



Summer 1 Year 1

<p>Links to prior learning/ objectives</p> <p>Children will have learned to read and recognise numbers to 10 and 20. Counting with accuracy, forwards and backwards, using a range of strategies: one to one correspondence; counting out and counting all, counting on and building through ten. Number bonds to 10 and 20. Finding one more, one less. Addition and subtraction with numbers up to 10 and 20. Representing amounts up to 10 /20 and problems with concrete objects and pictorially. Counting in multiples of 2/5/10. Will have seen and used money with FS2 and may be used to handling money at home.</p>	<p>Resources</p> <p>Money- coins and notes, physical objects, tens frames, number lines, counters, sorting hoops/ bowls for sharing.</p>	<p>Vocabulary:</p> <p>Money, coin, penny, pence, pound, price, cost, buy, sell, spend, spent, pay, change, dear(er), costs more, costs less, cheaper, costs the same as How much?, how many? Total Addition, subtraction, total, altogether, first, then, now, missing number, equal, one-step problems. Array, multiply, divide, one-step problems, concrete, pictorial, Whole Equal parts, four equal parts One of two equal parts Parts of a whole Equal grouping Equal sharing One half, two halves A quarter, two quarter</p>
<p>Objectives and Teaching</p>		
<p>Barriers to ARE (misconceptions)</p> <p>Week 1</p> <p>Children may not recognise what the coin means. Children may not recognise the worth of the coin- 5p is smaller than a 2p coin but is worth more. Children may mix up knowledge of counting/ number composition and the coins that can be used.</p>	<p>Recognise and know the value of different denominations of coins and notes.</p> <ul style="list-style-type: none"> • To know what each coin represents. • To understand what each coin represents. • To know what each note represents. • To know how to count coins. 	
<p>Fluency</p>	<p>Reasoning</p>	<p>Problem Solving</p>

Sort the coins on your table into pence and pounds.
Can you name each coin?



Write the value of the coins.



Match the equal amounts.



How many of each note can you see?

There are _____ 5-pound notes.
There are _____ 10-pound notes.
There are _____ 20-pound notes.

What is the value of each note?



Fill in the blanks:



Anika says:



All coins are round.

Do you agree with Anika?

Prove it.

Which is the odd one out?



Explain how you know.

Grandma gives Tom one:



for Christmas

and gives Alice two:



Tom Says:



I got more than you did because my number is bigger.

Alice:



I got more than you did because I got two notes.

Who is correct?

Explain your reasoning.

The tooth fairy left some money for two children.



Jake has 50 pence. Ellis has one pound.

Jake thinks he has more money because his coin is bigger.

Explain why Jake is wrong.

Always, sometimes, never

Money in notes is worth more than money in coins.

Joe, Gregg and Taj each have some money in their pockets.

Joe and Taj both have coins and Gregg has a note.

Taj:



I have more money than Gregg.



I have less money than Gregg.



Joe

What note could Gregg have?



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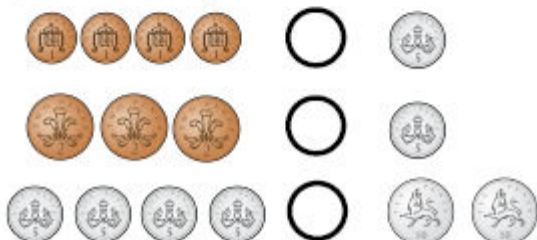
How much money is there altogether?



Draw coins to show the given amounts.

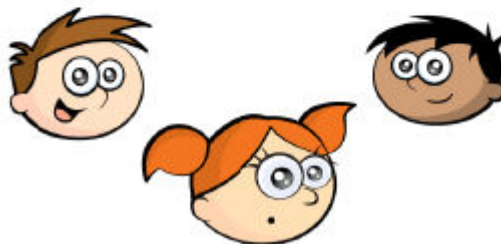
- 10p in 2p coins.
- 10p in 5p coins.
- 40p in 10p coins.
- 40p in 5p coins.

Use $<$, $>$ or $=$ to compare the amounts.



Kira has 2 silver coins.
 Harland has 5 bronze coins.
 Ted has 1 silver coins.

They all have the same amount of money.
 Which coins do they each have?
 Draw the coins to prove it.



Andy's piggy bank is full of 2 pence pieces, 5 pence pieces and 10 pence pieces.

Using one type of coin at a time, how can he make 30 p?



Week 2

Children may not be accurate with their counting strategies.

Children may not see the relationship between the parts and the whole for addition and subtraction.

Children may not recognise that addition and subtraction are the inverse of each other.

Children may struggle to apply this knowledge to find missing numbers.

Children may not recognise that the = symbol means the same.

Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = ? - 9$.

- To develop the skill of solving problems involving...

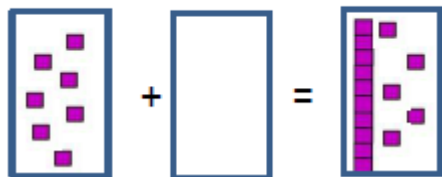
Fluency

Reasoning

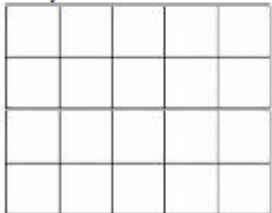
Problem Solving

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- Use Base 10 to help you find the missing number.



David has 6 cubes. George has 3 more cubes than David. How many cubes do they have altogether? Use the ten frames to help you find your answer.



6  are in a tree.

Another 5  arrive.

How many  are in the tree now?

Jenny is solving a word problem. She has written the number sentence $13 + 5 = 18$. What could the word problem be?

Do you need to use addition or subtraction to solve the one step problems? Explain how you know and solve each one.

12 sweets are in a bag. Gina eats 5 of them. How many are left?

There are 5 people on a bus. 4 more people get on. How many are there now?

There are 8 people sitting at one table and 5 people sitting at another. How many people are there altogether?

Sally has 15 grapes. She eats 7 of them. How many grapes does she have left?

- Find the total.

$$\square + \square = 10$$

$$\bigcirc + \bigcirc = 12$$

$$\square + \bigcirc =$$

- Here are some number cards.



Hassan and Sally use the cards to make numbers between 10 and 20.

Hassan makes the biggest number possible. Sally makes the smallest number possible.

What is the difference between their numbers?

Week 3 and 4

Children may struggle to see multiplication as something increasing in size and division as decreasing in size.

Children may struggle to see that multiplication and division are the inverse of each other.

Children may make mistakes when creating their array, resulting in inaccuracies.

Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

- To know how to make equal groups.
- To know the relationship between addition and multiplication.
- To understand the relationship between addition and multiplication.
- To know how to represent a multiplication fact as an array.
- To develop the skill of using arrays.
- To understand what an array represents.

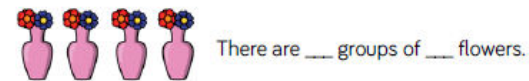
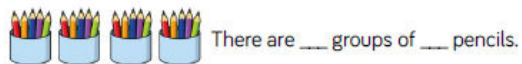
- To know how to double.
- To know how to share.
- To develop the skill of sharing.
- To understand how to share.

Fluency

Are the groups equal or unequal? Write a label for each.



Complete the sentences



Josh is drawing equal groups of 3

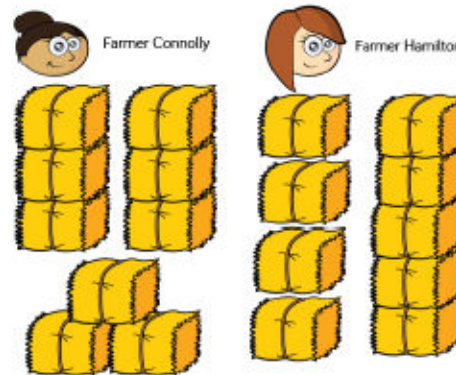


Complete his drawing.

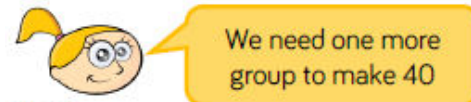
Reasoning

Farmer Hamilton and Farmer Connolly are making hay bundles.

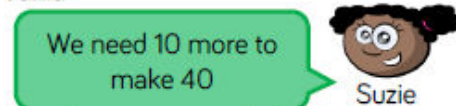
Who made equal groups?



Tania and Suzie are making equal groups of bread.



Tania



Who do you agree with? Explain why.

Problem Solving

Use concrete materials or pictures to complete the questions.

Jemima has 4 equal groups. Show me what Jemima's groups could look like.

Kim has 3 unequal groups. Show me what Kim's groups could look like.

Tash and Jane have equal groups of either 2, 5 or 10.

Jane has 5 equal groups.

Tash has 3 equal groups.

Tash's total is more than Jane's total.

Each of their totals is less than 40.

What could they be counting in?
What could their totals be?
How many will be in each group?

Use equipment to help you.



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How many wheels altogether?



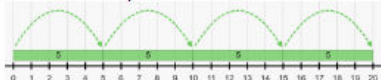
$2 + 2 + 2 + 2 + 2 =$

How many fingers altogether?



$5 + 5 + 5 =$

How many apples are there? Complete the sentences.



$5 + 5 + 5 + 5 =$

There are _____ apples.

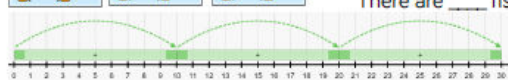
There are _____ groups of _____ apples which is equivalent to _____

How many fish are there?

Complete the sentences and the number line.



_____ + _____ + _____ = _____
There are _____ fish.



Build the array shown with counters.

Complete the sentences.



There are _____ apples in each row.

There are _____ rows.

_____ + _____ + _____ = _____

There are _____ apples altogether.



Complete the table.

Array	Description - columns	Description - rows	Totals
	5 columns 2 cookies in each column	2 rows 5 cookies in each row	$2 + 2 + 2 + 2 + 2 = 10$ $5 + 5 = 10$
	_____ columns _____ donuts in each column	_____ rows _____ donuts in each row	
	_____ columns _____ fish in each column	_____ rows _____ fish in each row	
	3 columns 5 cupcakes in each column	5 rows 3 cupcakes in each row	

Gavin is counting bananas.



$3 + 5 = 8$

Can you spot his mistake?

Mo and Libby are making arrays.



Mo



Libby



Who has made a mistake? Explain why.

Toby and Lilly are writing number sentences to describe the array.



$4 + 4 + 4 + 4 + 4 = 20$



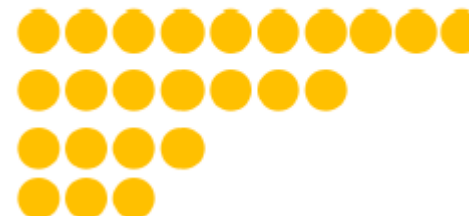
$5 + 5 + 5 + 5 = 20$

Who do you agree with? Explain why.

Jenny makes an array but stops.

She has finished her first row.

Can you complete her array?



Zeb and Paulo each have the same amount of sweets.

They each have less than 20 sweets.

Zeb has 5 equal groups of sweets.
Paulo has grouped his sweets in tens.

How many sweets do they each have?

I am thinking of a number between 20 and 30

I can only make equal groups of 5 with it.

What must my number be?

What happens when I try make groups of 2 with it?

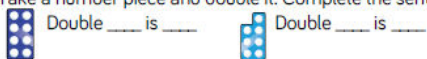
What happens when I try make groups of 10 with it?

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Sort the representations into the table. Which show doubles and which do not?

Doubles	Not doubles

Take a number piece and double it. Complete the sentence.



Complete and continue the table.

Representation	Different Representation	Double
		Double 10 = 20 $10 \times 2 = 20$
		Double 7 = ____ $7 \times 2 = ___$
		Double ____ = ____ $___ \times ___ = ___$
		Double ____ = ____ $___ \times ___ = ___$

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



There are ____ groups of 2 mittens.
If you had 10 mittens, how many equal groups of 2 mittens could you make?

Take 20 cubes. Complete the sentences.

I can make ____ equal groups of 2

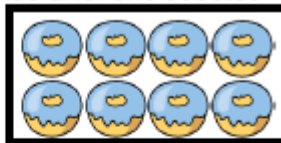
I can make ____ equal groups of 5

I can make ____ equal groups of 10

Complete the table. Use equipment to help you.

Representation	Description
	6 has been sorted into 3 equal groups of 2
	____ has been sorted into ____ equal groups of ____
	15 has been sorted into 3 equal groups of 5
	____ has been sorted into ____ equal groups of ____

Louise doubles her donuts. The image shows what she had after she doubled her donuts.



Sandy



Louise started with 4 and ended with 8 donuts.

Matilda



Louise started with 8 and ended with 16 donuts.

Nate



Louise started with 2 and ended with 4 donuts.

Who do you agree with? Explain why.

Work out:

Double 3 =

Double 4 =

Double 5 =

What do you notice? What's the same?

What's different?

Now try:

Double 2 =

Double 4 =

Double 8 =

What do you notice? What's the same?

What's different?

Each child has the same amount of sweets. The amount of sweets they have is less than 20.

They share the sweets equally in different ways. Can you work out how many they had to begin with?

Max



I share my sweets between two bags and have none left over.

I share my sweets between five bags and have one left over.



Lexi



Robin

I share my sweets between ten bags and have 6 left over

Grant and Lauren are sharing 5 cakes.



I should get the left over cake because I bought them.



Grant



Lauren

Nobody should get the left over cake.

Who is being fair?
Explain why.



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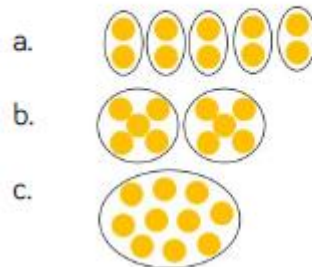
Share the muffins equally between the two plates.
Complete the sentence
___ cakes shared equally between 2 is ___



Use 20 cubes and hoops to represent your friends.
Can you share the cubes between 5 friends?
20 shared between 5 equals ___
Can you share the cubes between 2 friends?
20 shared between 2 equals ___
Can you share the cubes between 10 friends?
20 shared between 10 equals ___

Tim has 16 bananas.
He shares them equally between two boxes.
Represent and solve the problem.

Look at the different images.
What's the same? What's different?



Week 5

Children may not understand what a fraction represents.
Children may not understand/ confuse the different parts of a fraction.
Children may not see the link between fractions and division.
Children may be inaccurate with their sharing.

Recognise, find and name half as one of two equal parts of an object, shape or quantity

- To understand what a half is.
- To know how to find half of a shape or object.
- To know how to find half of a quantity.

Fluency

- Show half of the shape



Reasoning

Matthew is finding halves. He says, "It is hard to find half of an odd number." Do you agree? Explain why.

Problem Solving

- What is half the amount of cupcakes?
 How many boxes do you need when halving?

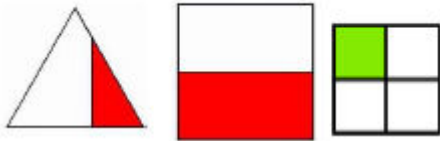


Tim gets half of 12 coins. How many coins does he get?

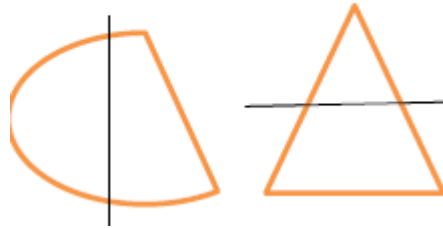
How many halves can I get from the two whole apples?



Which of these show halves?



Sort the shapes that show one half and the shapes that do not show one half.

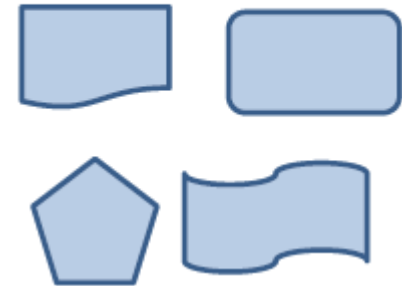


True or false?
 I use the 2 times table to find a half of an amount. Convince me!

Sam is halving the number 20. He gets 20 cubes and 3 plates. Has he done this correctly? Explain why.

Arvind has a shape that is split into 4 equal parts. He shades in 2 parts and says "I have shaded half of my shape." Do you agree? Explain why.

- Can you split each of these shapes into two equal halves?
 Explain why for each shape.



- Here is a tower made from cubes.



Which tower is showing double this tower? Explain why using the word 'half'.

- A tower of 7 cubes.
- A tower of 8 cubes.
- A tower of 6 cubes.



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Week 6

Same as week 5.

Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.

- To understand what a quarter is.
- To know how to find a quarter of a shape or object.
- To know how to find a quarter of a quantity.

Fluency

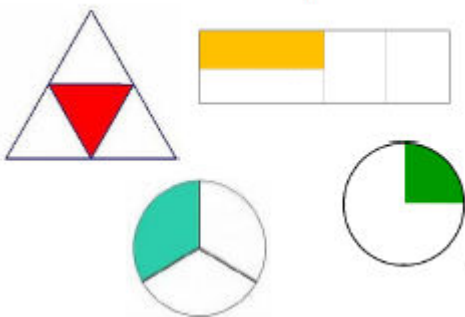
A cake is cut into 4 equal pieces. How many pieces can each person get?

- What is a quarter of the amount of cupcakes? How many boxes do you need when finding a quarter?

Find $\frac{1}{4}$ of 12 =



- Which of these shows quarters?



Tom is finding one quarter of 20. He gets 20 cubes. How many plates does he need?

Reasoning

- Mr. White has asked us to put $\frac{1}{4}$ of the balls into the hoop. Who is correct? Explain why.



I'm going to put one ball in because the top number is one

I will put six in the hoop because half of 12 is 6

I'm going to share the balls into 4 groups and then place one of the groups into the circle

Sometimes, always, never.
4 quarters are always made up of 4 equal parts.

True or false?
If I can find half of an amount, this helps me to find a quarter of an amount.

Sophie has split a square into 2 equal parts. She says, "I can also find one quarter of this square."
Do you agree? Explain why.

Problem Solving

Get a circle template, rectangle template and square template. Each template represents 1 whole. Can these be put into quarters? Are they equal?

- Use a bag of skittles to start with different whole numbers. How many different quarter amounts can you find? Record them in a table.

Whole number	$\frac{1}{4}$

I find one quarter of my starting number. The answer is 3. What was my number?

- How many ways can I share these pizzas between four people?

