Summer

Scheme of learning

Year 1

#MathsEveryoneCan

Summer Block 1

Multiplication and division

Small steps

Step 1	Count in 2s
Step 2	Count in 10s
Step 3	Count in 5s
Step 4	Recognise equal groups
Step 5	Add equal groups
Step 6	Make arrays
Step 7	Make doubles
Step 8	Make equal groups – grouping

Small steps

Step 9	Make equal groups – sharing

Count in 2s

Notes and guidance

In this small step, children explore counting both forwards and backwards in 2s. This builds on understanding from Autumn Block 2, when children added 1 and 2, as well as previous knowledge of doubles and finding 1 more and 1 less.

Begin by practically exploring counting in 2s using things that come in pairs, such as socks and wheels on a bicycle. Number lines and a 1–50 number grid are useful representations that allow children to spot patterns when counting in 2s. They should count both forwards and backwards in 2s, but always starting from an even number.

Things to look out for

- Children may count the number of pairs, rather than count in 2s.

Begin to introduce children to the language of multiplication, for example "There are equal groups of 2. There are altogether." This will be built on in future steps.

Key questions

- How can you count the pairs?
- Make sure children understand that a pair is two objects, and those objects do not need to look exactly the same.
- Children may count each object in a group, rather than counting in 2s.
- What pairs can you see/find?
- How can you use the number line/number grid to help you count in 2s?
- What patterns do you see when you count in 2s?
- When you count in 2s, what numbers will you say/not say?
- How many equal groups of 2 are there?

There are in total.

There are equal groups of 2

There are altogether.

Possible sentence stems

- There are in each pair. There are pairs.

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Count in 2s

Year 1 | Summer term | Block 1 – Multiplication and division | Step 1

National Curriculum links

- Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s

Key learning

groups of 10 and give each child 2 cubes.

Ask each group to show you an even number of cubes. Each child can either hold out zero or two cubes.

Get children to count the number of cubes individually.

Then ask how many cubes each person has got. Then children to count the number of cubes in 2s.

- How many socks are there in total? Put children into



There are socks in total. get

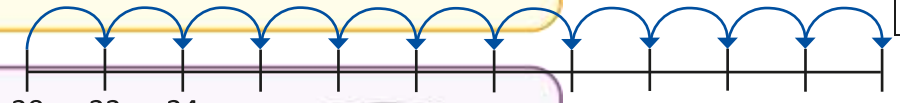
- Continue to colour in 2s on the grid. What do you notice?

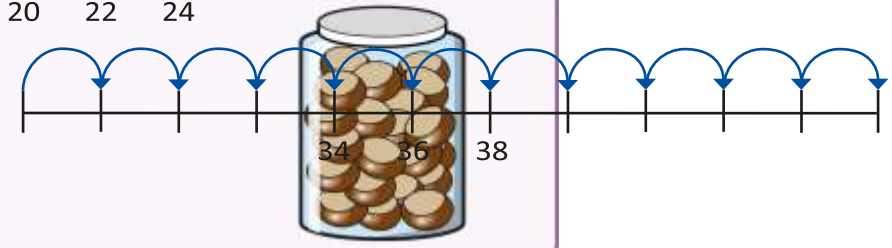
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Year 1 | Summer term | Block 1 – Multiplication and division | Step 1

Read Eggs and Legs by Michael Dahl. Pause partway through the book and ask children to draw a picture predicting what the legs could be doing on the next page. How many legs will there be? How many eggs will there be?

- Complete the number lines by counting in 2s.





Show an estimation jar.

Ask children to estimate how many objects are inside. Empty the jar and ask them to count the objects in 2s to check.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

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Count in 2s

Year 1 | Summer term | Block 1 – Multiplication and division | Step 1

Reasoning and problem solving

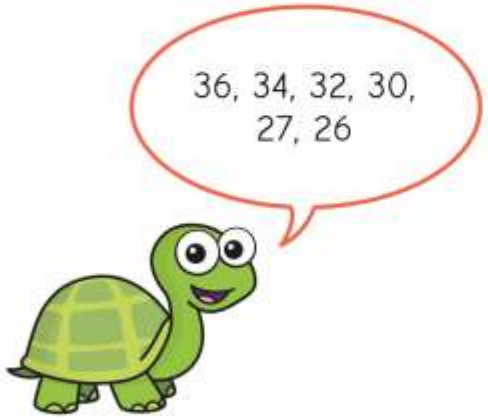
Nine children are riding their bicycles.



How many wheels are there in total?

18

Tiny is counting backwards in 2s.



What mistake has Tiny made?

Tiny said 27 rather than 28

Sam counts back from 50 in 2s.

Max counts up from 12 in 2s.





They say their numbers at the same time.

Who will say 30 first?

Max

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Count in 10s

Notes and guidance

In this small step, children count forwards and backwards in 10s. This builds on previous learning where children explored the multiples of 10 up to 50 as well as counting by making groups of 10

Use of ten frames, bundles of straws, bead strings and number grids will reinforce children's understanding of the multiples of 10. Introduce the language associated with multiplication, such as " groups of 10 are equal to " to begin to develop understanding of multiplication, although children are not introduced to the multiplication symbol until Year 2

Focus on multiples up to 50, as children have not yet been exposed to numbers greater than 50. They may then begin to explore counting forwards and backwards from numbers that are not multiples of 10, for example 42, 32, 22, 12, 2

Key questions

- When you count in 10s, what number comes after ?

Things to look out for

- When you count in 10s, what number comes before ?

How many groups of 10 are there? What number is this?

- How many groups of 10 are there in ?
- If you count in 10s from , will you say ?
- Which digit stays the same/changes when you count in 10s?

Possible sentence stems

- There are groups of ten. There are altogether.
- There are full ten frames.
  There are in total.

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Count in 10s

Year 1 | Summer term | Block 1 – Multiplication and division | Step

- Children may confuse teen numbers and multiples of 10, for example 13 and 30
- Children may still rely on counting individual objects, for example counters, rather than using representations such as full ten frames to count in 10s.

National Curriculum links

- Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s

Key learning

Read Toasty Toes by Michael Dahl. Give children examples from the book, for example “Fifty toes wiggle in the water.” Ask how many children there will be.



Give each child a 50-bead string and explain that they are going to use it to count in tens. Ask how they can use the bead string to count forwards and backwards in 10s.

- How many flowers are there altogether?



There are ____ flowers in each bunch.

There are ____ bunches.

There are ____ flowers altogether.

- A baker has made 3 trays of 10 bread rolls.



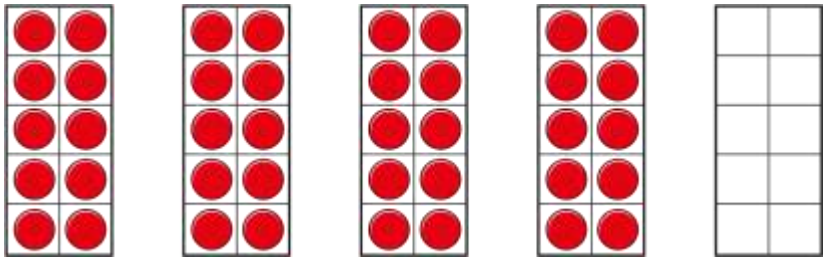
How many rolls are there in total?

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Count in 10s

Year 1 | Summer term | Block 1 – Multiplication and division | Step 2

- How many counters are there?



Fill in the empty ten frame.

How many counters are there now?

- Complete the number tracks.

	10				50
4	14				

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Count in 10s

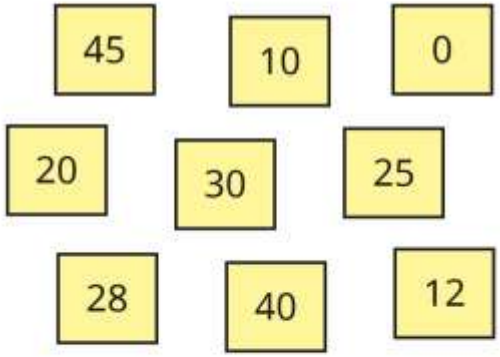
Year 1 | Summer term | Block 1 – Multiplication and division | Step 2

Reasoning and problem solving

Tiny is counting back in 10s from 50



Which numbers will Tiny say?



How do you know that Tiny will say these numbers?

40, 30, 20, 10, 0

Ben and Kay count in 10s on the grid.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

Ben starts at 10

Colour all the numbers that Ben will say.

Kay starts at 6

Circle all the numbers that Kay will say.

What do you notice about the numbers that they say?

What is the same and what is different?

coloured: 10, 20, 30, 40, 50

circled: 6, 16, 26, 36, 46

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Count in 5s

Notes and guidance

In this small step, children are introduced to counting in 5s.

Children practise counting on and back in 5s using a range of different representations such arms on a starfish or a dice showing 5. They will need lots of practice orally to embed this skill. Rhymes such as 'Five eggs and five eggs' can be sung to help reinforce this learning.

Ten frames can also be used, showing children the five-wise patterns. The 1–50 grid is another useful representation that can be used for children to spot and discuss patterns that emerge when counting in 5s.

Continue to use the language associated with multiplication, for example "There are equal groups of 5. There are altogether."

Key questions

- Will you say when you count in 5s? Why/why not?
- How many 5s are there altogether?
- When you count in 5s, what number comes after ?
- When you count in 5s, what number comes before ?
- What patterns do you notice when you count in 5s?
- What do you notice about counting in 5s and counting in 10s?

Things to look out for

- Children may confuse 15 and 50, because they sound very similar.
- Children may not recognise the relationship between two 5s making a 10. The use of five and ten frames can help children to understand that a full row makes 5 and two 5s make 10

Possible sentence stems

- There are groups of 5 There are altogether.
- There are 5s.
  There are in total.
- There are 5s in 10

National Curriculum links

- Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s

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Count in 5s

Year 1 | Summer term | Block 1 – Multiplication and division | Step 3

Key learning

Read Starry Arms by Michael Dahl.



Ask children what they notice about the starfish.

How many starfish are there?

How many arms are there altogether?

Ask children to make their own Starry Arms page.

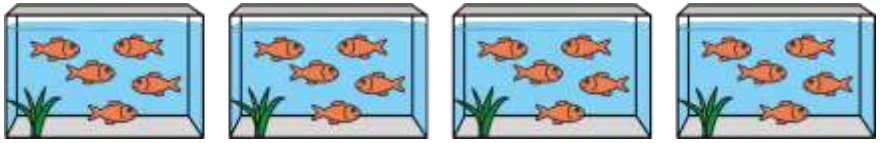
Choose a group of five children to come to the front of the class.

Ask the children to show two hands, one hand or no hands. Each child can choose to hold up both their hands, one hand or no hands.

The rest of the class say how many fingers they can see altogether.

As a further challenge, say a multiple of 5 and ask children to work together to show that number of fingers.

- How many fish are there?



There are fish in each tank.

There are tanks.

There are fish altogether.

- How many grapes are there?



- Continue to count in 5s on the grid.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

What patterns can you see?

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Count in 5s

Year 1 | Summer term | Block 1 – Multiplication and division | Step 3

Reasoning and problem solving

Ann counts the number of fingers she can see.

She counts 20 fingers.

How many hands can she see?

4

Ron has some number cards.

25	27	30	45

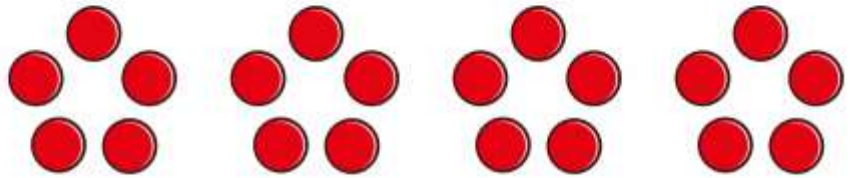


Which numbers will Ron say?

How do you know?

25, 30, 45

Tiny makes a flower pattern with counters.





How do you know that Tiny is incorrect?

46 does not have a 0 or 5 in the ones column.

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Year 1 | Summer term | Block 1 – Multiplication and division | Step 4

Recognise equal groups

Notes and guidance

In this small step, children begin by using stories that link to pictures and concrete resources to help support them in recognising equal groups. They recognise and explain how they know when there are equal groups and when there are not. In order to do this, children need to see lots of different examples of equal groups in different contexts, for example trays of buns or bunches of flowers.

It is important for children to see equal groups that are arranged differently, so they understand that groups can look different but still be equal in number. For example, 5 dots arranged as on a dice, 5 dots in a row close together and 5 dots spaced further apart are all groups of 5

Children can begin to explore ways of making unequal groups equal by adding to or removing from some of the groups.

Key questions

- What does "equal" mean?
- How do you know that the groups are equal/unequal?
- Do the groups have to look exactly the same to be equal? Why/why not?
- How many equal groups are there? How many are there in each equal group?
- How can you make the groups equal?

Possible sentence stems

- There are _____ equal groups of _____

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- I know that the groups are equal/not equal because …
- To make the groups equal, I could …

Things to look out for

- If objects are arranged differently, children may not think that the groups are equal.
- Children may be less confident with more unfamiliar representations.

National Curriculum links

- 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

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Recognise equal groups

Key learning

Get children to collect some stones or pebbles.



Ask children to put them in equal or unequal groups.

How many different equal groups can they make?



Give children 12 counters.

Can they show you equal and unequal groups?

How many different equal groups can they make?

What happens if they have 13 or 15 counters?

In pairs, children take turns to roll two dice.



The first player to identify equal groups and correctly shout "equal" gets a point.

The winner is the first player to reach 5 points.

- Are the groups equal or unequal?

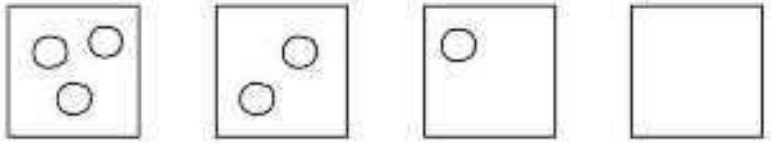


- Complete the sentence to match the picture.



There are _____ equal groups of _____ pencils.

- Dan is drawing equal groups of 3



Finish his drawing.

Recognise equal groups

Reasoning and problem solving

Kim and Mo are having a picnic.

Kim



Mo



Who has made equal groups?

Explain how you know.

Kim

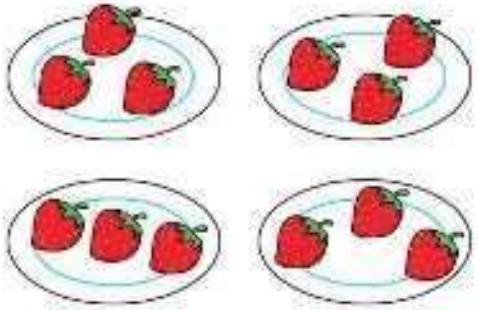
Here are some groups of counters.



How can you make the groups equal?

multiple possible answers, e.g.

Move 1 from the second box to the first box.





Do you agree with Tiny?

Explain your answer.

No

Add equal groups

Year 1 | Summer term | Block 1 – Multiplication and division | Step 5

Notes and guidance

In this small step, children use their knowledge from previous learning of recognising equal groups to now add equal groups together to find a total.

Children focus on counting equal groups of 2, 5, and 10 and explore this within 50. They move on to identifying and recording the number sentence to match the groups. For example, show children 5 pairs of socks and allow them to represent them in a different way, such as with counters, then encourage them to write the number sentence to represent it: 2 + 2 + 2 + 2 + 2 = 10

Possible sentence stems

At this point, children do not need to use the multiplication symbol and should record number sentences as repeated

Key questions

- Are the groups equal? How do you know?
- How many are there in each group?
- How many equal groups can you see? What can you use to show this?
- How many are there altogether? How can you write this as a number sentence?

- There are equal groups.

additions. However, they should be exposed to the language of multiplication, for example “There are 5 equal groups of 2, so there are 10 in total.”

- There are groups of

There are in each group.

There are altogether.

_____ + + + + = _____

Things to look out for

- Children need to be secure in recognising equal and unequal groups.
- Children may confuse the number of groups with the amount in each group, for example 2 groups of 5 rather than 5 groups of 2

National Curriculum links

- 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

Add equal groups

Key learning

Ask two children to show a total of three hands. Ask how many fingers there are altogether and record the addition.

5 + 5 + 5 =

Repeat with different numbers of hands.

Ask children to line up some bikes or scooters. As a class, count how many bikes/scooters there are.

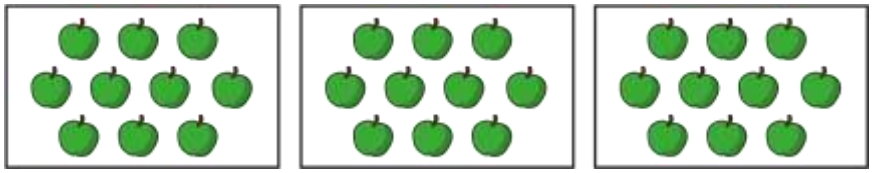


Ask how many wheels there are altogether. Encourage children to write the number sentence to match the bikes.

Hide some pictures of ladybirds around the playground. Each ladybird must have 2, 5 or 10 spots. When each child has found a ladybird, they need to find other children who have a ladybird with the same number of spots. They then add their equal groups together to find the total number of spots.



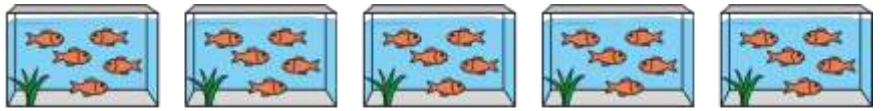
- How many apples are there?



Use ten frames and counters to help you complete the sentences. 10 + 10 + 10 = There are apples altogether.

_____

- How many fish are there?



_____ + + + + = _____

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There are fish in total.

There are 20 counters.



Arrange the counters into equal groups.

Write the number sentence to match your groups.

Add equal groups

Reasoning and problem solving



2 groups of 10 is greater than 4 groups of 5, because 10 is greater than 5

Do you agree with Jo?

Explain your answer.

No





3 groups of 2 are equal to 5

What mistake has Max made?

Max does not have equal groups.

Ron and Sam bake these cakes.

They put them into equal groups.





Ron

We need 10 more cakes to make 40

We need one more group to make 40



Sam

Who do you agree with?

Explain your answer.

Both children are correct.

Notes and guidance

In this small step, children use their knowledge of recognising and adding equal groups to arrange objects in columns and rows as arrays. This arrangement helps children to see the equal amounts and how they are grouped.

An effective way to introduce arrays to children is by using real-life examples such as bun trays and egg boxes that have these patterns already built in.

Once they are confident with describing given arrays, encourage children to build and draw their own arrays to represent a story. They may begin to explore the fact that they can describe arrays in two ways, for example 3 rows of 2 and 2 columns of 3

Children could continue to practise writing repeated addition number sentences to describe the arrays.

Things to look out for

- Children may confuse the language of column and row.

Key questions

- What is a column? Can you show me a column in the array?
- What is a row? Can you show me a row in the array?
- How many equal rows/columns are there? How many are there in each row/column? How many are there altogether?
- How can you write a number sentence to match the array?

Possible sentence stems

- There are rows.
  There are in a row.
  There are in total.
- There are columns.
  There are in a column.
  There are altogether.

- Children may not arrange the rows or columns evenly, or leave a gap in the middle of the array.
- Children

Make arrays

Year 1 | Summer term | Block 1 – Multiplication and division | Step 6

may not recognise that any objects or pictures can be an array.

National Curriculum links

- 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

Make arrays

Key learning

There are 5 trees. There are 2 birds in each tree.

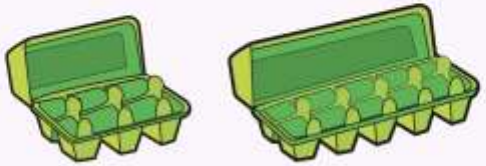
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Make arrays





Use cubes and a range of containers such as bun trays, egg boxes and paint pallets.

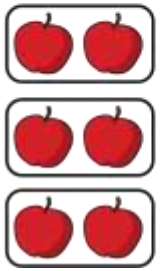


Allow children to explore using the cubes and discuss all the different ways to fill the containers.

There are _____ rows/columns.

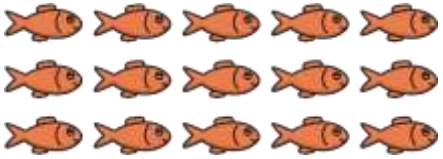
There are _____ cubes in each row/column.

- Use counters to make an array that matches the apples.



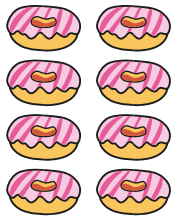
- Here are some arrays.

▶ Count the **rows** and complete the sentences to describe each array.



There are _____ rows of _____

There are _____ altogether.



▶ Count the **columns** and complete the sentences to describe each array.

There are _____ columns of _____ There are _____

_____ altogether.

What do you notice?

- Complete the sentences. Draw an array to match the story.

There are _____ apples in each row.

There are _____ rows.

There are _____ apples altogether. Write a number sentence to match your array.

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Make doubles

Reasoning and problem solving

Tom and Fay are making arrays with 14 counters.

Tom 

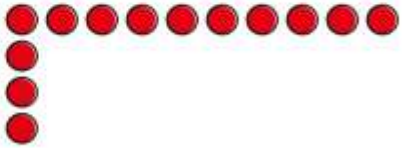
Fay 

What mistake has each child made?

Make an array with 14 counters.

2 × 7 or 7 × 2 array

Kay has started to make an array using 40 counters.

Finish making Kay's array. 

Write two number sentences to describe your array.

10 + 10 + 10 + 10 = 40

4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 = 40

Kim and Mo write number sentences to match the array.





5 + 5 + 5 + 5 = 20

Kim



4 + 4 + 4 + 4 + 4 = 20

Mo

Who is correct?

Explain your answer.

They are both correct.

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Make arrays

Year 1 | Summer term | Block 1 – Multiplication and division | Step 6

Notes and guidance

In this small step, building on learning from Spring Block 2, children again explore doubles. They progress from describing doubling as the addition of the same amount to describing it as 2 equal groups, linking to the work done on multiplication in this block so far. They should now be more confident with doubling numbers up to 20

Give children opportunities to build doubles and explain what a double is using real objects, mathematical equipment and pictures. This will help to reinforce understanding of a double being 2 groups of a number. Encourage children to say doubles as they build them, for example "Double is ." They can use repeated addition to represent doubles in the abstract. Give children opportunities to look at representations and decide whether they show doubles or not. Now that children have explored numbers to 50, they could also start to explore doubles beyond 20, for example double 12 or double 20

Key questions

- What is double ?

Things to look out for

- Children may not make/draw 2 equal groups.
- How can you show me double ?
- Is this a double? How do you know?
- How many equal groups are there?

  How many are there in each group? How many are there altogether?
- Is double equal to ? How do you know?

Possible sentence stems

- Double is _____ + = _____
- This is double _____
- _____ is/is not a double. I know this because …

- Children may think that double 4 is 44, because they see the digit twice.

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Make doubles

Year 1 | Summer term | Block 1 – Multiplication and division | Step 7

National Curriculum links

- 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

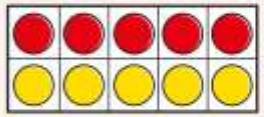
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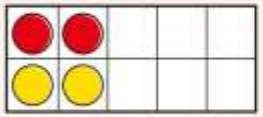
Make doubles

Key learning

Show children a number of counters up to 10 on ten frames.

Ask children to make the double with double-sided counters on two ten frames.





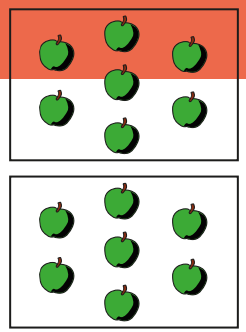
Hide lots of number pieces outside. Children work in pairs to find two number pieces that are the same to make a double. The winners are the pair who find the most doubles. Children could be challenged to write their doubles as number sentences.



Read Minnie's Diner by Dayle Ann Dodds, where all the food orders are doubled. Set up a double cafe in the classroom. Encourage children to make up their own double diner menus.

If you get 8 specials, what have you doubled?

- Complete the sentences to match the picture.



_____

There are _____ equal groups.

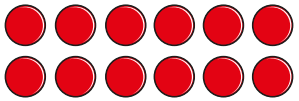
There are _____ in each group.

There are _____ apples altogether.

_____ + _____ = _____

Double _____ is _____

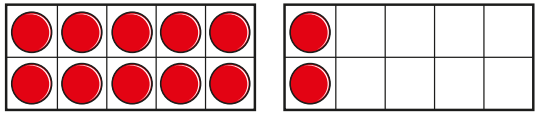
- Complete the sentences to match the array.

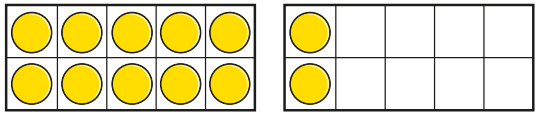


_____ + _____ = _____

Double _____ is _____

- Use the ten frames to work out double 12





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Make doubles

Year 1 | Summer term | Block 1 – Multiplication and division | Step 7

Reasoning and problem solving

Jo doubles some conkers.

Here are the conkers **after** she has doubled them.





Jo started with 8 conkers and ended with 16 conkers.

Tiny



Jo started with 4 conkers and ended with 8 conkers.

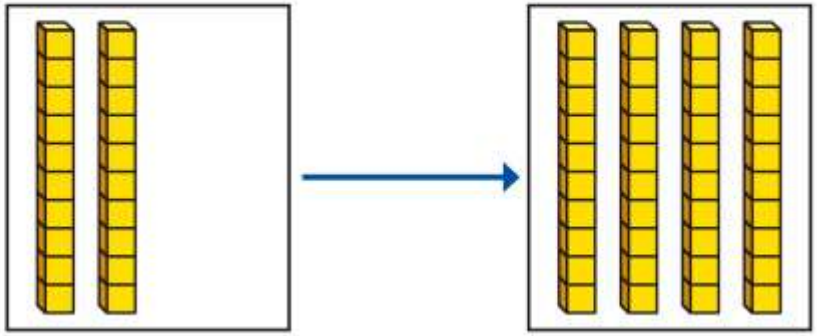
Max

Who do you agree with?

Explain your answer.

Max

Tiny uses base 10 to double 20



What is double 20?

Use base 10 to work out the double.

Double 15 is ☐

40 | 30

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Make equal groups – grouping

Year 1 | Summer term | Block 1 – Multiplication and division | Step 8

Notes and guidance

In this small step, children build on their knowledge of recognising equal groups to begin to explore division through grouping. This is the first time that they are explicitly introduced to the idea of division.

Children start with a given total and make groups of an equal amount. Give them opportunities to make groups with concrete resources. Circling groups when using pictures can also help them to see the groups and identify if they are equal. Further develop children's understanding of equal groups by exposing them to numbers that do not group equally.

At this stage, children do not need to be introduced to the division symbol, but they should become familiar with the language of division, for example "There are groups of in ."

Things to look out for

Key questions

- Are the groups equal? How do you know?
- When dividing, children may be more familiar with sharing from real-life experiences and may therefore
- Do the groups have to be the same size/shape/pattern to be equal?
- How many are there altogether?
  How many are there in each group? How many groups are there?
- How many different ways can you put the into equal groups?

Possible sentence stems

- The groups are equal/not equal because …
- There are altogether. They can be put into equal groups of

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Make doubles

confuse sharing with grouping.

- Children may be confused by groups that do not look similar, but they should be encouraged to focus on how many are in each group.

National Curriculum links

- 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

Year 1 | Summer term | Block 1 – Multiplication and division | Step 7

There are groups.

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Make equal groups – grouping

Key learning



children into the playground. As a class, count how many children there are.

Ask children to get into groups of three. Are all the groups equal?

What other equal groups can they get into?



to put them into equal groups. How many different sets of equal groups can they make? Repeat with other numbers of counters or cubes.



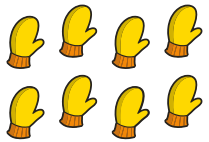
Show children a picture of a gingerbread person and explain that each one needs three buttons.

Give the children 15 buttons and ask how many gingerbread people they can give buttons to.

What if they had 18/21/24 buttons?



- Circle groups of 2 mittens and complete the sentence. Take



There are ____ groups of 2 mittens.

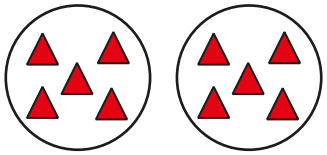
There are ____ equal groups of 2 mittens.

If you had 10 mittens, how many equal groups of 2 mittens could you make?

- Complete the sentences to match the pictures.

Provide children with 20 counters or cubes. Ask them

▶



There are _____ altogether.

There are _____ equal groups of _____

▶



_____ has been sorted into _____ equal groups of _____

- Draw a picture to match the sentence.

20 has been sorted into 4 equal groups of 5

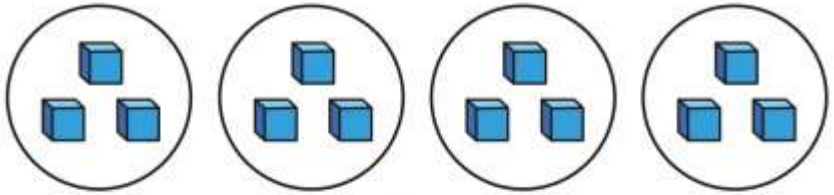
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Make equal groups – sharing

Year 1 | Summer term | Block 1 – Multiplication and division | Step 9

Reasoning and problem solving

Here are some groups of cubes.





Ron

The cubes are in groups of 4

The cubes are in groups of 3



Jo

Who do you agree with?

Explain your answer.

Jo

Here are some groups of cubes.





The cubes are not in equal groups.

Do you agree with Sam?

No

Ben and Tom each have the same number of sweets.

Ben has 8 equal groups of 2

Tom puts his sweets into equal groups of 4

How many equal groups of sweets does Tom have?

4

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Make equal groups – grouping

Year 1 | Summer term | Block 1 – Multiplication and division | Step 8

Notes and guidance

In this small step, children explore division in the form of sharing.

Children first explore this practically using concrete resources and physically sharing them into groups. They should see that each group will then have the same amount. At this stage, children do not need to write number sentences using the division symbol, but they should be encouraged to explain what is happening using the language of division, for example "There are counters shared equally into groups. There are in each group."

It may be helpful to explore the similarities and differences between sharing and grouping, once children are confident with the two structures separately.

As an extension, children can look at situations where the objects cannot be shared equally and there are some left over.

Key questions

- What does "sharing" mean?
- What does "sharing equally" mean?
- How many are there altogether?
  How many equal groups are you sharing them into?
  How many are there in each group? Are there any left over?
- Can you share the into any other number of equal groups?

Things to look out for

- Having just explored grouping in the previous step, children may confuse that knowledge with the new learning on sharing.

Possible sentence stems

- The have/have not been shared equally.
  I know this because …
- When sharing, children may miss out some objects or place too many in one group.
- There are altogether.

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Make equal groups – sharing

Year 1 | Summer term | Block 1 – Multiplication and division | Step 9

They are shared equally between groups. There are

in each group.

National Curriculum links

- 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

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Make equal groups – sharing

Year 1 | Summer term | Block 1 – Multiplication and division | Step 9

Key learning

Take children outside to collect 12 sticks or pebbles. Ask them to share their items equally between 3 hoops.



Can they share them equally between 2/4/6 hoops?

Can they share them equally between 5/7 hoops? Repeat for other numbers.

Provide modelling clay to represent cupcakes and counters to represent sweets.

Children can then explore different ways of decorating the cupcakes.

Tell children to make 3 cupcakes. Give them 15 sweets to share equally between the 3 cupcakes. Ask how many sweets there are on each cupcake.

Repeat for different numbers of cupcakes and sweets.

- Share the muffins equally between the 2 plates.

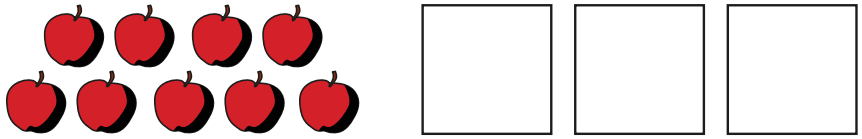


Complete the sentences.

There are muffins.

They are shared equally between plates. There are muffins on each plate.

- Share the apples equally between the 3 boxes.



Complete the sentences. apples are shared equally between _____ boxes.

There are in each group.

- Fay has 16 bananas.

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Make equal groups – sharing

Year 1 | Summer term | Block 1 – Multiplication and division | Step 9

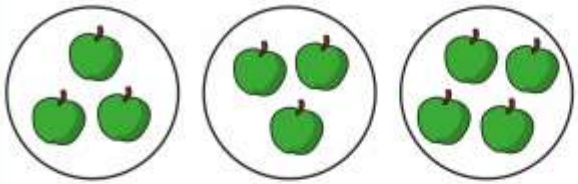
She shares them equally between 4 people. How many

bananas does each person get?

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Reasoning and problem solving

Tiny makes some groups of apples.



10 shared between 3 is 4

Do you agree with Tiny?

Explain your answer.

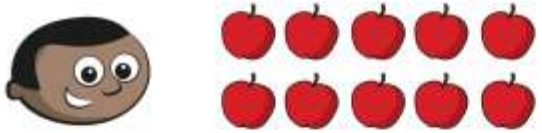
No

Dan shares 20 cookies equally between his friends.

How many friends could Dan share his cookies between?

1, 2, 4, 5, 10 or 20 people

Mo has 10 apples.



How many apples will there be in each bag if Mo shares them equally?

He shares the apples between 10 bags.	1
He shares the apples between 5 bags.	2
He shares the apples between 2 bags.	5
He puts all the apples into 1 bag.	10

What do you notice?

Summer Block 2

Fractions

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White Rose MATHS

Small steps

Step 1	Recognise a half of an object or a shape
Step 2	Find a half of an object or a shape
Step 3	Recognise a half of a quantity
Step 4	Find a half of a quantity
Step 5	Recognise a quarter of an object or a shape
Step 6	Find a quarter of an object or a shape
Step 7	Recognise a quarter of a quantity
Step 8	Find a quarter of a quantity

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Recognise a half of an object or a shape

Notes and guidance

In this small step, children explore recognising a half or two halves for the first time, looking at both objects and shapes.

Children need lots of opportunities to practically make halves and identify a half and a whole. They need to be shown various types of representations to develop a full understanding of a half. They also need to be shown half of these shapes and objects in different ways. For example, a square can be split in half vertically, horizontally or diagonally.

It is important that children know that a half means "one of two equal parts" and are able to count them. In this step, they are supported to recognise when a shape or object is or is not a half, in addition to identifying the whole.

At this stage, children do not use the fractional notation of $\frac{1}{2}$

Key questions

- What is the whole?
- How many parts are there?
- Are the parts equal?
- Is this a half? How do you know?
- How does this show half?
- Is this a half or a whole?

Possible sentence stems

- The whole is split into equal parts.
- There are halves in a whole.
- This is/is not a half because ...

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Things to look out for

- Children may talk about a “bigger” or “smaller” half due to prior experiences of sharing, so it is important to reinforce that a half is one of two equal parts.
- Children may struggle to recognise halves when they are shown in non-standard ways.

National Curriculum links

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

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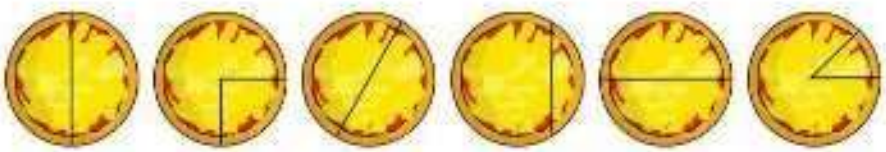
Recognise a half of an object or a shape

Key learning

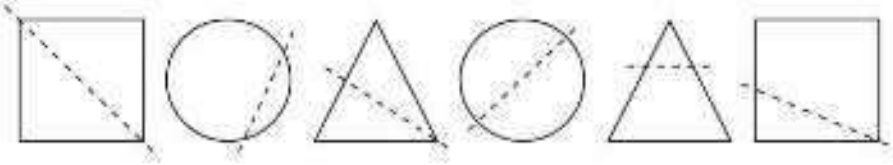
Read *Peg + Cat: The Pizza Problem* by Jennifer Oxley and Billy Aronson. Then show children different images of pizza cut into different size pieces, some showing a half and some not. Can the children identify the half and the whole images of pizza from the story?

Give children cut-out shapes of pizza and ask them to help you sort the pizza into two groups: half and not half. Discuss how they know whether each one is or is not a half.

- Which pizzas have been cut in half?



- Which shapes show half?



Show children some everyday objects such as an apple, a cake and a biscuit.

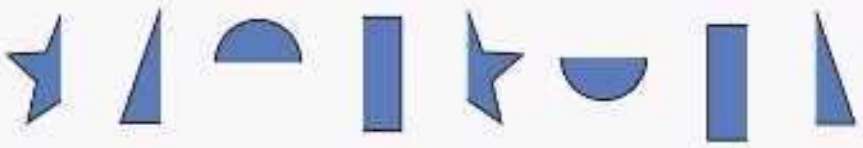


Model when something has been cut in half and not in half. Can children identify which objects are cut in half and which are not?

Ask how many equal parts there are when something is cut in half.

Give children a range of different paper shapes that have been cut in half.

Ask them to find the other half to make a whole.

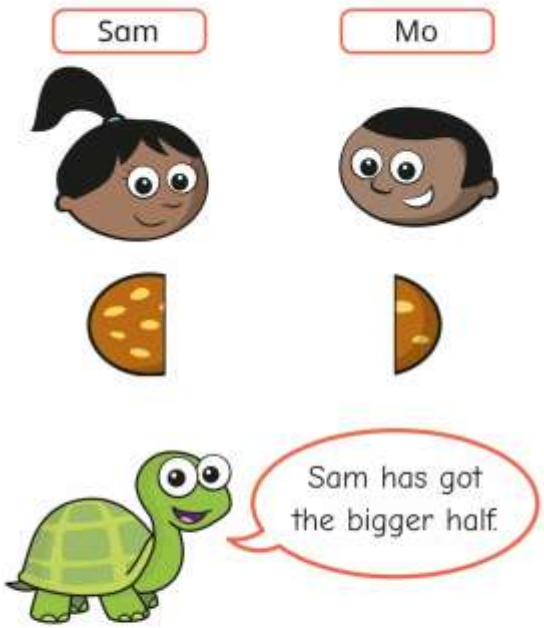


How do they know that they have found the other half? Can they use a mirror to help?

Year 1 | Summer term | Block 2 – Fractions | Step 1

Reasoning and problem solving

Sam and Mo are eating cookies.

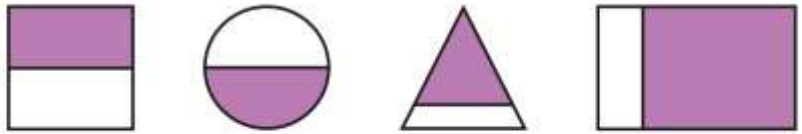


Do you agree with Tiny?

Explain your answer.

No

Jo thinks that she has coloured half of each shape.

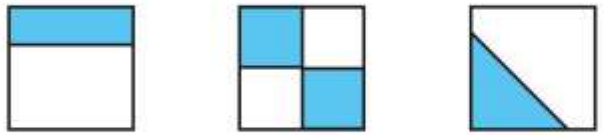


Do you agree with Jo?

Explain your answer.

No

Which shape shows half?



middle shape

Find a half of an object or a shape

Notes and guidance

In this small step, children build on the knowledge from the previous step, where they recognised a half of an object or shape, to now find a half of shapes or objects for themselves.

Give children lots of opportunities to practically find halves and make a half using pictures, objects and shapes. They need to be shown lots of varied examples and experiment with different ways of making a half using a range of resources.

It is important that children know that a half means "one of two equal parts" and can count them. At this stage, they are still only finding half of one object or shape. They will explore finding half of a set of objects in the next steps.

Key questions

- How many halves make a whole?
- Are the parts equal? How do you know?
- How do you know that you have found a half?
- How can you find a half of this object/shape?
- Is there more than one way to show half of this shape?
- How can you tell if an object or shape has not been split in half?

Things to look out for

- Children may think that if they split something into two parts, they have split it in half. They may not remember
- To find a half, I need to split the whole into equal parts.

Possible sentence stems

- If the whole is split into two equal parts, each part is called a _____
- The shape is/is not split in half because …

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that the two parts must be equal.

- Children may not recognise that they can split some shapes/objects in half in a number of ways, instead only using horizontal or vertical divisions.

National Curriculum links

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

Key learning



Set up a cafe role-play area. Provide children with modelling clay and child-friendly knives. Ask them to make doughnuts, muffins, cake slices or pancakes for the cafe.

Children take it in turns to role-play the customer and the cafe owner. The customers order what they would like from the cafe. Would they like half of a bun? Would they like more than one half?

Using the knives, the cafe owners cut the 'food' items.



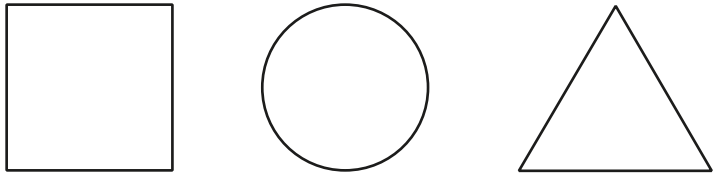
Give children a range of different paper shapes in a variety of sizes. Ask them to explore which shapes can be folded in half and what they look like when folded in half.

Which shapes can be folded in half in only one way?
Which shapes can be folded in half in more than one way?

- Draw a line to split each object in half.



- Find three different ways to split each shape in half.

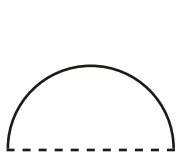


- Draw the other half of each shape to make the whole.

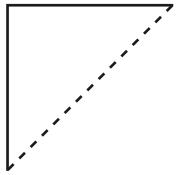
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Find a half of an object or a shape

Year 1 | Summer term | Block 2 – Fractions | Step 2









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Find a half of an object or a shape

Year 1 | Summer term | Block 2 – Fractions | Step 2

Reasoning and problem solving

Jo and Ron are splitting a rectangle in half.

Jo splits the rectangle like this.

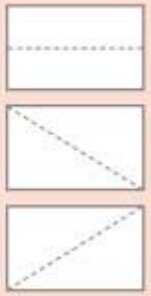






I can find three other ways of splitting the rectangle in half.

Draw Ron's three rectangles.





Make a collection of ribbons or string of different lengths. The ribbons or pieces of string are in pairs where one is twice the length of the other, for example 12 cm and 6 cm.





Give one to each child and ask them to find the person to match the half to the whole.

Encourage children to talk to each other about why one is half the length of the other. Do they always have only one match or can they find another?

Discuss answers as a class.

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Year 1 | Summer term | Block 2 – Fractions | Step 3

Recognise a half of a quantity

Notes and guidance

In this small step, children use their previous learning of recognising and finding a half, and apply this to recognising half of a quantity.

Children need to have a good sense of cardinality so that they can find a total and then relate this to finding half the amount of the total. They need to show how the total can be shared equally into two groups, using learning covered in the previous block on multiplication and division. They can use concrete resources such as cubes, beads, counters and other small world objects to support this. Children may also find it helpful to relate finding a half to classroom contexts. For example, they can find half the number of children in a group, so that they see what half of an amount looks like.

Key questions

- What is the total/whole?
- How can you find half?
- How many parts do you need to split them into to find half?
- How many are there in each part?
- Is this still half when I move the around?
- How can you check that this is still half?

Possible sentence stems

- There are altogether.
  They are shared into equal groups.

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Things to look out for

- Children may only recognise a half as half of an object or shape, rather than also referring to a number There are in each group.

  or quantity.

- Children may not recognise when the two halves appear different visually, for example three apples on a plate close together and three apples on another plate spread out.

Each group is of the whole.

- I know that the are/are not split in half because …

National Curriculum links

- Recognise, find and name a half as one of two equal parts of an object,

  shape or quantity

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Recognise a half of a quantity

Key learning



Go outside with a bag of balls and three hoops. Take out six balls.

Share the balls equally between two hoops and ask children if the balls have been split in half. Repeat, but sharing the the balls unequally between two hoops. Then share the balls between three hoops and ask if they have been split in half.

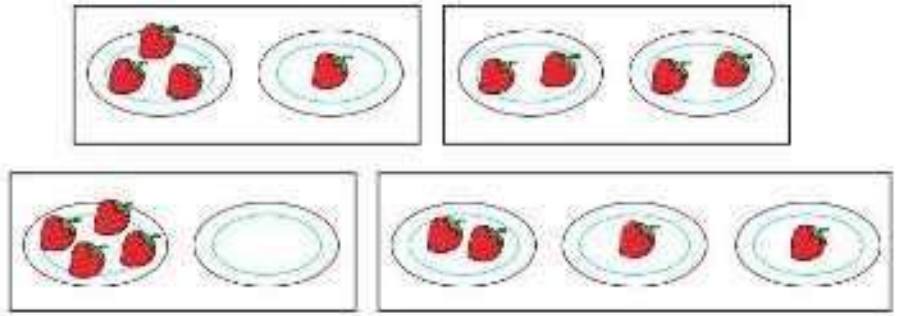
Repeat with other totals.



Put children into small groups of up to 10 and ask them to line up. Split the groups in different ways, some in half, some not in half. Ask children to explain which groups have been split in half and which have not. Can they explain why? What happens if there is an odd number of children in total?



- Which pictures show equal groups?

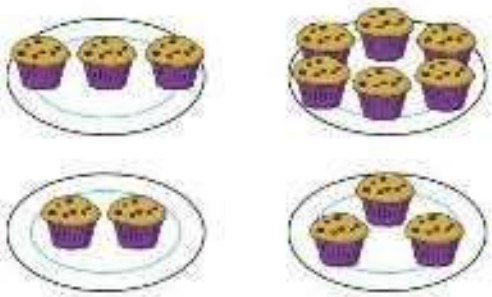


Which pictures show half?

- Here are 6 muffins.



Which plates show half of the muffins?



Is there more than one answer?

Year 1 | Summer term | Block 2 – Fractions | Step 3

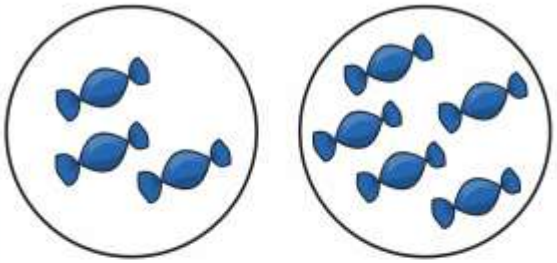
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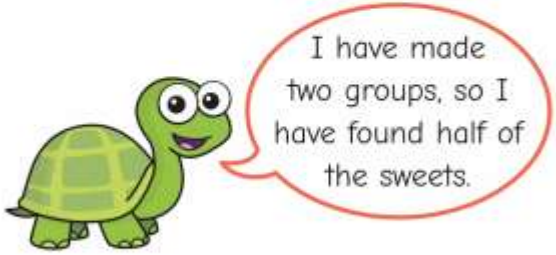
Reasoning and

problem solving

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Tiny is finding half of the sweets.





Do you agree with Tiny?

Explain your answer.

No

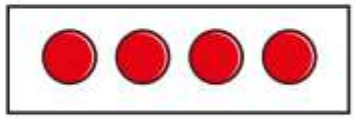
Ron and Kim have some counters.

Ron has half of the counters and Kim has half of the counters.

Draw Kim's counters.



Ron





Kim

How many counters are there altogether?

What is half of the total?

8

4

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Find a half of a quantity

Notes and guidance

In this small step, children build on the previous step to find half of a quantity.

Children should see that to find a half, they need two equal groups, and should explore practically sharing a given quantity of objects into two groups using skills developed in the previous block on multiplication and division. Encourage children to check the amounts in each group after sharing to ensure that there is an equal amount in each group.

Children then progress to circling or shading half of a given quantity. Understanding that half can mean "one out of every two objects" is important for this. Finally, they may begin to explore finding the whole from a half. For example, if 3 is half, what is the whole? Knowledge of doubles from prior learning can support this.

Key questions

- How many are there altogether?
- How many equal groups are there when you are finding half?
- How do you know that the groups are equal?
- How many are there in each group? So what is half of ?
- If 3 is half, how can you find the whole?
- If you know that double 4 is 8, how can you work out half of 8?

Things to look out for

- Children may draw lines to halve each shape/object in a set, rather than finding half of the total.
- When finding missing totals, children may halve the amount rather than doubling it. For

Possible sentence stems

- There are altogether.
  To find half, I need to share the total into equal groups.

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Find a half of a quantity

Year 1 | Summer term | Block 2 – Fractions | Step 4

example, when asked to find the whole if 4 is half, they may give the answer 2

There are in each group.

- Half of is _____
- If double is , then half of is _____

National Curriculum links

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

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Find a half of a quantity

Year 1 | Summer term | Block 2 – Fractions | Step 4

Key learning

6 legs in total	12 legs in total	10 legs in total

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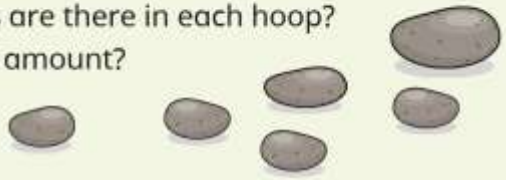
Find a half of a quantity

Year 1 | Summer term | Block 2 – Fractions | Step 4



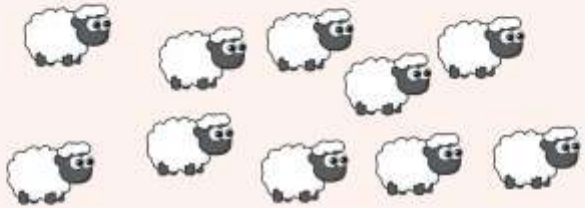
Give children an even number of pebbles or sticks. Provide them with two small hoops. Ask children to share the objects equally between the hoops.

How many objects are there in each hoop?
What is half of the amount?





Set up a scene, for example where animals need to be put equally into two fields.



Ask children to complete the sentences to describe the scene.

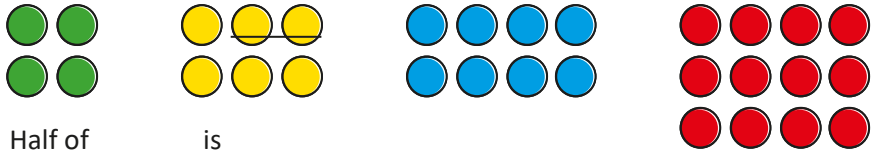
There are _____ animals altogether.

There are _____ animals in each field.

Half of _____ is _____

- Find half of each amount.

Complete the sentence for each.



Half of _____ is _____

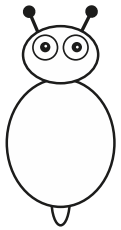
- Shade half of the stars.

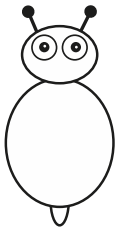
Is there more than one way of shading half?

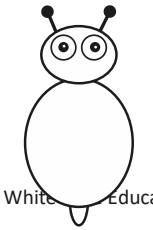


- The creatures need half the number of legs on each side.

Draw the correct number of legs on each side.







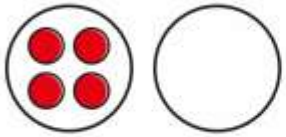
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Find a half of a quantity

Year 1 | Summer term | Block 2 – Fractions | Step 4

Reasoning and problem solving

If 4 is half, what is the whole?



If 2 is half, what is the whole?

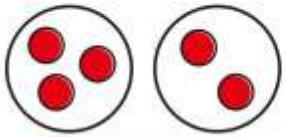
If 8 is half, what is the whole?

8

4

16

Sam and Max are trying to find half of 5





Half of 5 is 2

Sam



Half of 5 is 3

Max

Who do you agree with?

Explain your answer.

They are both incorrect.

Tiny wants to find half of 6



Explain how Tiny can use this fact to find half of 6

Complete the sentences.

Double 5 is 10, so half of 10 is _____

Double 7 is 14, so half of _____ is 7

Double 4 is _____, so half of _____ is 4

Double _____ is 12, so half of 12 is _____

5

14

8, 8

6, 6

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Recognise a quarter of an object or a shape

Notes and guidance

In this small step, children are introduced to recognising a quarter of an object or a shape. This is the first time that they explore quarters.

Children develop their understanding of equal parts and non-equal parts and relate this to a shape or object being split into four equal parts. They need to see quarters explicitly being made in lots of different contexts, such as being split horizontally, vertically and diagonally, as well as using a range of different shapes and objects.

Children use the words “quarter” and “parts” at this stage, but do not use the fractional notation of $\frac{1}{4}$

Key questions

- What is the whole?
- How many parts are there?
- Are the parts equal?
- How many parts are shaded?
- Is this a quarter?
- How do you know that this is/is not a quarter?

Things to look out for

- It may be necessary to reinforce the idea of equal parts, so that children do not think that a shape split into four

Possible sentence stems

- The whole is split into equal parts.

_____ of the parts is shaded. This shows one _____

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Recognise a quarter of an object or a shape

Year 1 | Summer term | Block 2 – Fractions | Step 5

- There are quarters in a whole.
- This is/is not a quarter because …

National Curriculum links

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

Key learning

unequal parts also represents quarters. • Children may struggle to recognise quarters when they are shown in non-standard ways.



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Recognise a quarter of an object or a shape

Year 1 | Summer term | Block 2 – Fractions | Step 5

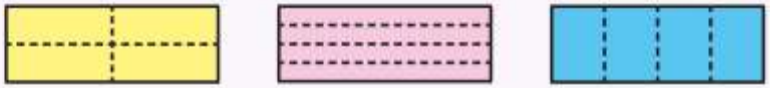


Show children everyday objects such as fruit. Ask how they can be cut into four equal parts.

Explain to children that these are quarters, and all four parts need to be equal.



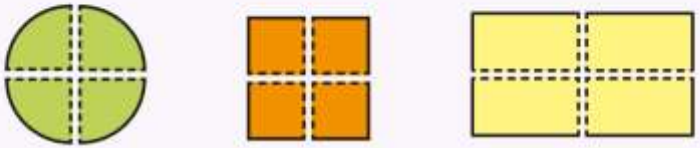
Provide children with a range of paper shapes and ask them to explore folding the shapes into quarters in different ways.



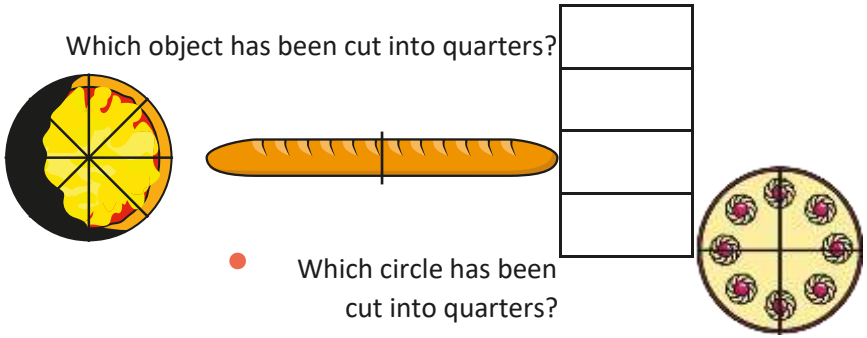


Give children a range of shapes cut into quarters. Ask them to find the group of 4 to make the shape whole.

Is there more than one way the parts could be put together to make a whole?

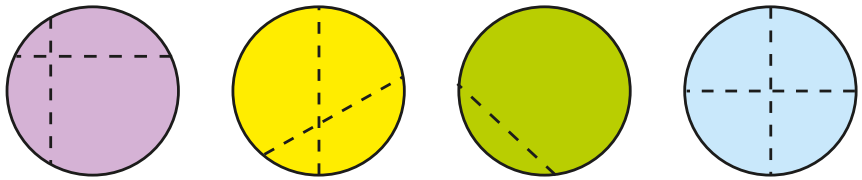


- Which object has been cut into quarters?

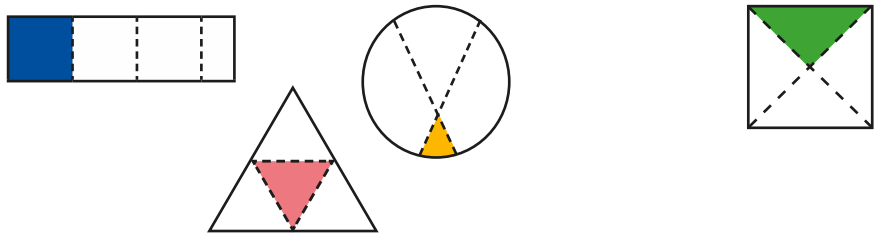


- Which circle has been cut into quarters?

How do you know?



- Which shapes show a quarter?



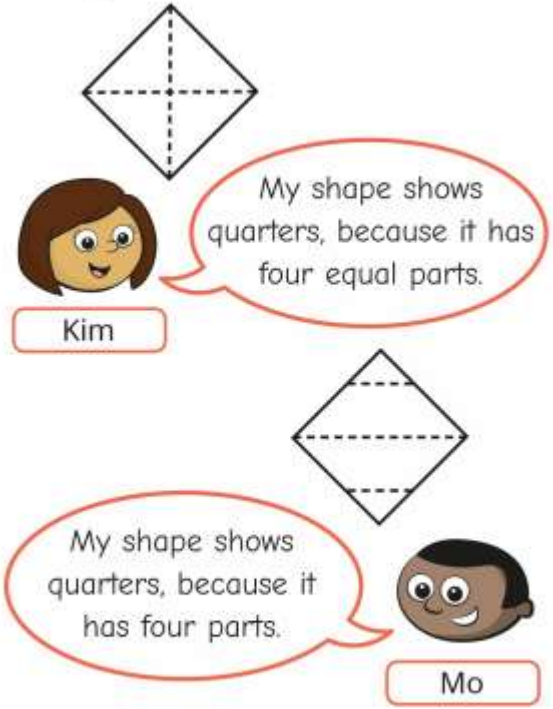
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Recognise a quarter of an object or a shape

Year 1 | Summer term | Block 2 – Fractions | Step 5

Reasoning and problem solving

Kim and Mo are talking about quarters.



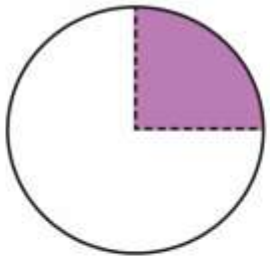
Are Kim and Mo correct?

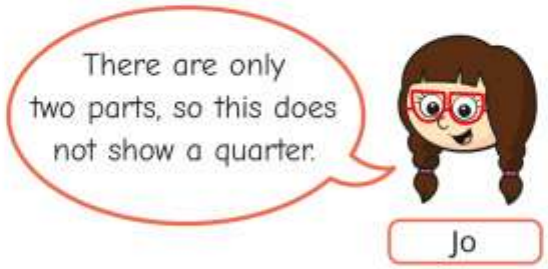
Explain your answer.

Kim is correct.

Mo is incorrect.

Jo draws a circle and colours one part.





Do you agree with Jo?

Explain your answer.

No

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Find a quarter of an object or a shape

Notes and guidance

In this small step, children build on the learning in the previous step to find a quarter of an object or a shape.

Children begin by shading a shape that has already been split into four equal parts, before moving on to splitting shapes into four equal parts themselves. They need lots of practice looking at and manipulating shapes and pictures to find the four equal parts. Children also need to see many representations of quarters in different orientations using a range of different shapes and pictures.

At this stage, children are still only finding a quarter of one object. They will explore finding a quarter of a set of objects in the next steps.

Key questions

- How many quarters make a whole?
- How many parts has the whole been split into?
- Are all the parts equal?
- How many parts do you need to colour to show a quarter?
- Can you make a quarter in a different way?

Things to look out for

- Children may think that if they split something into four parts, they have split it into quarters. They may not remember that the parts must be equal.
- Children may not recognise that they can split some shapes/objects into quarters in a number of ways, instead using only horizontal or vertical divisions.

Possible sentence stems

- To make quarters, I need to split the whole into _____ equal parts.
- To show a quarter, I need to colour _____ of the _____ equal parts.
- If the whole is split into four equal parts, each part is called a _____
- The shape is/is not split into quarters because …

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Find a quarter of an object or a shape

Year 1 | Summer term | Block 2 – Fractions | Step 6

National Curriculum links

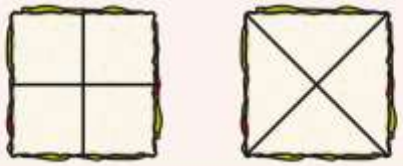
- Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity

Key learning

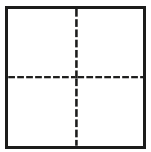
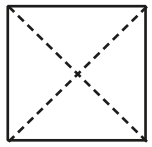
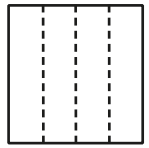
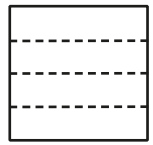


Provide children with sliced bread, sandwich fillings and child-friendly knives. In small groups, children make sandwiches for a picnic. All the sandwiches must be cut into quarters.

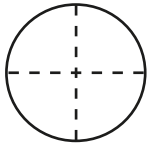
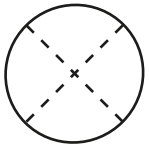
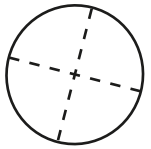
Explore how children can cut the sandwiches so that the parts are all equal. Can they cut the sandwiches in more than one way?



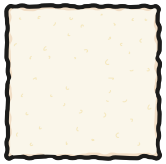
- Colour a quarter of each shape.

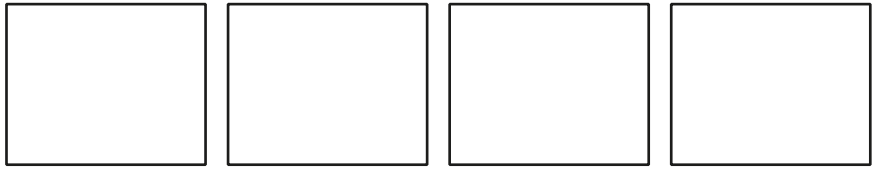
Can you colour the shapes in different ways?

- Draw lines to split the objects into quarters.


- Find four different ways to show a quarter of the rectangle.

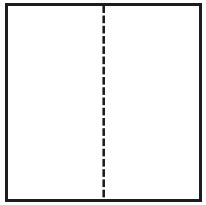


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Find a quarter of an object or a shape

Year 1 | Summer term | Block 2 – Fractions | Step 6

- The square shows halves.



How can you change the square so that it shows quarters?

Is there more than one way?

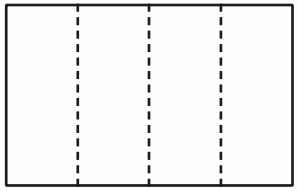
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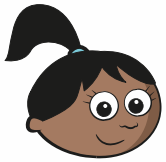
Find a quarter of an object or a shape

Year 1 | Summer term | Block 2 – Fractions | Step 6

Reasoning and problem solving

Sam splits a rectangle into quarters.





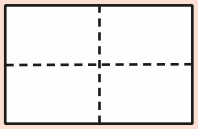
To split the rectangle into quarters, I have to draw three lines.

Do you agree with Sam?

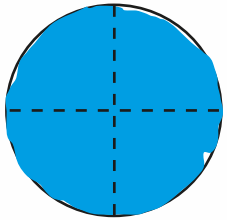
Explain your answer.

No

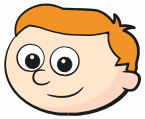
Sam could also draw two lines to split the rectangle into quarters



Ron wants to colour the circle to show a quarter.



There are four equal parts, so I have coloured a quarter.



Do you agree with Ron?

Explain your answer.

No

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Year 1 | Summer term | Block 2 – Fractions | Step 7

Recognise a quarter of a quantity

Notes and guidance

In this small step, children build on previous learning of finding a quarter of an object or shape and finding half of a quantity, and relate this to recognising a quarter of a quantity.

Using skills developed in the previous block on multiplication and division, children use their knowledge of how a number can be shared equally into four groups. To decide if a quarter has been found, encourage them firstly to check that there are four groups and then that there is an equal amount in each group. Emphasise that a quarter refers to just one of these groups. They will need to see this in lots of different contexts.

Children can also explore representing the whole when they are given a quarter. For example, if one quarter contains two counters, to show the whole they need to put two counters in each of the remaining three groups.

Things to look out for

Key questions

- What is the total/whole?
- How can you find a quarter?
- How many parts do you need to find a quarter?
- How many are there in each part?
- Is this still a quarter when I move the around?
- How can you check that this is still a quarter?

Possible sentence stems

- There are altogether.
  They are shared into equal groups.
  Each group is a of the whole.

There are in each group. • I know this shows/does not show a quarter because …

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- Children may only recognise a quarter as an object or shape split into four parts, rather than as a number or quantity.
- Children may not see that groups are equal if each group is arranged differently.

National Curriculum links

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

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Recognise a quarter of a quantity

Key learning



Provide children with a range of small world creatures, for example farm or wild animals.



Set up different scenes: some showing the amount split into quarters and others showing it not split into quarters. Encourage children to explain why the scene shows quarters or not quarters, using the word “equal”.



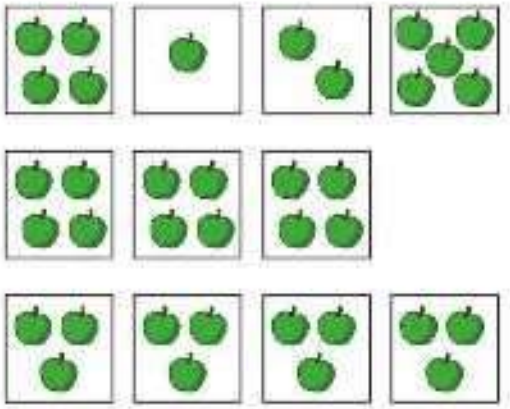
Go outside with a bag of balls and four hoops. Take out four balls.

Demonstrate sharing the balls between the four hoops. Check that each hoop has a quarter, explaining that there must be an equal number in each hoop.

Now take eight balls and share them unequally between the four hoops. Ask if this shows quarters.

Repeat with other examples and non-examples of showing a quarter of a quantity.

- Which row of pictures shows quarters?

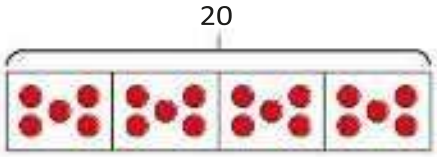


- Complete the sentence.



A quarter of 12 is _____

- Complete the sentence.



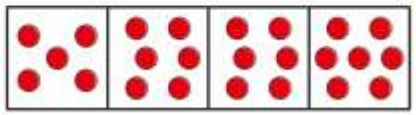
A quarter of 20 is _____

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Reasoning and problem solving



Tiny is trying to find a quarter of 24

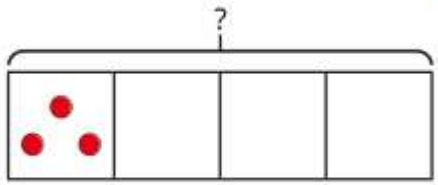


What mistake has Tiny made?

What should Tiny's bar model look like?

bar model with 4 parts and 6 counters in each part

Complete the bar model to work out the whole.

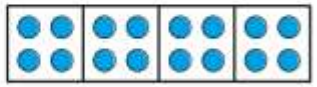


3 counters drawn in each part

The whole is 12

Match the statements to the bar models.

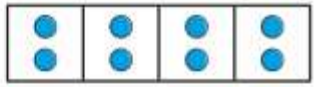
There are 4 apples in a box.
Half of the apples are red.
The rest are green.



There are 8 children in a classroom.
A quarter of the children are wearing glasses.



A quarter of the sweets in a bag are green.
There are 4 green sweets.



top to middle

middle to bottom

bottom to top

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Find a quarter of a quantity

Notes and guidance

In this small step, children use all the learning from this block to explore finding a quarter of a quantity.

Children find a quarter of a quantity through their understanding of how to share a set of objects equally. Use of stem sentences supports their understanding that one quarter refers to one of the four equal groups. It is important that children use a wide range of manipulatives to show the groups clearly, drawing around quantities or physically sharing objects.

Encourage children to see the link between finding half of an amount and half again to find a quarter.

At this stage, children do not use the fractional notation of $\frac{1}{4}$

Things to look out for

Key questions

- When you find a quarter, how many equal groups are there?
- How many are there in each group? So what is a quarter of ?
- If 3 is a quarter of the whole, how can you find the whole?
- If you know that half of 8 is 4, how can you use this to find a quarter of 8?

Possible sentence stems

- There are altogether.
  To find a quarter, I need to share the total into equal groups.
  _____
  There are in each group.
  A quarter of is _____
- If half of is , then a quarter of is _____

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Find a quarter of a quantity

- Children may not realise that each quarter is equal if objects are arranged differently within each group.
- Children may group objects into 4s rather than sharing them into four groups, which could lead to them giving an incorrect answer of 4

National Curriculum links

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

Key learning



Ask children to collect eight pebbles. Provide them with four small hoops and ask children to share their pebbles between the hoops. Discuss whether the groups are equal and how many pebbles are in each hoop. Then ask what a quarter of 8 is.

Repeat with other amounts. Are there some totals that could not be shared equally between four hoops?



On different tables, provide children with cut-out fish, where the total is always a multiple of 4, and four boxes to use as tanks.

Ask children to share the fish equally between the four tanks and complete the sentences.

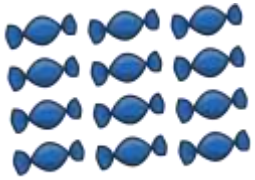
There are fish in total.

There are fish in each of the 4 tanks.

A quarter of is

Repeat as they move around the different tables.

- Complete the sentences to find a quarter of each group.

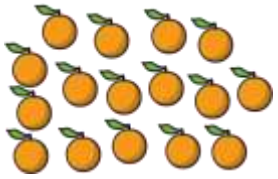


There are sweets altogether.

They are shared into 4 equal groups.

There are sweets in each group.

A quarter of is _____



There are oranges altogether.

They are shared into 4 equal groups.

There are oranges in each group.

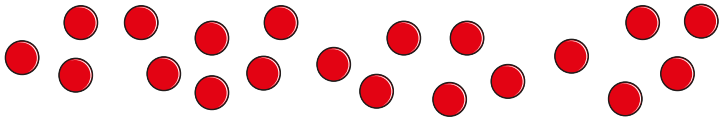
A quarter of is _____

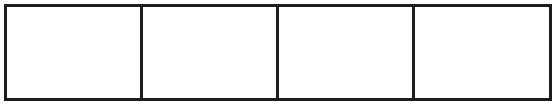
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Find a quarter of a quantity

Year 1 | Summer term | Block 2 – Fractions | Step 8

- Use the bar model to find a quarter of 20





- Tom has 24 stickers.
  He gives a quarter of his stickers to Ann. How many stickers does he give to Ann?

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Find a quarter of a quantity

Year 1 | Summer term | Block 2 – Fractions | Step 8

Reasoning and problem solving

A quarter of a number is 4

What is the whole?

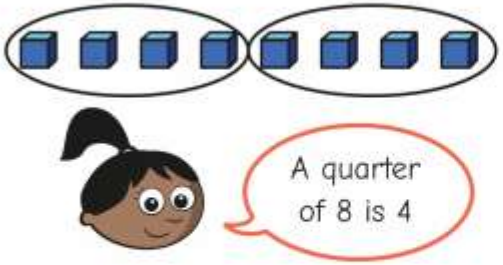


Do you agree with Ron?

Explain your answer.

No

Sam is finding a quarter of 8



Do you agree with Sam?

Explain your answer.

No

Complete the sentences.

Half of 4 is _____

A quarter of 4 is _____

Half of 8 is _____

A quarter of 8 is _____

Half of 12 is _____

A quarter of 12 is _____

2, 1

4, 2

6, 3

6

What do you notice?

Half of a number is 12

What is a quarter of the number?

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Summer Block 3

Position and direction

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White Rose MATHS

Small steps

Step 1	Describe turns
Step 2	Describe position – left and right
Step 3	Describe position – forwards and backwards
Step 4	Describe position – above and below
Step 5	Ordinal numbers

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Notes and guidance

In this small step, children use the terms “full”, “half”, “quarter” and “three-quarter” to describe turns. They will be familiar with “half” and “quarter” from the previous block on fractions, but “three-quarter” will be a new concept to them.

Children should be given lots of opportunities to practically turn objects as well as experience the motion of turns themselves. Giving them opportunities to play games and follow simple instructions will support this.

Children should be able to identify the size of a turn by looking at the starting and finishing position of a shape as well as drawing the result of a turn. This provides a useful opportunity to revisit learning on 2-D and 3-D shapes.

to look out for

Children should investigate whether they can end up facing the same direction if they complete different turns, but they do not need to describe the direction of turns at this stage.

Key questions

- What is a turn?
- How do you make a full turn?
- How do you make a half/quarter turn?
- If this is a quarter turn, what do you think a three-quarter turn is?
- Does it always matter which direction you turn?
- Can you get to the end position in more than one way?

Possible sentence stems

- This is a turn.
- A turn is the same as …

Things

- The has turned a turn.
- I have turned a turn.

- Children may forget where they began the turn.

Children may naturally always turn in one direction and should be encouraged to explore both ways.

National Curriculum links

- Describe position, direction and movement, including whole, half, quarter and three-quarter turns

Describe turns

Key learning

Give children instructions using positional language, for example: “All turn a quarter turn.” Ask children if they have all turned the same way? Does it matter?

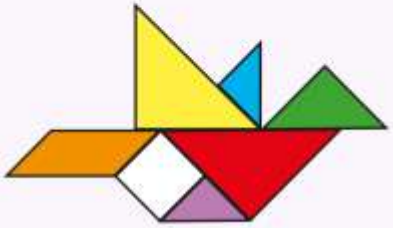
This could be developed as an everyday routine as the children line up.

Children can then work in pairs to give and follow instructions.

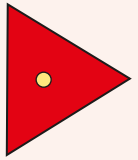
Provide children with a selection of tangram shapes and encourage them to explore making different representations of pictures by moving and turning the shapes.

Ask children what animals they can make.

Challenge them to describe how they turn each tangram shape to put it into position in their animal.



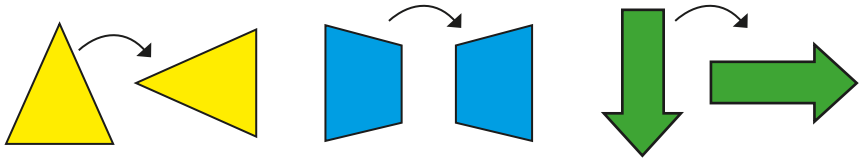
Provide children with a range of pictures of 2-D shapes such as triangles, squares and rectangles. Use paper fasteners to attach the shapes to a piece of A3 paper and explore what they look like after different turns.



Explore full turns, asking what they notice about the start and end positions.

Discuss half, quarter and three-quarter turns and whether it matters which way they turn the shape.

- Match the shapes to the turns.

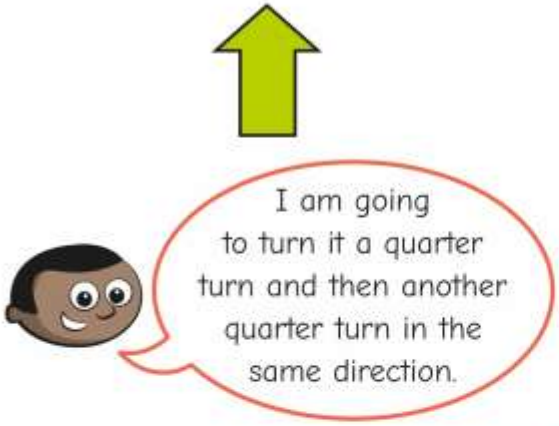


half turn	quarter turn	three-quarter turn

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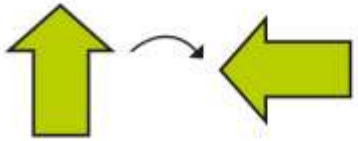
Reasoning and problem solving

Here is an arrow.



Describe Mo's turn in a different way.

Find two ways to describe the three-quarter turn the arrow makes.



multiple possible answers, e.g.

a quarter turn in the other direction

a half turn and a quarter turn

3 quarter turns

Ann turns a number piece and it faces this way.



What direction could it have faced at the start?

What turn could it have made?

How many answers can you find?

Draw your answers.

Describe the turn for each one.

possible answers:

a half turn

a quarter turn (both directions)

a three-quarter turn (both directions)

a whole turn

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Describe turns

Year 1 | Summer term | Block 3 – Position and direction | Step 1

Describe position – left and right

Notes and guidance

In this small step, children are introduced to the terms “left” and “right” for the first time, although they may have experienced this language outside of the classroom before.

Children often confuse the two directions, so look for ways to support children in remembering them, such as rhymes, the “L” shape shown between the index finger and thumb on the left hand and perhaps what hand they use to write with. Explore the positional language of left and right by playing games and singing rhymes and songs. Asking children to follow simple instructions throughout the day is a great way to support this skill.

Children also explore describing the direction of movement as being to either the left or the right, then describing the position of one object in relation to another, for example “The is to the left/right of the ”.

Key questions

- Which is your left/right hand/foot?
- What do you notice when you hold up the thumb and index finger of your left hand?
- How can you get to the ?
- How can you get from the to the ?
- Is the to the left or right of the ?
- Which shape(s) is/are to the left/right of the ?

Possible sentence stems

- The moves to the _____
- The is to the left/right of the

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Things to look out for

- Children may confuse left and right.
- Children may become confused when an object is looked at from a different perspective from their own. When you are facing someone, the position of their left hand does not appear to match yours.

National Curriculum links

- Describe position, direction and movement, including whole, half, quarter and three-quarter turns
- Use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside (non-statutory guidance)

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Describe position – left and right

Key learning

In a large space, as a class listen to, sing and act out songs and rhymes to reinforce the concept of left and right. Examples include Crocodile Snap by DJ Casper, Dem Bones by James Weldon Johnson and the Hokey Cokey, an English folk song.

Play human table football in the playground.

You need skipping ropes or pieces of long string and a football.

Position children so that they are lined up in rows of either three or four, all facing the same direction and holding the rope in their hands.



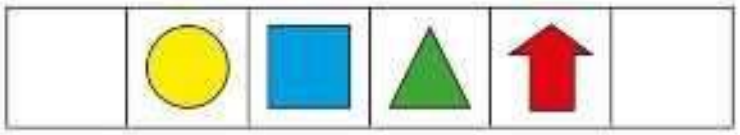
The rest of the class give players instructions to try to get the football into the goal. The players can only move when given an instruction, for example "Row 2, move three steps to the left."

Use chalk to draw a row of four different-coloured circles on the playground.

Give children different instructions using left and right. For example, "Put your left foot in the red circle."

Then ask children to move between circles. For example, "Move two circles to the right. What colour circle are you standing in now?"

- Here are some shapes.



  - Write **left** or **right** to complete the sentences.

    The triangle is to the _____ of the arrow.

    The square is to the _____ of the circle.

    The circle is to the _____ of the square.

  - The circle moves 1 square left.

    The triangle moves 2 squares right.

    Where are the shapes now?

Year 1 | Summer term | Block 3 – Position and direction | Step 2

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Describe position – left and right

Reasoning and problem solving

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Sam is waving her hand.





Sam is waving her left hand.

Tiny

Max

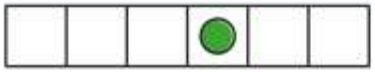
Sam is waving her right hand.



Max

Who do you agree with?

Explain your answer.



Ben moves the counter 3 squares to the left.

He then moves it 5 squares to the right.

How can Ben get to the same place in one move?

2 squares to the right

Here are some shapes.



Complete the sentence.

The ____ is to the ____ of the _____

How many different ways can you complete the sentence?

Compare answers with a partner.

There are six possible sentences.

Year 1 | Summer term | Block 3 – Position and direction | Step 3

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Notes and guidance

In this small step, children develop their precision when describing positions by introducing “forwards” and “backwards”. Children describe the positions of objects and shapes from different starting positions. To begin with, they move their bodies in line with instructions to move forwards and backwards and understand what these terms mean in a practical context. Instructions can then become more specific, such as “3 steps forwards”.

Using pre-programmable electronic toys or playing a range of simple games where children must move forwards and backwards, including small-scale dice games or large-scale outdoor track games, will support this understanding.

Once confident, children can then combine prior knowledge of “left” and “right” with “forwards” and “backwards” to describe more complex movements.

Key questions

- How can you get from the to the ?
- How could you describe the movement?
- If two objects both move forwards/backwards, are they moving in the same direction?
- How many squares forwards/backwards/left/right has the moved?

Things to look out for

- Children may confuse facing forwards with moving forwards.
- Children may have difficulty with combining various instructions, for example “Move 3 squares forwards, then 2 squares left, then 1 square backwards.”

Possible sentence stems

- The moves squares forwards/backwards.
- To get to the , the needs to move forwards/backwards.
- To get to the , the needs to move squares forwards/backwards, then squares left/right.

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National Curriculum links

- Describe position, direction and movement, including whole, half, quarter and three-quarter turns

- Use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside (non-statutory guidance)

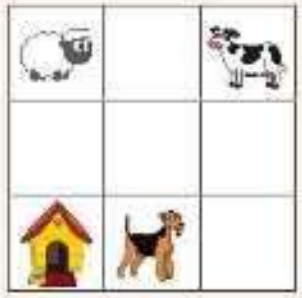
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Describe position – forwards and backwards

Key learning

Take the class into the playground. Give children instructions such as "Move 3 steps forwards." or "Move backwards 6 steps."

Set up a grid for children to use and apply positional language.



Encourage children to tell a story to say what the animals are doing.
For example, "The cow is walking forwards, towards the sheep." Ask questions such as "How can the dog get to its kennel?"

Give children cones and skipping ropes to mark a route for a partner to follow to a treasure chest.

Children should use "left", "right", "forwards" and "backwards" to describe the route their partner must follow.



- Ron moves 3 hoops forwards.

  Where is Ron now?

- Sam moves 2 hoops backwards.

  Where is Sam now?



Tom and Kay are at the lighthouse and facing the top of the grid.

- Tom moves 2 squares forwards and 1 square left.

  Where is Tom now?

- Kay moves 2 squares left and 2 squares forwards.

  Where is Kay now?

Describe the journey from the swimming pool to the house.

Year 1 | Summer term | Block 3 – Position and direction | Step 3

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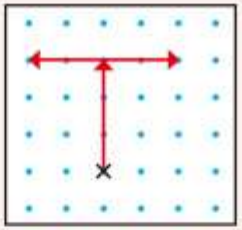
Describe position – forwards and backwards

Reasoning and problem solving

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Model how to give instructions for writing a letter on dotted paper, starting at the point marked with a cross.

Explain that you are writing Tiny's name, and to write the letter T you draw 3 forwards, 2 left and 4 right.

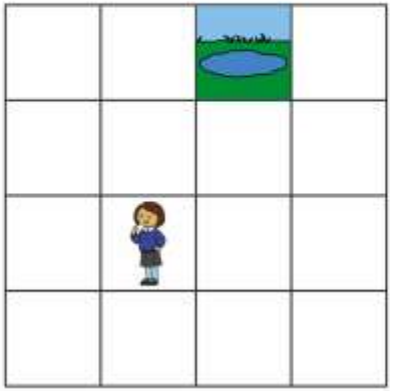


Ask children to give a partner instructions for writing the first letter of their own name.

They may need support in retracing a line they have already drawn, as in this example.

Answers will vary, depending on letter and starting position.

Kim is trying to get to the pond.



left | right | forwards | backwards

How can you get Kim to the pond?

Use the words to show three different ways.

Compare answers with a partner.

multiple possible answers, e.g.

1 backwards, 2 right

1 forwards, 2 right, 2 backwards

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Describe position – above and below

Notes and guidance

In this small step, children build on the directional language developed in previous steps, extending to include "above" and "below". They use this language to firstly describe the position of objects in relation to each other, for example, "The is above/below the ". This could also include learning from previous steps on left and right. They then follow and give positional instructions and clues to others, for example to build a tower of cubes.

Children develop their ability to recognise and represent direction using marks and symbols. They explore the position of objects and shapes from different starting points. Where possible, this concept should be explored practically both inside and outside the classroom.

Children can also start to explore the terms "top" and "bottom".

Key questions

- How could you describe "above"?
- How could you show me "below"?
- What is above the ? What is below the ?
- Is the above or below the ?
- Which is at the top/bottom?

Things to look out for

- Children may use "over" and "under" when thinking about "above" and "below".
- When interpreting 2-D representations, children may confuse "above" and "below" with "forwards" and "backwards".

Possible sentence stems

- The is below the
- The is above the
- The at the top/bottom is

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Describe position – above and below

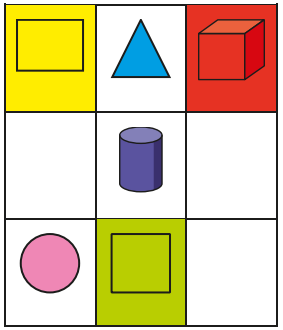
Year 1 | Summer term | Block 3 – Position and direction | Step 4

National Curriculum links

- Describe position, direction and movement, including whole, half, quarter and three-quarter turns

- Use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside (non-statutory guidance)

Key learning



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Describe position – above and below

Year 1 | Summer term | Block 3 – Position and direction | Step 4

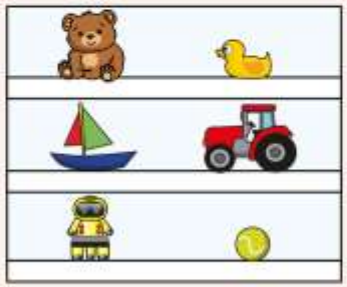
Provide children with a set of different 3-D shapes.



Give children instructions to follow, for example "Hold the sphere above the cube".

Ask children to give each other instructions to follow using the words above and below.

Set up a bookcase with various objects on the shelves.



Get children to talk about which objects are above or below in relation to each other. They can then move the objects into different positions and describe their new positions.

- Here are some shapes on a grid.

Use the words to complete the sentences.

above | to the left of | below | to the right of

The triangle is _____ the cylinder. The square is _____ the circle.

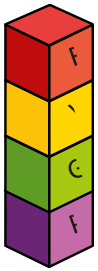
The cylinder is _____ the triangle.

The rectangle is _____ the circle.

The square is _____ the triangle.

- Here is a tower of cubes.

Complete the sentences.



The top cube is _____

The _____ cube is purple.

The cube below the yellow cube is _____

The cube _____ the yellow cube is red.

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Describe position – above and below

Year 1 | Summer term | Block 3 – Position and direction | Step 4

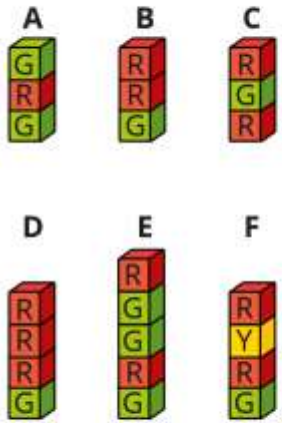
Reasoning and problem solving

Ron makes a tower of cubes.



The bottom cube is green and the top cube is red. I used fewer than 5 cubes.

Which towers could be Ron's?



Make another tower that could be Ron's.

B, D, F

multiple possible answers

all less than 5 cubes with red at the top and green at the bottom

Colour the circles to match the sentences.



- The bottom circle is blue.
- The circle below the top circle is yellow.
- The circle above the blue circle is red.
- The circle below the yellow circle is green.
- The rest of the circles are purple.

How many purple circles are there?

top to bottom: purple, yellow, green, purple, red, blue

2

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Ordinal numbers

Notes and guidance

This small step covers a non-statutory statement in the Year 1 curriculum. It has been included to support children to recognise numbers used to describe the position of something. It also links to previous learning such as ordering numbers.

Children may be familiar with the language relating to ordinal numbers from lining up, playing games or competing in races. Ensure that children have experience of not only 1st, 2nd, 3rd, but also identifying and representing other ordinal numbers and using them to explain events. They can record positions using numerals and the endings "st", "nd", "rd" and "th" as well as the words "first", "second", "third", "fourth" and so on. Children may also use the word "last" to denote the final position in a group.

Key questions

- What does "first" mean?
- When would you use the word "last"?
- When might you use ordinal numbers?
- Is there always fourth?
- Is there always first and last? Why?
- Where is the cube in the tower?
- How can you work out where is?

Things to look out for

- Children may confuse the ordinal number with the total number.
- Children may not be aware that ordinal numbers can change if the order changes. For example, if Kay is at the front of the line today, she is 1st, but if she is in another place in the line tomorrow, she is no longer 1st.

Possible sentence stems

- I know that is because …
  - The person who wins the race comes _____ came last in the race.

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Ordinal numbers

Year 1 | Summer term | Block 3 – Position and direction | Step 5

- The position after _____ is _____

  The position before _____ is _____

National Curriculum links

- Practise counting (1, 2, 3…), ordering (for example, 1st, 2nd, 3rd …) (non-statutory guidance)

Key learning

Hold a mini sports day in the playground. In groups of 4 or 5, children compete in events such as running, throwing, balancing and jumping. Discuss with children how they can describe the position they finish in each event. Who came 1st/2nd/3rd …?

Read Chicken Licken (traditional tale). Discuss who the characters are in the story and the order in which they appear.

Use small world characters as the animals from the story and order them from the first to appear, onwards. Can children explain their reasoning? For example, "The cow is 2nd because …". Provide rosettes or cards with the ordinal numbers for children to match these to the animals.

To develop this further, children could make up their own stories and use ordinal numbers to order the appearances of the characters.



As a class, sing There Was an Old Lady Who Swallowed a Fly. Can children order the animals that the lady swallowed? Can they assign each one an ordinal number? Ask which animal was last.



Read Mr Gumpy's Outing by John Burningham.

Set up a car and choose children to be the characters from the story getting into the car in order. Which ordinal number matches each character? If they swap the order in which the characters enter the car, does their ordinal number stay the same or change?

- Here are some apples.



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Ordinal numbers

Year 1 | Summer term | Block 3 – Position and direction | Step 5

- Circle the first apple.
- Underline the 4th apple.
- Tick the last apple.

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Ordinal numbers

Year 1 | Summer term | Block 3 – Position and direction | Step 5

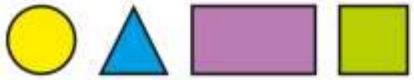
Reasoning and problem solving

Kim and Mo use the clues to draw some shapes.

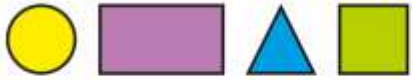
> There are four shapes.
>
> The 1st shape is a circle.
>
> The last shape is a square.
>
> The other two shapes are a triangle and a rectangle.

Here are their drawings.

Kim



Mo

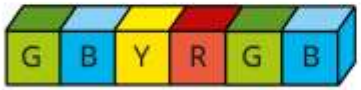


Who is correct?

Explain your answer.

Both children are correct.

Here is a line of cubes.



last 1st

What colour is the 4th cube?

The red cube is taken away.

What place is the yellow cube in now?

yellow

3rd

Ben, Sam, Jo and Max run in a race.

Use the clues to work out the order of the children.

- Jo finishes 4th.
- Max wins the race.
- Ben finishes between Sam and Jo.

1st 2nd 3rd last

1st Max

2nd Sam

3rd Ben

last Jo

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Summer Block 4

Place value (within 100)

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White Rose MATHS

Small steps

Step 1	Count from 50 to 100
Step 2	Tens to 100
Step 3	Partition into tens and ones
Step 4	The number line to 100
Step 5	1 more, 1 less
Step 6	Compare numbers with the same number of tens
Step 7	Compare any two numbers

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Notes and guidance

In this small step, children practise counting to 100, building on their knowledge of place value to 50 from the Spring term. They may have already explored counting within 100 in different ways through classroom routines or experiences at home.

Children explore oral counting of numbers 50 to 100, both forwards and backwards. Provide opportunities for them to hear the patterns in the sequence of numbers and to help them get used to the sound of the number names. They also explore counting quantities of objects and think about counting as a way of finding "how many?"

Use representations such as hundred squares to point to the numbers written in numerals while counting. This supports children to link the numeral to the sound of the number name.

Key questions

- What number comes after ?
- What number comes before ?
- Do you always need to start counting from 1?
- When you count from to , will you say the number ?
- Which number comes after 9/19/49/59/99?
- Which number comes before 50/60/70/80/90/100?
- Which numbers sound similar?

Things to look out for

- Children may struggle to count when crossing a tens boundary, for example 59, 60, 61
- Children may confuse the pronunciation of the "teen" numbers with the "ty" numbers, for example fifteen and fifty.

Possible sentence stems

- The number that comes after is _____
- The number that comes before is _____
- I want to count to , so I could start counting from _____
- I will/will not say the number because …

Count from 50 to 100

Year 1 | Summer term | Block 4 – Place value (within 100) | Step 1

National Curriculum links

- Count to and across 100, forwards and backwards, beginning with zero or 1,

or from any given number

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Count from 50 to 100

Key learning



Provide children with hundred squares, dice and counters.



In pairs, children take turns to roll a dice and move a counter the corresponding numbers of spaces on a hundred square. Encourage children to say the number on each space as they move, not the number they have rolled on the dice. The aim of the game is to be the first to reach 100. Children could also start at 100 and race backwards to zero.



Read One Is a Snail, Ten Is a Crab by April Pulley Sayre and Jeff Sayre.

Ask children to select a creature, count the number of legs and place that number of counters on ten frames. The aim of the game is to be the first to 100



Encourage children to count on as they place their counters on their ten frames.

Say a starting number and ask children to count on from that number together. You could point up or down to indicate whether they need to count forwards or backwards.

To extend this activity, children could give you a starting number and you could make some deliberate mistakes for them to spot.

- Complete the number tracks.

52	53						
68	67						
	48	49					
77	78						
			71	72			

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Count from 50 to 100

Reasoning and problem solving

Mrs Smith asks Jo, Ron and Tiny to count to 63, starting from 58



Jo: 58, 59, 61, 62, 63



Ron: fifty-eight, fifty-nine, sixteen, sixty-one, sixty-two, sixty-three



Tiny: 63, 62, 61, 60, 59, 58

What mistakes have they made?

Jo: missed out 60

Ron: confused sixty with sixteen

Tiny: counted backwards, not forwards

Tom writes the numbers in a hundred square.

Help him to fill in the gaps.

1	2	3	4	5	6	7	8	9	10
	12	13	14	15	16	17		19	20
21	22	23	24	25	26	27	28		
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48		
	52	53		55	56	57	58	59	60
61	62	63	64	65		67	68	69	
	72	73	74	75	76	77			80
	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98		

How did you know which numbers to write?

hundred square completed correctly

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Tens to 100

Notes and guidance

In this small step, children continue to develop their understanding of numbers to 100

Children begin by extending their knowledge of multiples of 10 from the Spring term to include 60, 70, 80, 90 and 100. They then explore the efficiency of counting in ones compared to grouping in tens. The use of practical equipment such as ten frames, base 10 and bead strings supports this. Provide children with a range of different practical experiences where they can explore counting by grouping in tens and counting by leaving items as ones. This lays the foundation and underpins children's understanding of tens and ones. It is crucial for future learning that they are provided with opportunities to explore and understand that 1 ten is equal to 10 ones.

Things to look out for

- Children may not see the equivalence between 10 ones and 1 ten.

Key questions

- How can you show 1 one/10 ones?
- How can you show 1 ten?
- How many tens are there in ?
- If you have 7 full ten frames, what number have you made?
- Is there more than one way to count the objects?
- What is the most efficient way to count the objects?

Possible sentence stems

- _____ ten frames are full, so I know that I have made _____
- There are tens.
  This is equal to _____
- Children may rely on counting items individually as ones, rather than grouping objects into tens.

There are more ones.

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Count from 50 to 100

Year 1 | Summer term | Block 4 – Place value (within 100) | Step 1

The number is _____

National Curriculum links

- Count to and across 100, forwards and backwards, beginning with zero or 1, or from any given number
- Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s

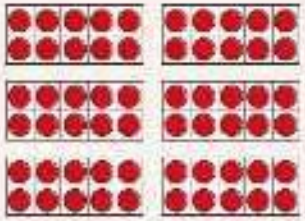
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Tens to 100

Key learning

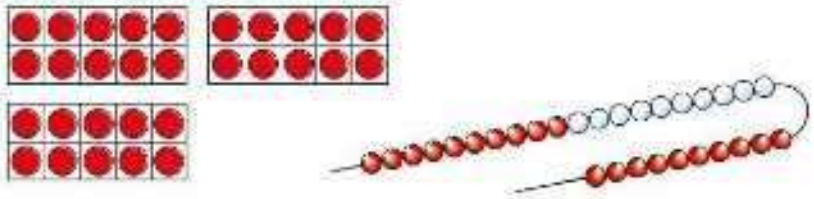


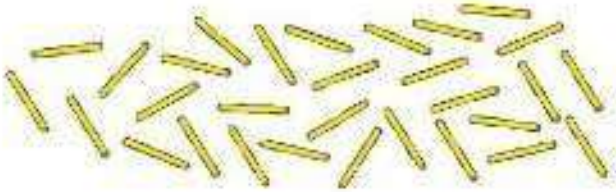
Show children representations of numbers, some of which show multiples of 10 and some that do not. Ask them to decide if the number shown is a multiple of 10 and to explain how they know.





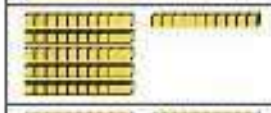
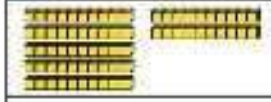
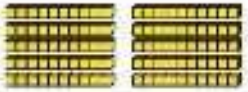
- What is the same? What is different?





Which is easiest to count? Why?

- Complete the table.

Base 10	Number	How many tens?
	50	
		6 tens
		
	80	
		9 tens
		

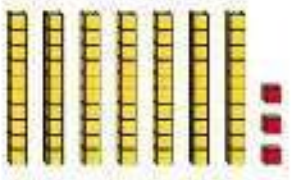
- Complete the sentences to match the base 10

There are _____ tens.

This is equal to _____

There are _____ more ones.

The number is _____



Partition into tens and ones

Year 1 | Summer term | Block 4 – Place value (within 100) | Step 3

Year 1 | Summer term | Block 4 – Place value (within 100) | Step 2

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Tens to 100

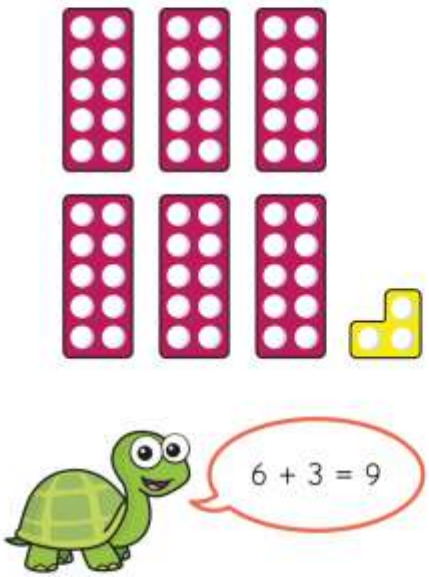
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Partition into tens and ones

Year 1 | Summer term | Block 4 – Place value (within 100) | Step 3

Reasoning and problem solving

Tiny uses number pieces to make a number.



What mistake has Tiny made?

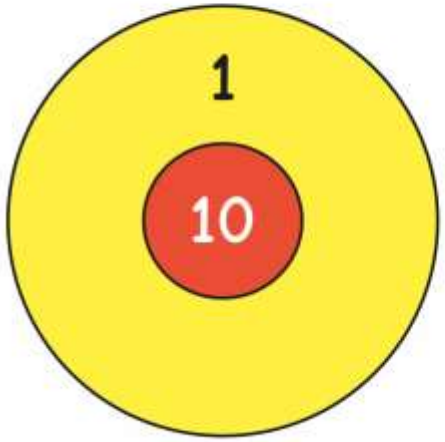
What number is shown?

How do you know?

63

6 tens and 3 more

Kay is playing a darts game.



She scores 10 points if the dart lands in the red zone.

She scores 1 point if the dart lands in the yellow zone.

Kay throws 9 darts.

How many points could she have scored?

9, 18, 27, 36, 45, 54, 63, 72, 81, 90

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Notes and guidance

In this small step, children further develop their understanding of place value for 2-digit numbers from the Spring term, as they now partition numbers to 100

Children identify how many tens and how many ones make a number. They begin by investigating partitioning with concrete resources, such as base 10, followed by abstract numbers and other representations such as part-whole models. They need to recognise that it does not matter whether they record the tens part or the ones part first, as the whole remains the same.

Children explore the link between the number names, the digits used and the tens and ones structure to support their understanding of numbers up to 100

At this stage, children do not need to describe the part-whole model as an addition number sentence.

Things to look out for

Key questions

- How many tens are there? How many ones are there? What is the number?
- What is the whole?
- What are the parts?
- Does it matter which way round the parts are?
- How does partitioning a number help you to read and write it?

Possible sentence stems

- There are tens.
  There are ones.

  The number is ____ is the whole. is a part and is a part.

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- Children may partition the number into its digits, rather than considering the value of each digit, for example stating that 64 is made up of 6 and 4

- Children may find it confusing if the parts are shown in a non-standard order and may write that, for example, 2 and 80 are equal to 280 or 28 rather than 82

National Curriculum links

- Count to and across 100, forwards and backwards, beginning with zero or 1, or from any given number

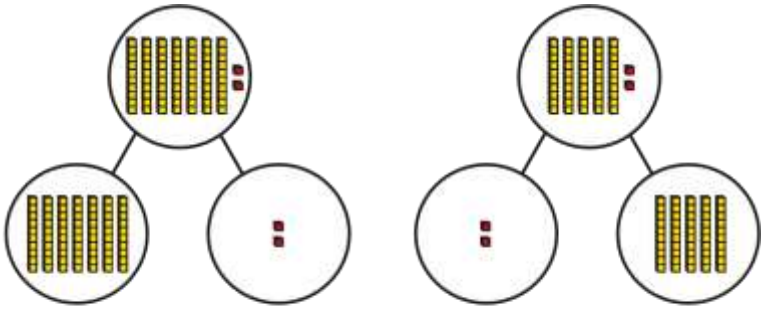
- Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s

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Partition into tens and ones

Key learning

- Complete the sentences for each part-whole model.



There are ____ tens.

There are ____ ones.

The number is _____

What is the same and what is different about the part-whole models?





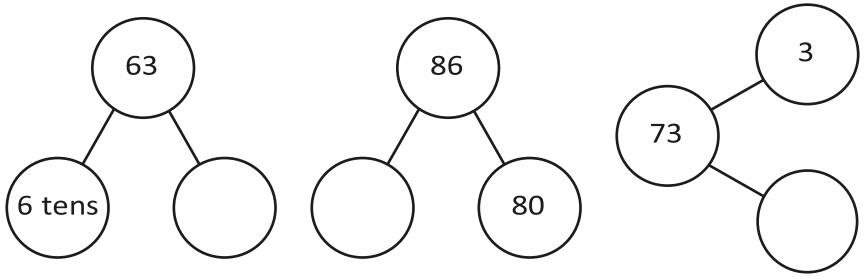
Provide children with 9 tens and 9 ones in base 10 and ask them to make a number using some of their base 10. They can then partition their number into tens and ones. Ask children to complete a part-whole model to show their number.



Read Penguin Place Value by Kathleen L Stone and ask questions about the book. How many fish have the penguins caught? How many groups of ten were there? How many extra ones are there?

Ask children to draw a part-whole model for the number of fish caught.

- Complete the part-whole models.



- Use part-whole models to partition the numbers into tens and ones.

54	94	87	61

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Partition into tens and ones

Year 1 | Summer term | Block 4 – Place value (within 100) | Step 3

Reasoning and problem solving

Tiny is working out how many sweets there are.





Do you agree with Tiny?

Explain your answer.

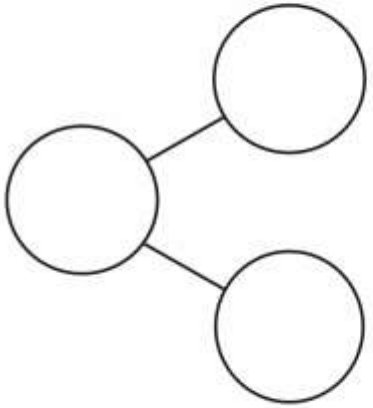
No

Here are four digit cards.

5	7	9	0

What 2-digit numbers can you make?

Use a part-whole model to partition each number.



50, 57, 59, 70, 75, 79, 90, 95, 97

multiple possible answers

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The number line to 100

Year 1 | Summer term | Block 4 – Place value (within 100) | Step 4

Notes and guidance

Children have previously encountered number lines to 10, 20 and 50. In this small step, this is extended to number lines up to 100

Children see examples of number lines with different start and end point values that have intervals in both 1s and 10s. They use their knowledge of counting both forwards and backwards to label number lines counting up in 1s, then in 10s. They identify missing values on a number line, as well as marking the positions of given numbers on unlabelled number lines.

Once they are confident with labelling and finding numbers on unlabelled number lines, children can progress to estimating the positions of numbers on blank number lines.

Things to look out for

Key questions

- What number comes after/before ?
- What is the value of the start/end of the number line?
- How much is each jump on the number line? How do you know?
- What number is halfway along the number line?
- Should be to the left or right of halfway? How do you know?
- Is closer to or ?

Possible sentence stems

- _____ is to the left/right of halfway.
- I know the number line is going up in s because …
- The number halfway along the number line is _____

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- Children may struggle to label a number line if it crosses a multiple of 10
- Children may assume that all number lines start from zero or count in 1s.
- Children may label the intervals rather than the divisions.

National Curriculum links

- Count to and across 100, forwards and backwards, beginning with zero or 1, or from any given number
- Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least

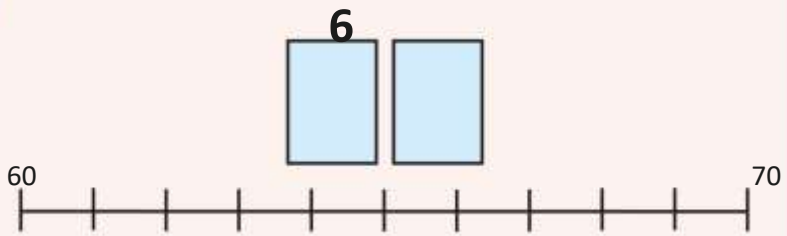
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The number line to 100

Key learning

Use chalk to draw number lines with different start and end point values on the playground so that the number line is always counting in 1s. Children practise starting on a given number and hopping to another. Discuss which numbers they land on.

Provide children with a number line and digit cards from 0 to 9

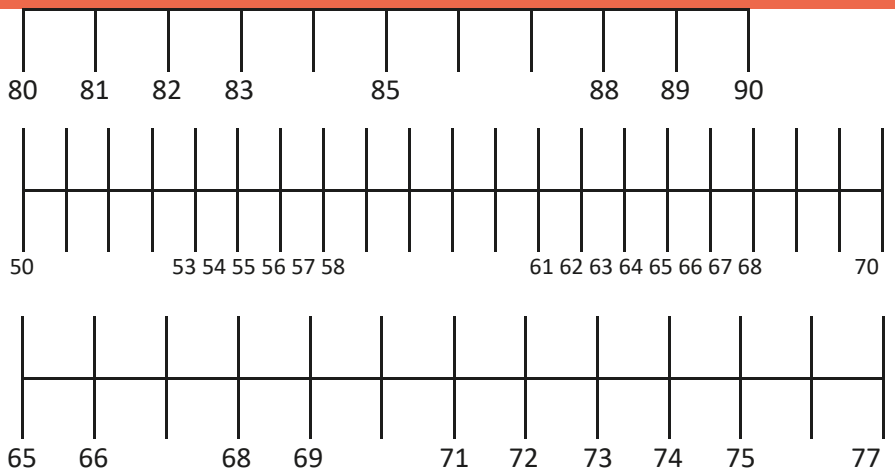


Children take turns to pick a digit card to complete the 2-digit number. They then write their number in the correct position on the number line.

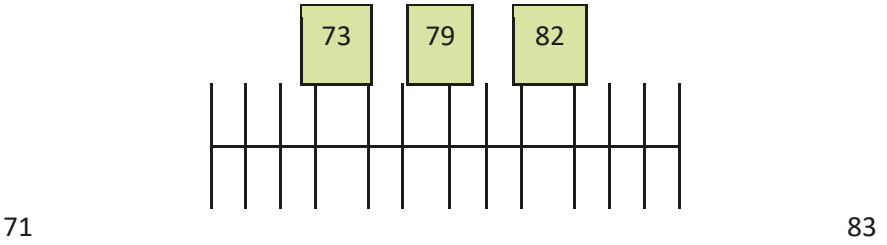
This could be extended to number lines with different start and end point values for example 54 to 66, to see if there are other 2-digit numbers that could be made using the digit cards.

- Complete the number lines.

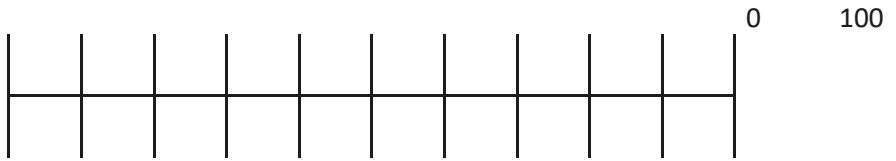




- Draw arrows to show where the numbers belong on the number line.



- Complete the number line.



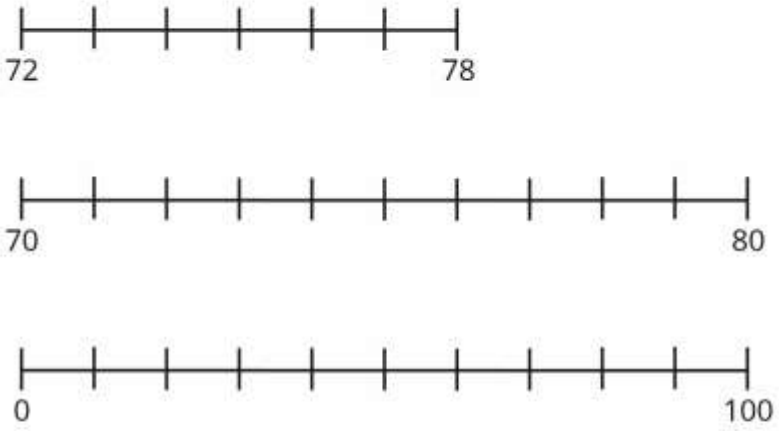
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1 more, 1 less

Year 1 | Summer term | Block 4 – Place value (within 100) | Step 5

Reasoning and problem solving

Label 75 on each number line.



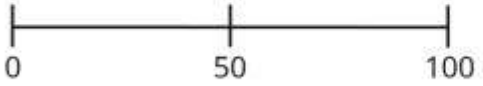
Which number line was easiest to label?

Which number line was hardest to label?

75 accurately marked on each number line

Tiny estimates where the numbers belong on the number line.

21	53	94	48





Explain why Tiny is correct.

Write **left** or **right** to complete the sentences.

53 is to the _____ of 50

94 is to the _____ of 50

48 is to the _____ of 50

right

right

left

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The number line to 100

Year 1 | Summer term | Block 4 – Place value (within 100) | Step 4

Notes and guidance

In this small step, children revisit the concept of 1 more and 1 less. They explore this in the context of numbers from 50 to 100 by applying the counting skills developed earlier in the block.

To support children in understanding the meaning of the words "more" and "less", provide opportunities for them to hear and use these words in context, for example "Please pass me 1 more pen." They need to know that 1 more is the number after the given number, and 1 less is the number before the given number.

Base 10, hundred squares and number lines can be useful representations to support children in exploring this concept.

Key questions

- How can you show the number ?
- What does 1 more/less mean?
- How can you find 1 more/less?
- How can you use a number line to find 1 more/less?
- How does this change the number? What digit(s) change?
- Is it only ever the ones digit that changes?

Things to look out for

- Children can find counting backwards more challenging and miss out numbers or say them in the wrong order.

Possible sentence stems

- 1 more than is _____
  _____
  _____
  _____
- 1 less than is
- is 1 more than
- _____ is 1 less than

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- Children may struggle to identify 1 more or 1 less when the number crosses a multiple of 10
- When using base 10, children may add or remove a ten rather than a one piece. As a result, they find 10 more or less rather than 1 more or less.

National Curriculum links

- Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least

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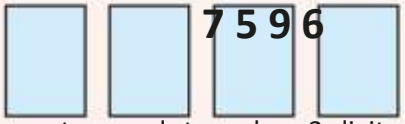
1 more, 1 less

Key learning

Choose a number. On a hundred square, remove or cover up the numbers before and after your number. Ask children to tell you 1 more and 1 less than your number.

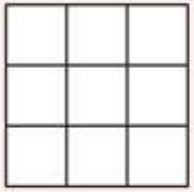
Ask children to build different 2-digit numbers using base 10. They then explore how to use the base 10 to find 1 more or 1 less than their starting number. Discuss what happens if their number has 9 ones and they find 1 more, or zero ones and they find 1 less.

Provide children with a selection of digit cards.



Children choose two cards to make a 2-digit number.
Ask them what is 1 more and 1 less than their number.
Discuss which digit(s) change.

Provide children with a 3 × 3 grid to play "1 more, 1 less bingo".



Ask children to put a number between 50 and 100 in each box.

Call out numbers between 50 and 100. Children can only cross out a number on their grid if it is 1 more or 1 less than the number called out.

- Part of a hundred square has been cut out.

		37			
	46	47			
55		57			
65					

Fill in the missing numbers.

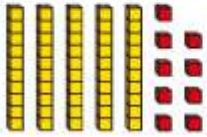
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1 more, 1 less

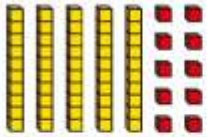
Year 1 | Summer term | Block 4 – Place value (within 100) | Step 5

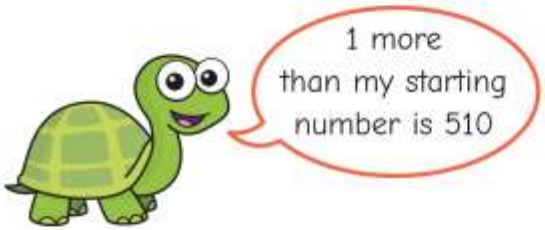
Reasoning and problem solving

Tiny uses base 10 to make a number.



Tiny makes 1 more than the number.





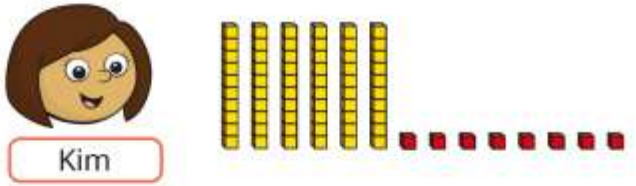
What mistake has Tiny made?

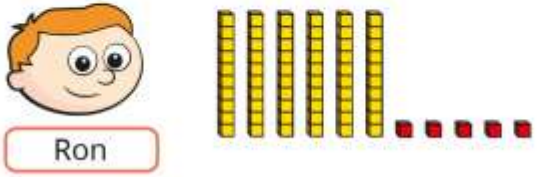
Use base 10 to find 1 more than 59

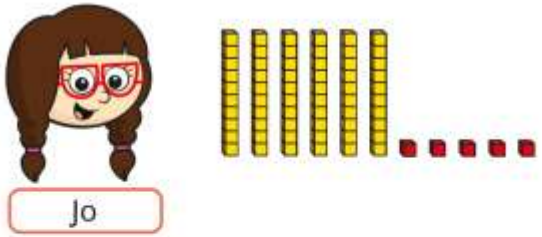
60

Move 2 ones to make the statements correct.

- Ron has 1 more than Kim
- Jo has 1 less than Kim







Move 2 ones from Kim and give them to Ron.

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Year 1 | Summer term | Block 4 – Place value (within 100) | Step 6

Compare numbers with the same number of tens

Notes and guidance

In this small step, children build on their learning from earlier in the year to compare numbers within 100. In previous blocks, children were introduced to the terms “greater than”, “less than” and “equal to” alongside the corresponding inequality symbols >, < and =.

Children will need to practise using the words “fewer” and “less” accurately. Fewer is used when talking about a number of objects, whereas less is used when talking about values.

Children use their understanding of the values of the digits in a 2-digit number to compare numbers with the same number of tens but a different number of ones. Encourage them to notice that when the tens digit is the same, they only need to compare the number of ones to decide which number is greater.

Key questions

- How can you use base 10 to show the numbers?
- How many tens does each number have? How many ones does each number have?
- Is greater/less than ? How do you know?
- How can a number line help you to compare numbers?

Possible sentence stems

- _____ is equal to tens and ones.
- _____ tens is to tens. ones is greater/less than _____ ones. is greater/less than _____ So _____

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1 more, 1 less

Year 1 | Summer term | Block 4 – Place value (within 100) | Step 5

Things to look out for

- Children may confuse the inequality signs.
- Children may confuse the values of the ones digit and the tens digit.
- is greater/less than because …

National Curriculum links

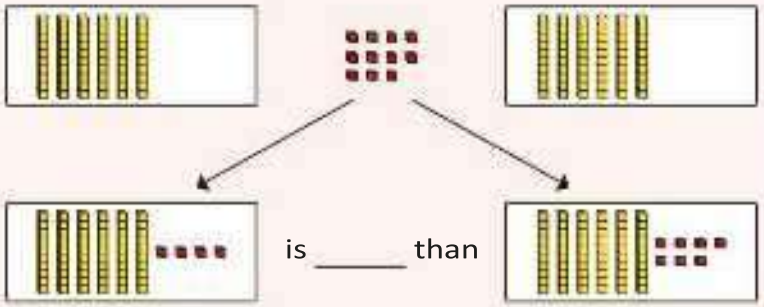
- Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least

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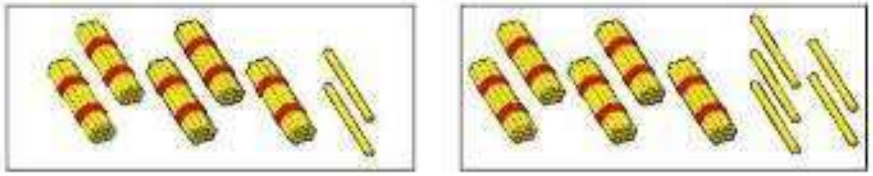
Compare numbers with the same number of tens

Key learning

Provide pairs of children with the same number of tens each. Then give them between 1 and 18 ones to share. Ask them to split their ones to make two 2-digit numbers. They can then compare their numbers, completing the sentence using “greater” or “less”.



- Complete the sentences to compare the numbers.

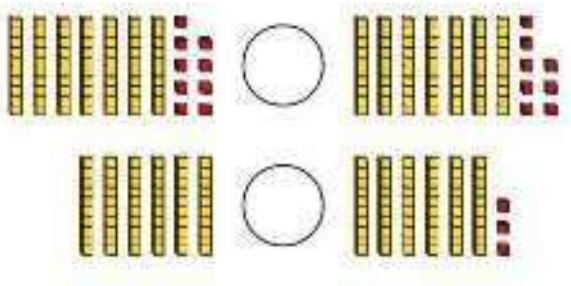


There are _____ tens in each number.

2 ones is _____ than 5 ones.

So 52 is _____ than 55

- Write < or > to compare the numbers.



- Write <, > or = to compare the numbers.

58 ◯ 55

93 ◯ 97

80 ◯ 8 tens

- Complete the statements.

80 < 8__ 75 > 7__ 66 < 6__

51 > 5__ 98 < 9__

Is there more than one way to complete any of the statements?

Compare any two numbers

Year 1 | Summer term | Block 4 – Place value (within 100) | Step 7

Year 1 | Summer term | Block 4 – Place value (within 100) | Step 6

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Compare numbers with the same number of tens

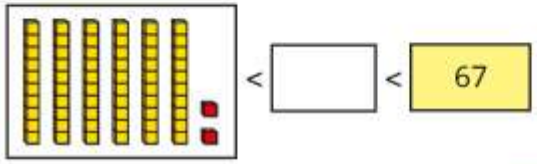
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Compare any two numbers

Year 1 | Summer term | Block 4 – Place value (within 100) | Step 7

Reasoning and problem solving

What could the missing number be?



Is there more than one answer?

63, 64, 65, 66



Do you agree with Tiny?

Explain your answer.

Yes

Here are some digit cards.

4	0	7	5

Ron and Mo each choose a digit card to make a 2-digit number.



Ron

8	



Mo

8	

Ron's number is greater than Mo's number.

What numbers could they have made?

How many answers can you find?

six possible combinations:

87 and 85/84/80

85 and 84/80

84 and 80

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Notes and guidance

In this small step, children build on their learning from the previous step to compare any two numbers.

To begin with, children compare multiples of 10. They then use their understanding of the value of the digits in a 2-digit number to firstly compare two numbers with the same number of ones and different tens, before comparing two numbers with different numbers of tens and ones. They use their knowledge of partitioning to support them in this. It is important for children to explore a range of concrete resources to make comparisons more visual.

Children use the terms “greater than”, “less than” and “equal to” alongside the corresponding inequality symbols >, < and =. It is important that they have the opportunity to use all the symbols, in order to reinforce the meaning of each one.

Key questions

- Which is greater, 7 tens or 3 tens/70 or 30? How do you know?
- How can you make both numbers using base 10?
- Which number has more/fewer tens?
- Which number has more/fewer ones?
- Which number is greater? How do you know?
- Why is it important to look at the tens before the ones?

Things to look out for

- Children may confuse the inequality symbols.

Possible sentence stems

- _____ tens are greater/less than tens.
- When I compare numbers, I need to compare the first.
- is equal to tens and ones.
- _____ is greater/less than because …

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- Children may confuse the values of the ones digit and the tens digit.
- Children may compare numbers by only looking at either the ones digit or the tens digit.

National Curriculum links

- Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least

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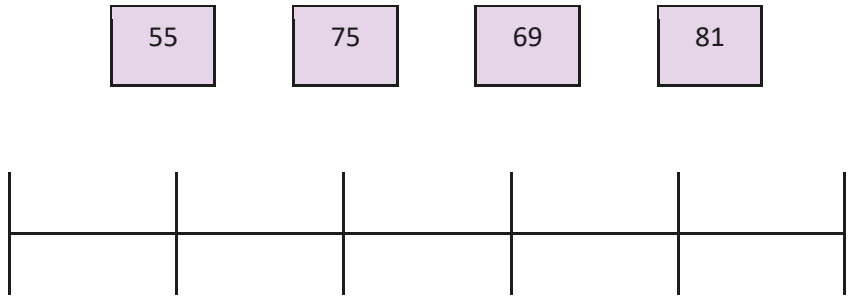
Compare any two numbers

Year 1 | Summer term | Block 4 – Place value (within 100) | Step 7

Key learning

- Write **greater** or **less** to complete the sentences.
  Use base 10 to help you.

Put children into pairs. Each child needs base 10 and two 0–9 dice.



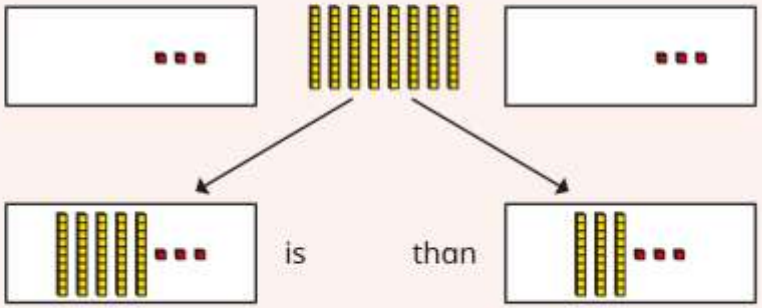
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Compare any two numbers

Year 1 | Summer term | Block 4 – Place value (within 100) | Step

- 7 tens is than 4 tens
- 2 tens is than 9 tens.
- 80 is than 30

Provide pairs of children with the same number of ones each. Then give them between 1 and 18 tens to share. Ask them to split the tens to make two 2-digit numbers. They can then compare their numbers, completing the sentence using "greater" or "less".



What do they notice?

Both children roll their dice to make a 2-digit number. The first dice gives the number of tens and the second dice the number of ones. Children then use base 10 to build their numbers and compare them using the inequality symbols.

- Estimate where the numbers belong on the number line.

50 60 70 80 90 100

Write < , > or = to compare the numbers.

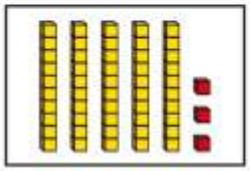
55 75 69 75

75 81 81 69

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Reasoning and problem solving

What could the missing number be?



> ☐ > 7 ones and 4 tens

How many possible answers can you find?

48, 49, 50, 51 or 52 either written, drawn or built

Tiny is comparing numbers.



Do you agree with Tiny?

Explain your answer.

No

Use the numbers to complete the statements.

63	45	24	99

You can use each number only once.

☐ < ☐ ☐ > ☐

How many answers can you find?

multiple possible answers, e.g.

63 < 99 45 > 24

45 < 63 99 > 24

Here are some digit cards.

1	3	5	6

Use the digit cards to make the statement correct.

☐☐ < ☐☐

How many answers can you find?

multiple possible answers, e.g.

31 < 65

Summer Block 5

Money

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White Rose MATHS

Small steps

Step 1	Unitising
Step 2	Recognise coins
Step 3	Recognise notes
Step 4	Count in coins

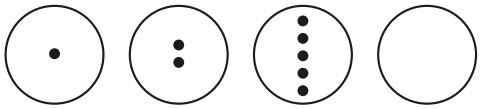
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Unitising

Year 1 | Summer term | Block 5 – Money | Step 1

Notes and guidance

In this small step, children are introduced to the idea that groups containing or representing the same number of things can be treated as ones. For example a 5 pence coin represents five 1 pence coins. One item does not need to represent a value of one – this is called "unitising".



Pre-money counters are used in this step to support children's understanding. These counters are all the same size and colour and have dots on one side to represent their value. This helps children to see the value (cardinality) before they move on to coins where the value is not shown as a visual. By using objects that are the same size and colour, the focus is on exploring the different values that one counter can represent. This supports children to then understand that the value of coins is independent of size, shape, mass or colour.

Key questions

- How many dots are there on the counter?
- What is the value of the counter?
- How can you use counters to represent the value of the coin?
- How can you use coins to match the value of your counters?
- What is the same? What is different?
- What do you notice?

Possible sentence stems

- There are dots.
  The counter has a value of _____
- The has a value of _____
- This is a pence coin.
  It has a value of _____

National Curriculum links

- Recognise and know the value of different denominations of coins and notes

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Things to look out for

- Children may not recognise that one item can have a value greater than 1. A pre-money counter with 5 dots has the same value as five pre-money counters with 1 dot.

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Unitising

Key learning

Give children a range of different pre-money counters to explore.



Discuss what is the same and what is different.

How many 1/2/5 counters have the same value as a 10 counter?

Show children a pre-money counter with a value of 1. Now show them a 1 pence coin. Explain that both have a value of 1

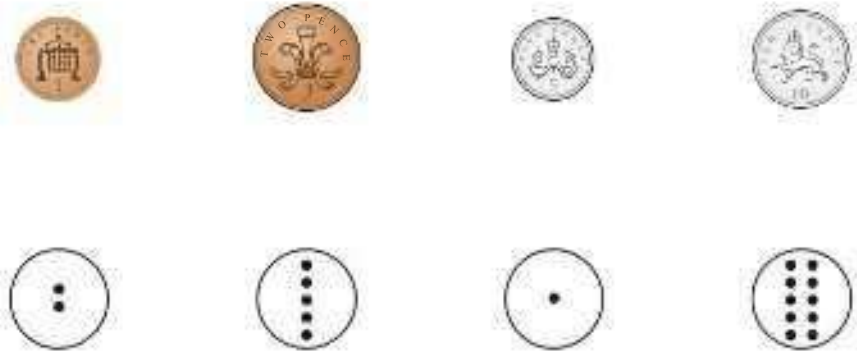


Show children two 1 pence coins. Ask them to represent the coins using pre-money counters. How many counters will they need? Why?

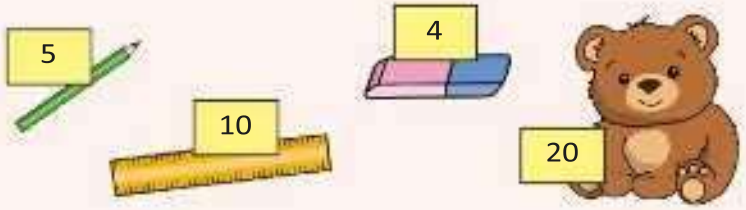


Repeat with 2, 5 and 10 pre-money counters and coins.

- Match the coins to the counters.



Set up a role-play shop and provide children with pre-money counters.



Can children show the correct value of pre-money counters for each item?

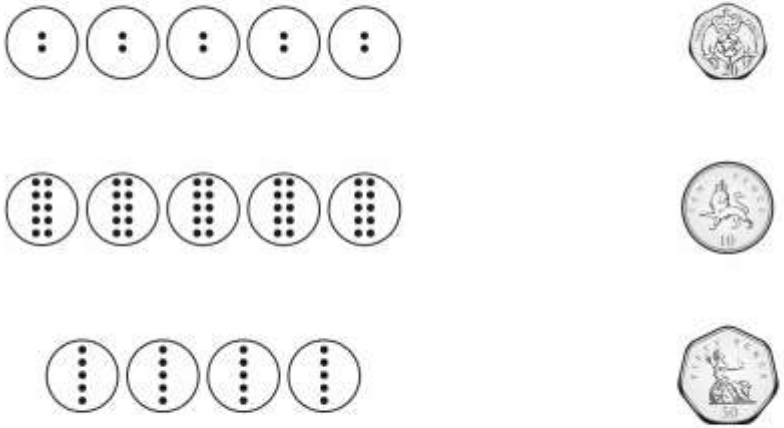
Is there more than one way to do it?

Unitising

Year 1 | Summer term | Block 5 – Money | Step 1

Reasoning and problem solving

Match the counters to the coins.



What other counters can you use to match the value of each coin?

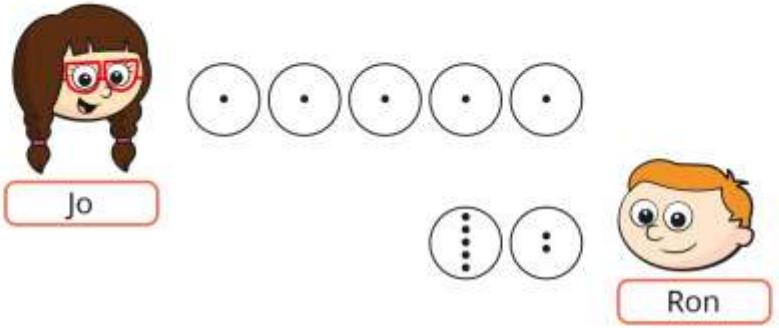
Compare answers with a partner.

five 2 counters matched to 10 pence

five 10 counters matched to 50 pence

four 5 counters matched to 20 pence

Jo and Ron have some counters.



Whose counters have a greater total value?

Explain your answer.

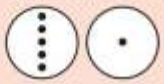
Mo also has some counters.

His counters are worth more than Jo's but less than Ron's.

What counters could Mo have?

Ron

multiple possible answers to make a total of 6, e.g.



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Recognise coins

Year 1 | Summer term | Block 5 – Money | Step 2

Notes and guidance

In this small step, children formally explore coins for the first time. In the previous step, they identified the value of different counters and began to transfer that understanding to coins. They continue to explore and recognise the value of different denominations of coins.

Discuss equivalence, showing children that a 20p coin is equivalent to twenty 1p coins and also two 10p coins. This helps them to see why we unitise and use coins with different values rather than using single pennies for everything.

Once children are confident with recognising pence, introduce the £1 and £2 coins, explaining that they have a greater value than pence. Although children do not need to formally convert pounds to pence, it may be useful for them to see that £1 is equivalent to 100p. At this stage, children do not need to be introduced to the notation £ and p, as this is covered explicitly in Year 2

Key questions

- What is the value of the coin? How do you know?
- What is the same and what is different about the coins?
- Which coin has the greater value? How do you know?
- What other coins have the same value as one pence coin?
- How have you sorted your coins?
- How can you order the coins?

Things to look out for

- Children may confuse pounds with pence, for example identifying a £2 coin as 2 pence because “two” is written on the face.

Possible sentence stems

- There are 1 penny coins.
  The total value is _____
- This is a pence coin.
  It has the same value as 1 penny coins.

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- I know that these coins are pounds/pence because ...

National Curriculum links

- Recognise and know the value of different denominations of coins and notes

Recognise coins

Key learning

Hide a selection of 1p, 2p, 5p and 10p coins and pre-money counters up to the value of 10 around the classroom. Ask children to find matching pairs.

Give children a range of different coins to explore. Are they able to recognise and name each coin?

Ask children to sort the coins. Which are pounds and which are pence? How do they know?

Read The Great Pet Sale by Mick Inkpen.

Set up a role-play pet shop. Use a range of toy animals and label them with different price tags: 1 penny, 2 pence, 5 pence, 10 pence, 20 pence, 50 pence,1 pound and 2 pounds.



50 pence

Encourage children to use only one coin to buy a pet.

- Match each coin to its value.



2 pounds	1 penny	2 pence	1 pound

- Complete the sentences.



There are _____ 1 penny coins.

There are _____ 10 pence coins.

There are _____ 1 pound coins.

Provide pairs of children with a set of 1p, 2p, 5p, 10p, 20p, 50p, £1 and £2 coins. Ask them to order the coins by size, from smallest to largest. Then ask them to order the coins by value, from smallest to greatest.

What do they notice?

Recognise coins

Reasoning and problem solving



Max has a coin.



- It is not the smallest in size.
- It is not the greatest in value.
- It is silver.
- It is circular.

Can you work out which coin is Max's?

How do you know?

Choose a coin and make clues for a partner to guess your coin.

10 pence

Which is the odd one out?

20 pence	8 pence
2 pence	10 pence

Explain your answer.

8 pence

Kay's coins are making shadows.



Which coins could Kay have?

Which coins could Kay **not** have?

A: 50p

B: 5p

C: £1

D: 20p

Recognise notes

Notes and guidance

In this step, children further develop their understanding of money by recognising and investigating the value of notes.

Children use their understanding of place value to compare the value of different notes, for example recognising that a £20 note has a greater value than a £5 note because 20 > 5. They recognise that the larger the size of the note, the higher the value.

Children explore how one note can have the value of many coins and/or notes. For example, a £10 note has the same value as two £5 notes or five £2 coins or ten £1 coins. Discuss why we use notes as well as coins.

Children are less likely to have encountered a £50 note, as these are much less common in everyday life.

Key questions

- What is this note?
- What is the same about each note?
- What is different about each note?
- Which note has the highest value? How do you know?
- Which note has the lowest value? How do you know?
- How many pound notes are equal to a pound note?

Things to look out for

- When there are multiple notes, for example, three £5 notes compared to one £10 note, children may believe that the £10 note has a higher value, because it is larger in size than the £5 notes.
- Children may confuse pounds with pence.

Possible sentence stems

- One pound note is equal to pound notes/coins.
- I know that a pound note has a higher value than a pound note because ...
- A pound note has the same value as 1 pound coins.

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Recognise notes

Year 1 | Summer term | Block 5 – Money | Step 3

National Curriculum links

- Recognise and know the value of different denominations of coins and notes

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Recognise notes

Year 1 | Summer term | Block 5 – Money | Step 3

Key learning

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Recognise notes

Year 1 | Summer term | Block 5 – Money | Step 3



Scatter some £5, £10, £20 and £50 notes on the floor.



Explain that some money has fallen out of your pocket. Ask children to identify and collect the notes, one value at a time. What is the value of each note?





Ask the class to imagine they are at the fair. To go on the rides, they must use 1 pound coins, but they only have a selection of notes. They need to change their notes into the correct number of 1 pound coins at the change booth.

Ask how many 1 pound coins they will get for a £5/£10/£20 note.

- Here are some notes.



Complete the sentence for each type of note.

There are

There are

There are

There are

- Write <, > or = to compare the amounts.



- How many 5 pound notes are equal in value to one 10 pound note?
  How many £10 notes are equal in value to one 5 pound notes.

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Recognise notes

Year 1 | Summer term | Block 5 – Money | Step 3

10 pound notes.

20 pound notes. 50 pound notes.

20 pound note?

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Recognise notes

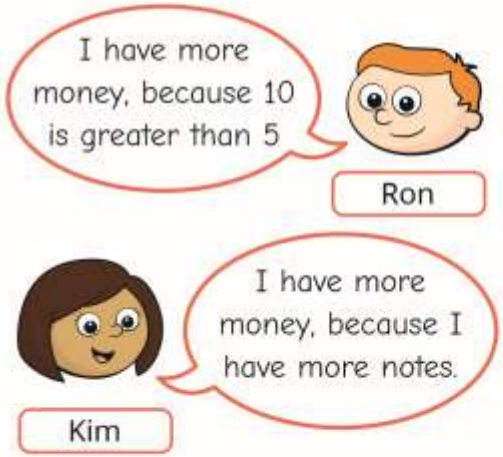
Year 1 | Summer term | Block 5 – Money | Step 3

Reasoning and problem solving

Ron and Kim each have some money.

Ron's money 

Kim's money 



Who is correct?

Explain your answer.

Both children are incorrect.

Is the statement always true, sometimes true or never true?

> Money in notes is worth more than money in coins.

Explain your answer.

sometimes true

Sam has got some money.



What notes could Sam have?

What is the value of the notes?

£5 note and £10 note; £15

£5 note and £20 note; £25

£10 note and £20 note; £30

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Year 1 | Summer term | Block 5 – Money | Step 4

Count in coins

Notes and guidance

In the previous small steps, children recognised and identified the value of coins and notes and saw how one note or coin could have the same value as a combination of a number of other notes or coins.

In this step, they use their knowledge of the values of coins to solve problems by counting in 2s, 5s and 10s. This allows children to count money more efficiently. Although they do not need to count in 20s or 50s, they will count on from them. For example, with a 20p coin and three 2p coins, they need to start at 20 and count on in 2s.

Encourage children to draw coins or representations to match a given amount and use previous learning to compare amounts of money.

to look out for

- Children may find it more difficult to work out total amounts when there are different denominations of coins rather than just one type of coin.

Key questions

- How can you count in 2s, 5s or 10s?
- How many coins are there?
- What is the value of each coin? What is the total amount?
- How can you use “greater than”, “less than” or “equal to” to compare each set of coins?

Possible sentence stems

- The value of each coin is pence, so I need to count in s.
- There are coins.
  Each coin has a value of pence.
  The total amount is pence.

Things

- When comparing sets of coins, children may believe that the greater number of coins has the greater value.

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National Curriculum links

- Recognise and know the value of different denominations of coins and notes

- Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s

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Count in coins

Key learning

- Complete the number tracks to match the coins.

  What is the total value of coins in each set?

2	4	6							

5	10								



Set up a bus stop and have chairs in the positions of seats on a bus.

A ticket for the bus costs 20p.

Give each child a set of either 2p, 5p or 10p coins. Encourage them to count in 2s, 5s or 10s, depending on their coins, to pay for their bus ticket.

How many coins do they need?

How many coins would they need if they also bought a ticket for a friend?

- How much money is there?

  - 
  - 
  - 
  - 

  Which totals were easier to work out? Why?

- Write <, > or = to compare the amounts.



Count in coins

Year 1 | Summer term | Block 5 – Money | Step 4

Reasoning and problem solving

Tom has 40 pence in his money box.

There is only one 10 pence coin.

All the other coins are the same.

They are all 1 pence, 2 pence or 5 pence coins.

How many of each coin might there be?

thirty 1 pence coins

fifteen 2 pence coins

six 5 pence coins

Fay has 3 of the same type of coin in her hand.

Dan has 5 of the same type of coin in his hand.



Fay must have more money because she has more coins.

Do you agree with Tiny?

Explain your answer.

No

Mo, Kim and Jo each have some money.



I have 2 silver coins.

Mo

I have 5 bronze coins.



Kim



I have 1 silver coin.

Jo

They each have the same amount of money.

Which coins do they each have?

Mo: two 5p coins

Kim: five 2p coins

Jo: one 10p coin

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Summer Block 6

Time

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White Rose MATHS

Small steps

Step 1	Before and after
Step 2	Days of the week
Step 3	Months of the year
Step 4	Hours, minutes and seconds
Step 5	Tell the time to the hour
Step 6	Tell the time to the half hour

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Before and after

Notes and guidance

In this small step, children are introduced to key vocabulary relating to time.

Provide children with opportunities to explore the vocabulary in context, relating to their everyday routines. A visual timetable can support children to keep track of events and support discussions around the order of events.

Children use “before”, “after”, “first”, “next” and “finally” to describe, sort and order events. When talking about the day, they use “morning”, “afternoon” and “evening”. This can be explored through daily discussion of everyday routines, for example “After story time, we will go home.”

Things to look out for

- Children may confuse “before” and “after”.
- Children may confuse “morning”, “afternoon” and “evening”.

Story books can be used to support this in a different context and allow children to relate to events that happen within a story.

Key questions

- What do you do in the morning/afternoon/evening?
- Which activities do you do before/after school?
- Why have you ordered the pictures before/after each other?

Can you describe what you have done today, using “This morning, I …”, “This afternoon, I …”, “This evening, I …”?

- What comes after/before ?

Possible sentence stems

- Before/after I , I _____
- First, I … Next, I …
- Events that may occur in both the morning and afternoon/evening, for example reading a book, could add confusion when ordering events.

Finally, I …

- This morning, I …

This afternoon, I …

This evening, I …

National Curriculum links

- Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening)

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Before and after

Key learning

Provide children with a selection of fruit and wooden skewers and get them to make kebabs. Can they tell their partner how they made their kebab using the terms “first”, “next”, “then” and “finally”?



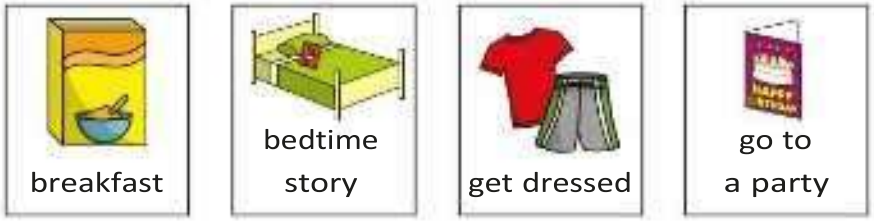
Read Peace at Last by Jill Murphy. Ask children to retell the story, recalling the different noises in the correct order and using the terms “before”, “after”, “first”, “then”, “next” and “finally”.

Encourage children to use the same vocabulary to make up their own stories about the noises they may hear at home.

Ask children to create a story or draw their daily routine using a comic strip.

Then ask them to cut up and rearrange their story or daily routine to create a silly story. Get them to tell their story to a partner using “before”, “after”, “first”, “then”, “next” and “finally”.

- Sort the activities into **before** and **after** school.



  - Think of one more activity for each group.
  - Sort the activities into three groups: “morning”, “afternoon” and “evening”.

- Describe the order in which Ron should put these clothes on.



Could Ron have put some items on in a different order? Why?

- Complete the sentences.

When I wake up in the morning, the first thing I do is …

Next, I …

Before I go to school, I …

After school, I …

Year 1 | Summer term | Block 6 – Time | Step 1

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Days of the week

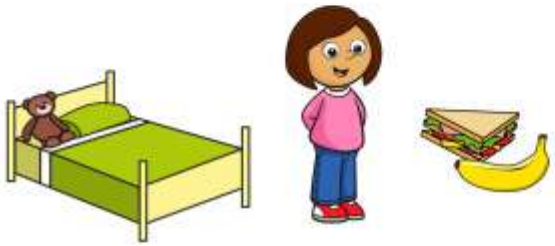
Year 1 | Summer term | Block 6 – Time | Step 2

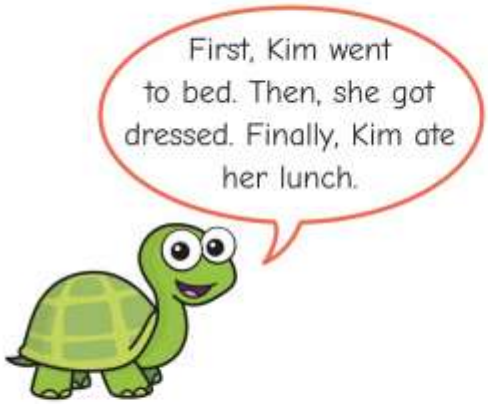
Before and after

Reasoning and problem solving

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Tiny is describing some things that Kim did today.





Tiny is in a muddle!

What is the correct order?

First, Kim got dressed.

Then, Kim ate lunch.

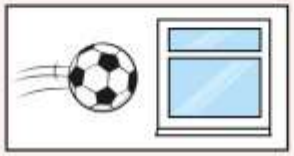
Finally, Kim went to bed.



Ask children to look at the picture and then draw what may have happened before and after the event.

Encourage children to describe the sequence of events using the words **before** and **after**.

before



after

Discuss possible answers as a class.

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Days of the week

Year 1 | Summer term | Block 6 – Time | Step 2

Notes and guidance

In this small step, children relate the vocabulary used in the previous step, “before” and “after”, to the days of the week.

Children learn the sequence of the days in a week and know that there are 7 days that repeat in a cycle. Rhymes and songs can be a useful aid in remembering the correct order of the days. Children also describe events using the vocabulary “today”, “yesterday” and “tomorrow”.

Support children’s developing understanding of time by regularly referring to a calendar displaying the days of the week. This will help them to relate the reoccurring weekly timetable of events to specific days of the week, for example PE lessons on a Tuesday and a Thursday, and to record and count down to key activities and events.

Key questions

- What day is it today?
- Which day comes before/after ?
- What day was it yesterday?
- What day will it be tomorrow?
- If today is , what will tomorrow be?
- Which days are at the weekend? How do you know?

Things to look out for

- Some children may struggle to remember the correct order for the days of the week, especially those that begin with

Possible sentence stems

- The day after is _____
- The day before is _____
- Today is , so tomorrow will be
- Today is , so yesterday was

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the same initial sound or letter.

- Children may struggle to name which day was "yesterday", due to the fact that they often learn the days in a specific order going forwards.

National Curriculum links

- Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening)
- Recognise and use language relating to dates, including days of the week, weeks, months and years

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Days of the week

Key learning



Sing The Days of the Week song. Then discuss the names and the sequence of the days of the week.

Ask what children do on each day. Describe the events of the days they come to school and the days they stay at home.

Ask questions about activities at school, for example "Which days do you do PE?" or "Which day is Forest School?"

Ask children to draw a timetable of the events they complete on each day.



Read and discuss the events in Jasper's Beanstalk by Mick Inkpen.

Talk about what Jasper does on each day.

- On which day did Jasper water his bean?
- On which day did he pick up all the slugs?

Provide days of the week cards and pictures of what Jasper does. Order the days of the week and choose pictures to match each day.

Task children to make up their own days of the week short story.



Read The Princess and the Wizard by Julia Donaldson.

Place pictures based on events from the story in various places around the room, missing one day out. Ask children to hunt for the pictures and place them in order. Which day is missing?

- Fill in the missing days of the week. Sunday

Complete the sentences.

▶ Today is Friday.
Tomorrow is _____ Tuesday

▶ Today is Thursday.
Wednesday
Yesterday was _____

▶ Today is
Tomorrow is Monday.

▶ Today is Yesterday was Monday Saturday

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Months of the year

- Which days of the week are at the weekend?

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Days of the week

Year 1 | Summer term | Block 6 – Time | Step 2

Reasoning and problem solving

Here is Ben's calendar.

Monday	Tuesday	Wednesday	Thursday	Friday
				
swimming	painting	football	bike ride	

What did Ben do on Monday?

On which day did Ben play football?

On which day did Ben not do any activities?

What did Ben do the day before he played football?

swimming

Wednesday

Friday

painted

Sort the days of the week into the table.

Wednesday

Tuesday

Monday

Friday

Thursday

Sunday

Saturday

At school	Not at school

In a week, how many more days are you at school than not at school?

At school: Monday, Tuesday, Wednesday, Thursday, Friday

Not at school: Saturday and Sunday

3

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Months of the year

Year 1 | Summer term | Block 6 – Time | Step 3

Notes and guidance

In this small step, children name and sequence the months within a year.

As with the previous step, they continue to develop their understanding and use of “before” and “after” and apply this to the calendar year. They learn to relate events to months, noting when familiar celebrations, such as birthdays, occur.

A classroom calendar allows children to explore the sequence of the months of the year and to begin to learn the number of days in each month. Familiar rhymes and songs can support children to remember this. Exploring monthly calendars with the days of the week and dates allows children to further develop understanding from the previous step.

Key questions

- How many months are there in a year?
- Which month are we in now?
- What month will come next?
- Which month comes before/after ?
- Which month is your birthday in?
- Which month do we start school in?
- Which months are the summer holidays in?

Things to look out for

- Children may confuse months that begin with the same initial sound or letter, such as March and May or June and July.
- Children may assume that all months have the same number of days.

Possible sentence stems

- There are months in a year.
- The month before/after is
- It is now, so next month will be

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Days of the week

Year 1 | Summer term | Block 6 – Time | Step 2

National Curriculum links

- Recognise and use the language relating to dates, including days of the week, weeks, months and years
- Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening)

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Months of the year

Key learning



Talk to children about the names of the months of the year and the sequence they come in, using songs or rhymes to support learning the names and order. As a class, count the number of days in two months on a grid-style calendar. Discuss whether they are the same or different.

As a class, chant rhymes about the number of days in each month, for example:

30 days has September, April, June and November.
All the rest have 31, except February alone, which has 28 days clear and 29 in each leap year.



Provide children with a selection of books and images relating to the seasons and talk about the changes that happen over the course of a year.

Which month is before February? Which month comes after March?

Task children in groups to design their own calendar page for different months, including key events in the school year.

Order the months to create a class calendar.

- Complete the sentences.

- The month after July is _____
- The month before November is The_____
- month before is February.

February						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	 my birthday 9	10	11

- Here is part of Mo's calendar.

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Hours, minutes and seconds

- What month is shown on the calendar?
- On what date is Mo's birthday?
- What day of the week is the 1st of the month?
- How many days are there in the whole month?

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Months of the year

Year 1 | Summer term | Block 6 – Time | Step 3

Reasoning and problem solving

Jo is chanting the months of the year.



What mistakes has Jo made?

What is the correct order?

Jo has mixed up May and March, and July and June.



Dan gets a party invitation in April.

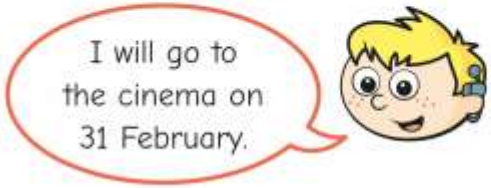
The party is in August.

What months come between April and August?

May, June and July

Max looks at his calendar.

He wants to go to the cinema at the end of the month.



Is this possible?

Compare answers with a partner.



If Max goes to the cinema on the 31st of the month, which month could it be?

No

January, March, May, July, August, October or December

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Hours, minutes and seconds

Year 1 | Summer term | Block 6 – Time | Step 4

Notes and guidance

In this small step, children develop their understanding of hours, minutes and seconds.

Children learn that seconds are a shorter period of time than minutes and minutes are a shorter period of time than hours. Although they do not need to convert between different units, it is helpful for them to know that an hour is composed of 60 minutes and that a minute is composed of 60 seconds.

Children make decisions about which unit of time would be most appropriate to measure a given activity. They compare time using vocabulary such as “quicker” and “slower”. When comparing durations, they need to understand that the smaller number of seconds, minutes or hours is the quicker time. Learning can be supported by practical investigations in which children use suitable equipment to measure the length of the activity, for example a stopwatch or a sand timer.

Key questions

- Which is longer/shorter: one hour, one minute or one second?
- How many minutes are there in an hour?
- How many seconds are there in a minute?
- Would you measure the activity in hours, minutes or seconds?
- How many do you think that you can do in 10/20/30/60 seconds?
- Who was quicker/slower? How do you know?

Things to look out for

Possible sentence stems

- A is longer/shorter than a _____
- There are seconds in a _____
- There are minutes in an _____
- I know that is quicker/slower than , because …

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- Children may believe that the greater number of seconds, minutes or hours is the quicker time.
- Children may struggle to use and read digital recording equipment.

National Curriculum links

- Compare, describe and solve practical problems for time
- Measure and begin to record time (hours, minutes, seconds)

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Hours, minutes and seconds

Key learning

Read Just a Second by Steve Jenkins.

Ask children to think of activities that they might be able to complete in one second. Which activities could take one minute to complete?

Introduce a range of different sand timers as a method of measuring time.

Children can use the timers to measure how many star jumps/hops/skips they can complete in one minute.



Model how to measure and read the time on a stopwatch in hours, minutes and seconds. Take children outside to take part in a race. Record the time it takes to move from the start to the finish line. Compare times using "quicker" and "slower". Ask what a shorter/longer time means.

- Would you measure the activities in seconds, minutes or hours?

travelling on a plane	playing outside	sleeping at night
brushing teeth	reading a book	saying the alphabet

- Write the time shown on each stopwatch.

A



B



C



A _____ seconds

B _____ minutes and _____ seconds

C _____ hours, _____ minutes and _____ seconds

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Tell the time to the hour

Year 1 | Summer term | Block 6 – Time | Step 5

Reasoning and problem solving

Are the units of time sensible for each activity?

length of a football match in seconds 

length of a film in minutes 

length of the school day in hours 

What units of time are more sensible?

No

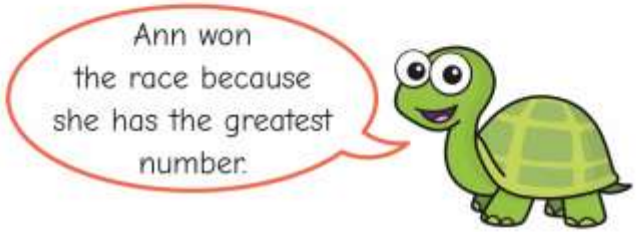
Yes – but could also be measured in hours

Yes

Some children run a race.

Here are their times in seconds.

Tom	Sam	Fay	Ann	Mo
26	17	21	33	22



Do you agree with Tiny?

Explain your answer.

Put the children in the order they finished the race.

No

Sam, Fay, Mo, Tom, Ann

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Hours, minutes and seconds

Year 1 | Summer term | Block 6 – Time | Step 4

Notes and guidance

In this small step, children are introduced to telling the time to the hour using an analogue clock. They are formally introduced to the term "o'clock" for the first time, although they may already have encountered this.

Initially, children explore time using a number line and learn that an analogue clock face is a special type of number line. When pointing to numbers, ensure that the hand points exactly to the number and not to the side of it. Explain that when we use the word "hand", we are referring to the arrow/pointer; this is specific to the topic of time.

To begin with, children focus on reading time to the hour using only the hour hand. Once they are confident with this, they learn about the minute hand and that the hour hand is shorter than the minute hand. They recognise that when the minute hand is pointing directly to 12, they need to look at the shorter hand to see which hour it is.

Key questions

- How is a clock similar to/different from a number line?
- Which number is the hour hand pointing to?
- How could you show me o'clock?
- What do you notice about the hand?
- Where will the hour hand be at ?
- Where will the minute hand be at ?

Possible sentence stems

- The hand is pointing to and the minute hand is pointing to _____

  The time is o'clock.

- At o'clock, the hour hand will be pointing to _____ and the minute hand will be pointing to

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Tell the time to the hour

Year 1 | Summer term | Block 6 – Time | Step 5

Things to look out for

- Some children may find the language relating to time and the intervals of time confusing.
- Children may confuse the hour hand and the minute hand.

National Curriculum links

- Tell the time to the hour and half past the hour and draw the hands on a clockface to show these times

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Tell the time to the hour

Key learning



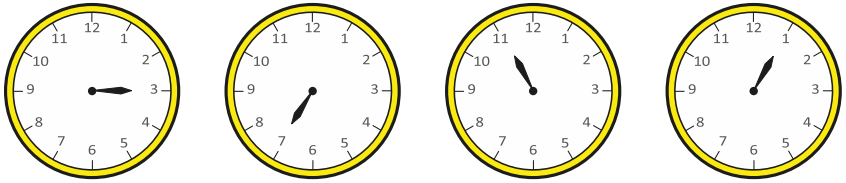
Make a 1–12 number line in the playground using a long rope and digit cards. Children walk along the line, shouting out the time when they reach each number.

Once children are confident with the passage of time, arrange the rope in a circle. Children walk around the line, again telling the time at each point.

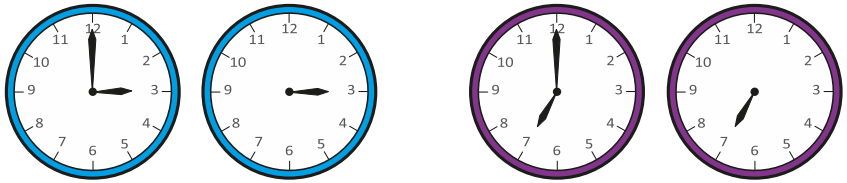
Discuss that in a full day this happens twice, as there are 24 hours in a day.

Children could go through the full day, counting through the hours in the morning and then the hours in the afternoon/evening.

- What hour is the hand pointing to?



- What is the same about the clocks? What is different?

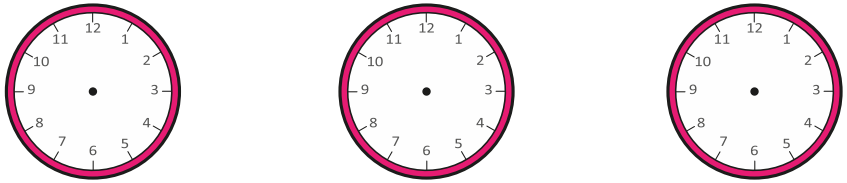


- Match the clocks to the times.



9 o'clock	two o'clock	5 o'clock

- Draw hands on the clocks to show the times.



eight o'clock | 1 o'clock | twelve o'clock

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Tell the time to the hour

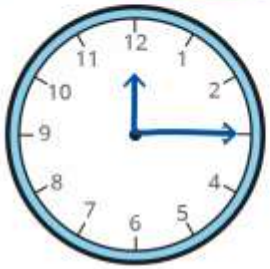
Year 1 | Summer term | Block 6 – Time | Step 5

Reasoning and problem solving

Ron is drawing times on clocks.

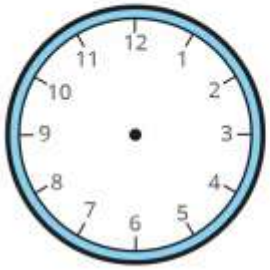


I have drawn 3 o'clock.



What mistake has Ron made?

Draw hands on the clock to show 3 o'clock.





Mo, Kim and Sam all go to bed at different times in the evening.

The clocks show each child's bedtime.



Mo





Kim





Sam



Who goes to bed first?

Who goes to bed last?

Kim

Mo

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Tell the time to the half hour

Year 1 | Summer term | Block 6 – Time | Step 6

Notes and guidance

In this small step, children build on the previous step of telling time to the hour to now tell the time to the half hour.

Initially, they tell the time to the half hour using only the hour hand and notice that the hour hand is halfway between numbers. They learn the term “half past”, linking it to their knowledge of fractions.

Once children are confident with this, look at the minute hand. Building on the knowledge that in an hour the minute hand travels all the way around the clock, they see that at half past the minute hand has travelled halfway around the clock from
12 and is now pointing at 6

Key questions

- Which hour has the hand gone past?
- Which two numbers is the hour hand pointing between?
- Where will the hour hand be at half past ?
- If the minute hand moves from 12 to 12 in a full turn, where will it be pointing after a half turn?
- If the hour hand is pointing between and , and the minute hand is pointing to 6, what time is it?
- How would you show half past on a clock face?

Things to look out for

- When drawing hands on a clock face to show half past, children may draw the hour hand pointing directly at the hour.

Possible sentence stems

- The minute hand is pointing to The hour hand is pointing between and
  The time is half past _____
- The next hour will be o’clock.

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- Children may misread the hour when describing half past, due to the position of the hour hand, for example reading half past 2 as half past 3 because the hour hand is between 2 and 3

- Children may confuse the hour hand and the minute hand.

National Curriculum links

- Tell the time to the hour and half past the hour and draw the hands on a clockface to show these times

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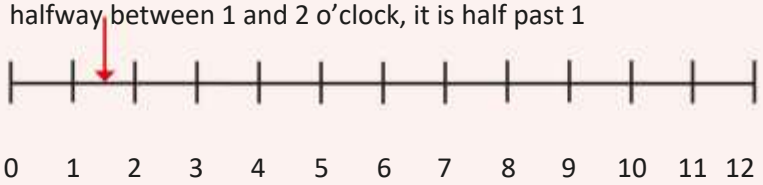
Tell the time to the half hour

Key learning

Show children a 1–12 number line. Make an arrow to represent the "hand".

Place the hand halfway between 1 and 2

Explain that because the hour hand has gone past 1 and is halfway between 1 and 2 o'clock, it is half past 1

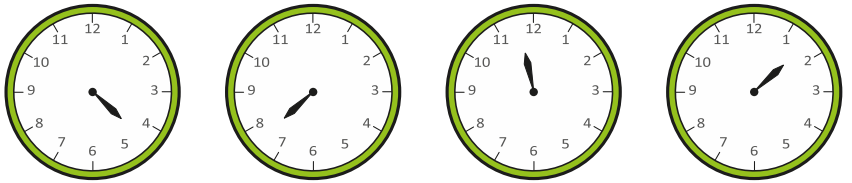


Move the hand along the number line, stopping halfway between numbers and asking children to tell you the time.

Use a clock model to show children the movement of the minute hand during an hour, moving around the circle from 12 until it reaches 12 again – a full turn. Show that during this time the hour hand moves more slowly from one hour to the next.

Ask children where the minute hand will be pointing after half a full turn.

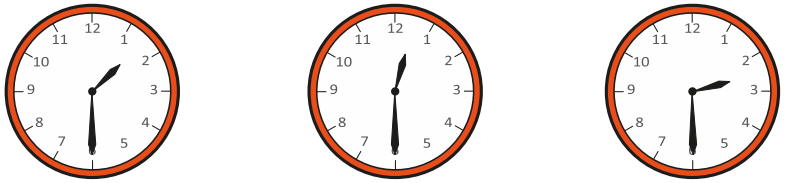
- Complete the sentences for each clock.



The hour hand is pointing halfway between _____ and _____

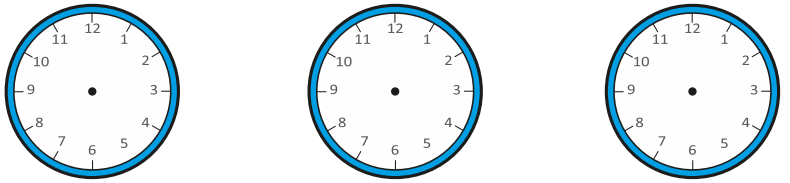
The time is half past _____

- Match the clocks to the times.



half past twelve	half past 2	half past one

- Draw hands on the clocks to show the times.



half past 1	half past four	half past 8

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Tell the time to the half hour

Year 1 | Summer term | Block 6 – Time | Step 6

Reasoning and problem solving

Mo and Sam are telling the time.





The time is 6 past 1

Mo

The time is half to 2



Sam

What mistakes have Mo and Sam made?

What time is shown on the clock?

half past 1

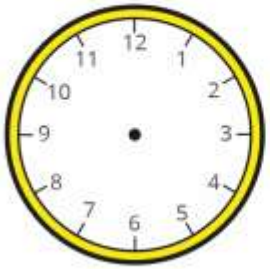
Tiny draws hands on the clock to show the time half past 10





What mistake has Tiny made?

Draw hands on the clock to show half past 10





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