Autumn

Scheme of learning

Year 1

White Rose Maths

#MathsEveryoneCan

The **White Rose Maths** schemes of learning

Teaching for mastery

Our research-based schemes of learning are designed to support a mastery approach to teaching and learning and are consistent with the aims and objectives of the National Curriculum.

Putting number first

Our schemes have number at their heart.
A significant amount of time is spent reinforcing number in order to build competency and ensure children can confidently access the rest of the curriculum.

Depth before breadth

Our easy-to-follow schemes support teachers to stay within the required key stage so that children acquire depth of knowledge in each topic. Opportunities to revisit previously learned skills are built into later blocks.

Working together

Children can progress through the schemes as a whole group, encouraging students of all abilities to support each other in their learning.

Fluency, reasoning and problem solving

Our schemes develop all three key areas of the National Curriculum, giving children the knowledge and skills they need to become confident mathematicians.

Concrete – Pictorial – Abstract (CPA)

Research shows that all children, when introduced to a new concept, should have the opportunity to build competency by following the CPA approach. This features throughout our schemes of learning.

Concrete

Children should have the opportunity to work with physical objects/concrete resources, in order to bring the maths to life and to build understanding of what they are doing.

Pictorial

Alongside concrete resources, children should work with pictorial representations, making links to the concrete.
Visualising a problem in this way can help children to reason and to solve problems.

Abstract

With the support of both the concrete and pictorial representations, children can develop their understanding of abstract methods.

$$5 + 7$$

If you have questions about this approach and would like to consider appropriate CPD, please visit www.whiterosemaths.com to find a course that's right for you.

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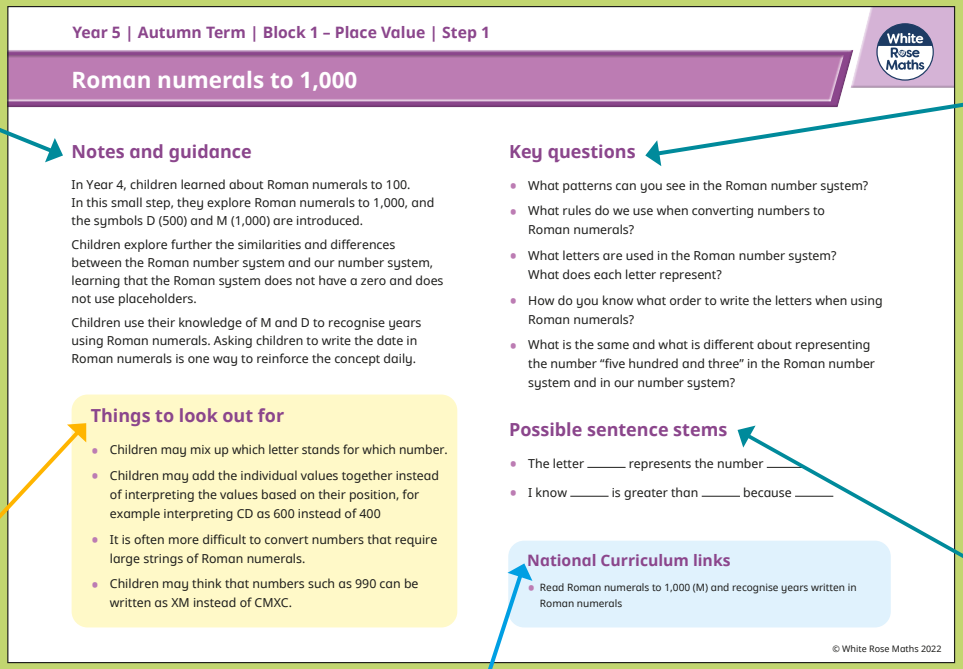
Teacher guidance

Every block in our schemes of learning is broken down into manageable small steps, and we provide comprehensive teacher guidance for each one. Here are the features included in each step.

Notes and guidance that provide an overview of the content of the step and ideas for teaching, along with advice on progression and where a topic fits within the curriculum.

Things to look out for, which highlights common mistakes, misconceptions and areas that may require additional support.



Year 5 | Autumn Term | Block 1 – Place Value | Step 1

Roman numerals to 1,000

Notes and guidance

In Year 4, children learned about Roman numerals to 100. In this small step, they explore Roman numerals to 1,000, and the symbols D (500) and M (1,000) are introduced.

Children explore further the similarities and differences between the Roman number system and our number system, learning that the Roman system does not have a zero and does not use placeholders.

Children use their knowledge of M and D to recognise years using Roman numerals. Asking children to write the date in Roman numerals is one way to reinforce the concept daily.

Things to look out for

- Children may mix up which letter stands for which number.
- Children may add the individual values together instead of interpreting the values based on their position, for example interpreting CD as 600 instead of 400
- It is often more difficult to convert numbers that require large strings of Roman numerals.
- Children may think that numbers such as 990 can be written as XM instead of CMXC.

Key questions

- What patterns can you see in the Roman number system?
- What rules do we use when converting numbers to Roman numerals?
- What letters are used in the Roman number system? What does each letter represent?
- How do you know what order to write the letters when using Roman numerals?
- What is the same and what is different about representing the number "five hundred and three" in the Roman number system and in our number system?

Possible sentence stems

- The letter _____ represents the number _____
- I know _____ is greater than _____ because _____

National Curriculum links

- Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals

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National Curriculum links to indicate the objective(s) being addressed by the step.

Key questions that can be posed to children to develop their mathematical vocabulary and reasoning skills, digging deeper into the content.

Possible sentence stems to further support children's mathematical language and to develop their reasoning skills.

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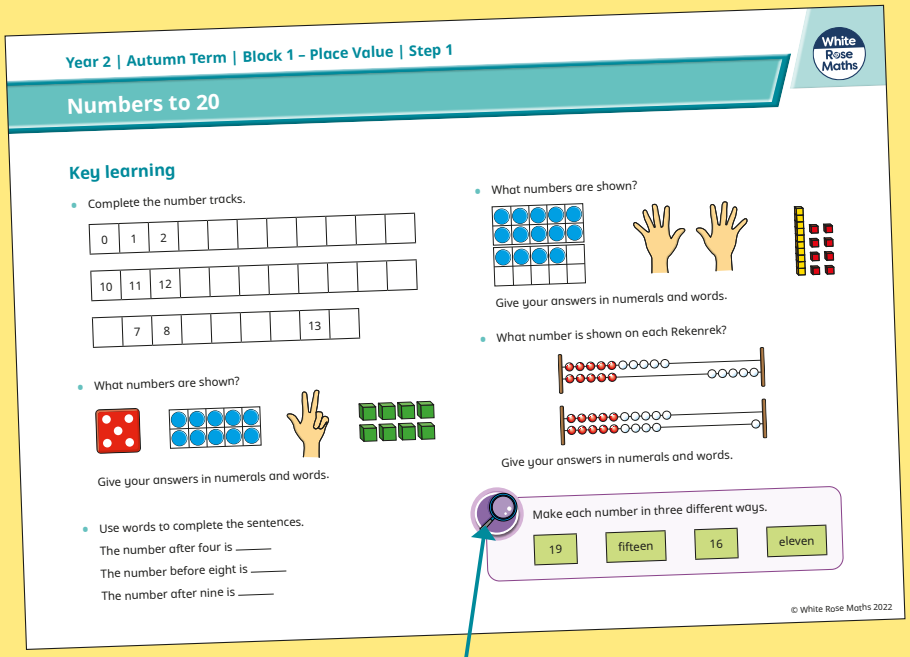
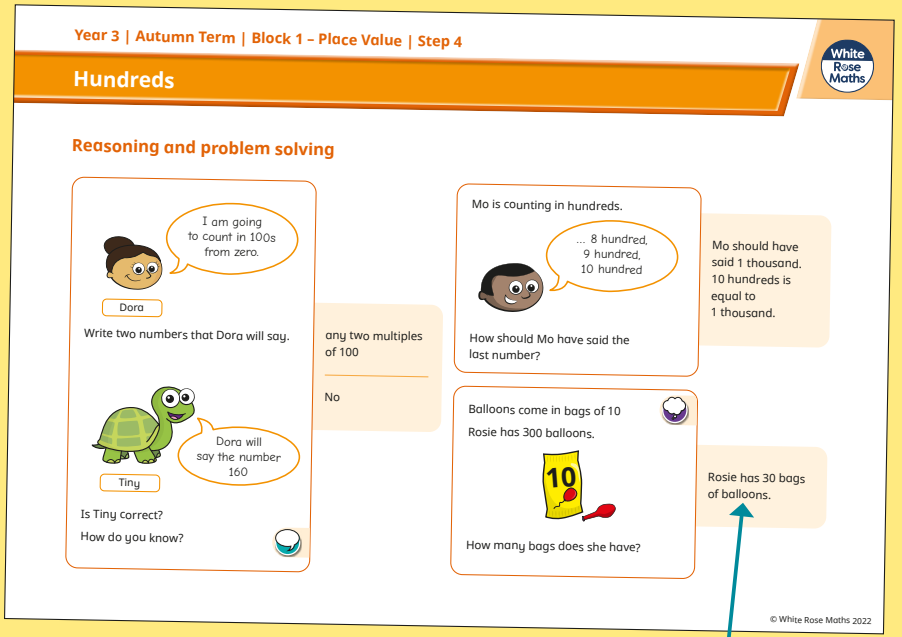
Teacher guidance

A **Key learning** section, which provides plenty of exemplar questions that can be used when teaching the topic.



Activity symbols that indicate an idea can be explored practically

Reasoning and problem-solving activities and questions that can be used in class to provide further challenge and to encourage deeper understanding of each topic.



Answers provided where appropriate

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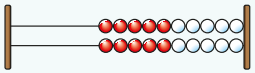
Activities and symbols

Key Stage 1 activities

Key Stage 1 includes more hands-on activities alongside questions.

An activity to be led by the teacher

Use a Rekenrek in the ready position.



Ask children to show a number on their Rekenrek.

An outside activity or one that uses resources from nature

Find some seeds and leaves to represent Autumn.

Ask children to sort the objects in three different ways and then compare their answers with a partner.

An activity introduced by a reading from an appropriate fiction or non-fiction book

Read *The Button Box* by M Reid.

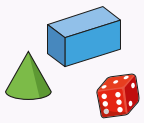
Give children a selection of buttons and ask them to sort the buttons in as many different ways as they can.

Encourage them to think about size, shape, colour and number of holes.

An investigation

Give children a selection of 3D shapes.

Ask children to sort the objects into two groups and then challenge a partner to say how the objects have been sorted.



Key Stage 1 and 2 symbols

The following symbols are used to indicate:

concrete resources might be useful to help answer the question

a bar model might be useful to help answer the question

drawing a picture might help children to answer the question

children talk about and compare their answers and reasoning

a question that should really make children think. The question may be structured differently or require a different approach from others and/or tease out common misconceptions.

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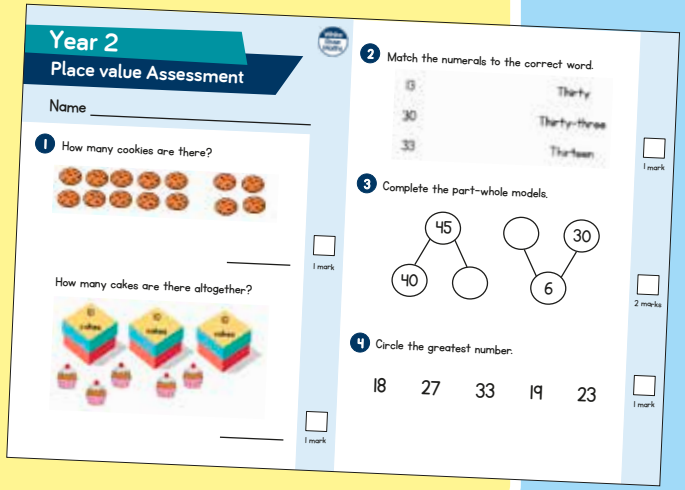
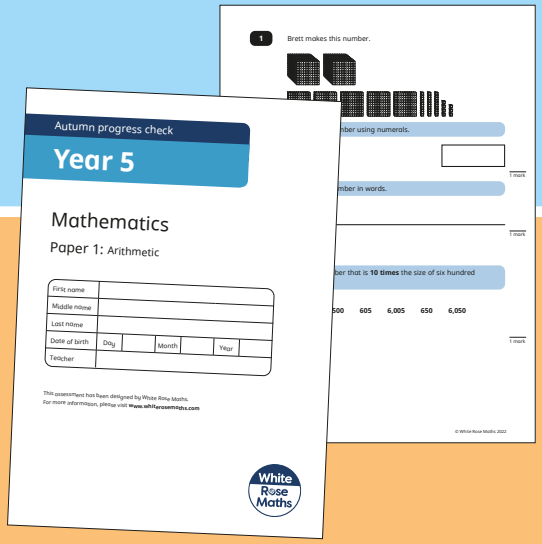
Free supporting materials

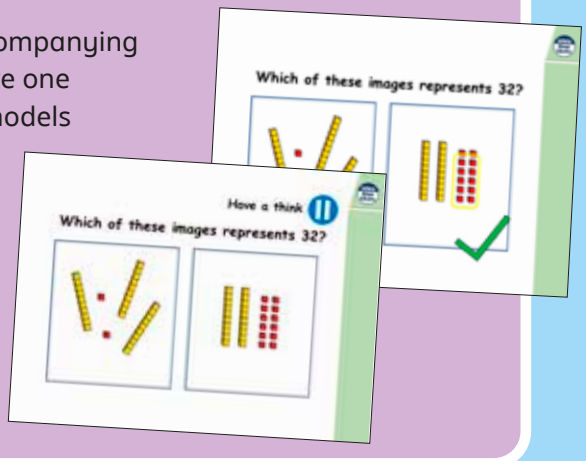
End-of-block assessments to check progress and identify gaps in knowledge and understanding.





End-of-term assessments for a more summative view of where children are succeeding and where they may need more support.

Each small step has an accompanying **home learning video** where one of our team of specialists models the learning in the step. These can also be used to support students who are absent or who need to catch up content from earlier blocks or years.



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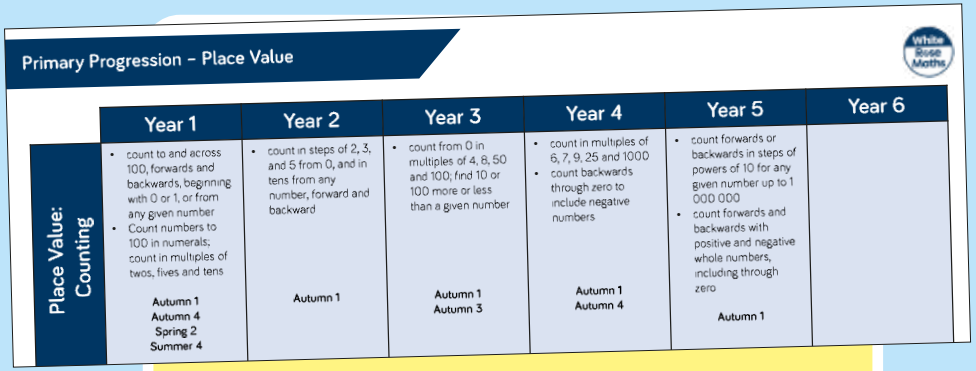
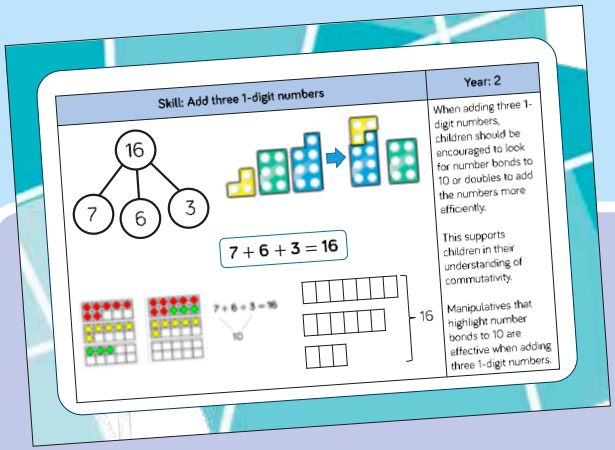
Free supporting materials



Primary Progression – Place Value

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Place Value: Counting	• count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number • Count numbers to 100 in numerals; count in multiples of twos, fives and tens Autumn 1 Autumn 4 Spring 2 Summer 4	• count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward Autumn 1	• count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number Autumn 1 Autumn 3	• count in multiples of 6, 7, 9, 25 and 1000 • count backwards through zero to include negative numbers Autumn 1 Autumn 4	• count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 • count forwards and backwards with positive and negative whole numbers, including through zero Autumn 1	

National Curriculum progression to indicate how the schemes of learning fit into the wider picture and how learning progresses within and between year groups.



Skill: Add three 1-digit numbers

Year: 2

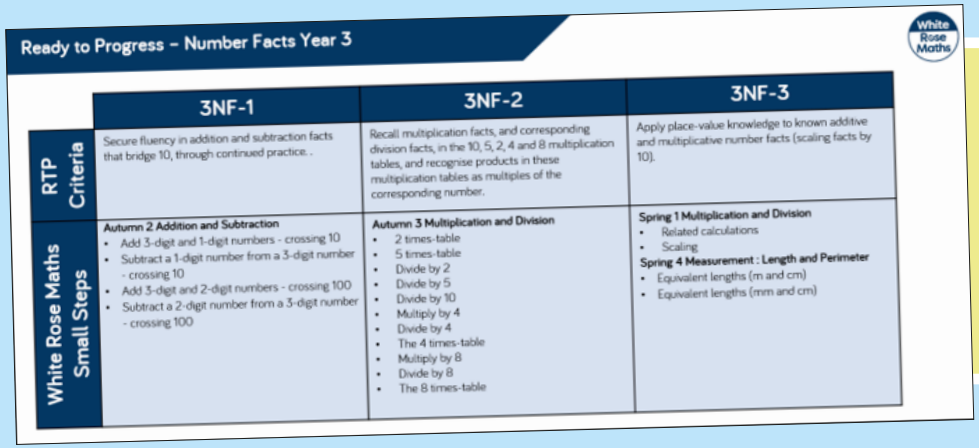
When adding three 1-digit numbers, children should be encouraged to look for number bonds to 10 or doubles to add the numbers more efficiently.

This supports children in their understanding of commutativity.

Manipulatives that highlight number bonds to 10 are effective when adding three 1-digit numbers.

$7 + 6 + 3 = 16$

Calculation policies that show how key approaches develop from Year 1 to Year 6.



Ready to Progress – Number Facts Year 3

	3NF-1	3NF-2	3NF-3
RTP Criteria	Secure fluency in addition and subtraction facts that bridge 10, through continued practice. .	Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.	Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).
White Rose Maths Small Steps	**Autumn 2 Addition and Subtraction** • Add 3-digit and 1-digit numbers - crossing 10 • Subtract a 1-digit number from a 3-digit number - crossing 10 • Add 3-digit and 2-digit numbers - crossing 100 • Subtract a 2-digit number from a 3-digit number - crossing 100	**Autumn 3 Multiplication and Division** • 2 times-table • 5 times-table • Divide by 2 • Divide by 5 • Divide by 10 • Multiply by 4 • Divide by 4 • The 4 times-table • Multiply by 8 • Divide by 8 • The 8 times-table	**Spring 1 Multiplication and Division** • Related calculations • Scaling **Spring 4 Measurement : Length and Perimeter** • Equivalent lengths (m and cm) • Equivalent lengths (mm and cm)

Ready to progress mapping that shows how the schemes of learning link to curriculum prioritisation.

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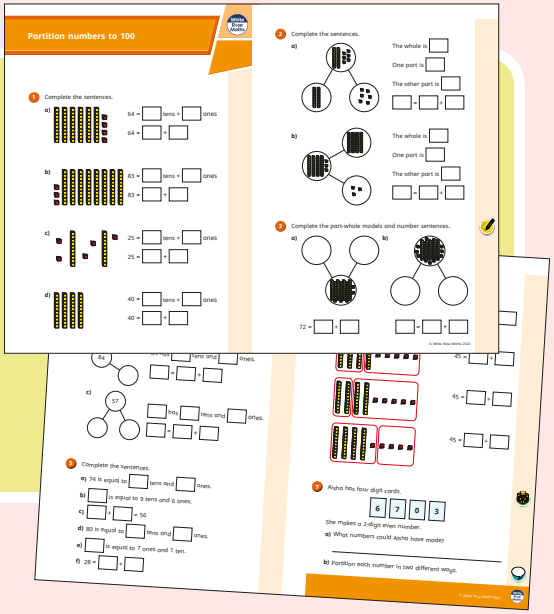
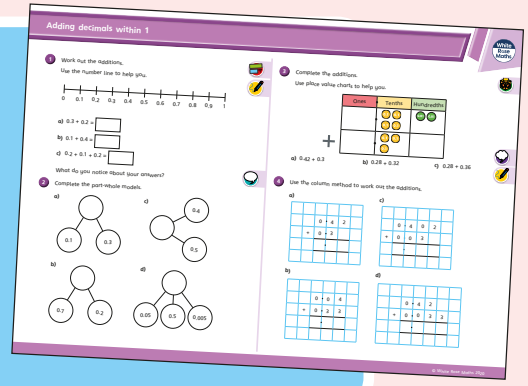
Premium supporting materials

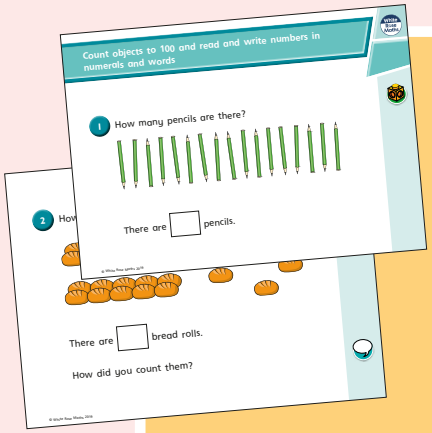
Worksheets to accompany every small step, providing relevant practice questions for each topic that will reinforce learning at every stage.



Display versions of the worksheet questions for front of class/whole class teaching.

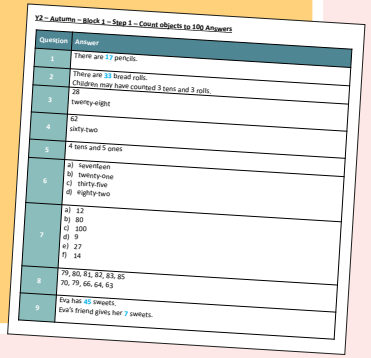


Also available as printed **workbooks**, per block.



PowerPoint™ versions of the worksheet questions to incorporate them into lesson planning.

Answers to all the worksheet questions.



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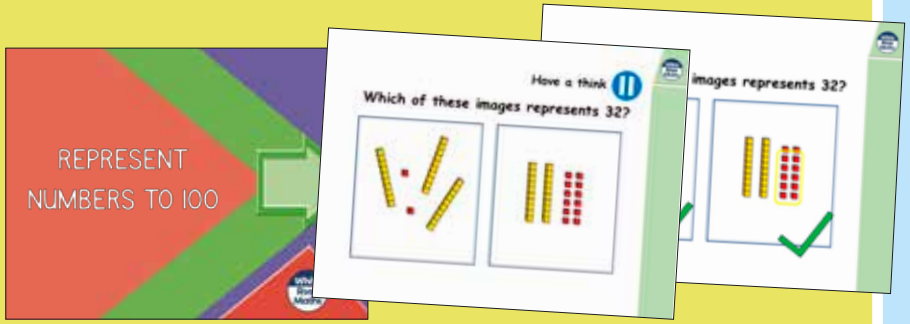
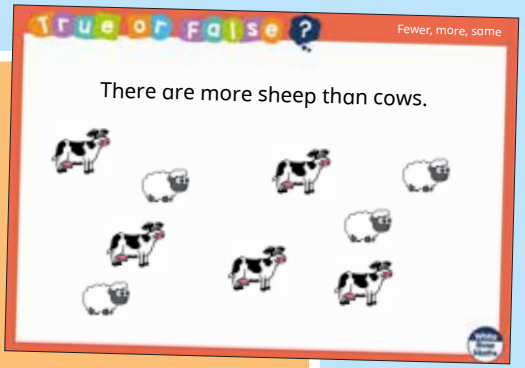
Premium supporting materials

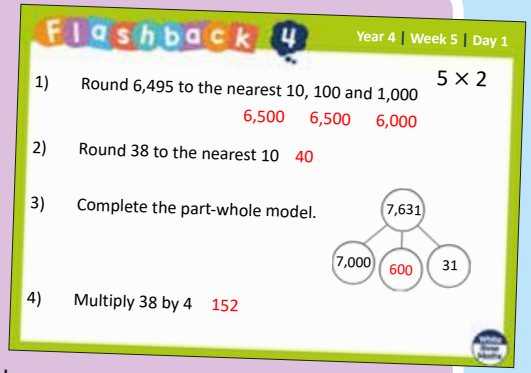
Teaching slides that mirror the content of our home learning videos for each step. These are fully animated and editable, so can be adapted to the needs of any class.

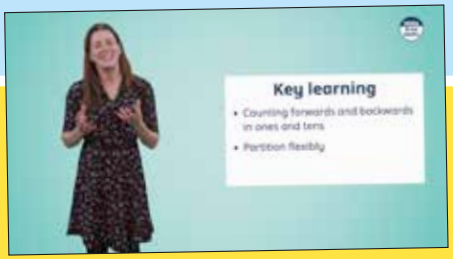


A **true or false** question for every small step in the scheme of learning. These can be used to support new learning or as another tool for revisiting knowledge at a later date.



Flashback 4 starter activities to improve retention.
Q1 is from the last lesson;
Q2 is from last week;
Q3 is from 2 to 3 weeks ago;
Q4 is from last term/year.
There is also a bonus question on each one to recap topics such as telling the time, times-tables and Roman numerals.





Topic-based CPD videos
As part of our on-demand CPD package, our maths specialists provide helpful hints and guidance on teaching topics for every block in our schemes of learning.

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Meet the characters

Our class of characters bring the schemes to life, and will be sure to engage learners of all ages and abilities. Follow the children and their class pet, Tiny the tortoise, as they explore new mathematical concepts and ideas.

Yearly overview

The yearly overview provides suggested timings for each block of learning, which can be adapted to suit different term dates or other requirements.

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number **Place value (within 10)**					Number **Addition and subtraction (within 10)**					Geometry **Shape**	Consolidation
Spring	Number **Place value (within 20)**			Number **Addition and subtraction (within 20)**			Number **Place value (within 50)**		Measurement **Length and height**		Measurement **Mass and volume**	
Summer	Number **Multiplication and division**			Number **Fractions**		Geometry **Position and direction**	Number **Place value (within 100)**		Measurement **Money**	Measurement **Time**		Consolidation

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Autumn Block 1

Place value (within 10)

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Small steps

Step 1	Sort objects
Step 2	Count objects
Step 3	Count objects from a larger group
Step 4	Represent objects
Step 5	Recognise numbers as words
Step 6	Count on from any number
Step 7	1 more
Step 8	Count backwards within 10

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Small steps

Step 9	1 less
Step 10	Compare groups by matching
Step 11	Fewer, more, same
Step 12	Less than, greater than, equal to
Step 13	Compare numbers
Step 14	Order objects and numbers
Step 15	The number line

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Sort objects

Notes and guidance

In this small step, children learn that collections of objects can be sorted into sets based on attributes such as colour, size or shape. Sorting enables children to consider what is the same about all the objects in one set and how they differ from the objects in other sets.

Children need to understand that the same collection of objects can be sorted in different ways and should be encouraged to come up with their own criteria for sorting objects into sets.

Practical activities should be used to support the learning in this step and ideas are suggested in Key learning. The concept of sorting can also be reinforced during daily activities such as lining up. Children could be asked to line up based on certain criteria, for example whether they have a sister.

Things to look out for

- Children may think that a group of objects can only be sorted in one way.
- Children may not focus on a single similarity, but instead on different attributes, leading to incorrect placement of objects in some sets.

Key questions

- What is the same about all the objects in the set?
- What is different about the sets?
- Can you find an object that belongs to this set?
- Can you find an object that does not belong to this set? Why does it not belong?
- Can you think of a different way to sort the objects?

Possible sentence stems

- This set of objects has been sorted by _____
- I could also sort the objects by _____
- _____ does belong in the set because ...
- _____ does not belong in the set 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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Sort objects

Key learning

Find some seeds and leaves to represent Autumn.

Ask children to sort the objects in three different ways and then compare their answers with a partner.

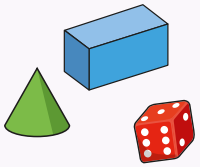
Read *The Button Box* by M Reid.

Give children a selection of buttons and ask them to sort the buttons in as many different ways as they can.

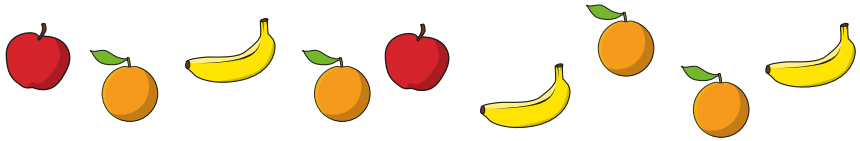
Encourage them to think about size, shape, colour and number of holes.

Give children a selection of 3-D shapes.

Ask children to sort the objects into two groups and then challenge a partner to say how the objects have been sorted.

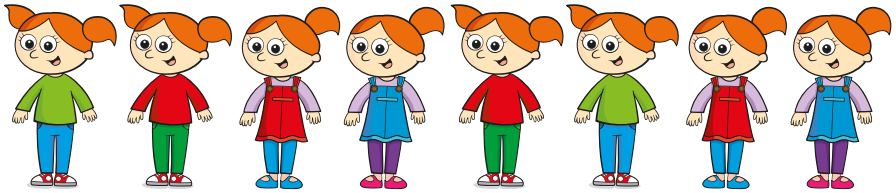


- Sort the fruit into groups.



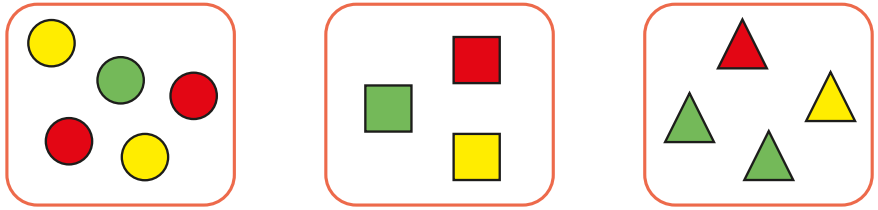
Explain how you have sorted them.

- Look at the pictures of Alex.



How many different ways can you find to sort them?

- How have the shapes been sorted?



How else could you sort them?

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Sort objects

Reasoning and problem solving

Begin with a large pile of objects such as buttons.

Tell the children you have a sorting rule, and they need to work out what it is.

One at a time, place an object into your set that fits the rule.

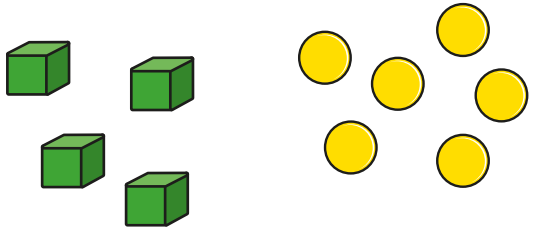
What do children notice first? How long does it take them to work out the sorting rule?

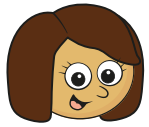
When they think they know your sorting rule, ask the children to choose an object that belongs in your set. Tell them if they are correct or incorrect.

Challenge the children to create their own sorting rule for you to work out.

Answers will vary depending on the rule chosen.

Kim and Mo are trying to find the sorting rule.





Kim

The objects are sorted into cubes and counters.

Mo

The objects are sorted into green and yellow.

Who is correct? How do you know?

Kim and Mo could both be correct, as all the cubes are green and all the counters are yellow.

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Count objects

Notes and guidance

The aim of this small step is for children to be able to fluently count to 10 when counting objects. Focus on the five counting principles when assessing children's ability to count accurately.

The one-to-one principle: Children assign one number name to each object that is being counted.

The stable-order principle: When counting, the numbers have to be said in a certain order.

The cardinal principle: The final object in a group is the total number of objects in that group.

The abstraction principle: Anything can be counted, including things that cannot be touched, such as sounds and movements, for example jumps.

The order-irrelevance principle: The order in which they count a group of objects is irrelevant. There will still be the same number.

Things to look out for

- Children may count objects more than once or miss an object out. Encourage them to line up objects and touch each one as they count, saying one number per object.

Key questions

- How many objects are there?
- If I move them around, are there still the same number of objects? Count and check.
- Does it matter which object you count first?
- Can you count how many claps I do?
- Should you start counting at 1 or zero?
- How do you know you have counted all the objects?
- How do you know you have not counted any objects more than once?

Possible sentence stems

- The last number I said was _____, so there are _____ objects in total.

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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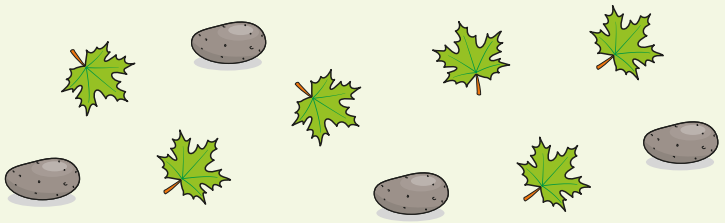
Count objects

Key learning

Give children a selection of stones and leaves and ask them these questions.



How many stones are there?

How many leaves are there?

How many objects are there in total?

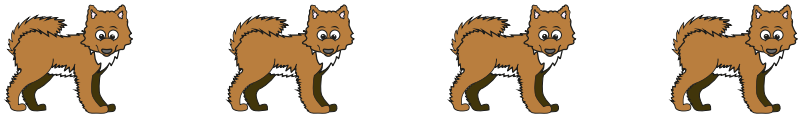
What happens if I arrange them differently? Is there still the same number of objects?

- Here are some spiders.

How many spiders are there?

How did you count them?

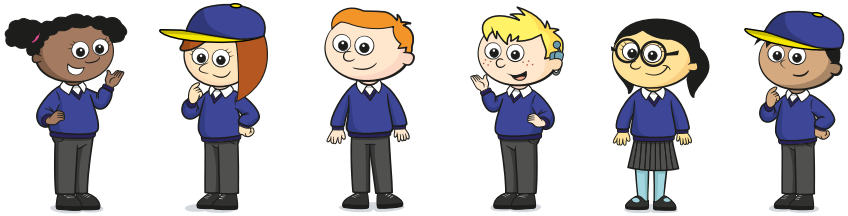
- Here are some dogs.



How many dogs are there?

How many eyes are there?

- Here are some children.



How many children are there?

How many children have glasses?

How many children have a hat?

- What number is on each dice?

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Count objects

Reasoning and problem solving

Ask children to count how many times you clap.

Can they count along while you clap?

What number do they always start from?

What happens if you clap at a different speed?

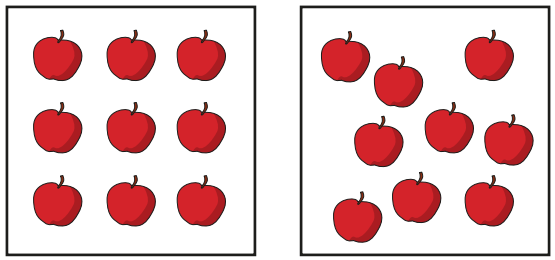
Pause for different amounts of time between claps and ask children if it changes how many claps there are.

Ask children to clap 7 times, counting each clap.

Ask them to clap 10 times.

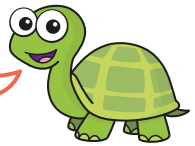
various possible answers

The apples show two numbers.



The numbers are the same.

Mo



The numbers are not the same.

Tiny

Who do you agree with?

Why?

Mo

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Count objects from a larger group

Notes and guidance

In this small step, children continue to count objects, but this time they are asked to count a specific number of objects from a larger group. This requires children to be more organised and careful when counting.

From a larger group, children select a given number of objects and count them out. When asked "How many?", they should be able to recall the final number they said. Children who have not grasped the cardinal counting principle will recount the whole group again.

To support children, it may be useful to ask them to count the objects onto a mat or into a container before moving on to pictorial representations.

Things to look out for

- Children may count objects more than once or miss an object out that needs to be counted. Encourage children to line up objects and touch each one as they count, saying one number per object.
- The objects that have been counted may get mixed up with the rest of the objects. Encourage children to place the objects that they have counted onto a mat or into a container to help them.

Key questions

- How many objects are there? If I move them around, are there still the same amount? Count and check.
- Does it matter which object you count first?
- How do you know which objects you have counted and which you have not counted?
- Did you need to count them all?
- How many are left?

Possible sentence stems

- The last number I said was _____, so there are _____ objects in total.
- I need to count _____ objects from the group.
- There are _____ objects left in the group.

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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Count objects from a larger group

Key learning

Put children in pairs and give them 10 cubes.

Ask children to take it in turns to say a number between 1 and 10

While one child says the number, the other should count it out in cubes.

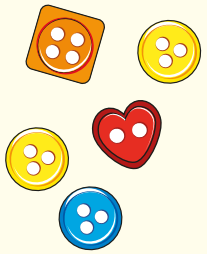
Give children number cards from 1 to 10

Ask them to pick a card, and then go outside and find that number of leaves, conkers or pine cones.

Read *The Button Box* by M Reid.

Give children a selection of buttons and ask them to count out:

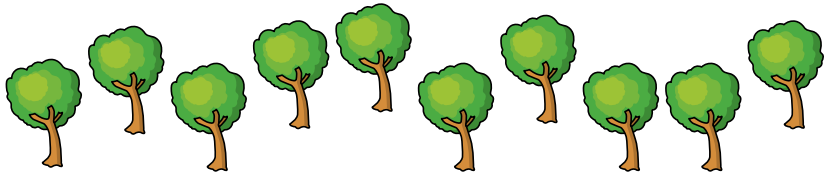
- 5 buttons with two holes
- 7 blue buttons
- 9 circular buttons with four holes



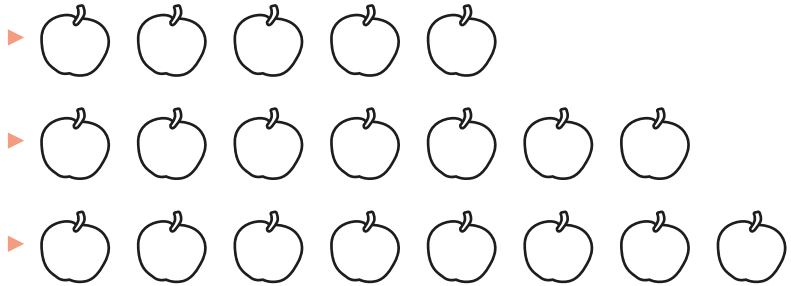
- Count 3 balloons.

- Count 6 dogs.

- Count 4 trees.



- Colour 5 apples in each set.



What do you notice?

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Count objects from a larger group

Reasoning and problem solving

Circle a group of 2 cats.

Circle a group of 5 cats.

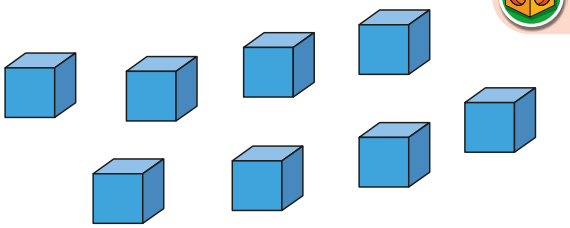
Circle a group of 6 cats.

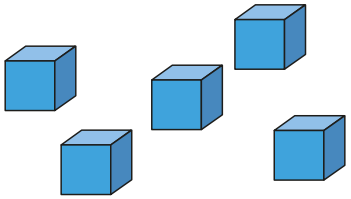
How many cats are **not** circled in each set?

correct number of cats circled

5, 2, 1

Tiny wants to count 3 cubes from this group.





Explain the mistake that Tiny has made.

Tiny is showing the amount **not** counted, rather than the amount counted.

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Represent objects

Notes and guidance

In this small step, children learn to represent real-life objects such as apples, leaves and sweets using manipulatives such as counters and cubes. They also match numerals to a set of objects, but do not yet use the written words. The purpose is to ensure that children realise that they can represent anything with mathematical equipment or pictures and it can still be counted in the same way.

Children also have the opportunity to practise writing numerals to match a set of objects.

Ten frames are particularly useful for this small step, as they allow children to organise their manipulatives in a structured way.

Things to look out for

- Some children may miscount when representing objects. Encourage them to touch each image or object as they say each number.
- Children may be able to say the correct number of objects but write the wrong numeral.
- Children may write numerals back to front. At this stage, it is nothing to worry about, but children could be provided with templates to trace as extra practice.

Key questions

- How many apples are there?
- So how many counters do you need?
- How can you use cubes to show how many leaves you have?
- Draw circles to show the sweets. How many circles will you draw?
- I have 7 counters. Which picture do they match?

Possible sentence stems

- I can use a _____ to represent each _____
- There are _____ carrots.
  I am using 1 counter to represent each carrot.
  I need _____ counters.
- There are _____ frogs, so I need _____ cubes/counters.

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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Represent objects

Key learning

Give children a selection of natural objects.

Ask children to take it in turns to show the class their natural objects while everyone else uses counters to represent the number of objects.

Give each child or pair of children a set of digit cards from 0 to 10, some counters or cubes and a ten frame.

Show an image of some objects, such as 6 balloons or 5 elephants.

Ask children to represent the objects using their counters and ten frame.

Then ask children to hold up the digit card that matches what they have made.

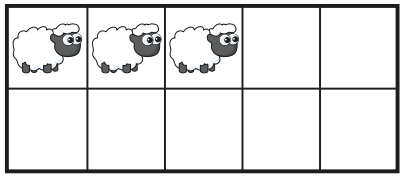
Repeat this with different objects.

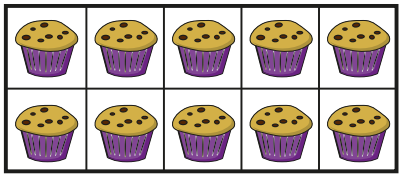
Read *Mouse Count* by Ellen Stoll Walsh.

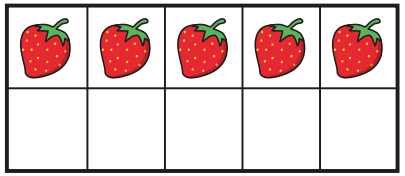
As you read the book, ask children to represent the mice using counters and a ten frame.

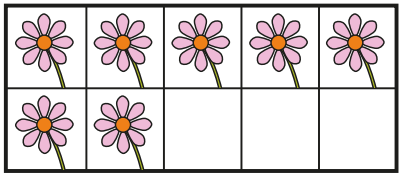
- Use counters and a ten frame to show the number of objects in each set.

- Write the numeral to match each set of objects.









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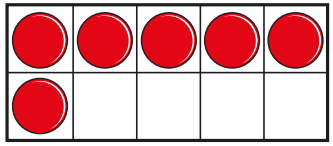
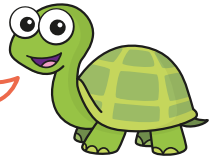
Represent objects

Reasoning and problem solving

Ron and Tiny are counting cars.





There are 6 cars.

Tiny

There are 5 cars.

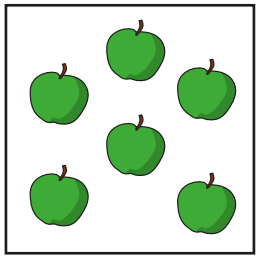
Ron

5

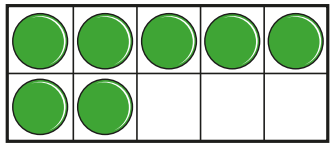
Who do you agree with?

Tiny

Here are two sets of objects.



Which set of objects does the ten frame show?

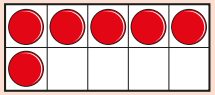


How many objects are there?

Show the other set of objects on a ten frame.

balloons

7



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Recognise numbers as words

Notes and guidance

Children should now be confident representing and counting numbers to 10. They can say the numbers to 10 verbally, represent objects and images using counters and cubes, and write the numeral to match. In this small step, children learn to recognise each numeral as a word.

At this point, children are not expected to write the words independently. Instead, they use matching activities to help build recognition and confidence.

Things to look out for

- Children are likely to be confident with the words one, two and three, but may get mixed up after this point. In particular, words that start with the same letter, for example four/five and six/seven, can cause confusion.
- Children may struggle to associate the sound of the word eight with the spelling. In contrast, they may find six easier due to it starting with the "ssss" sound.
- Seven is the only two-syllable word, but it has the same number of letters as three and eight. Children may find this confusing and look for a longer word for 7

Key questions

- How many words can you match to the numerals? Which ones are left?
- Which word begins with the letter "n"? Which numeral does this match?
- Which word begins with the letter "z"? Which numeral does this match?
- Does the greatest number always have the most letters in the word?
- Does the smallest number always have the fewest letters in the word?

Possible sentence stems

- The numeral for five is _____
- The numeral for _____ is _____

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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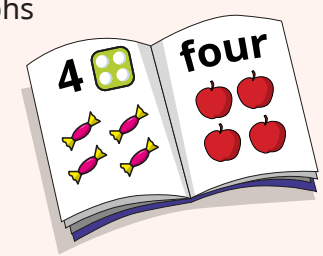
Recognise numbers as words

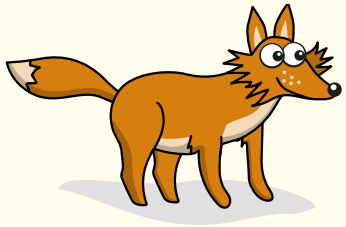
Key learning

Make a class counting book, with a double-page spread for each number from zero to 10

Stick in drawings or photographs of objects the children have collected and include the numeral and the word on each spread.



Read *One Fox* by Kate Read.



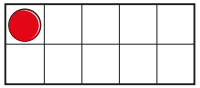
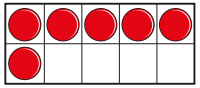
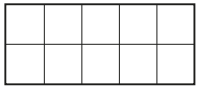
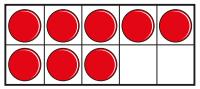
The book tells the story of a hungry fox visiting a hen house. It helps children to associate each numeral with an image and the word to represent it.

- Match the numerals to the words.

5	two
2	nine
7	five
9	seven

- How many counters does each ten frame show?

  Match the ten frames to the words.

zero

eight

six

one

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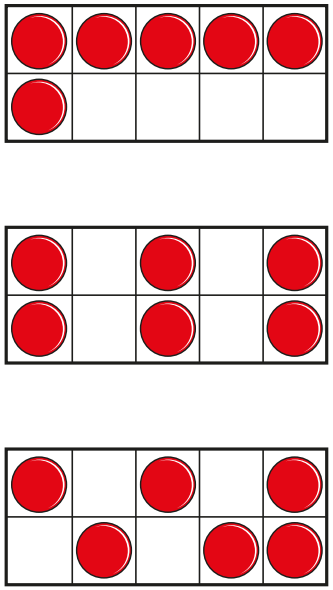
Recognise numbers as words

Reasoning and problem solving

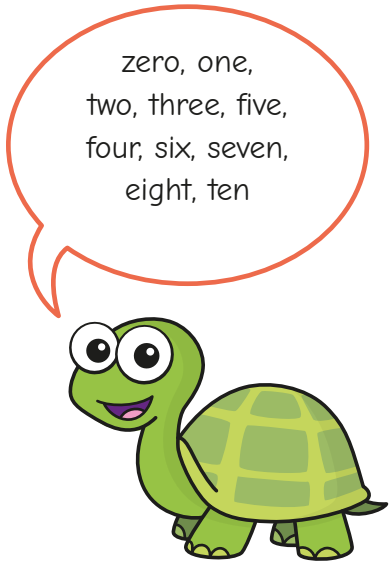
Which ten frames show six?



How do you know?

all of them

Tiny is counting to 10



What mistakes has Tiny made?

Tiny has mixed up four and five and missed out nine.

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Count on from any number

Notes and guidance

In this small step, children count on from any number while staying within 10. For example, they may be given a starting number of 4 and asked to continue "5, 6, 7, 8, 9, 10".

Ten frames and number tracks are useful tools to support children with this concept. When used side by side, they help children to continue to link a representation to the numeral and/or the word. Note that children have not yet been formally introduced to the number line, so using this representation at this stage could be confusing.

Being able to count on is an important skill to develop in preparation for addition, where children can start with an amount and count on to get the total.

Things to look out for

- Children who are not yet confident with counting may want to go back to starting at zero or 1 rather than starting at a different number. Using a ten frame and counters can help with this. Start with 4 counters on a ten frame, for example, then add another counter and say "5", add another and say "6", and so on.

Key questions

- What number are you starting from?
- What number comes next?
- If I add another counter, what number is shown?
  If I add another counter, what number is shown now?
- Do you always need to start at zero to count to 10?
- Which numbers did you not need to say? Why?

Possible sentence stems

- I need to start counting from _____
- The number that comes after _____ is _____
- I will say the number _____ because ...
- I will not say the number _____ because ...

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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Count on from any number

Key learning

In pairs, children need a dice, a ten frame, 10 counters and a blank number track.

One child rolls a dice to get a starting number, for example 3

The first child makes the number 3 on the ten frame and the second child writes the number 3 in the number track.

Together, they then add a counter and continue the number track until they reach 10

In the playground, use a ready painted number track or draw one using chalk.

1	2	3	4	5	6	7	8	9	10

Throw a giant foam dice to get a starting number or pick a number at random.

Ask a child to go and stand on that number, then jump and count at the same time until they get to 10

- Complete the number tracks.

2	3	4						

5	6				

3							

- Count from five to ten.

Without using equipment or number tracks, shout out a starting number and ask children to continue from that number, chanting together.

Nominate some children to shout out a starting number in turn for everyone to continue.

To extend this activity, children could challenge you and you could make some deliberate mistakes for them to spot!

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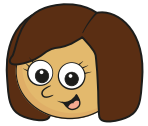
Count on from any number

Reasoning and problem solving

Kim is counting to 10

She starts at 4



Which speech bubble belongs to Kim?

A one, two, three, four, five, six, seven, eight, nine, ten

B four, five, six, seven, eight, nine, ten

C five, six, seven, eight, nine, ten

How do you know?

B

Complete the number tracks.

				5		
				6		
4	5					

What do you notice where the tracks cross each other?

across:
4, 5, **6**, **7**, **8**, **9**, **10**

down:
4, 5, 6, **7**, **8**, **9**, **10**

They show the same number, 8

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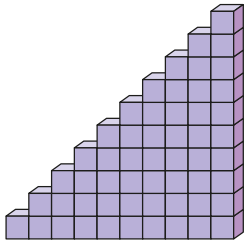
1 more

Notes and guidance

Once children are confident placing numbers on a track, the language of "1 more" can be introduced. Children need to know that 1 more is the number after, and they should use their counting skills or a number track to help them.

Cubes are a useful manipulative to show the concept of "1 more", as children can link this to the everyday activity of climbing the stairs.



Things to look out for

- Children may not understand the meaning of the word "more". Use practical games to help them. For example, give them some cubes and then give them 1 more while saying, "You now have 1 more." Ask children to repeat to you, "You have given me 1 more cube."

Key questions

- What does "1 more" mean?
- How can you show 1 more?
- Where is 1 more than _____ on the number track?
- Do you need to count from zero every time you find 1 more?
- How many did you start with? Then what happened? How many are there now?
- What is 1 more than _____?

Possible sentence stems

- 1 more than _____ is _____
- _____ is 1 more than _____
- First there were ...
  Then ...
  Now there are ...

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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1 more

Key learning

The following books/stories all link to the concept of "1 more": *One Fox* by Kate Read, *Counting Crocodiles* by Judy Sierra, *The Gingerbread Man* (traditional) and *The Enormous Turnip* (traditional).

Read one or more of the books/stories as a class.

Give the children cubes as you read the story, so that they can add 1 more cube while you read.

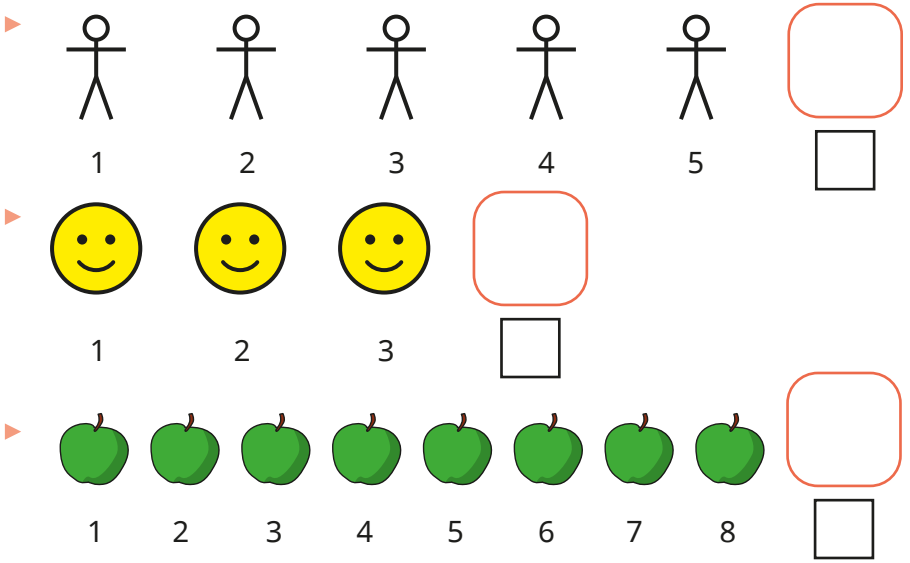
Use "first, then, now" to tell simple maths stories, such as this one, based around real-life events.

> First there were 4 children on the bus.
> Then 1 more child got on the bus.
> How many children are on the bus now?

Encourage children to use their imagination to come up with their own "1 more" stories.

- Draw 1 more.

  Write the number.



- Choose a digit from 0 to 9 to complete the table.

Number in numerals	Number in words	Number track
Sentence 1 more than _____ is _____		

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1 more

Reasoning and problem solving

Here are some digit cards.

0	1	2	3	4
5	6	7	8	9

Use the cards to complete the sentences.

1 more than ☐ is ☐

☐ is 1 more than ☐

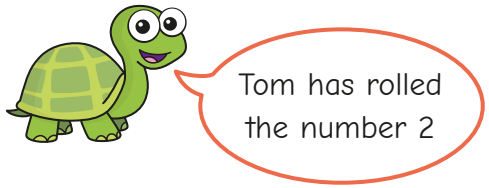
What do you notice?

0, 1

1, 0

Tom rolls a dice.

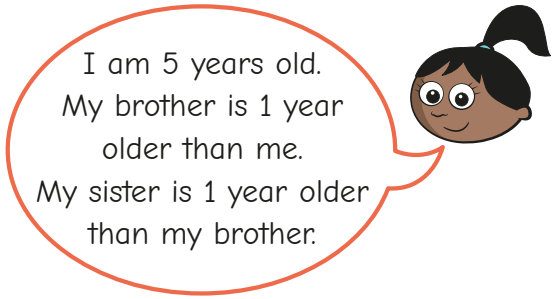
He rolls 1 more than 3



What mistake has Tiny made?

2 is 1 less than 3

Tom's number is 4



How old is Sam's brother?

Who is the oldest?

How do you know?

6 years old

Sam's sister

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Count backwards within 10

Notes and guidance

In this small step, children learn to count backwards within 10

Children can find counting backwards tricky. The use of songs and rhymes can be particularly useful to help develop this skill. As in the previous steps, it is also useful to use cubes and number tracks to support children.

Countdowns are a fun way to reinforce counting backwards, such as a countdown to a rocket launch or a countdown to the start of a race. Being able to count backwards will help children when they begin to learn about subtraction, where one method that they may use is counting back.

Things to look out for

- Up to this point, children have focused on counting forwards and will have got into a rhythm. Understandably, they will need some time to gather a rhythm for counting backwards. The main way for children to become fluent is plenty of verbal practice.
- Children may stop at 1, rather than continuing to zero.
- Children may miss out numbers or say them in the wrong order. Use completed number tracks to support them as they count backwards aloud.

Key questions

- What is the same and what is different about counting forwards to 10 and counting backwards from 10?
- When counting backwards, do you say the same words as when counting forwards?
- Should you stop counting at 1 or zero?
- Can you think of times you might need to count backwards in real life?
- When counting backwards, do the numbers get bigger or smaller?

Possible sentence stems

- The number that comes before _____ is _____
- When counting backwards from _____, the numbers I will say are ...

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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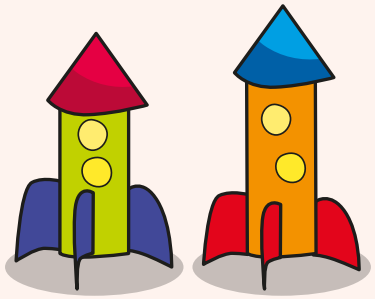
Count backwards within 10

Key learning

Read *One to Ten and Back Again* by Nick Sharratt and Sue Heap.

Ask children to build their own count back pattern, starting the count at different places.

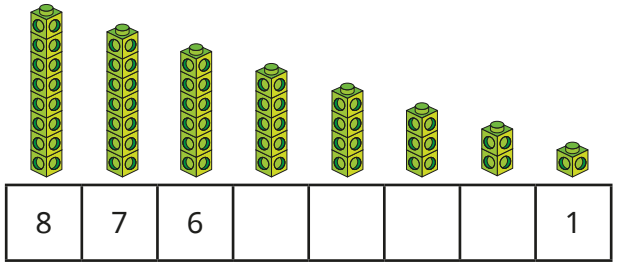
Get creative together and make some rockets.



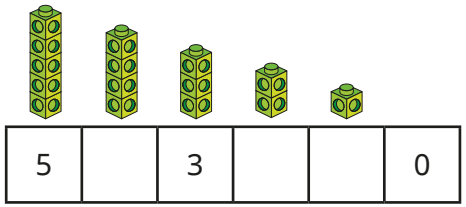
Ask children to "blast-off" their rockets, counting down from any given number to zero.

To add an extra element to this activity, children could make numbered rockets with the correct number of windows.

- Complete the number tracks.



8	7	6					1



5		3			0

- Complete the number tracks.

6	5		3			0

10		8	7			

10	9							2		

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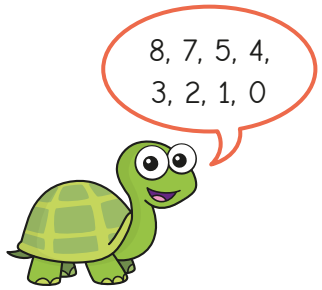
Count backwards within 10

Reasoning and problem solving

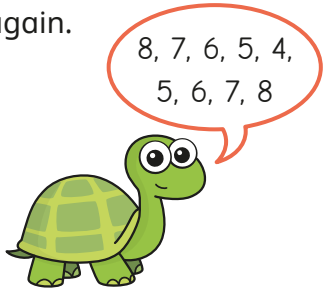
Tiny counts backwards from 8



What mistake has Tiny made?

Tiny has missed the number 6

Tiny tries again.

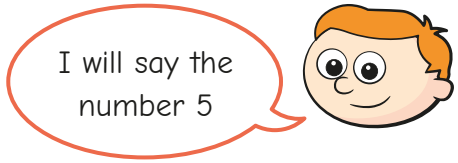


What mistake has Tiny made this time?

Tiny started counting backwards but then changed to counting forwards in the middle.

Work with a partner to help Tiny count backwards from 8

Ron counts backwards from 7



Do you agree with Ron?

Why?

Yes

Jo counts backwards from four.

Has Jo finished?

How do you know?

No

She has not said zero.

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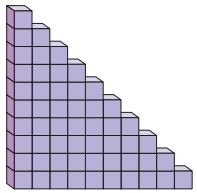
1 less

Notes and guidance

Once children are confident counting backwards and placing numbers on a track, the language of "1 less" can be introduced. In this small step, children need to know that 1 less is the number before and they should use their counting skills or a number track to help them.

It is important to make references back to previous learning on finding 1 more, so that children understand that finding 1 less is the opposite of finding 1 more.

Cubes are a useful manipulative to show the concept of "1 less", as children can link this to the everyday activity of walking down the stairs.



Things to look out for

- Children may not understand the meaning of the word "less". Use practical games to help them. For example, give them some cubes, then take one away while saying, "You now have 1 less." Ask children to repeat to you, "I have 1 less cube."

Key questions

- What does "1 less" mean?
- How can you show 1 less?
- How can counting help you with finding 1 less?
- Where is 1 less than _____ on the number track?
- What is 1 less than _____?
- What is the same and what is different about finding 1 more and finding 1 less?

Possible sentence stems

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

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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1 less

Key learning

Work outside and put children in pairs to find the objects.

- 1 less than 3 leaves 
- 1 less than 5 sticks 

Read *Ten Little Dinosaurs* by Mike Brownlow and Simon Rickerty (or another book from the *Ten Little* series, as they all focus on the "1 less" pattern).

Ask children what they notice and to use counters or cubes to represent the number of dinosaurs on each page.

Can they show the "1 less" pattern another way?

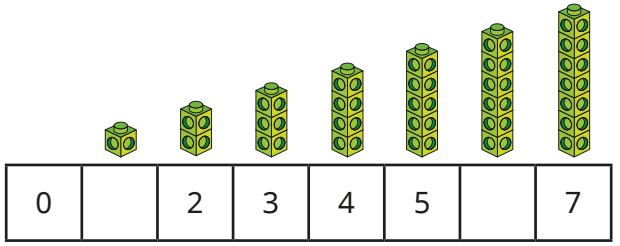
Ask children to roll a dice, represent the number using cubes and then find 1 less than the number.

Then ask them to complete the sentences.

1 less than _____ is _____

_____ is one less than _____

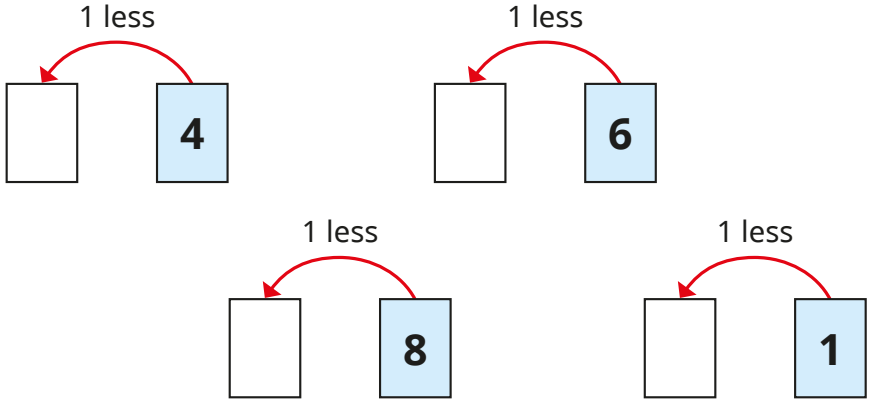
- Complete the number track.



Complete the sentences.

- 1 less than 7 is _____
- _____ is 1 less than 7
- 1 less than 2 is _____
- _____ is 1 less than 2

- Find 1 less than each number.



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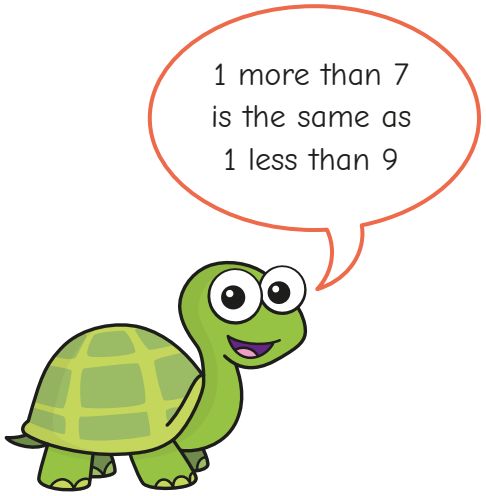
1 less

Reasoning and problem solving

Tiny is counting 1 more and 1 less.



Is Tiny correct?

How do you know?

Think of another 1 more/1 less sentence.

Yes

Complete the sentences.

1 less than 9 is ☐

1 less than ☐ is 7

1 less than ☐ is 6

What pattern can you see?

What is the next sentence in the pattern?

8, 8, 7

The numbers are counting backwards.

1 less than 6 is 5

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Compare groups by matching

Notes and guidance

In this small step, children match one object with another to compare groups. This is sometimes referred to as one-to-one correspondence, where children check if, for example, there are enough presents for everyone to have one each. Children should be exposed to situations where there are too many, not enough or just the right amount.

Children should be encouraged to move physical objects or draw lines between pictorial representations to support them in matching.

At this stage, children do not need to know the exact difference between the groups if there is a difference.

Things to look out for

- Children may miscount one group and therefore make a mistake. Encourage children to touch each image or object as they count it and say the number as they touch.
- Children need to pay careful attention to the question. For example, if there are 5 presents and 4 children, each child can have a present. But if the words are the other way around – 5 children and 4 presents – then each child will not get a present.

Key questions

- What does "match" mean?
- How can you show you have matched the objects/pictures?
- What can you use to represent the picture? How can you check if the groups match?
- Are there enough objects/pictures to match them all up?
- Are there any left over? Why has that happened?

Possible sentence stems

- There are _____ children and _____ presents.
  Each child can/can not have a present because ...
- I know that there are/are not enough objects/pictures to match them all up because ...

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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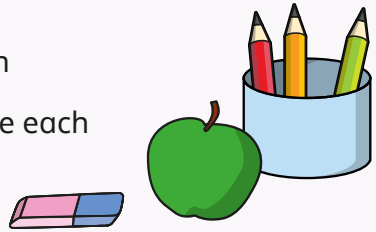
Compare groups by matching

Key learning

Use equipment and objects in the classroom.

As a class, check if there are enough:

- pencils for one each
- rubbers for one each
- pieces of fruit for one each



Tell children that they need to go outside on a secret mission!

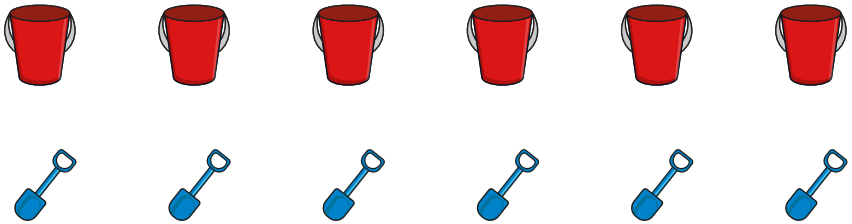
Tiny wants them to collect some natural objects for Jo, Max and Dan.

Jo, Max and Dan need 1 natural object each.

Ask children how many natural objects they need to collect.

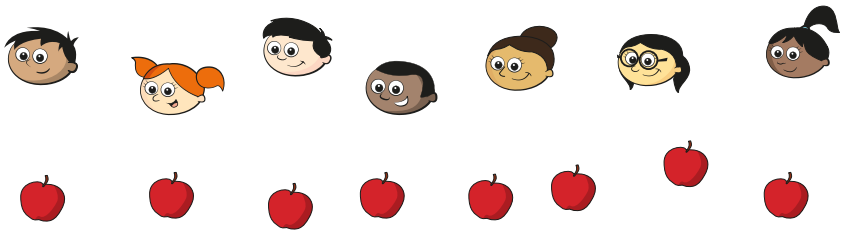
Put the collections together and tell children that Tiny will collect them at midnight in secret ... shhhh!

- Draw a line from each bucket to a spade.



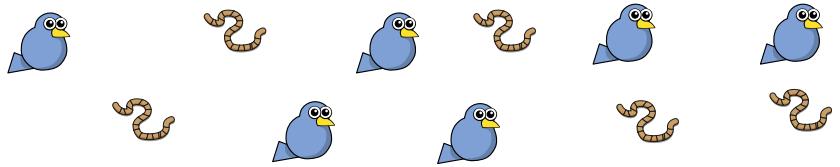
Is there a spade for each bucket?

- Draw a line from each child to an apple.



Can each child have an apple?

- Can each bird have a wiggly worm?



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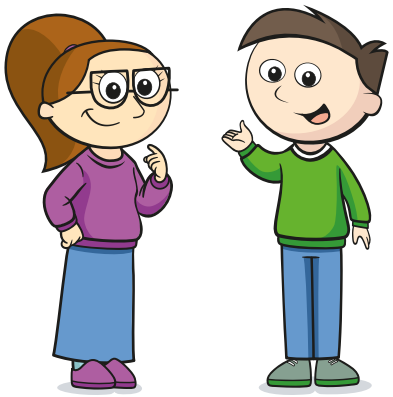
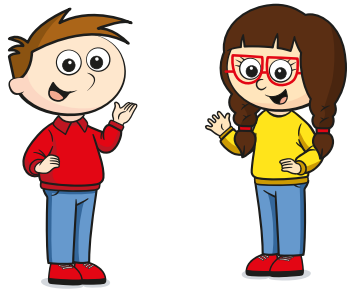
Compare groups by matching

Reasoning and problem solving

Here is a family.



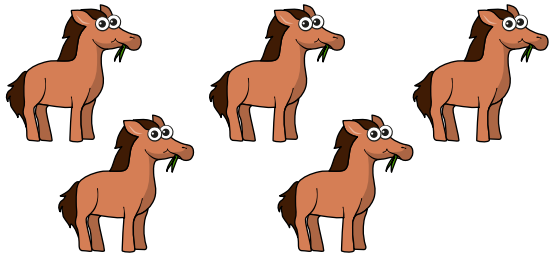


Can the family travel in a car that has 5 seats?

How do you know?

Yes

Tick the bag of carrots that matches the number of horses.



How did you choose?

bag of 5 carrots ticked

There are 5 horses, so the bag with 5 carrots matches the horses.

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Fewer, more, same

Notes and guidance

In this small step, children compare numbers of objects.

It is important to ensure that children have clear understanding of new vocabulary such as "fewer", "more" and "same". They need to practise using the words in a variety of contexts in the same way that they need to practise working with numbers in a variety of contexts. In particular, the word "fewer" can be tricky, as many adults tend to incorrectly use the word "less" instead. "Fewer" is used when talking about a number of things or objects, whereas "less" is used when talking about values. For example, "There are fewer blue cars than red cars" is correct, not "There are less blue cars than red cars."

Things to look out for

- Children may mix up the meaning of the words "fewer", "more" and "same". Ensure they get plenty of practice saying the words aloud, as well as placing the correct word (already written for them) between sets of objects.
- Use sets of objects that are clearly either fewer, more or the same, rather than scattered objects, for example towers of cubes or objects set out on a ten frame. Otherwise, children may focus more on counting than using the correct vocabulary.

Key questions

- How do you know the towers are the same?
- How do you know that tower has fewer/more cubes than this tower?
- Which ten frame has more? How do you know?
- Who has fewer/more cubes than you?
- Who has the same number of cubes as you?

Possible sentence stems

- Sam has _____ cubes than Mo.
- There are _____ counters in box A than box B.
- There are fewer/more _____ than _____
- There are the same number of _____ as _____

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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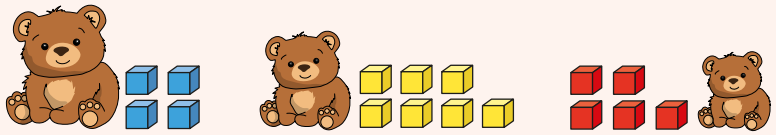
Fewer, more, same

Key learning

Set up a teddy bears' picnic, giving each bear some treats. You could use cubes to represent some fruit or give the bears some toy objects.

Give daddy bear 4 cubes, mummy bear 7 cubes and baby bear 5 cubes.



Write the words "fewer", "more" and "same" on some big pieces of paper.

Complete the sentences together as a class.

Mummy bear has _____ cubes than daddy bear.

Baby bear has _____ cubes than mummy bear.

Daddy bear has _____ cubes than baby bear.

Then give children some cubes and ask them a variety of questions, such as, "Can you show me fewer cubes than mummy bear has?"

Discuss the different answers together.

For this game, children need a dice and some dominoes.

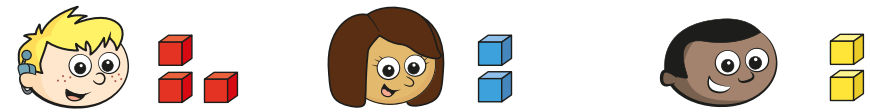
Children roll the dice to get a starting number.

Ask children to sort their dominoes into groups that show:

- the number
- fewer spots than the number
- more spots than the number

- Choose a word to complete the sentences.

fewer | more | same



Kim and Mo have the _____ number of cubes.

Kim has _____ cubes than Max.

Max has _____ cubes than Mo.

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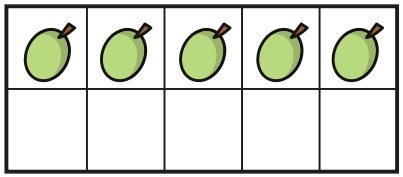
Fewer, more, same

Reasoning and problem solving

Ann has these grapes.



Ben has 7 grapes.

Draw counters to show Ben's grapes.

Who has fewer grapes?

Ron has more grapes than Ann.

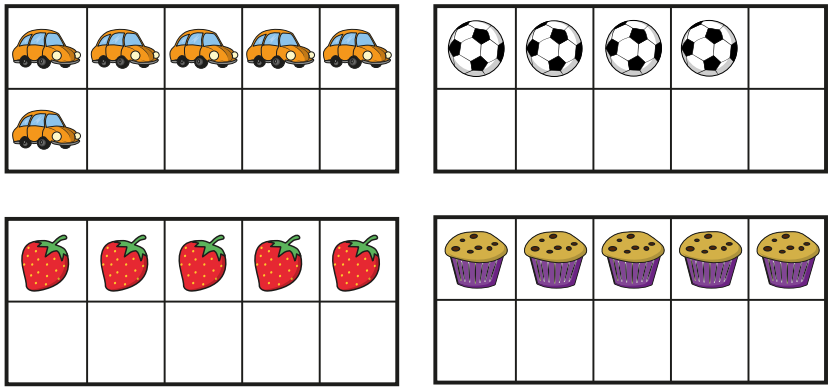
Ron has fewer grapes than Ben.

How many grapes does Ron have?

Ann

6

Tiny is practising using the words "fewer", "more" and "same".



Which sentences are correct?

There are more cars than balls.

There are fewer strawberries than balls.

There are the same number of cars as cakes.

Correct the mistakes.

There are more cars than balls.

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Less than, greater than, equal to

Notes and guidance

In this small step, children move on from describing whether there are "fewer", "more" or the "same" number of objects to comparing numerical values using the vocabulary "less than", "greater than" or "equal to" alongside the symbols <, > and =.

Number tracks are particularly useful in this step and children will begin to see that smaller numbers are to the left of greater numbers. Concrete resources can also be used, but make sure that children do not get confused with the previous step, where they were using words to describe sets of objects. It needs to be clear that they are now comparing the numbers not the objects.

Things to look out for

- Children may want to use the word "bigger" rather than "greater". For consistency of language, encourage children to use the word "greater". "Bigger" often refers to the size of an object rather than a number, for example a bigger teddy or a bigger slide.
- Children may get the symbols mixed up. Using cubes and straws to physically make the symbols can help children to understand them.

Key questions

- How can you use cubes to show that 6 is less than 7?
- How can you use a number track to find a number less than 5?
- How can you use cubes to show that 3 is equal to 3?
- How many different ways can you show that 7 is greater than 4?

Possible sentence stems

- _____ is less than _____
- _____ is greater than _____
- _____ is equal to _____
- _____ < _____
- _____ > _____
- _____ = _____

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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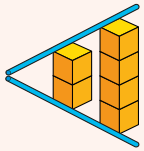
Less than, greater than, equal to

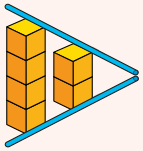
Key learning

Use straws and cubes to introduce children to the less than, greater than and equal to symbols. Stick what you make together on your working wall, so that children have a visual reminder.



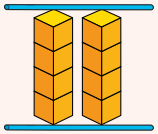
2 is less than 4

2 < 4



4 is greater than 2

4 > 2



4 is equal to 4

4 = 4

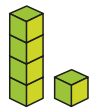
Ask children to use cubes to show that:

- 1 < 5
- 7 > 3
- 9 = 9

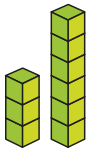
- Draw the greater than, less than and equal to symbols.
- Choose a phrase to complete the sentences.

equal to	less than	greater than

3 is _____ 3

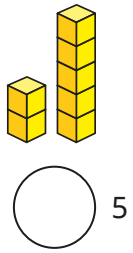


4 is _____ 1

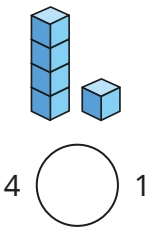


3 is _____ 6

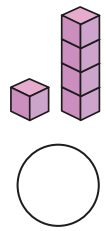
- Write <, > or = to compare the numbers.



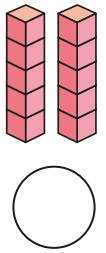
2 ◯ 5



4 ◯ 1



1 ◯ 4



5 ◯ 5

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Less than, greater than, equal to

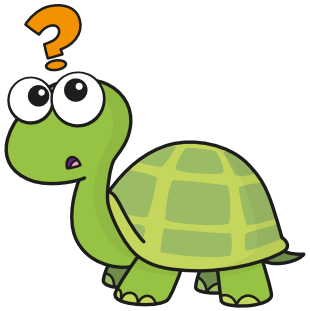
Reasoning and problem solving

What is the missing number?

$6 < \square$

Help Tiny to choose a number from the track.

1	2	3	4	5	6	7	8	9	10

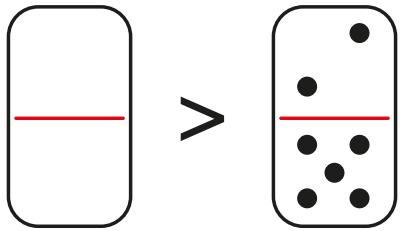


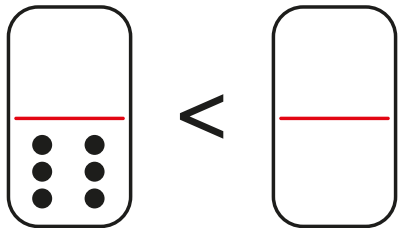
Is there more than one answer?

7, 8, 9, 10

Tom compares the number of dots on the dominoes.

Some of the dots are missing.





Draw the missing dots.

Is there more than one answer?

more than 7 spots

more than 6 spots

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Compare numbers

Notes and guidance

In this small step, children build on their learning from earlier in the block to compare pairs of numbers within 10

Children can use their knowledge of counting to support them, for example because they would say 6 after 5, they know that 6 is greater than 5. Children can also use their knowledge of representing numbers using objects to help them identify which of a pair of numbers is greater or less than the other.

In the previous steps, children were introduced to the language of "greater than", "less than" and "equal to" alongside the corresponding inequality symbols >, < and =. They use these throughout this step when comparing numbers. It is important that children use all the symbols, in order to reinforce their meaning.

In order to bring in other learning from this block, children could also compare numbers written as words.

Things to look out for

- Children may confuse the inequality symbols.
- When zero is involved in a question, children may find this more challenging, as they find it harder to picture.

Key questions

- When you count forwards from zero, which of the numbers do you say first?
- Which number is further along the number track?
- Which number is greater? How do you know?
- Which is the smaller number? How do you know?
- What does each symbol mean?
- If 5 is less than 6, what else do you know?

Possible sentence stems

- _____ is less/greater than _____
- _____ is equal to _____
- _____ </> _____
- _____ = _____

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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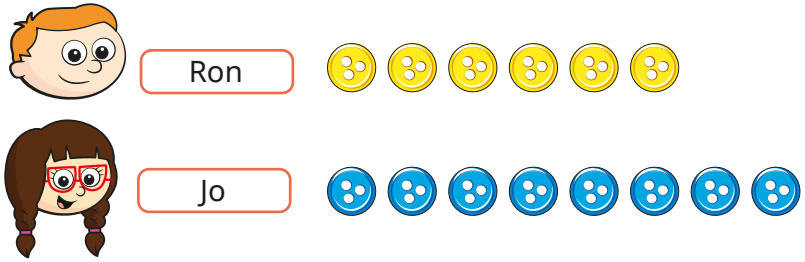
Compare numbers

Key learning

- Ron and Jo have some buttons.



How many buttons does Ron have?

How many buttons does Jo have?

Who has more buttons?

-

1	2	3	4	5	6	7	8	9	10

Circle 3 and 9 on the number track.

- Write **less** or **greater** to compare the numbers.

3 is _____ than 9 9 is _____ than 3

- Write < or > to compare the numbers.

3 ◯ 9 9 ◯ 3

- Write the missing phrase.

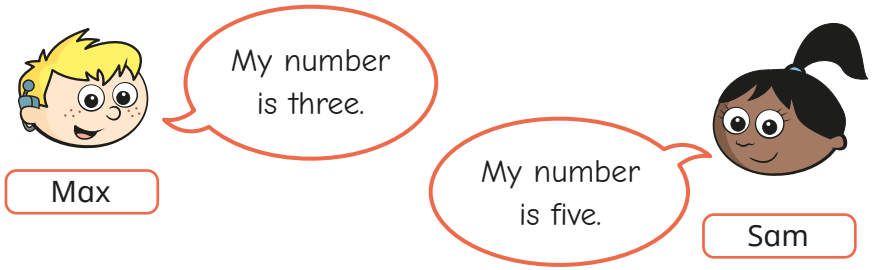
less than	greater than	equal to

- 1 is _____ 5
- 7 is _____ 8
- 6 is _____ three
- 4 is _____ 0
- 10 is _____ ten
- 1 is _____ zero

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

1 ◯ 5 7 ◯ 8 4 ◯ 0

- Max and Sam are thinking of a number.



Whose number is greater?

How do you know?

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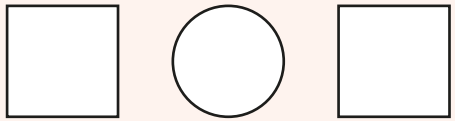
Compare numbers

Reasoning and problem solving

Ask children to roll two dice.

Ask them to complete the sentence with their numbers and the <, > or = symbol.



Ask children what happens if you write the numbers in the opposite boxes.

What do they notice?

Get children to work in pairs to practise comparing numbers.

When the numbers are swapped, the inequality symbol changes to the opposite symbol.

One statement is false.

8 > 4	7 < 10
3 > 6	eight = 8

Use cubes to show which one is false.

Talk about it with a partner.

3 > 6

Here are some number cards.

1	2	3	4	5
6	7	8	9	10

Use the cards to complete the sentence.

☐ is greater than ☐

How many ways can you do it?

multiple possible answers, e.g.

7 is greater than 2

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Order objects and numbers

Notes and guidance

Now that children are confident counting and comparing numbers to 10, in this small step they move on to ordering three groups of objects.

Expose children to different methods for ordering, such as comparing two groups initially, and lining groups up. Children should use the language they learnt in the previous steps and be introduced to the vocabulary "most" and "fewest" and begin to use it.

Alongside the objects, introduce numbers so that children can begin to order a set of three numbers. They will need introducing to the language of "greatest" and "smallest" and should begin to use it. At this stage, it is not necessary for children to order more than three numbers, although children who are confident with three numbers can be challenged to do this.

Things to look out for

- Children may misunderstand the language. Ensure you are consistent with your wording, particularly with the word "greatest". Often it gets replaced with "largest" or "biggest", which can be confusing for young children.

Key questions

- How did you compare the piles/groups?
- How do you know that group _____ is the greatest?
- How do you know that group _____ is the smallest?
- How many answers are there? How can you show this with cubes?
- How have these objects/numbers been ordered?

Possible sentence stems

- Group _____ has the greatest amount of _____
- Group _____ has the smallest amount of _____
- Group _____ has the most _____
- Group _____ has the fewest _____

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
- Compare numbers using <, > and = signs
- Read and write numbers from 1 to 20 in numerals and words

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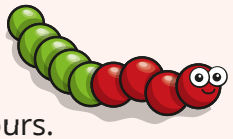
Order objects and numbers

Key learning

Make a caterpillar by threading some beads onto a pipe cleaner.



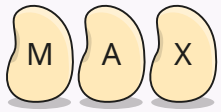
Ask children to make caterpillars with more beads and fewer beads than yours.

Ask them which caterpillar has the most beads and which has the fewest.

Ask children to arrange the caterpillars in order.

Ask children to build or write their name.

They could write it on butter beans.



Ask children how many letters they have in their name.

Ask if it has more letters, fewer letters or the same number of letters as their partner's.

In groups of three, get children to stand in order from the name with the fewest letters to the name with the most letters.

Ask them what happens if two names have the same number of letters.

- Order the groups of cars.

  Start with the the group that has the fewest cars.

group 1 

group 2 

group 3 

- Each domino shows a number.

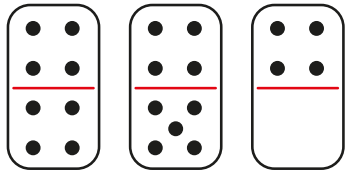
  Put the dominoes in order.

  Start with the smallest number.

  Complete the sentences.

  The greatest number is _____

  _____ is the smallest number.



- Order the numbers in each set.

  Start with the smallest number.

  ▸ 3, 1, 7

  ▸ 6, 10, 9

  ▸ three, zero, two

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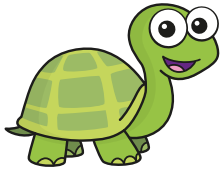
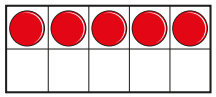
Order objects and numbers

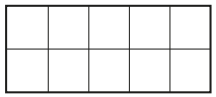
Reasoning and problem solving

Tiny is making numbers in order from greatest to smallest.

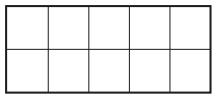


greatest





smallest



Draw counters to show the numbers Tiny could have made.

Is there more than one answer?

multiple possible answers, e.g.

5, 4, 1

5, 2, 0

Children could also add counters to the first ten frame, which gives even more possible answers.

Use 10 cubes.

Put them into 3 groups.

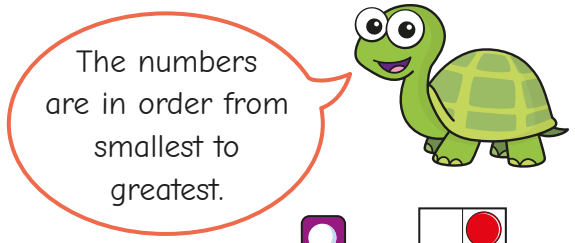
Order the groups from greatest to smallest.

How many different ways can you find?

four ways:

7, 2, 1 6, 3, 1

5, 4, 1 5, 3, 2



Do you agree with Tiny?

Why?

No

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The number line

Notes and guidance

In this small step, children are introduced to a number line for the first time. So far, children have only used number tracks, so they may be tempted to label the numbers in between the divisions on the number line. Careful explanation will be needed to avoid this. All number lines will count in 1s.

The number line can be used to practise and consolidate the skills learnt so far in this block. Children recap counting from zero to 10 forwards when labelling a number line and can also practise counting backwards if they read from right to left. They can clearly see that 1 more is the next number to the right on the number line, while 1 less is the previous number.

The number line can also be used to consolidate comparison of numbers using both words and inequality symbols, as well as being used to order numbers. A number line is a good opportunity to count from zero, as children do not do this when counting objects.

Things to look out for

- Children may write the numbers in between divisions, rather than on divisions when labelling a number line.
- Children may confuse the inequality symbols when comparing numbers using a number line.

Key questions

- How can you label the number line? How do you know where to put the numbers?
- What does each mark on the number line represent?
- Where does the number line start/end?
- How do you find 1 more/less on a number line?
- How can you use a number line to decide which number is greater?
- How much is each jump on the number line?

Possible sentence stems

- The first/last number on the number line is _____
- To find 1 more/less, I need to ...

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

Key learning

Get children to pace out a number line in the playground, counting each step from zero.

Use chalk to label the numbers.

Encourage children to count out loud to consolidate counting from zero to 10

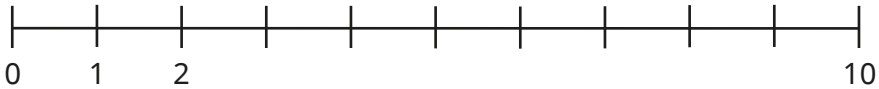
Can children find different numbers on their number line?

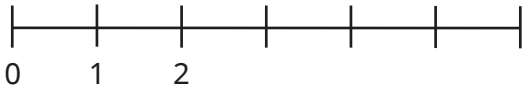
Can children use their number line to decide which of a pair of numbers is greater?

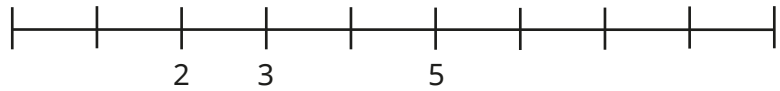
Can children use their number line to order numbers?

- On the number line:
  - circle the number 7
  - underline a number **greater** than 7
  - draw an arrow to the number that is **1 less** than 5
  - put a box around the **smallest** number

- Complete the number lines.







How many jumps are there from zero to 8?

How many jumps are there from zero to 3?

- Write each set of numbers in order.

Start with the smallest number.

Use a number line to help you.

3, 8, 4

10, 0, 7

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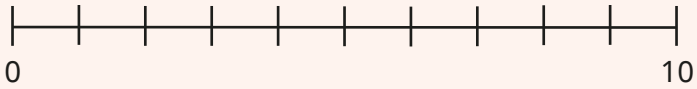
The number line

Reasoning and problem solving

Get children to play these games with dice to practise using a number line.



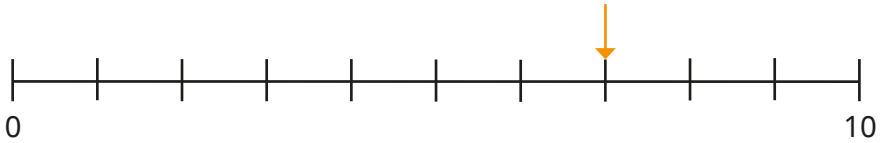
Game 1: Children roll two dice. They circle each number on a number line and then complete a number sentence to match. _____ > _____

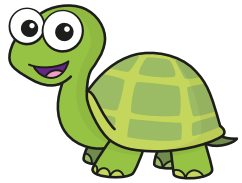
Game 2: Children roll three dice. They circle each number on a number line and then write the numbers in order, starting with the greatest.

Game 3: Children roll a dice and then place a counter on the number line to show their number.
Ask children these questions:

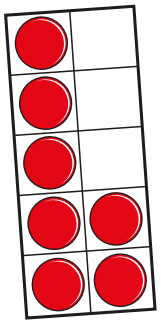
- How many jumps from zero is your number?
- How many jumps do you need to get to 10?
- Is your number closer to zero or 10?

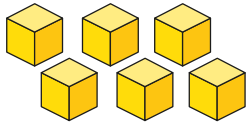
Tiny draws an arrow to a number on the number line.

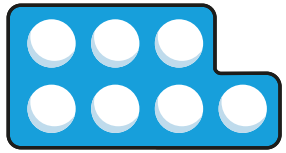




Which picture does **not** match Tiny's number?







Talk about it with a partner.

cubes

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