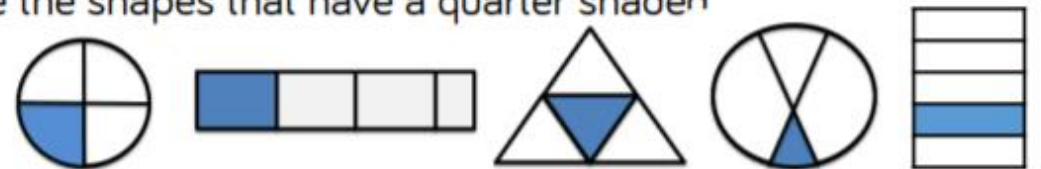
Four friends are sharing a cake.
The cake is split into _____ equal parts.
Each part is worth a _____ .
This can be written as $\frac{\square}{\square}$



Shade $\frac{1}{4}$ of each shape.



Circle the shapes that have a quarter shaded!



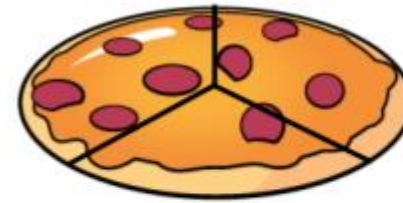
Which shapes do not have a quarter shaded? How do you know?

Draw the shapes again and split them into quarters correctly?

Fractions - Year 3

Finding a third.

Three friends are sharing a pizza.



The pizza is split into ____ equal parts.

Each part is worth a _____.

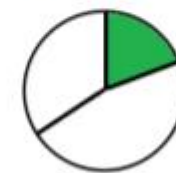
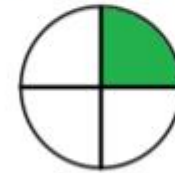
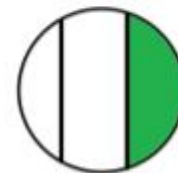
This is the same as $\frac{\square}{\square}$

Shade $\frac{1}{3}$ of each shape.



What is the same? What is different?



Which shapes represent one third?



Explain why the other circles do not represent one third.

Fractions - Year 3

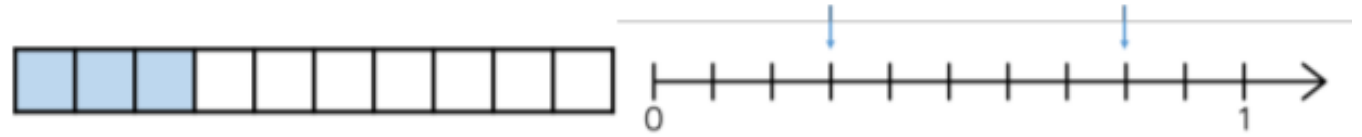
Complete the table.

Image	Words	Fraction	Decimal
	One tenth	$\frac{1}{10}$	0.1
			
	Nine tenths		

Children are introduced to tenths as a decimal for the first time.

They represent $\frac{1}{10}$ in a variety of ways.

Write the fractions and decimals shown.



Here is a decimal written in a place value grid.

Ones	Tenths
0	8

Fractions - Year 3

Find $\frac{1}{5}$ of Eva's marbles.



I have divided the marbles into **5** equal groups.

There are **4** marbles in each group.

$\frac{1}{5}$ of Eva's marbles is **4** marbles.

Children learn to find a fraction of an amount. We teach them that the denominator tells us how many groups to split the amount into.

Fractions – Year 4

Equivalent Fractions

$$\frac{\boxed{2}}{\boxed{4}} \xrightarrow{\times 2} \frac{\boxed{4}}{\boxed{8}} = \frac{\boxed{4}}{\boxed{8}}$$

Fractions – Year 4

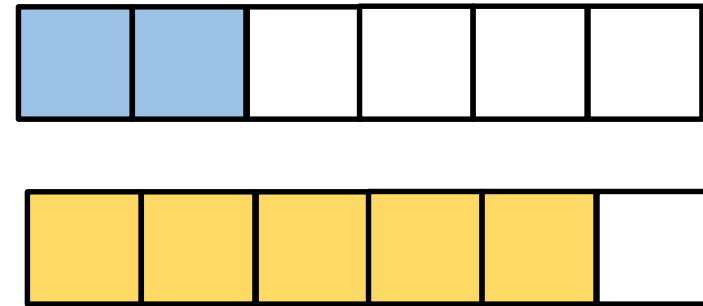
Equivalent Fractions

$$\frac{\boxed{3}}{\boxed{4}} = \frac{\boxed{?}}{\boxed{12}}$$

Fractions – Year 4

Adding and Subtracting Fractions

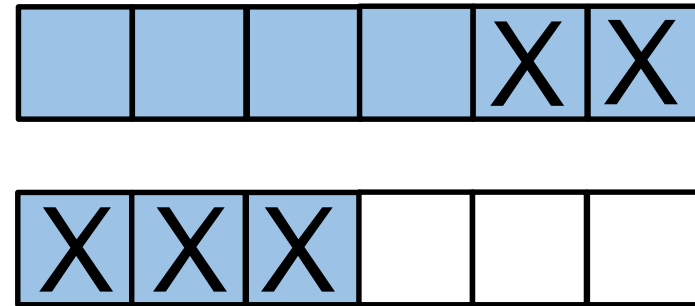
$$\frac{2}{6} + \frac{5}{6} = \frac{7}{6}$$



Fractions – Year 4

Adding and Subtracting Fractions

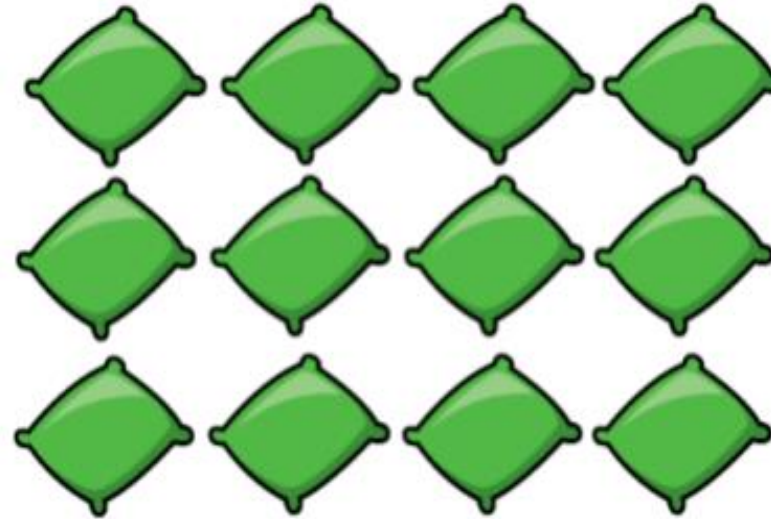
$$\frac{9}{6} - \frac{4}{6} = \frac{5}{6}$$



Fractions – Year 4

Fractions of an Amount

$$\frac{1}{4} \text{ of } 12$$



Fractions – Year 4

Fractions of an Amount

$$\frac{3}{4} \text{ of } 24$$

1. Divide by the denominator: $24 \div 4 = 6$
2. Multiply by the numerator: $6 \times 3 = 18$