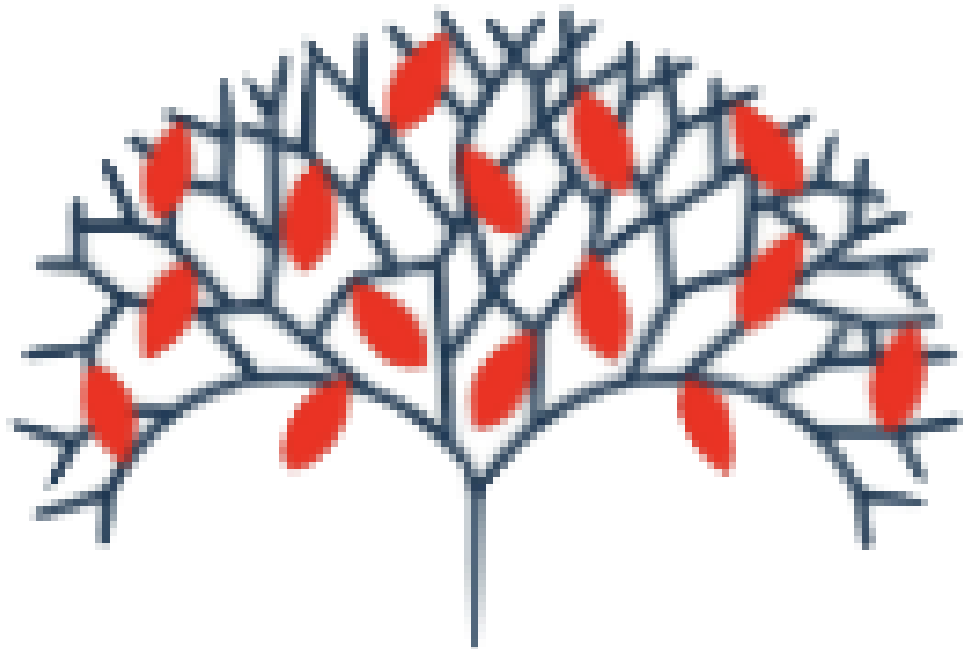


Maths Parent Workshop

What we Teach, -How we Teach it -

Number and the Stepping Stones to
Multiplication and Division

Reception and Year 1



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Concrete, Pictorial, Abstract

The children's understanding of the calculation strategies that they are taught through school will be underpinned by a secure understanding of place value. At Lindow Community we teach through a **CPA (concrete, pictorial, abstract) approach**.

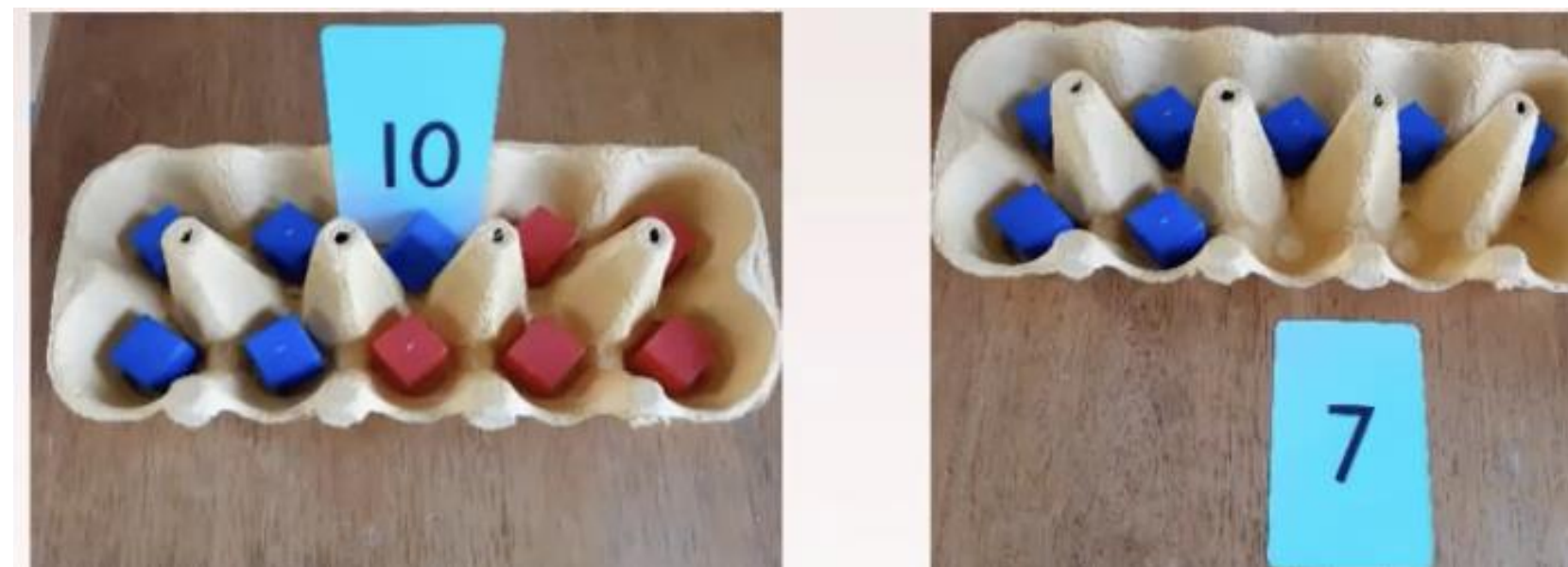
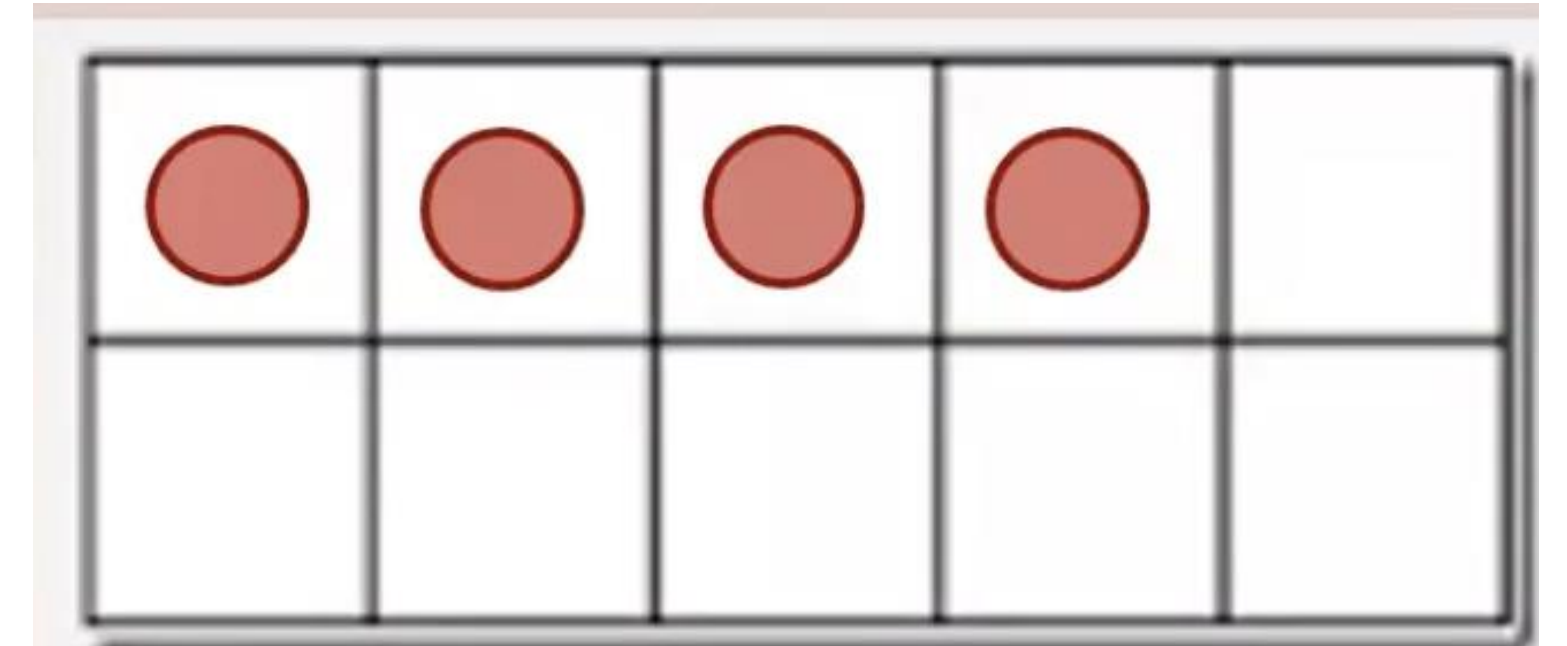
Understanding in all areas of maths will be developed by children using concrete resources and interpreting and using pictorial representations before moving onto solve abstract calculations.

There are a range of place value and counting resources available for the children to use in each classroom. The CPA process/approach will be clearly exemplified on maths working walls for the current maths focus.



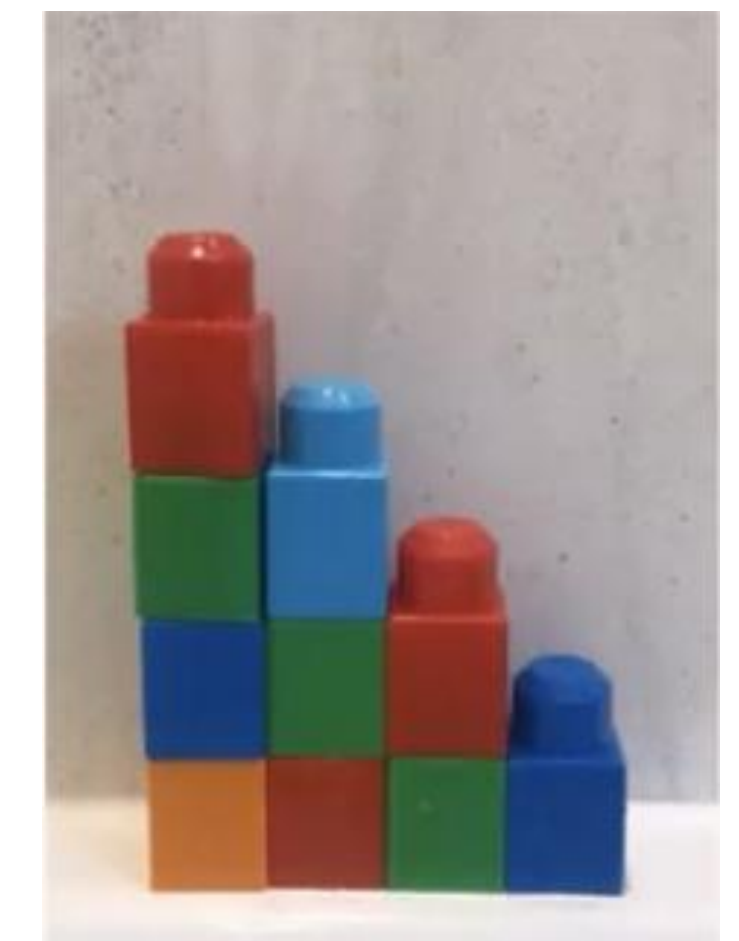
Useful Resources

Concrete resources are VITAL in the children's early understanding of number and calculation.



Understanding Number as Steps in a Sequence

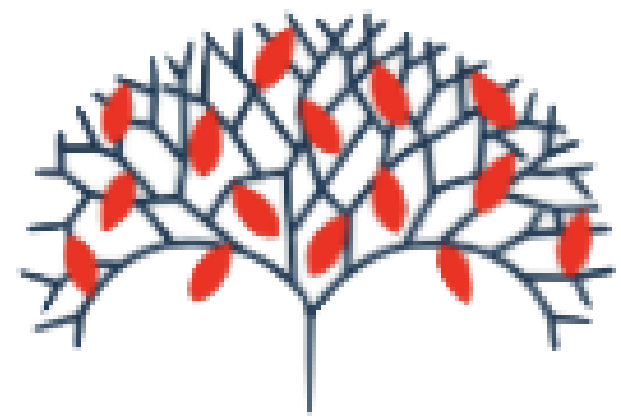
In reception, the children build a strong sense of what number is. They begin with understanding number as steps in a sequence. This will be from counting e.g. up and down the stairs, their toys when they are tidying etc.



How do we approach Mathematical development in the Early Years?

- Playing, eg blockplay, number rhymes.
- Games and activities indoors and out, eg cooking, goal scoring.
- Making the most of routines, eg snacktime, tidying up.
- During ChilL (child-initiated) as well as through directed time.

Fun, hands on and in a meaningful context!



EYFS End of Year expectations

Mathematics

Number ELG

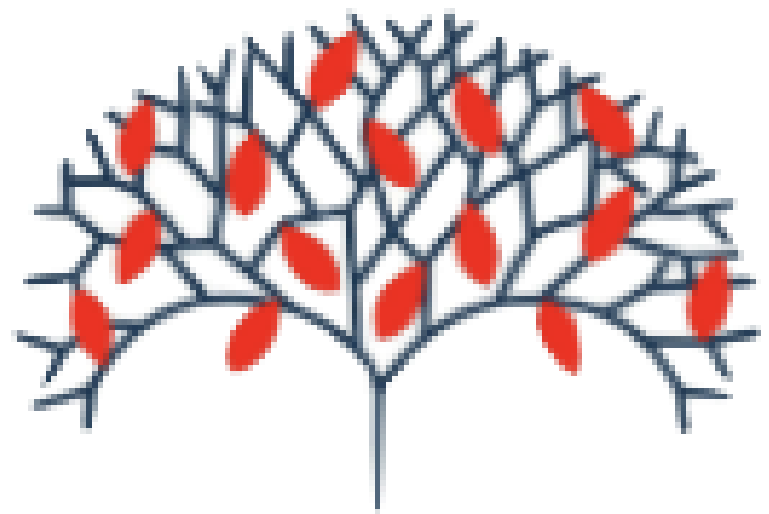
Children at the expected level of development will:

- Have a deep understanding of number to 10, including the composition of each number;
- Subitise (recognise quantities without counting) up to 5;
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

Numerical Patterns ELG

Children at the expected level of development will:

- Verbally count beyond 20, recognising the pattern of the counting system;
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

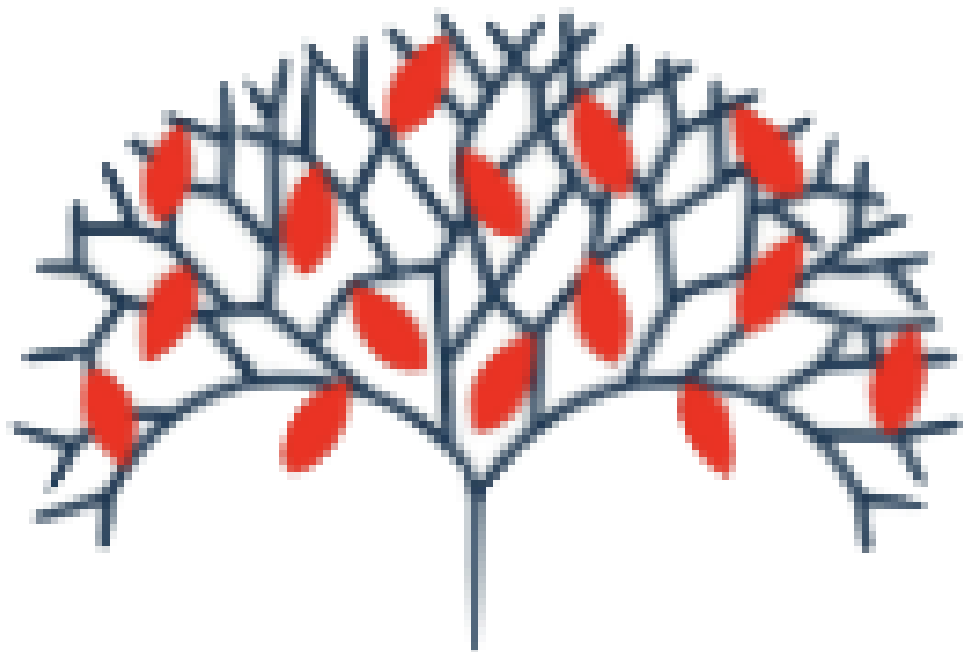


Doubling

In Reception, we give children opportunities to explore vocabulary using practical resources that will reinforce the concept of doubling.

Initially, this will start as matching pair games and activities to embed and demonstrate their understanding of it means to double.

This concrete experience is the precursor for building the children's understanding of multiplication.



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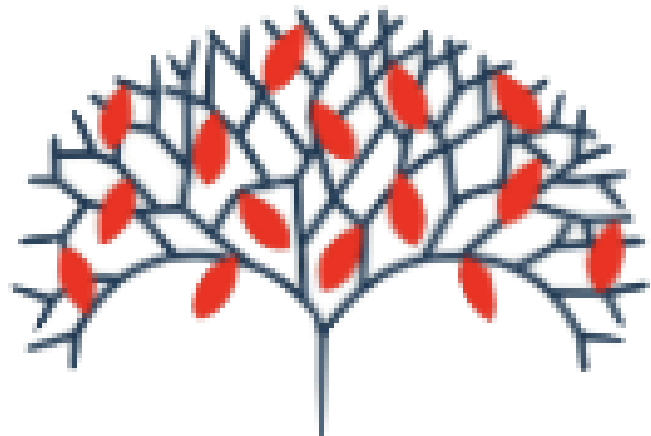


**Using the resources on your table,
how could you demonstrate your
understanding of double 3?**

MULTIPLICATION

Year 1

National Curriculum Objectives: Multiplication objectives from Multiplication and Division Strand	Key Skills/ other linked NC Objectives (Place Value)	Key Vocabulary
<ul style="list-style-type: none">Solve one-step problems involving multiplication, by calculating the answer using concrete objects, pictorial representations and arrays, with support from the teacher.	<ul style="list-style-type: none">Count in multiple of 2,5 and 10.	<p>groups of, lots of, sets of</p> <p>times, altogether, multiply, count,</p>



In year 1, the children will:

- Begin to understand multiplication by multiplying with concrete objects, arrays and pictorial representations.
- Experience counting equal groups of objects in 2s, 5s and 10s.
- Experience practical problem - solving activities in various contexts.
- Make connections between concrete resources and pictorial representations, number patterns, arrays and counting in 2, 5 and 10s.
- Be given the opportunity to explore and understand the vocabulary of early multiplication
- e.g. lots of, how many altogether etc. =

How many legs will 5 children have?

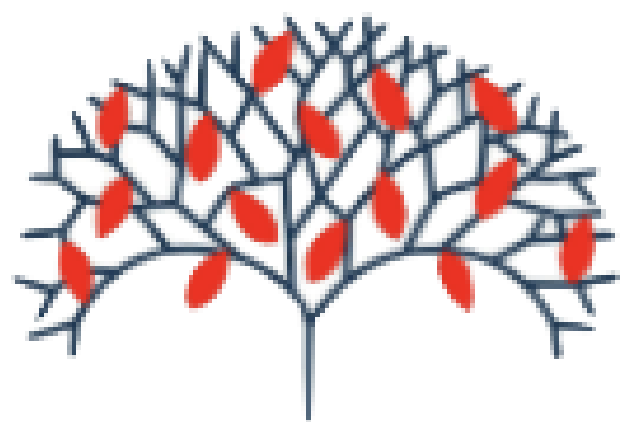
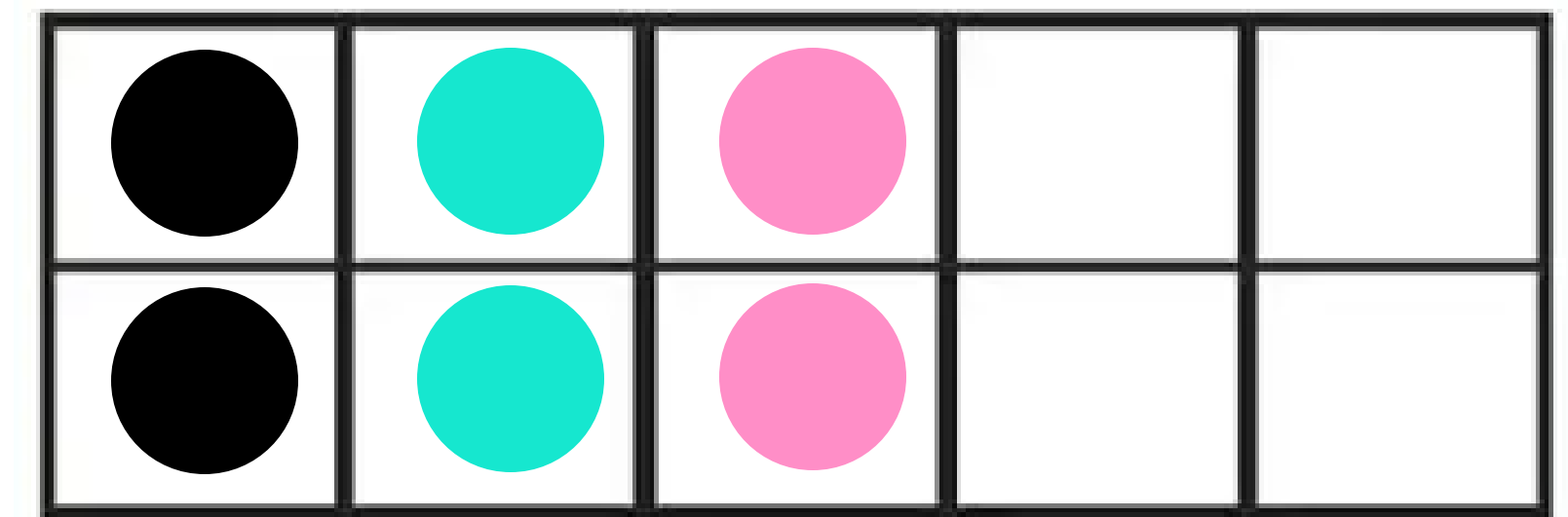


2 + 2 + 2 + 2 + 2



There are _ groups of _ flowers.

There are _ flowers in total.



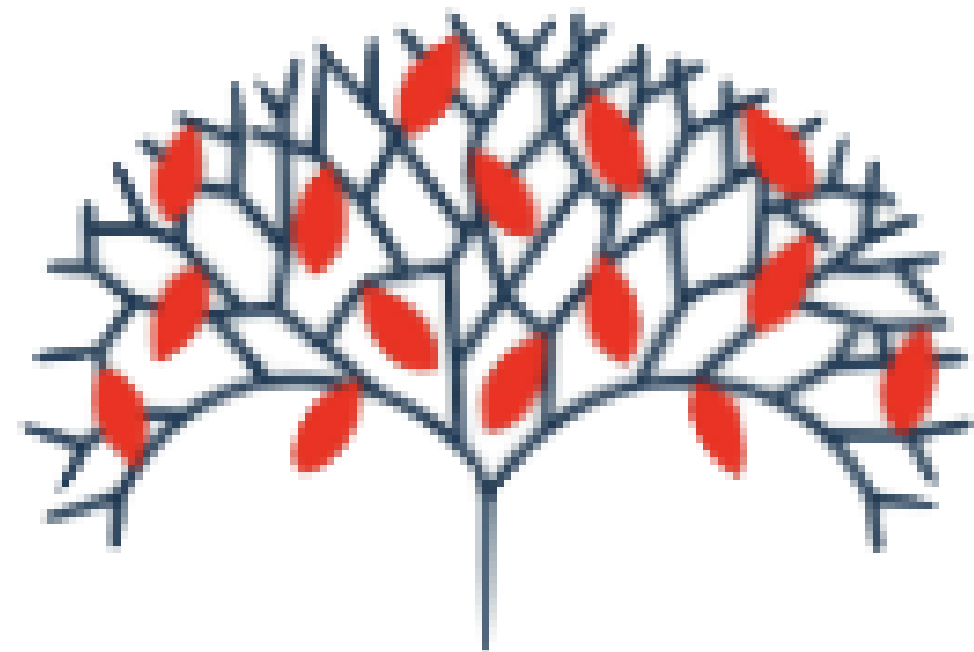
**Using the resources on your table,
how could you demonstrate your
understanding of $2+2+2$?**

Halving in the EYFS

In Reception, we give children opportunities to explore vocabulary using practical resources that will reinforce the concept of halving.

Initially, this will start as sharing resources and activities to embed and demonstrate their understanding of it means to have an equal amount shared. This also links to the language of odds and evens as well as parts making a whole.

This concrete experience is the precursor for building the children's understanding of division.



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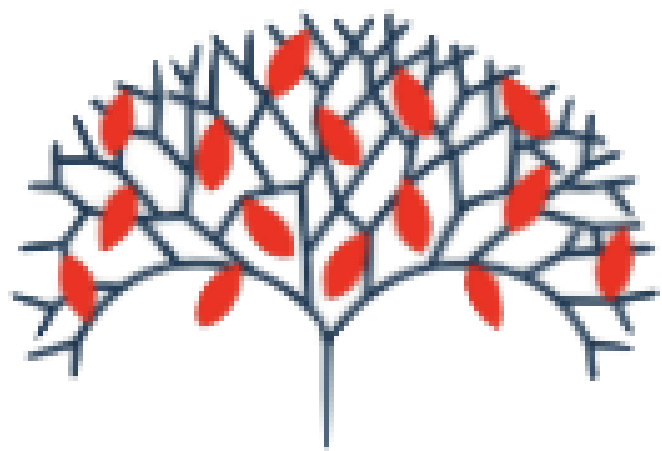


**Using the resources on your table,
how could you demonstrate your
understanding of halving 6?**

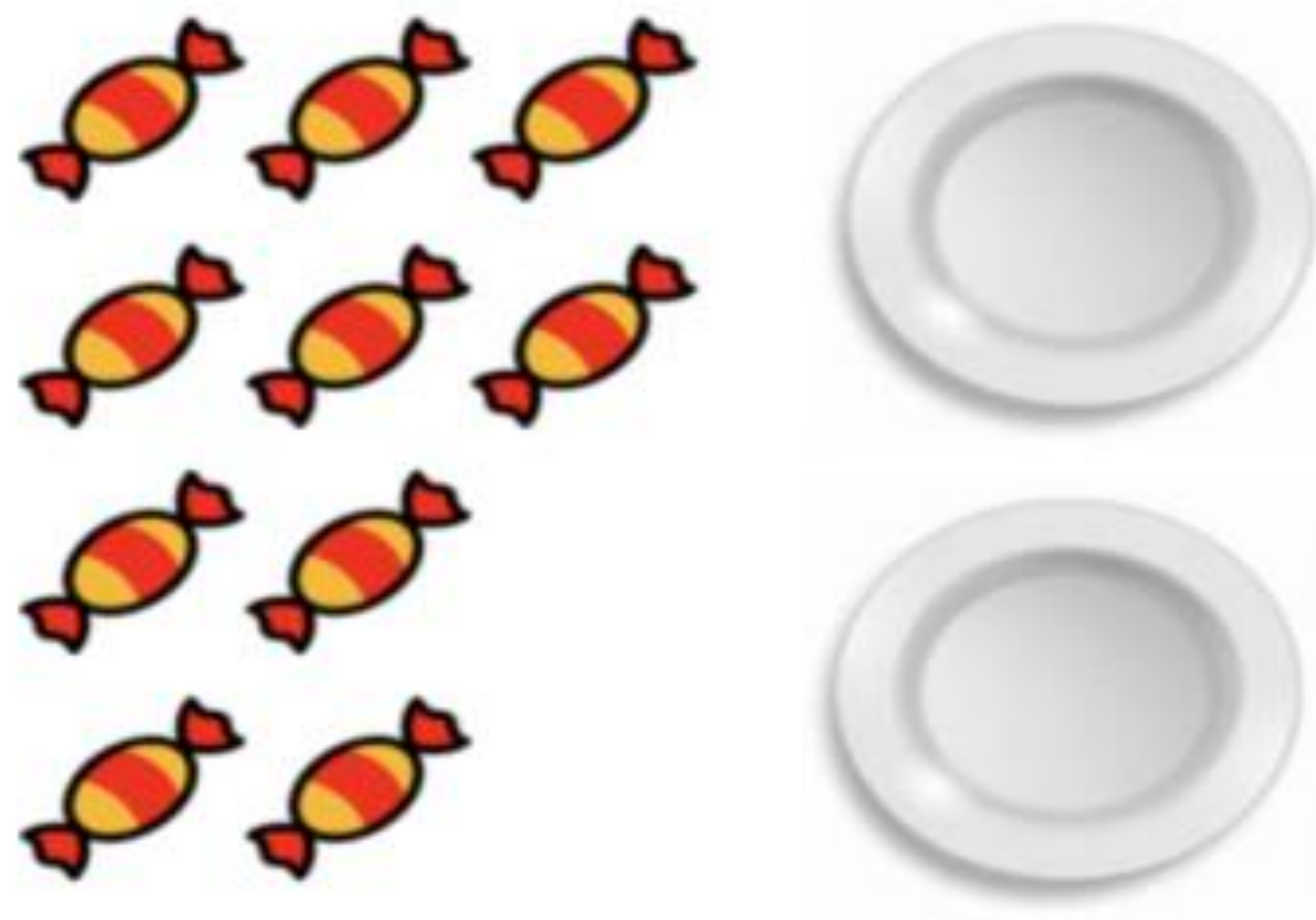
DIVISION

Year 1

National Curriculum Objectives: Division objectives from Multiplication and Division Strand	Key Skills/ other linked NC Objectives (Place Value)	Key Vocabulary
<ul style="list-style-type: none">Solve one-step problems involving division, by calculating the answer using concrete objects, pictorial representations and arrays, with support from the teacher.	<ul style="list-style-type: none">Counting in 2s, 5s and 10s	share, share equally, one each, two each..., group, groups of, lots of, array



Using the resources on your table, how could you solve the question below?



Share the sweets equally between the
two plates.

___ sweets shared equally between 2 is ___.

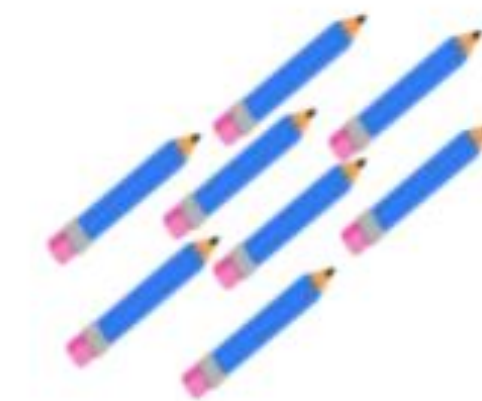
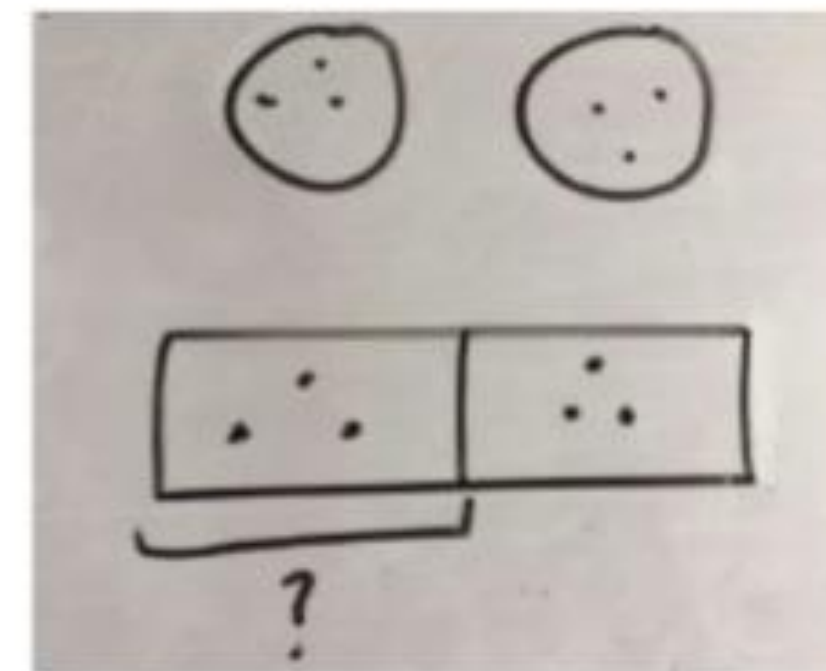
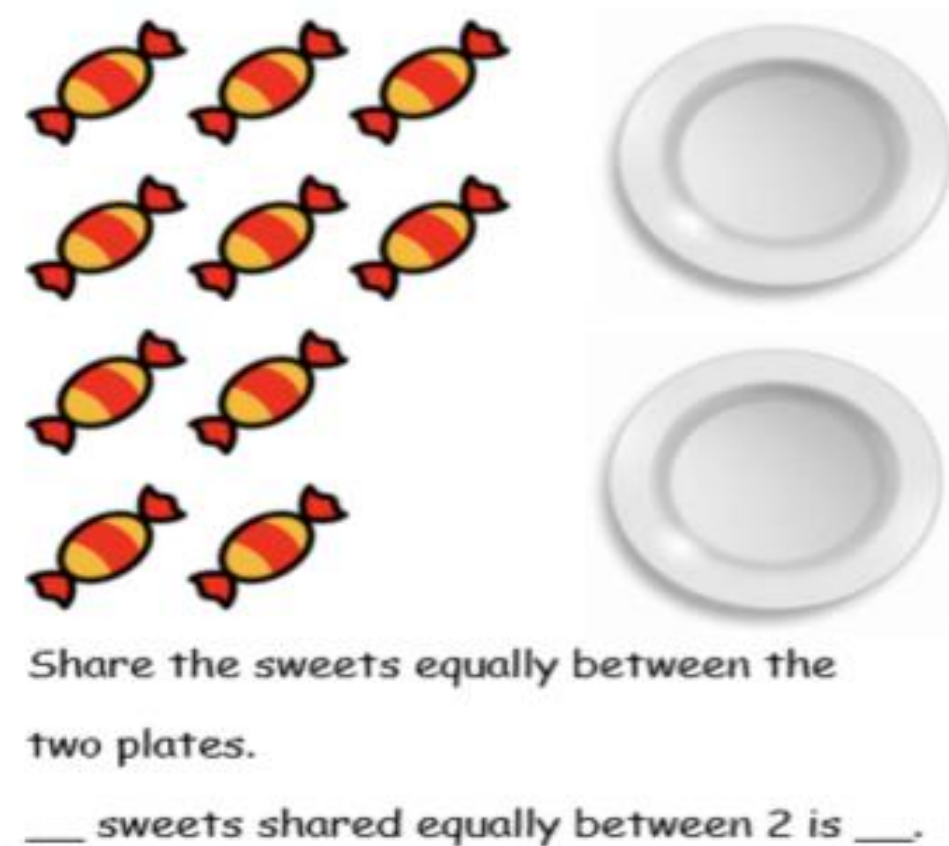
In Year 1, the children will be exposed to division through:

- Being given lots of opportunities to explore division as both grouping and sharing, using practical resources and pictorial representations to solve simple problems.
- Being taught to understand the difference between grouping objects (How many groups of 2 can you make?) and sharing objects (Share these sweets between two people).
- Being taught to find half of a group of objects by sharing into 2 equal groups.
- Children will be taught to interpret and use pictures to support their grouping and sharing, alongside the use of practical objects and resources.



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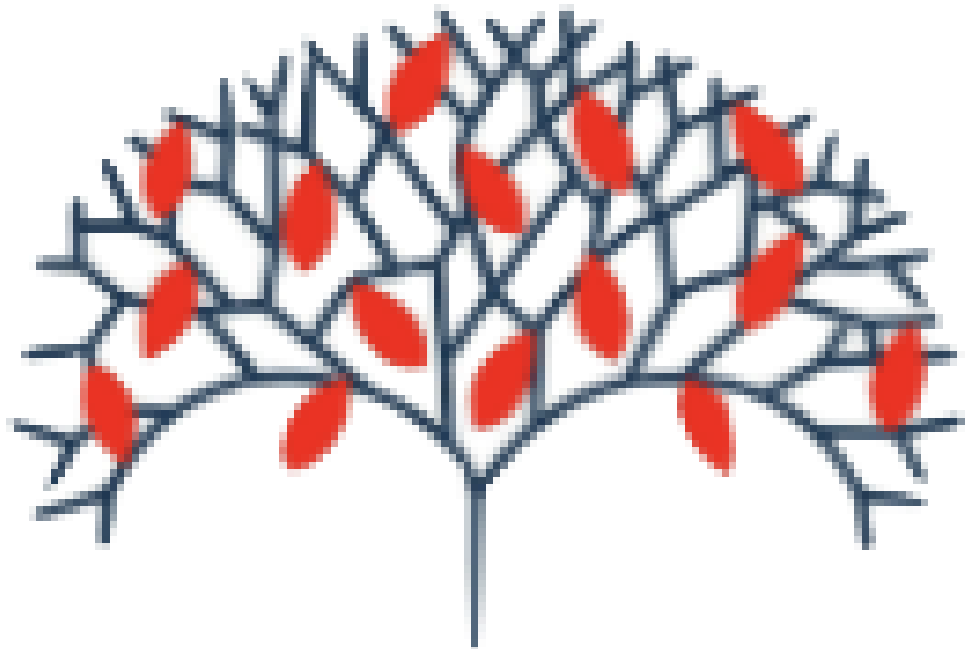
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How many equal groups of
2 can you make with the
Pencils? _

If you had 12 pencils, how many
groups of 2 would you be able to make?

How to help at home



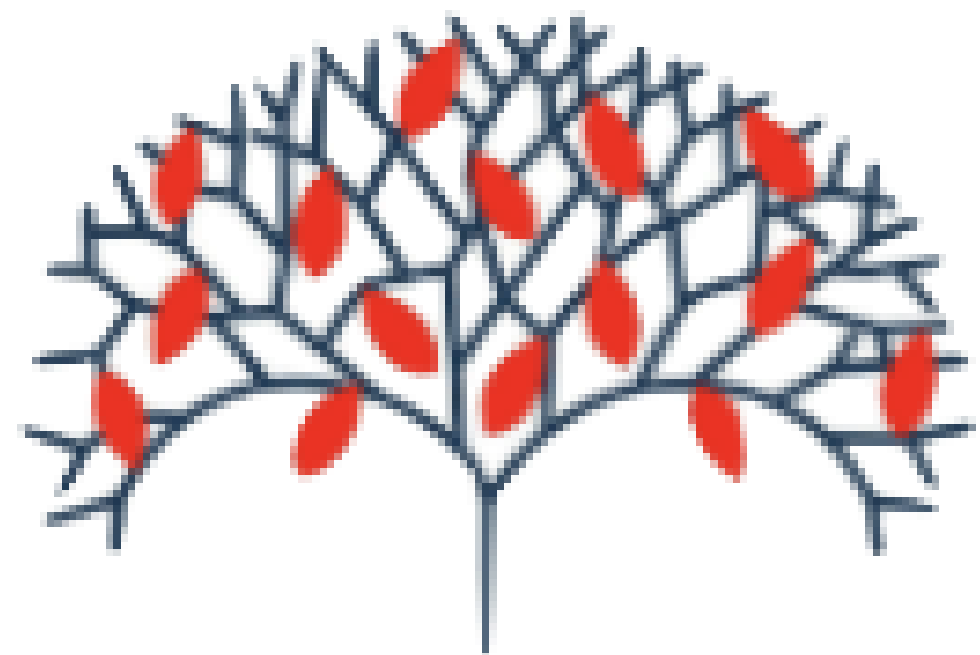
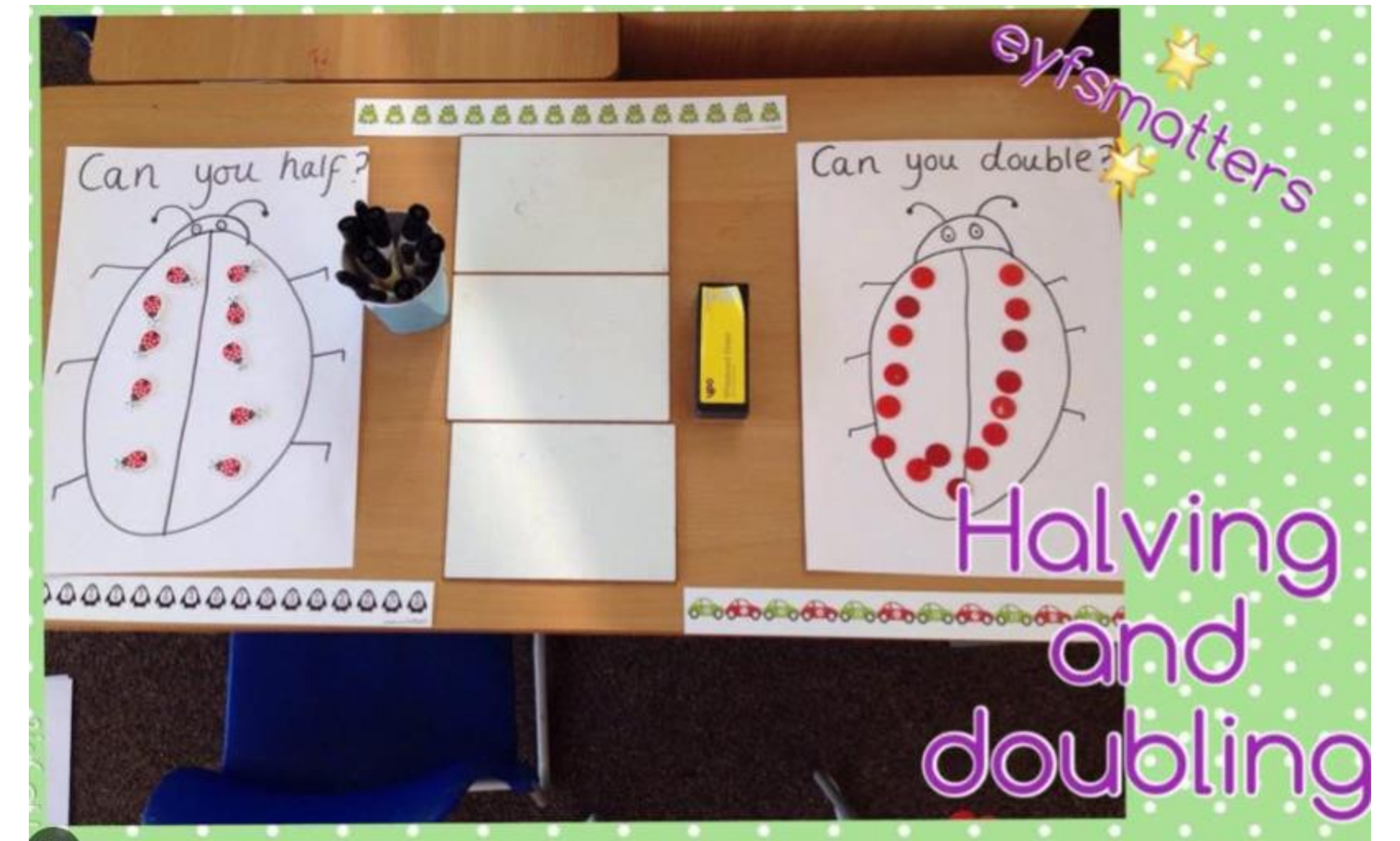
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Doubling in the EYFS

Numberblocks Episodes on BBC iPlayer

Series 2 of Numberblocks have some great visual animations that support the children's early understanding of number, including doubling and halving.



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How else can this stage be supported at home?

At home, you can support your child's understanding through modelling the language of doubling when having two of the same. (EG. Socks)

Playing matching pair games is another great way to encourage the understanding of what makes a double. You can also use the language of doubling around the home.

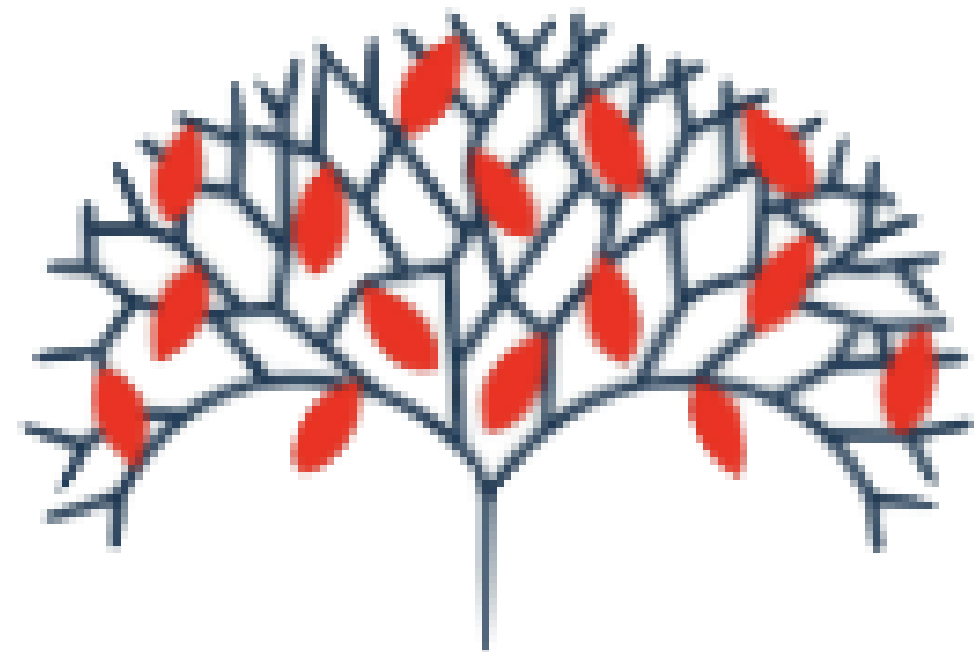
Halving in the EYFS

How can this stage be supported at home?

At home, you can support your child's understanding through modelling the language of sharing, equal amounts and half.

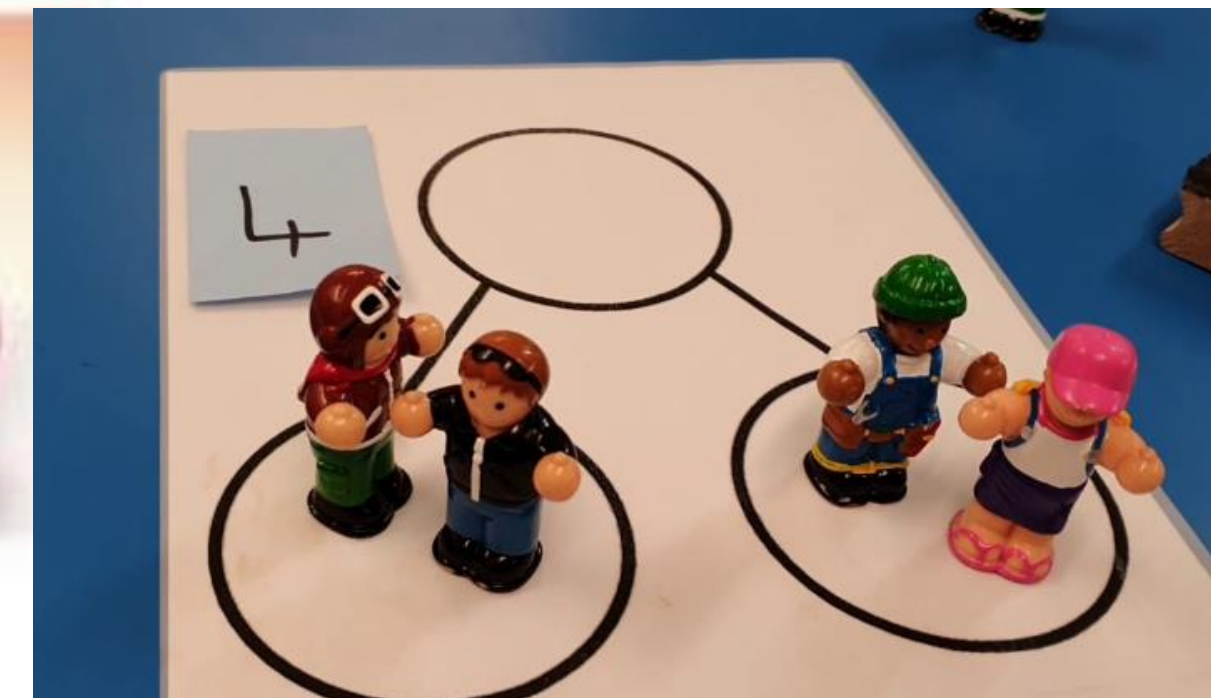
Playing sorting and sharing games is another great way to encourage the understanding of halving.

You can also use the language of halving around the home.

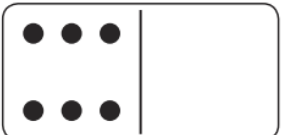


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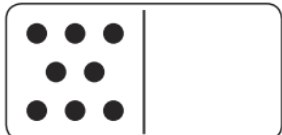
Community
Primary School



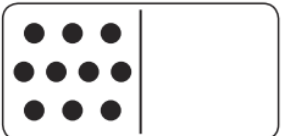
Double Dominoes to 20



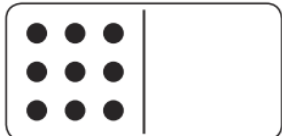
Double 6 is _____.



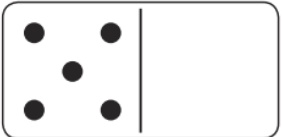
Double 8 is _____.



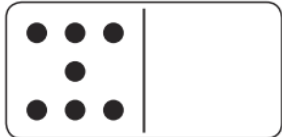
Double 10 is _____.



Double 9 is _____.



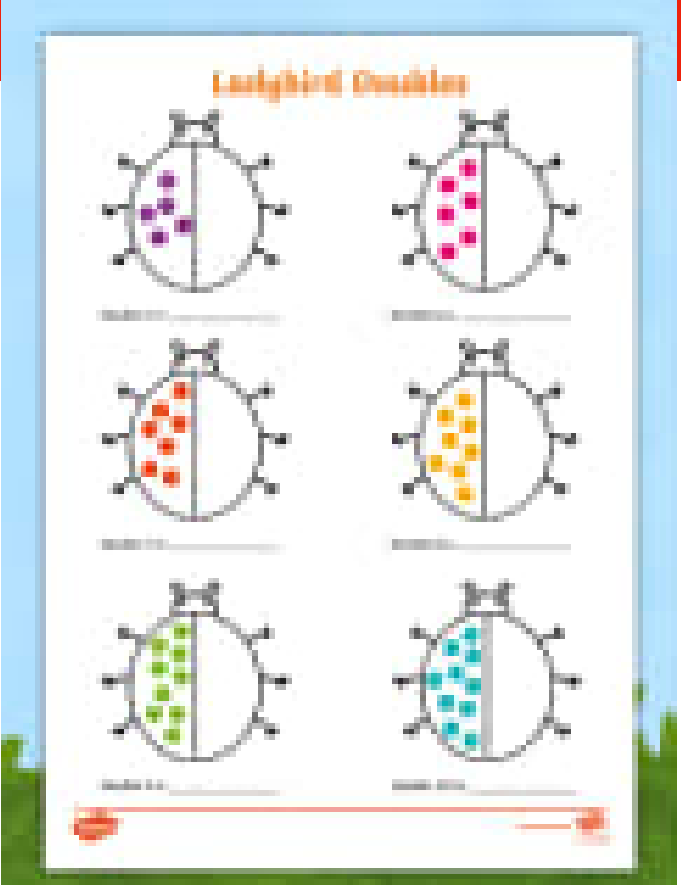
Double 5 is _____.



Double 7 is _____.

Doubling Dog and Halving Hippo

Instructions:
Work with a partner. One person will be Halving Hippo, the other will be Doubling Dog.
Take turns to pick up a card.
If you are Halving Hippo, place the number on your Halving Hippo picture, then write half of that number on a whiteboard.
If you are Doubling Dog, place the number on your Doubling Dog picture, then write double that number on a whiteboard.



MULTIPLICATION

Year 1

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<ul style="list-style-type: none">Solve one-step problems involving multiplication, by calculating the answer using concrete objects, pictorial representations and arrays, with support from the teacher.	<ul style="list-style-type: none">Count in multiple of 2,5 and 10.	groups of, lots of, sets of times, altogether, multiply, count,

Mental Methods

Counting in multiples of 2, 5, and 10s.

Spotting number patterns when counting in 2, 5 and 10s.

Repeated addition

Links to doubling

Use of arrays

How can this stage be supported at home?

At home, you can support your child’s understanding through modelling the language of doubling when having two of the same. (EG. Socks)

Counting in 2s, 5s and 10s when counting coins, or climbing the stairs etc.

Playing games where they win points (such as kerplunk) but the points can count up in 2s, 5s or 10s.



1. Circle the odd one out.

2. Complete the part whole models below.

Division Word Problems

1. The baker has one dozen eggs. If it takes two eggs to bake a cake, how many cakes can the baker bake?

Sharing at the Teddy Bears' Picnic

The teddy bears are having a picnic. Can you help them share their food so they have the same amount each?

Understanding division: sharing equally

Sara and Sally both like apples. Share these apples equally between them.

Draw the apples to show how many they each get.

Sara

Sally

How many do they each get?

DIVISION

Year 1

Mental Methods:

- Counting in twos, fives and tens
- Links to halving
- Use arrays
- Through grouping and sharing small quantities, children will begin to understand division and finding simple fractions of objects, numbers and quantities.

National Curriculum Objectives: Division objectives from Multiplication and Division Strand	Key Skills/ other linked NC Objectives (Place Value)	Key Vocabulary
<ul style="list-style-type: none"> Solve one-step problems involving division, by calculating the answer using concrete objects, pictorial representations and arrays, with support from the teacher. 	<ul style="list-style-type: none"> Counting in 2s, 5s and 10s 	share, share equally, one each, two each..., group, groups of, lots of, array



At home, you can support your child's understanding through modelling the language of halving when you are splitting something equally into two parts. EG. pizza, grapes, an amount of a snack.

Counting in 2s, 5s and 10s when counting coins, or climbing the stairs etc.

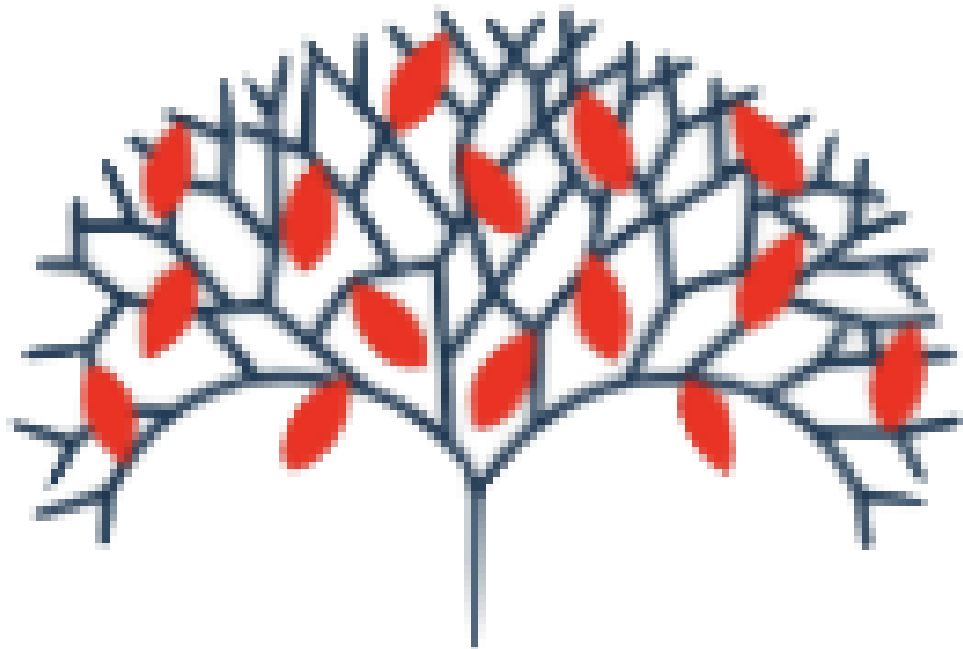
Playing games where they need to share equally between 2 or more, showing what it means to have a fraction of an amount and that several equal parts make a whole. EG. Teddies' tea party, amount of marbles for a marble run.

Year 1 Practising Number and Calculation Skills at Home

- Building Fluency -

Autumn Term

<p>Continue the sequence, counting in 1's</p> <p>★ <input type="text"/> <input type="text"/> <input type="text"/></p>	<p>Circle ★ in words.</p> <table><tbody><tr><td>six</td><td>three</td><td>nine</td></tr><tr><td>one</td><td>ten</td><td>eight</td></tr><tr><td>seven</td><td>five</td><td>two</td></tr><tr><td></td><td>four</td><td></td></tr></tbody></table>	six	three	nine	one	ten	eight	seven	five	two		four		<p>Order the numbers from greatest to smallest.</p> <p><input type="text"/> 1 ★ ten <input type="text"/> 6</p>
six	three	nine												
one	ten	eight												
seven	five	two												
	four													
<p>Complete the following by using <i>more than</i>, <i>less than</i> or <i>equal to</i></p> <p>7 is _____ ★</p> <p>10 is _____ ★</p>	<p>★ + <input type="text"/> = 10</p>	<p>One less One more</p> <p><input type="text"/> ← ★ → <input type="text"/></p>												
<p>Show ★ on a tens frame.</p> <table border="1"><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table>													<p>★ (Number range up to 10)</p> <p><input type="text"/> — ★ — <input type="text"/></p>	<p>Circle the number of cubes needed for</p> <p>★</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/></p>
<p>Place ★ on the number track.</p> <table border="1"><tbody><tr><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>			0											
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Year 1 Practising Number and Calculation Skills at Home

- Building Fluency -

Spring Term

Count backwards from ☆



Write ☆ in words.

☆ is 1 less than ____
1 less than ☆ is ____

☆ is 1 more than ____
1 more than ☆ is ____

Write down 3 numbers in between
☆ and 25

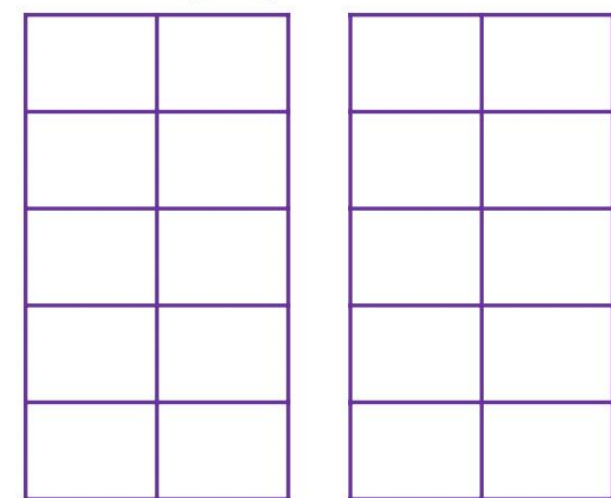
If Ron has ☆ sweets and Jan has 14.
Use **fewer** or **more** to make these correct.

Ron has _____ sweets than Jan.

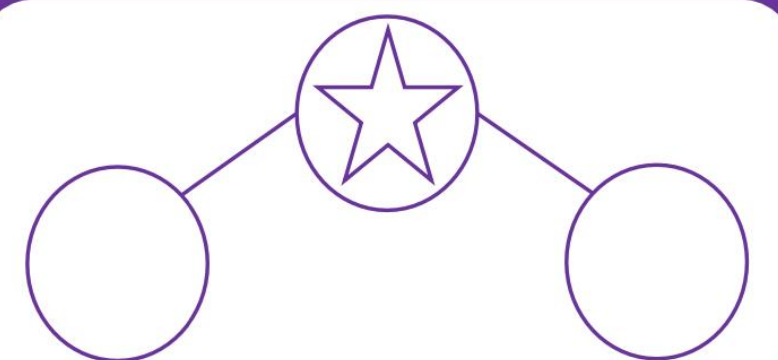
Jan has _____ sweets than Ron.

$$☆ + \square = 20$$

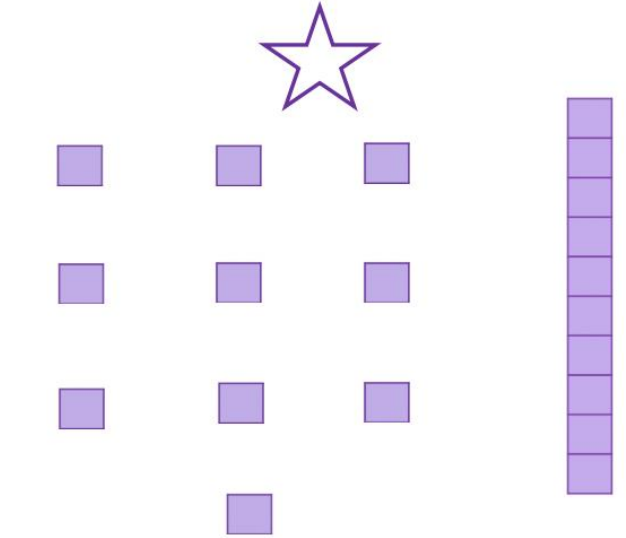
Show ☆ on a tens frame.



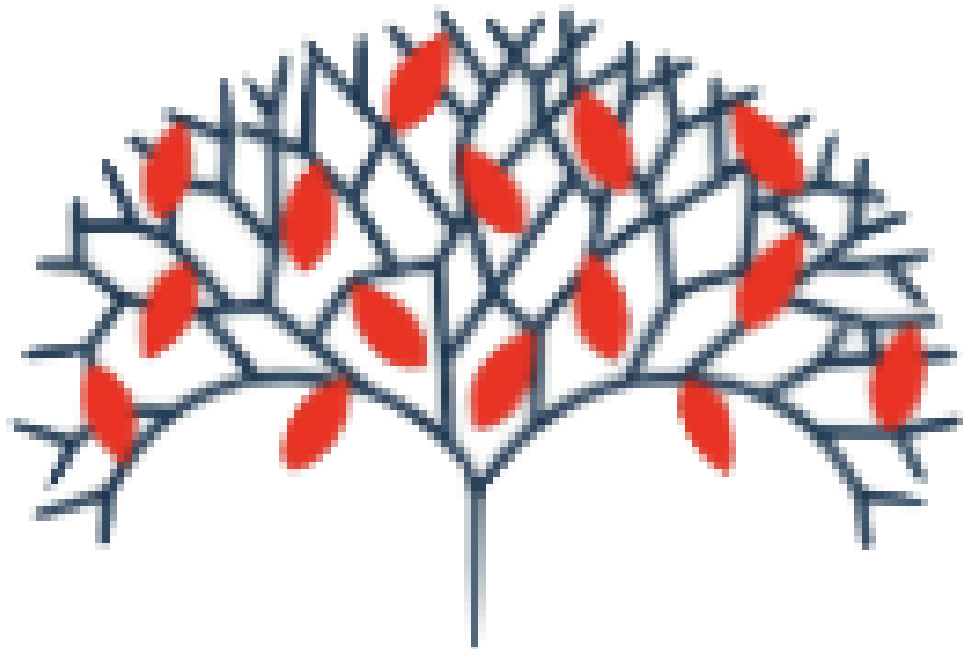
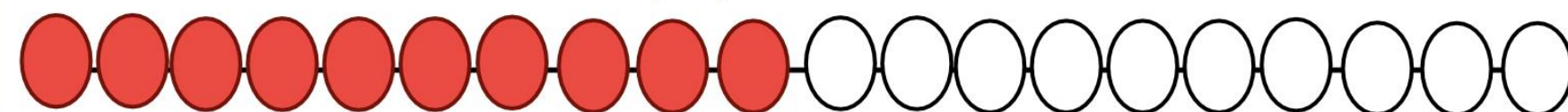
☆ (Number range
up to 20
except 14)



Circle the number of cubes needed
for



Show ☆ on the bead string.



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Year 1 Practising Number and Calculation Skills at Home

- Building Fluency -

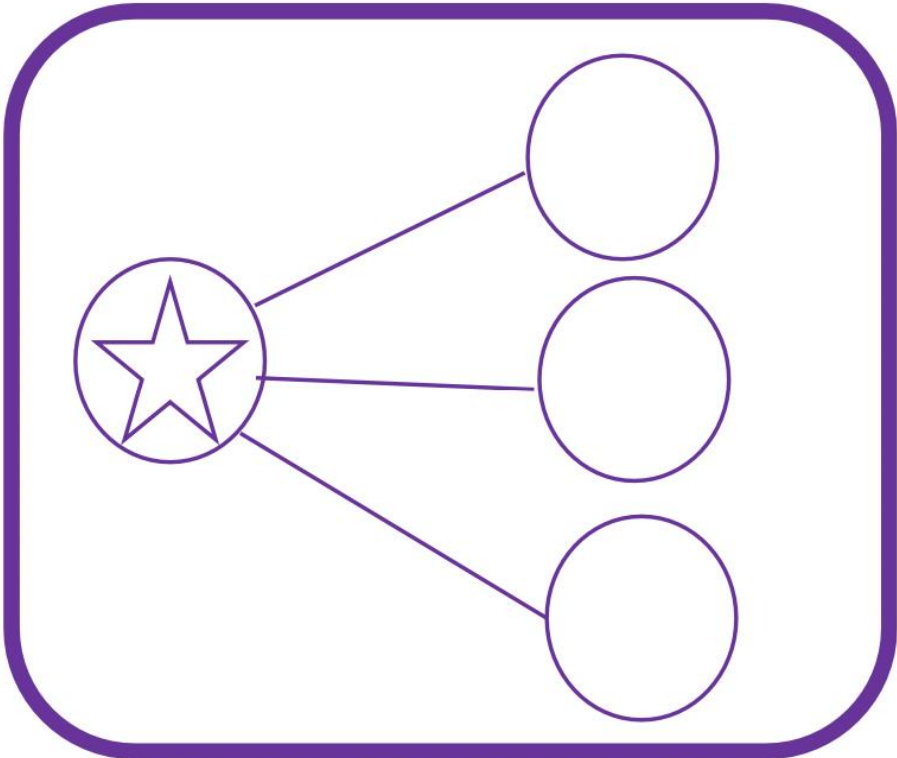
Summer Term

Count forwards and backwards from ☆

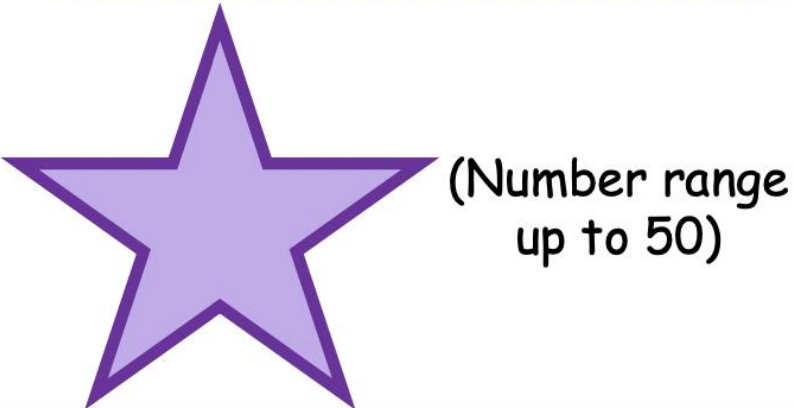
☆

+ = ☆

Now find another way and another and another.



		42	
Count in 1s	41	42	43
Count in 10s	32	42	52
		☆	
Count in 1s			
Count in 10s			



(Number range up to 50)

Show ☆ using coins

Draw Dienes to show how to make ☆

Show 2 efficient jumps you could make to add 9 to ☆

☆

