

Autumn Scheme of Learning

Year 1/2

#MathsEveryoneCan

2019-20



How to use the mixed-age SOL

In this document, you will find suggestions of how you may structure a progression in learning for a mixed-age class.

Firstly, we have created a yearly overview.

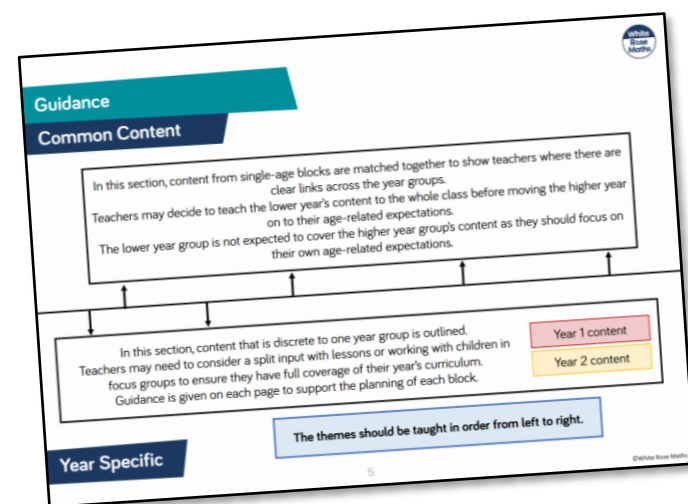
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number: Place Value Y1 – Numbers to 20 Y2 – Numbers to 100			Number: Addition and Subtraction Year 1- Numbers within 20 (including recognising money) Year 2- Numbers within 100 (including money)						Number: Year 1: Place Value to 50 and Multiplication Year 2: Multiplication		
Spring	Number: Year 1: Division & consolidation Year 2: Division		Year 1: Place Value to 100		Measurement: Length and Height	Geometry: Year 1: Shape and Consolidation Year 2: Properties of Shape			Number: Year 1: Fractions and Consolidation Year 2: Fractions		Consolidation	
Summer	Geometry: Position and Direction	Measurement: Time		Problem solving and efficient methods		Measurement: Year 1: Weight and Volume Year 2: Mass, Capacity and Temperature			Consolidation and Investigations			

Each term has 12 weeks of learning. We are aware that some terms are longer and shorter than others, so teachers may adapt the overview to fit their term dates.

The overview shows how the content has been matched up over the year to support teachers in teaching similar concepts to both year groups. Where this is not possible, it is clearly indicated on the overview with 2 separate blocks.

For each block of learning, we have grouped the small steps into themes that have similar content. Within these themes, we list the corresponding small steps from one or both year groups. Teachers can then use the single-age schemes to access the guidance on each small step listed within each theme.

The themes are organised into common content (above the line) and year specific content (below the line). Moving from left to right, the arrows on the line suggest the order to teach the themes.



How to use the mixed-age SOL

Here is an example of one of the themes from the Year 1/2 mixed-age guidance.

Subtraction

Year 1 (Aut B2, Spr B1)

- How many left? (1)
- How many left? (2)
- Counting back
- Subtraction - not crossing 10
- Subtraction - crossing 10 (1)
- Subtraction - crossing 10 (2)

Year 2 (Aut B2, B3)

- Subtract 1-digit from 2-digits
- Subtract with 2-digits (1)
- Subtract with 2-digits (2)
- Find change - money

In order to create a more coherent journey for mixed-age classes, we have re-ordered some of the single-age steps and combined some blocks of learning e.g. Money is covered within Addition and Subtraction.

The bullet points are the names of the small steps from the single-age SOL. We have referenced where the steps are from at the top of each theme e.g. Aut B2 means Autumn term, Block 2. Teachers will need to access both of the single-age SOLs from our website together with this mixed-age guidance in order to plan their learning.

Points to consider

- Use the mixed-age schemes to see where similar skills from both year groups can be taught together. Learning can then be differentiated through the questions on the single-age small steps so both year groups are focusing on their year group content.
- When there is year group specific content, consider teaching in split inputs to classes. This will depend on support in class and may need to be done through focus groups .
- On each of the block overview pages, we have described the key learning in each block and have given suggestions as to how the themes could be approached for each year group.
- We are fully aware that every class is different and the logistics of mixed-age classes can be tricky. We hope that our mixed-age SOL can help teachers to start to draw learning together.

Guidance

Common Content

In this section, content from single-age blocks are matched together to show teachers where there are clear links across the year groups.
 Teachers may decide to teach the lower year's content to the whole class before moving the higher year on to their age-related expectations.
 The lower year group is not expected to cover the higher year group's content as they should focus on their own age-related expectations.

In this section, content that is discrete to one year group is outlined.
 Teachers may need to consider a split input with lessons or working with children in focus groups to ensure they have full coverage of their year's curriculum.
 Guidance is given on each page to support the planning of each block.

Year 1 content

Year 2 content

The themes should be taught in order from left to right.

Year Specific

	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 Y1 – Numbers to 20 Y2 – Numbers to 100			Number: Addition and Subtraction Year 1- Numbers within 20 (including recognising money) Year 2- Numbers within 100 (including money)						Number: Year 1: Place Value to 50 and Multiplication Year 2: Multiplication		
Spring	Number: Year 1: Division & consolidation Year 2: Division		Year 1: Place Value to 100		Measurement: Length and Height	Geometry: Year 1: Shape and Consolidation Year 2: Properties of Shape			Number: Year 1: Fractions and Consolidation Year 2: Fractions		Consolidation	
Year 2: Statistics												
Summer	Geometry: Position and Direction	Measurement: Time		Year 1: Place Value recap		Measurement: Year 1: Weight and Volume Year 2: Mass, Capacity and Temperature			Year 1: Four Operations recap		Consolidation	
Year 2: Problem solving				Year 2: Consolidation and Investigations								

Place Value

Common Content

Count, read and write forwards and backwards

Year 1 (Aut B1, B4)

- Count forwards to 10
- Count backwards from 10
- Count forwards and backwards to 20

Year 2 (Aut B1)

- Count forwards and backwards to 100

Represent numbers as tens and ones

Year 1 (Aut B4)

- Numbers from 11-20
- Tens and Ones

Year 2 (Aut B1)

- Represent numbers to 100
- Tens and Ones - part-whole model
- Tens and Ones using addition
- Use a place value chart

Compare groups and numbers

Year 1 (Aut B1, B4)

- One to one correspondence
- Compare groups using language
- Compare groups of objects
- Introduce $<$, $>$ and $=$ symbols
- Compare numbers (10 and 20)

Year 2 (Aut B1)

- Compare objects
- Compare numbers

Order numbers

Year 1 (Aut B1, B4)

- Order objects (10 & 20)
- Order numbers (10 & 20)
- Ordinal numbers
- The number line

Year 2 (Aut B1)

- Order objects and numbers

Sort, count and represent objects

Year 1 (Aut B1)

- Sort objects
- Count objects
- Represent objects

Count one more and one less

Year 1 (Aut, B1, B4)

- Count one more
- Count one less
- Count one more and one less

Within this block, there are good opportunities for Year 2 to recap important ideas introduced in Year 1 ($<$ and $>$) before applying them to larger numbers to 100

Year 1 should focus on numbers to 20 although they can be encouraged to count to 100 as this is an end of year objective and will be returned to in later blocks.

Although ordinal numbers are not given their own Year 2 step, they would be a good concept to look at together to support ordering objects and numbers.

Year Specific

White

**Rose
Maths**

Block 1 - Place Value

**Theme 1 – Sort, count and
represent objects**

Sort Objects

Notes and Guidance

Children need to sort groups by characteristics before they count. Children should be encouraged to sort objects into groups in a variety of ways, for example, sorting a group of children into girls and boys or sorting counters by colour.

Children should be encouraged to line sorted objects up to link to the early representations of bar models.

Mathematical Talk

How can you sort the objects?

Are there any different ways they could be sorted?

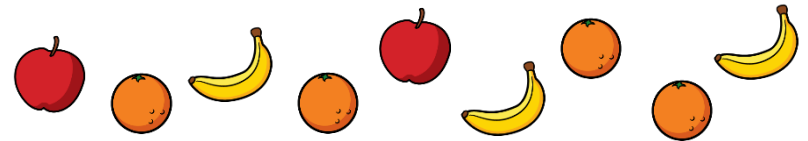
How have you grouped the objects?

How do you think these objects have been grouped?

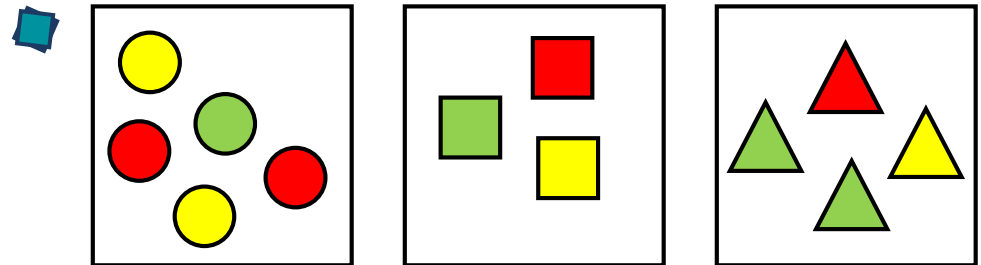
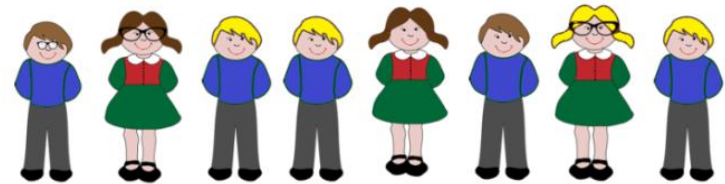
Can there be more than 2 groups?

Varied Fluency

Sort the fruit into groups and explain how you have sorted them.



How many ways can you sort the children into groups?

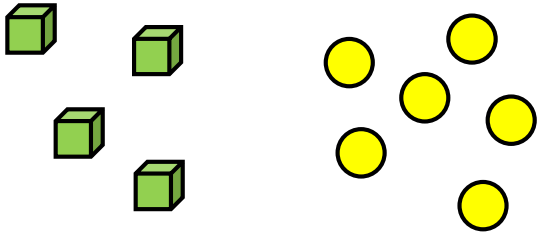


How have these objects been grouped?
How else could you group them?

Sort Objects

Reasoning and Problem Solving

Two children are discussing how some objects have been sorted.



Dora

These objects have been sorted into cubes and counters.

These objects have been sorted into green and yellow.

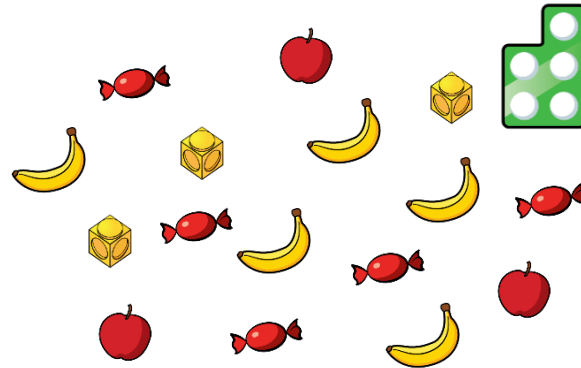


Jack

Who is correct? Convince me.

Both children could be correct as all of the cubes are green and all of the counters are yellow so it could have been sorted as either cubes and counters or green and yellow.

How many different ways can the objects be grouped?



They could be sorted into:

- Colours
- Food and not food
- 5s and 1s

Count Objects

Notes and Guidance

Once objects are sorted, children begin to count from 1 to 10 to work out how many there are.

It is important that they count one object at a time and that they understand the last number they count is the total amount.

Children should be encouraged to place the objects in a line to improve accuracy when counting. They should also be exposed to what zero looks like.

Mathematical Talk

Line up the objects. Is it easier to count now? Why?

What does one _____ represent?

What number will we say first when we are counting? Why?

How many are there in total?

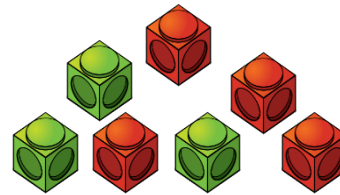
When would we count 0?

What does zero look like?

Can you show me a group of zero?

Varied Fluency

How many red cubes and how many green cubes are there?

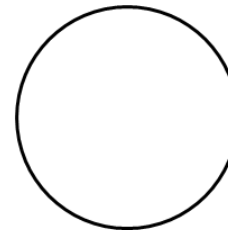
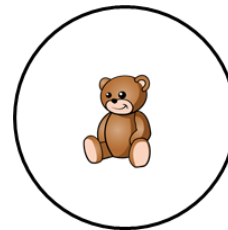


There are _____ red cubes.

There are _____ green cubes.

There are _____ cubes altogether.

Match the numbers to the correct amount of teddies.



3

1

0

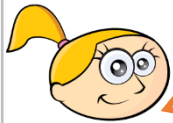
Group the items, and then count how many there are in each group. Compare your groups with a partner's.



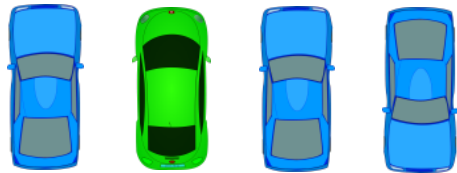
Count Objects

Reasoning and Problem Solving

Eva has grouped these cars into 3 groups.



One group has 3 cars.
One group has 1 car.
One group has no cars.



How could Eva have grouped the cars?

Eva could have grouped the cars by colour e.g. Blue cars, green cars and red cars. There would be zero cars in the red group.

Eva could have grouped the cars by the way they are facing e.g. Facing forward, facing backwards and facing sideways. There would be zero cars in the sideways group.

How many different ways can you find to group the objects and find the total?



They can be grouped by:

- Colour
- Ringed & not ringed
- Sprinkles and no sprinkles.

There are 9 doughnuts in total.

Represent Objects

Notes and Guidance

Children learn that one object can be represented by another. For example, one elephant can be represented by one cube or counter.

Children can also pictorially represent an object to aid understanding. The use of zero is important so children understand what zero means.

Although the use of numerals is modelled here, you could also introduce the written word too.

Mathematical Talk

How can the five frame help you to count the objects?

Can you write the number 3 in words?

How many ways can you draw 3?

Do we always have to use counters to show an amount?






What can we use to represent the _____?

What does each _____ represent?

How many different ways can we represent _____?

Varied Fluency

Using counters, show how many pineapples there are, then write the numerals for each.

How many whales can you see on the wrapping paper?

Place counters on the whales to help you.


What else can you count?

Which animal is represented the most?

Which animal is represented the least?



Complete the table.

Picture	Draw It	Number	Write It
			

Represent Objects

Reasoning and Problem Solving

How many ways can you represent 6 apples?

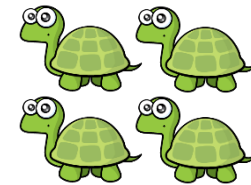
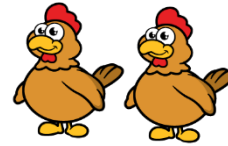
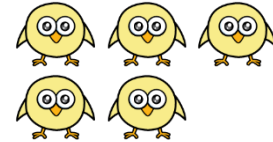
Can you show me fewer than 4 sweets?
How many ways can you do this?

How can you show me that there are more green cars than blue cars?

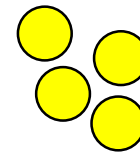
Children could line up 6 counters/cubes.

Children could line up 3, 2, 1 or get zero counters.

Children could get 1 blue cube and 2 green cubes etc.



Which representation matches which group?



Explain how you know.

Cubes represent chicks.
Counters represent turtles.
The number shape represents the hens.
The straw represents the sheep.

White

**Rose
Maths**

Block 1 - Place Value

**Theme 2 – Count, read and write
forwards and backwards**

Count Forwards

Notes and Guidance

Children develop counting to continue a number sequence forwards. Problems should be presented in a variety of ways e.g. numerals, words and images. Children should be able to find consecutive and non-consecutive missing numbers in sequences.

When counting a set of objects, children need to be able to visualise what zero looks like and know that this comes before one.

Mathematical Talk

What can we use to represent the strawberries?

Do we always have to count from 0 or 1?

Can anything in our classroom help you with the words? (on a number line/working wall ensure words are matched with the numeral)

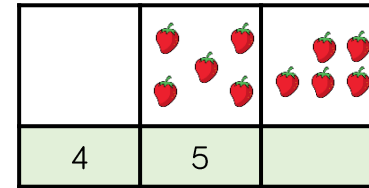
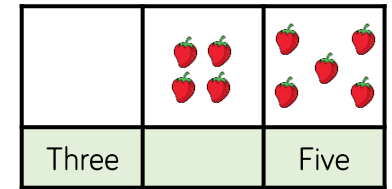
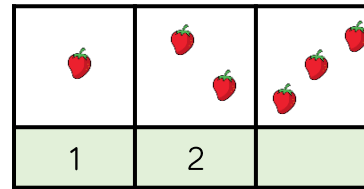
Are the numbers getting greater or smaller?

What is the next number?

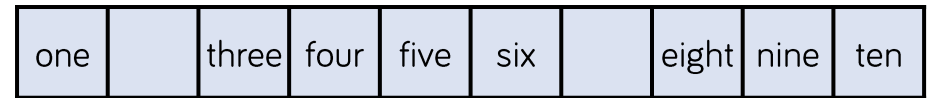
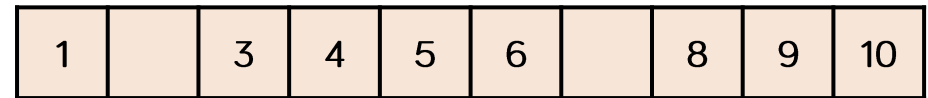
Can you use the resources or images to help you count?

Varied Fluency

Complete the number tracks.



Complete the number tracks.



Fill in the missing numbers.

____, 1, 2, 3

3, 4, ____, 6

1, ____, 3, ____

six, ____, ____, nine

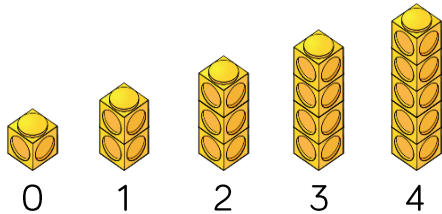
Count Forwards

Reasoning and Problem Solving

Spot the mistakes, and correct the sequences.

- 0, 2, 3, 4, 5

-



- 1



- Missed out '1'
The sequence should be 0, 1, 2, 3, 4, 5
- The sequence starts from 0 whereas the number of cubes starts from 1
- The number of cubes doesn't match the sequence.

Whitney says,



When counting forwards, we always count from 0

Do you agree?
Explain why.

Whitney is wrong, we can start counting forwards from any number.

Count Backwards

Notes and Guidance

Children develop counting to continue a number sequence backwards. Problems should be presented in a variety of ways, e.g. numerals, words and images.

Children should continue sequences, and also find consecutive and non-consecutive missing numbers in sequences.

Mathematical Talk

How can we use our counting skills?

Do we always have to start at 10 when counting backwards?

Will all the boxes have dots in?

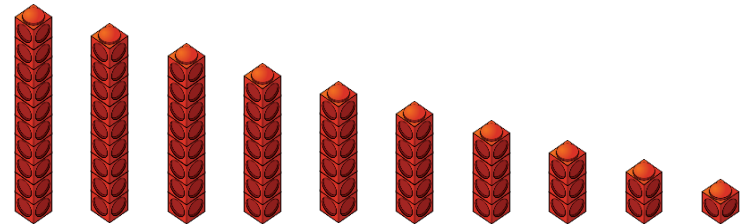
Are the numbers getting greater or smaller?

What comes before ___?

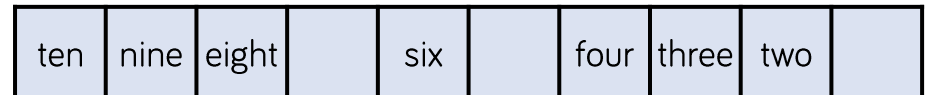
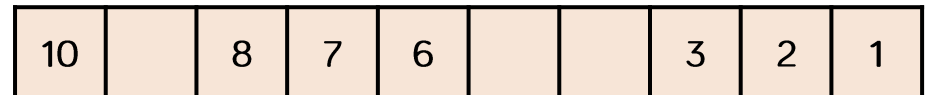
Can you use the manipulatives and images to help you count?

Varied Fluency

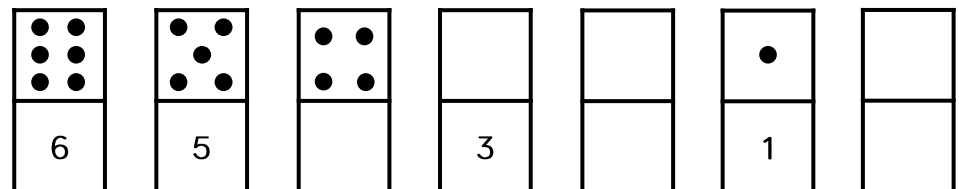
Write the numerals to match the cubes.
Can you describe the pattern?



Complete the number tracks.



Fill in the empty boxes.



Count Backwards

Reasoning and Problem Solving

Alex is counting.



9, 8, 7, 6, 5

How do you know that Alex is counting backwards?

Alex is counting backwards because the numbers are getting smaller.

Children could show this using concrete manipulatives.

How many different starting points could you have if you wanted to count backwards and stop at 3?

There are 7 different possibilities within 10

10, 9, 8, 7, 6, 5, 4, 3

9, 8, 7, 6, 5, 4, 3

8, 7, 6, 5, 4, 3

7, 6, 5, 4, 3

6, 5, 4, 3

5, 4, 3

4, 3

Count & Write Numbers to 20

Notes and Guidance

Children are building on their existing knowledge of counting forwards and backwards by introducing the numbers 11-20. Children should explore the meaning of the suffix 'teen' and what this tells us about a number.

11, 12, 13 and 15 are usually difficult for children to understand because they cannot hear the single digit in the name like others e.g. sixteen – six ones and a ten.

Mathematical Talk

Let's count together from 9, 10, 11, 12, 13, 14, 15, 16

What do you notice about the sounds of the numbers?

Do you notice a pattern with the numbers?

What comes after the number 10?

What do you notice about the ends of most of these numbers?

What does 'teen' tell us about a number?

How do we say this number?

How would we write ____?

Varied Fluency

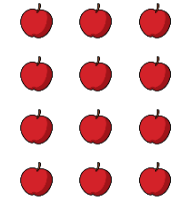
Match the representations to the correct numeral.



12

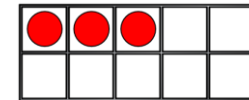
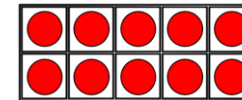


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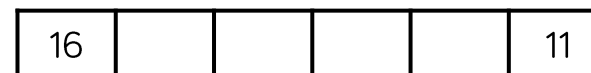
10

Write the number shown on the ten frames in numerals and words.



Use your own ten frames to show me the number:
 Fourteen 18 Nine 16

Fill in the missing numbers.



Count & Write Numbers to 20

Reasoning and Problem Solving

Circle the odd one out and explain why.

11 12 13 14
15 61 17 18

61 is the odd one out. It should be 16, the digits have been swapped round.

Mr Monaghan says,



I am going to count to 20

I will start at 8

Yes because 11 is between 8 and 20

Will Mr Monaghan say 11?

Explain how you know.

Count Objects to 100

Notes and Guidance

To build on skills learned in Year 1, children need to be able to count objects to 100 in words and represent these numbers in numerals.

Problems should be presented in a variety of ways e.g. numerals, words and images. Variation should challenge children by providing them with missing numbers which are non-consecutive.

Mathematical Talk

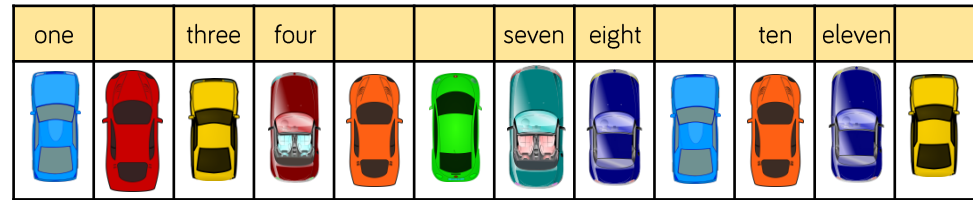
How can you count the cars?
Do you have a strategy?
What is one more/one less?

Which is the largest number?
Which number is tricky to write in words?

Which numbers sound similar?
How are 17 and 70 different? Can you show me?

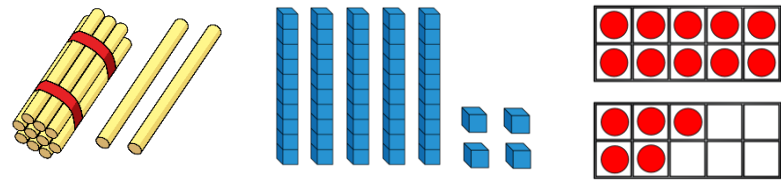
Varied Fluency

Count and write the number of cars in the car park.



There are _____ cars in the car park.

What numbers are represented below?
Write your answer in numerals and words.



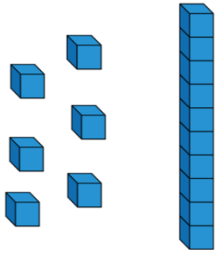
Match the numerals to the words.



Count Objects to 100

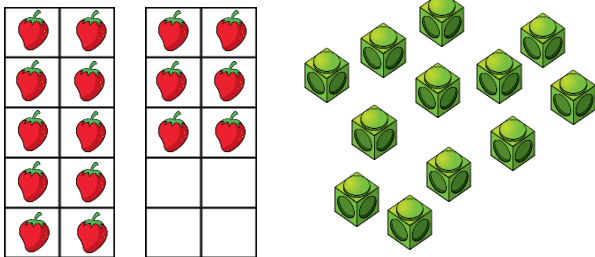
Reasoning and Problem Solving

Jack says he has 61
Is he correct?



Explain your reasoning.

Here are two sets of objects.

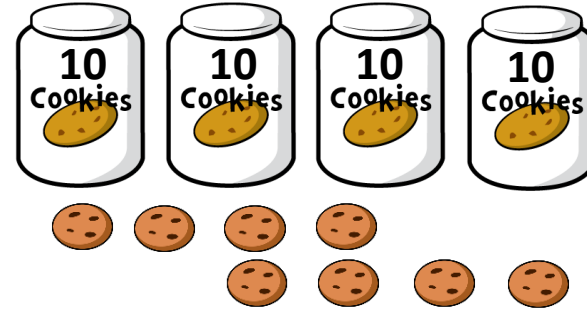


Which are easier to count?
Explain your answer.

Jack is incorrect.
He has 16 not 61

The strawberries
are easier to count
because they are
set out on ten
frames.

Each jar contains 10 cookies.



How many cookies are there altogether?

Write your answer in numerals and words.

What strategy did you use?

Did your partner use a different method?

What is the best strategy to use?

There are 48
(forty-eight)
cookies altogether.

Children may
count in 10s and
1s or know that
there are 4 tens
which are equal to
40 and then count
on 8 more.

White

**Rose
Maths**

Block 1 - Place Value

**Theme 3 – Count one more and
one less**

Count One More

Notes and Guidance

Once children are confident placing numbers on a track, the language of one more can be introduced.

Children need to know that one more is the number after and they should use their counting skills or a number track to help them.

The use of a dice and dominoes should be used to reinforce subitising skills.

Mathematical Talk

How can counting help us with finding 1 more?

Where can one more than ____ be found on a number track?

What does one more mean?

Will the number get greater or smaller? Why?

How can we show one more?

Do we need to count from 0 every time we find one more?

Varied Fluency

Complete each box using a picture, a numeral and a word.



one more →

3

one more →

six

one more →

Roll a dice, represent the number using counters on a track, and add 1 more. Then complete the sentences.



1 more than ____ is ____

____ is one more than ____

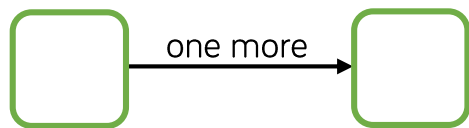
Choose a number card from 0 to 9 then complete the table.

Number in numerals	Number in words	Number track
		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Sentence		
One more than ____ is ____		

Count One More

Reasoning and Problem Solving

Using number cards 0 to 10, how many different ways can you complete the boxes below?



Look to see if children are working systematically, e.g. 1 and 0, then 2 and 1 etc.

Teddy rolls the number that is 1 more than the dice below.



He says that he rolls 2

Explain his mistake.

2 is smaller than 3 and when we find one more the number gets bigger.

Mo says,



I am one year older than my sister.

My sister is one year older than my brother.

My brother is 7

How old is Mo?
Who is the oldest?
Explain why.

His sister is 8 because she is one more than 7

Mo is 9 because he is one more than 8

Mo is the oldest because 9 is bigger than 7 and 8

Count One Less

Notes and Guidance

Children should relate one less to one more and understand that it is the opposite.

It should be made clear that 1 less is the number before the starting number.

The use of dice and dominoes should be used to reinforce subitising skills.

Mathematical Talk

How can counting help us with finding 1 less?

Where can 1 less than _____ be found on a number track?

What does one less mean?

Will the number get greater or smaller? Why?

How can we show one less?

Varied Fluency

Complete each box using a picture, a numeral and a word.

	→ one less →	
1	→ one less →	
nine	→ one less →	

Roll a dice, represent the number using counters on a track, and find 1 less. Then complete the sentences.



1 less than _____ is _____

_____ is one less than _____

Choose a number card from 1 to 10 then complete the table.

Number in numerals	Number in words	Number track										
		<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>										
More than sentence		Less than sentence										

Count One Less

Reasoning and Problem Solving

True or False?

One more than 7 is the same as 1 less than 9

Use a number track to help you.

Can you think of another statement like this?

It is true because one more than 7 is 8, and one less than 9 is also 8

Other example could be: 1 more than 5 and 1 less than 7 are the same.

Complete the sentence stems.

One less than 9 is _____

One less than _____ is 7

One less than _____ is 6

What pattern do you notice with the numbers?

What would the next sentence be?

8
8
7

The numbers are counting backwards and children should recognise that one less than any number is the number before it when counting.

The next sentence would be: 'one less than 6 is 5'

Count One More and One Less

Notes and Guidance

Children will apply their counting skills to find one more and one less. Children have already been exposed to the language of more and less and used resources such as number lines and number tracks.

Children need to understand that one more, is one more 1 and not one more 10

To address this misconception, this should be clearly modelled using concrete resources.

Mathematical Talk

How can you represent the number _____?

How could we find one more?

How does this change the number?

Which digit changes?

How would we find one less?

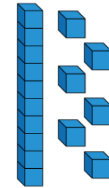
How does this change the number?

What's the same and what's different between 12 and 13?

Is it only ever the ones digit that changes?

Varied Fluency

Make one more and one less than these numbers.



Draw to complete.

One less



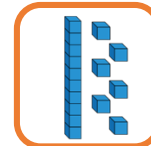
13

One more



Draw to complete.

One less




One more



Count One More and One Less

Reasoning and Problem Solving

Mo says,



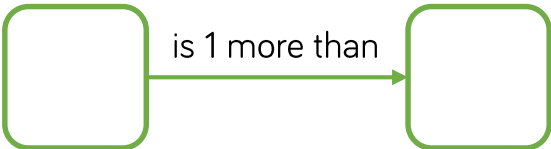
I am one year older than my sister.
My sister is one year older than my brother.
My brother is 13

Mo is 15
Mo's brother is 13
So Mo's sister must be 14 – as she is one year older than Mo's brother. Mo must be 15 as he is one year older than his sister.

How old is Mo?
How old is his sister?


Use number cards 11 – 20

How many different ways can you complete the boxes?



Example answers:
18 is 1 more than 17
12 is 1 more than 11

Teddy thinks of a number.




1 more than his number is 11

What is his number?
Prove it.

Teddy's number is 10

Rosie thinks of a number.



1 less than her number is 15

What is her number?
Prove it.

Rosie's number is 16

White

**Rose
Maths**

Block 1 - Place Value

**Theme 4 – Represent numbers as
tens and ones**

Numbers from 11 to 20

Notes and Guidance

Children use concrete and pictorial representations to explore the different ways to represent a number.

Base 10 is formally introduced in the next step, but if children are familiar with this model then they can use it.

Children should be encouraged to use multiple representations.

Mathematical Talk

- How many _____ will you need to make _____?
- How will you know if you've got enough?
- What's the same and what's different about these representations?
- How do we write the number _____?
- What will the number _____ look like in _____?
- What number has been made using the equipment?
- How did you find out?
- Do we have to count from 1 every time?

Varied Fluency

- Draw a picture to show me 13
Compare yours with a partner.
What's the same? What's different?
- Complete the table.

Numeral	Representation
17	
13	

- Using two ten frames, show me a number:
 More than 12 Less than 20 Equal to 10 + 10

Numbers from 11 to 20

Reasoning and Problem Solving

Teddy says,



I can make all the numbers from eleven to twenty using the digits 1 – 9

Do you agree?
Explain your answer.

Teddy is wrong because you need a zero to make twenty (20).

Game

Use two sets of number cards.

1 set with numerals 1 – 20

1 set with words 1 – 20

Play in groups of 3 or 4

Take it in turns to pick a numeral card and a word card. Say the number on each card out loud. If they match you win the pair, if they don't you put them back.

Tens and Ones

Notes and Guidance

Children learn each number from 11 to 19 has ‘1 ten and some more’.

They will see 10 and 20 as having just tens and no ones.

Children still need to understand that numbers can be seen in different ways. Discuss 1 ten being equal to 10 ones.

Base 10 will be introduced in this step. Children can use these concretely but also draw them as ‘sticks and bricks’. A line represents 1 ten and a dot represents 1 one.

Mathematical Talk

What numbers come after 10?

Which numbers have the ‘teen’ sound in them?

What does the number _____ look like?

Which is greater 1 ten or 1 one? How do you know?

What does ‘teen’ tell us about a number?

Can you swap tens for ones?

Will it change the amount? Explain.

Do we need to count the 10 individually?

Do we need to start counting from 0 every time?

Can you describe the number _____ using tens and ones?

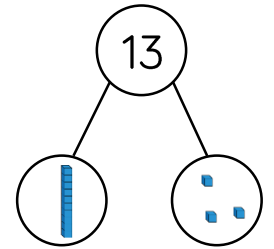
Varied Fluency

Use the part-whole model to complete the sentences.

My number is _____

One part is _____, the other part is _____

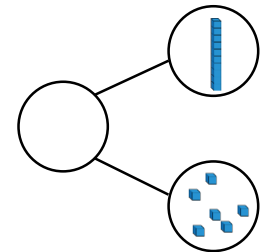
The whole is _____



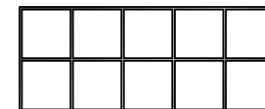
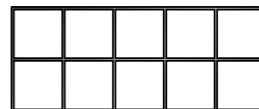
My number is _____

It has _____ tens and _____ ones.

The whole is _____



Fill in the ten frames with counters to show 14 and complete the sentence.

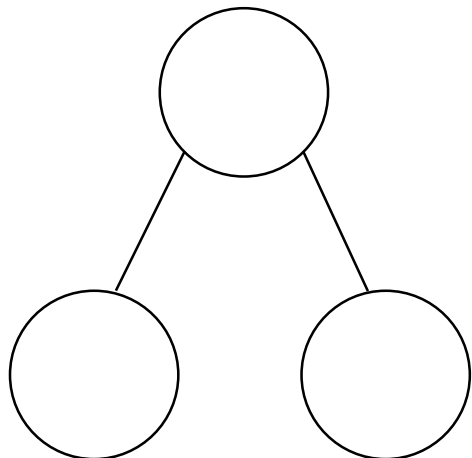
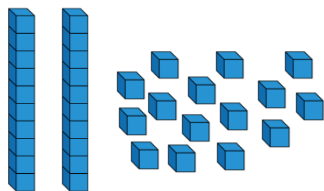


14 has _____ ten and _____ ones.

Tens and Ones

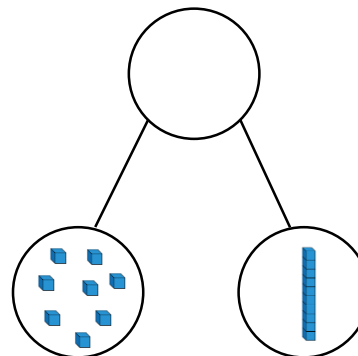
Reasoning and Problem Solving

How many ways can you complete the part-whole model to show numbers up to 20, using the Base 10 equipment – you do not have to use it all.



Open ended e.g. 1 ten and 5 ones make 15

Alex makes a part-whole model.



She says:



There are 8 tens and 1 one.

Explain her mistake.

What is her number?

Alex has counted the ones as tens and the tens as ones.

She should say there is 1 ten and 8 ones.

Her number is 18

Represent Numbers to 100

Notes and Guidance

Children need to be able to represent numbers to 100 using a range of concrete materials, such as bead strings, straws, Base 10 equipment etc.

Children should also be able to state how a number is made up. For example, they can express 42 as 4 tens and 2 ones or as 42 ones.

Mathematical Talk

How have the beads been grouped? How does this help you count?

Can you show me the tens/ones in the number?

Which resource do you prefer to use for larger numbers? Which is quickest? Which would take a long time?

Varied Fluency

Here is part of a bead string.



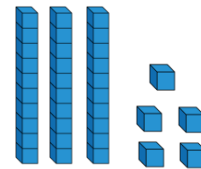
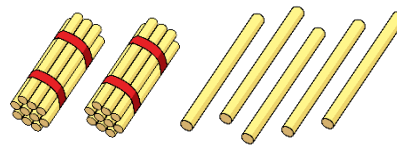
Complete the sentences.

There are _____ tens and _____ ones.

The number is _____.

Represent 45 on a bead string and complete the same sentence stems.

Match the number to the correct representation.



One ten and five ones

Thirty-five

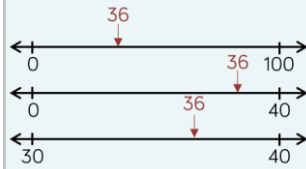
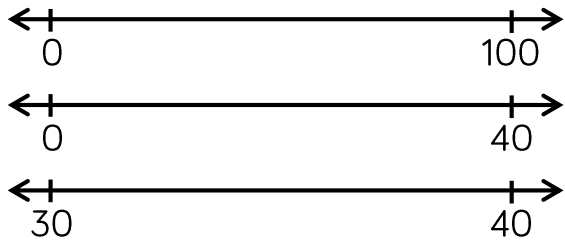
25

Represent 67 in **three different** ways.

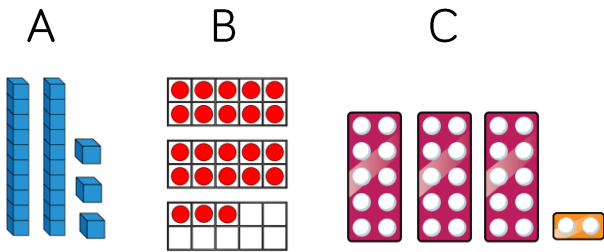
Represent Numbers to 100

Reasoning and Problem Solving

Where would 36 go on each of the number lines?

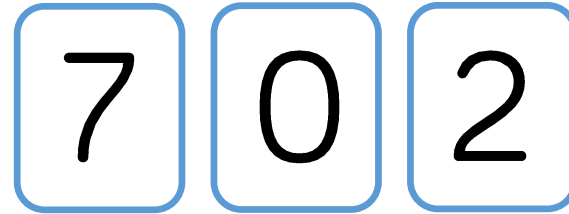


One of these images **does not** show 23. Can you explain the mistake?



C does not show 23, it shows 32. They have reversed the tens and ones.

How many two digit numbers can you make using the digit cards?



What is the largest number? Prove it by using concrete resources.

What is the smallest number? Prove it by using concrete resources.

Why can't the 0 be used as a tens number?

70, 20, 72, 27

The largest number is 72

The smallest number is 20

Because it would make a 1 digit number.

Tens and Ones (1)

Notes and Guidance

Children should have an understanding of what each digit represents when partitioning a number.

It is important that children can partition numbers in a variety of ways, not just as tens and ones. For example, 58 is made up of 5 tens and 8 ones or 4 tens and 18 ones, or 2 tens and 38 ones, etc.

Mathematical Talk

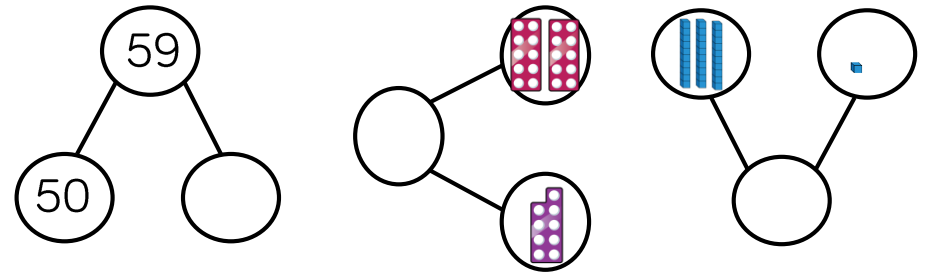
Which part do we know? How can we use the whole and part to work out the missing part?

Can you use concrete resources/draw something to help you partition?

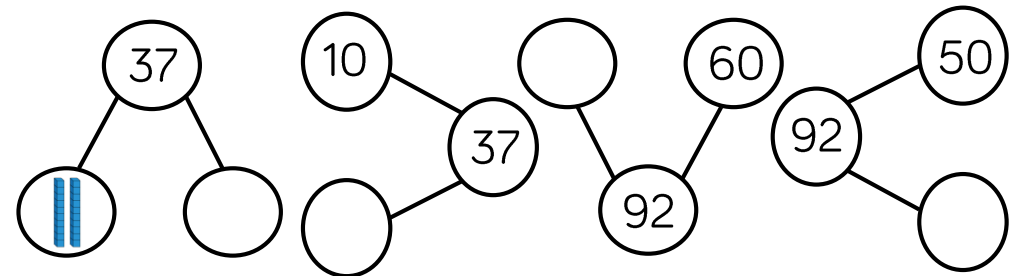
How can you rearrange the counters to help you count the lemon and strawberry cupcakes?

Varied Fluency

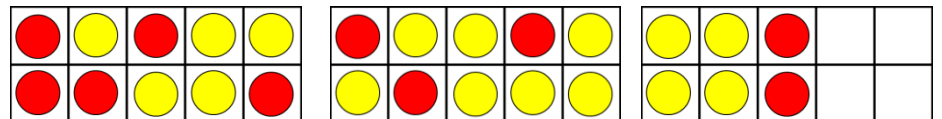
Complete the part-whole models.



Complete the part-whole models.



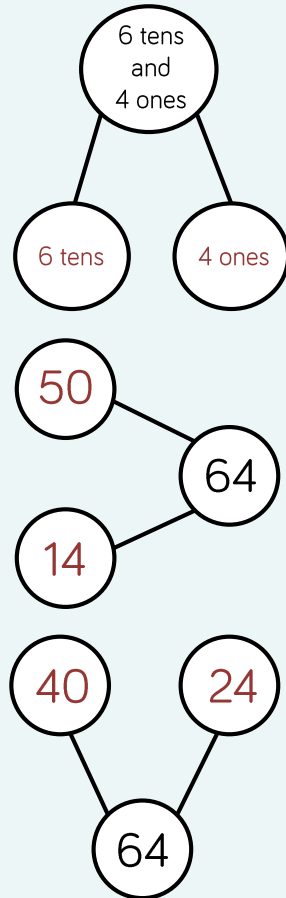
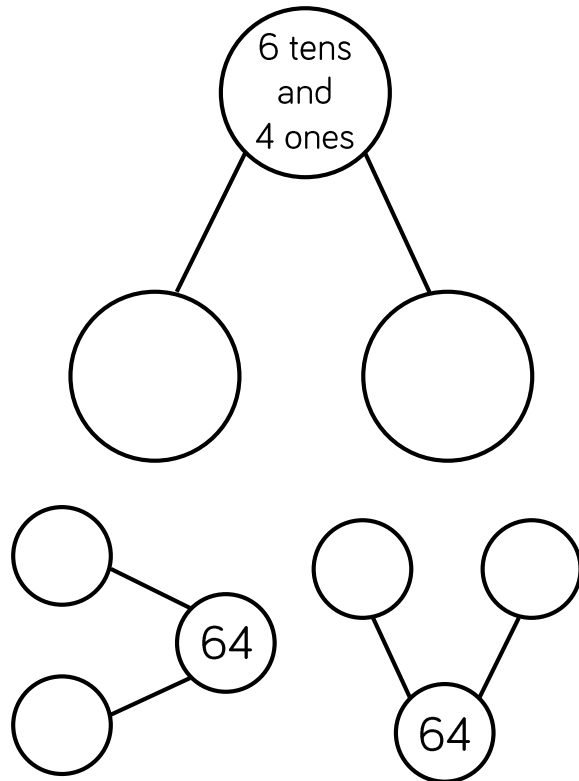
The ten frames represent lemon and strawberry cupcakes. Draw a part-whole model to show how many cupcakes there are altogether.



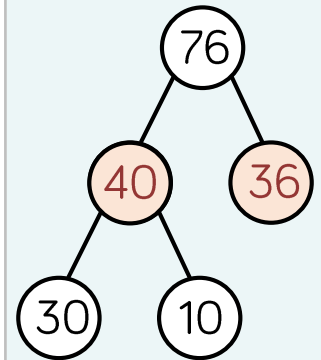
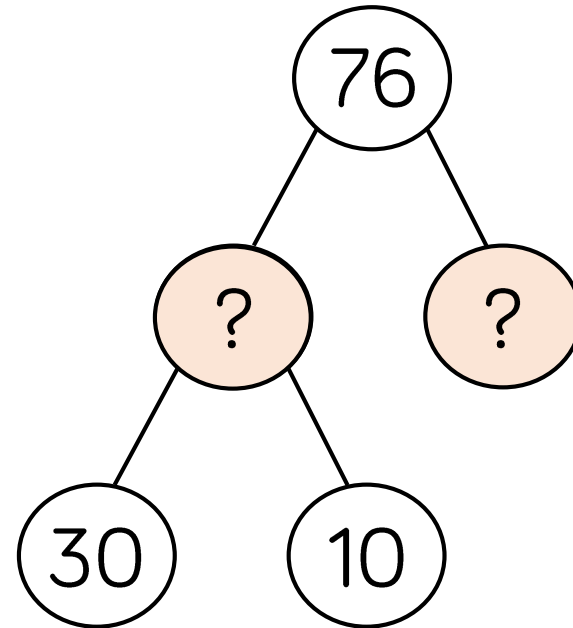
Tens and Ones (1)

Reasoning and Problem Solving

Complete each part-whole model in a different way.



Complete the extended part-whole model.



Tens and Ones (2)

Notes and Guidance

Children continue to use a part-whole model to explore how tens and ones can be partitioned and recombined to make a total.

Children will see numbers partitioned in different ways. For example, 39 written as $20 + 19$

This small step will focus on using the addition symbol to express numbers to 100. For example, 73 can be written as $70 + 3 = 73$

Mathematical Talk

What clues are there in the calculations? Can we look at the tens number or the ones number to help us?

What number completes the part-whole model?

What is the same/different about the calculations?

What are the key bits of information? Can you draw a diagram to help you?

Varied Fluency

- Match the number sentence to the correct number.

$20 + 19$

$10 + 4$

$40 + 0$

$80 + 1$

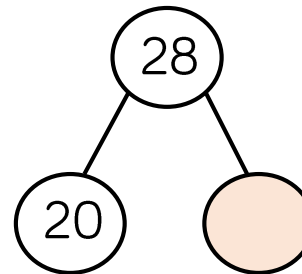
40

14

81

39

- Complete the part-whole model and write four number sentences to match.



$$\begin{array}{l} \underline{\quad} + \underline{\quad} = \underline{\quad} \\ \underline{\quad} + \underline{\quad} = \underline{\quad} \\ \underline{\quad} = \underline{\quad} + \underline{\quad} \\ \underline{\quad} = \underline{\quad} + \underline{\quad} \end{array}$$

- Dora has 20 sweets and Amir has 15 sweets. Represent the total number of sweets:

- With concrete resources.
- In a part-whole model.
- As a number sentence.

Tens and Ones (2)

Reasoning and Problem Solving

Teddy thinks that,



$$40 + 2 = 402$$

$40 + 2 = 42$
Teddy has just combined the numbers to make 402 without thinking about their place value.

Explain the mistake he has made.

Can you show the correct answer using concrete resources?

Fill in the missing numbers.

$$1 \text{ ten} + 3 \text{ ones} = 13$$

$$2 \text{ tens} + \underline{\quad} \text{ ones} = 23$$

$$3 \text{ tens} + 3 \text{ ones} = \underline{\quad}$$

$$\underline{\quad} \text{ tens} + 3 \text{ ones} = 43$$

What would the next number in the pattern be?

$$1 \text{ ten} + 3 \text{ ones} = 13$$

$$2 \text{ tens} + 3 \text{ ones} = 23$$

$$3 \text{ tens} + 3 \text{ ones} = 33$$

$$4 \text{ tens} + 3 \text{ ones} = 43$$

$$5 \text{ tens} + 3 \text{ ones} = 53$$

Place Value Charts

Notes and Guidance

Children should formally present their work in the correct place value columns to aid understanding of place value.

It is important for children to use concrete, pictorial and abstract representations in their place value chart.

Mathematical Talk

How many tens are there?

How many ones are there?

What is different about using Base 10 to using place value counters?

Can you write any other number sentences about the place value chart?

Varied Fluency

What number is represented in the place value chart?

Tens	Ones

Complete the place value chart using Base 10 and place value counters to represent the number 56

Tens	Ones

Tens	Ones

What number is represented in the place value chart?

Tens	Ones
9	1

Write two different number sentences for this number.

$\underline{\quad} + \underline{\quad} = \underline{\quad}$
 $\underline{\quad} = \underline{\quad} + \underline{\quad}$

Place Value Charts

Reasoning and Problem Solving

How many two digit numbers can you make that have the same number of tens and ones?

Show each one on a place value chart.

Tens	Ones

There are nine possibilities:
11, 22, 33, 44, 55,
66, 77, 88, 99

Do both place value charts show the same value?

A

Tens	Ones

B

Tens	Ones

Yes, they both have the same value of 41

$$40 + 1 = 41$$

$$30 + 11 = 41$$

Same: Both A and B show 41

Different: There are a different number of tens and ones in each place value chart.

What is the same?

What is different?

White

**Rose
Maths**

Block 1 - Place Value

**Theme 5 – Compare groups and
numbers**

One-to-One Correspondence

Notes and Guidance

Children match one object with another. Children should be exposed to situations where there are too many, not enough or just the right amount.

Children do not need to know the exact difference between the groups.

Mathematical Talk

How can we show we've matched the objects/images?

What does match mean?

What can we use to represent the sweets, to show each person has one each?

Are there enough objects/images to match them all up?

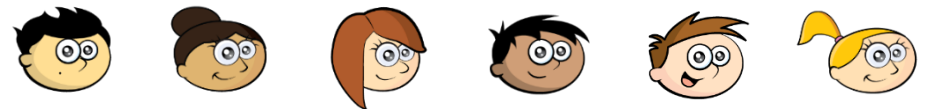
Are there any left over? Why has that happened?

Varied Fluency

Are there enough bowls for the bears? Draw lines to check.



Draw sweets for each child so they all get 1 each.



Six children are going to the beach. Are there enough caps for everyone?

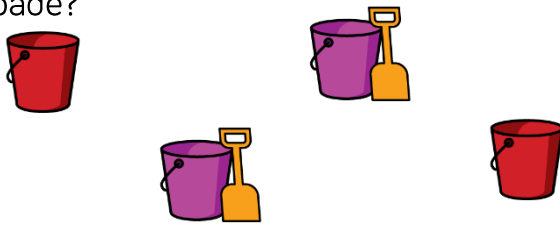


If not, how many more caps are needed?

One-to-One Correspondence

Reasoning and Problem Solving

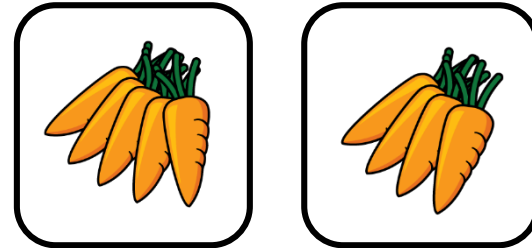
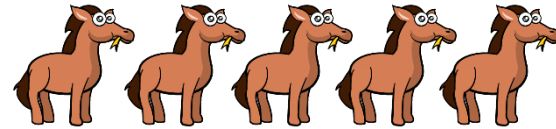
There are four children going to the beach.
Can every child have a bucket and spade?



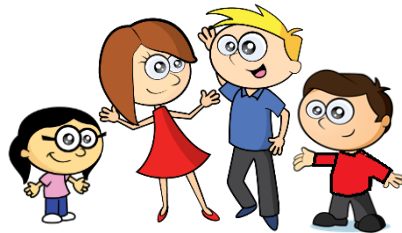
If not, why not?

No, there are enough buckets for one each but not enough spades.

Which group of carrots matches the number of horses?
Explain why.



There are 5 horses, so the box with 5 carrots in matches the horses.



Can the family all travel in a 5 seater car?
Explain how you know.

Yes. There are 5 seats and 4 people.

Compare Objects

Notes and Guidance

Children use the language ‘equal to’, ‘more’, ‘less’, ‘greater than’, ‘fewer’ and ‘less than’ to compare groups of objects.

Children do not need to know the difference between the groups, just that one group is greater or less than another or that the groups are equal to each other.

Mathematical Talk

Can you compare the same objects using the word ‘fewer’ and then using the word ‘more’?

Is there more than one answer?

How many answers can you find?

What do you notice about the numbers or amounts that are less than/fewer?

How can you tell which has the least/most?

What does ‘more/greater than’ mean?

What does ‘less/fewer than’ mean?

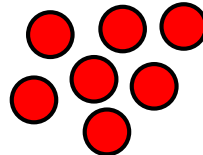
What does ‘is equal to’ mean?

Varied Fluency

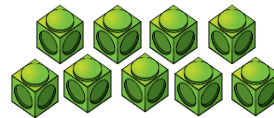
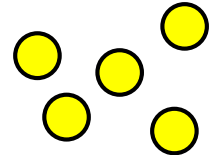
Circle the picture with more trees.



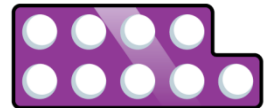
Use **greater than**, **less than** or **equal to**, to complete the sentences.



is _____



is _____

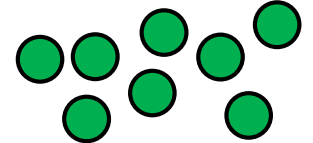


Draw counters in the box to represent the sentence.

Eva's counters

Tommy's counters

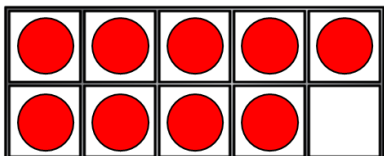
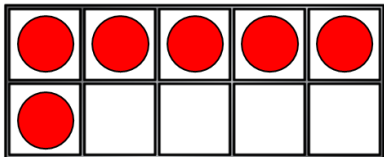
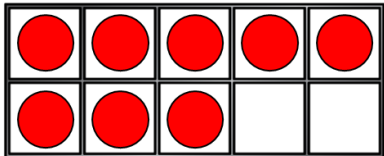
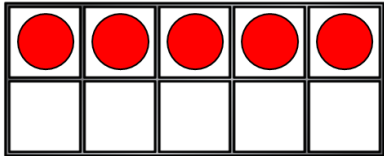
Eva has fewer counters than Tommy.



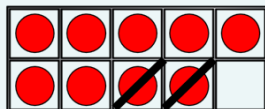
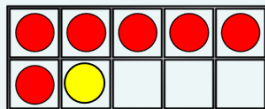
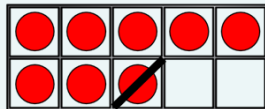
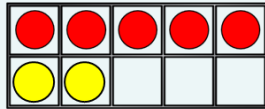
Compare Objects

Reasoning and Problem Solving

Move **three** counters so that all the ten frames show the **same** amount.



Create your own problem like this.



Whitney has this many cubes in one hand.



She has fewer cubes in the other hand.

How many cubes could she have in her other hand?

- She could have:
- 4 cubes
 - 3 cubes
 - 2 cubes
 - 1 cube
 - 0 cubes.

Compare Groups of Objects

Notes and Guidance

Once children are confident making and exploring numbers greater than 10, they can begin to build on this by comparing groups of numbers.

They continue to use vocabulary of comparison such as: greater than, less than and equal to.

Children have explored finding the difference and they can use this as a strategy to find out how many more.

Mathematical Talk

Can you see which group is greater without counting them?

How do you know?

How many in each group?

Which group has the most?

Which group has the least?

How do you know?

How many more does group ____ have than group ____?

Could you use the inequality symbols to compare the numbers?

Varied Fluency

Which is greater?



By how many?

Use 'less than', 'greater than', or 'equal to' to complete the sentences.

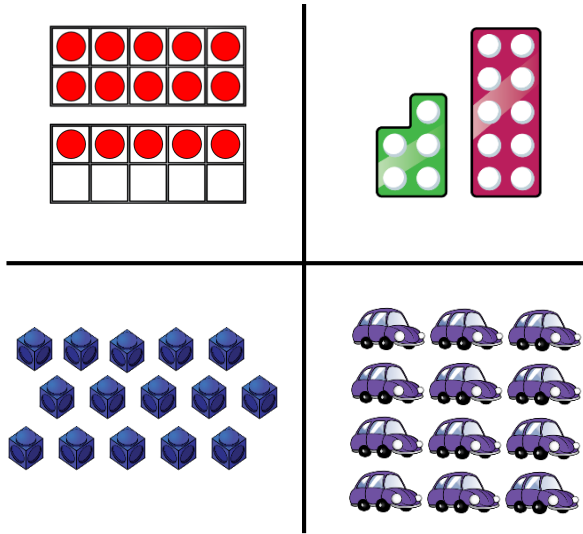
	is _____	
	is _____	
	is _____	

In pairs, both make a number on a bead string (only use up to 20 beads). Compare bead strings in a sentence and using the inequality symbols.

Compare Groups of Objects

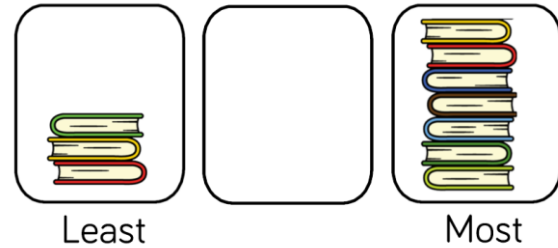
Reasoning and Problem Solving

Which image is the odd one out?
Why?



The cars because there are 12 and the rest are representations of 15

How many books can go in the empty box?



The middle box could have 4, 5 or 6 books.

Compare with your partners- have you drawn the same amount of books?

How many possibilities are there?

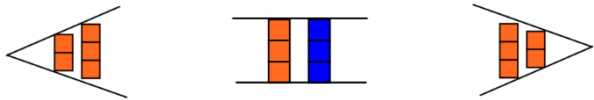
Is it possible to have 3 or 7 books in the middle pile?

Introduce <, > and =

Notes and Guidance

Inequality symbols are not introduced in the National Curriculum until Year 2. However, it is a good opportunity to introduce them when working with smaller numbers and concrete materials.

For example:



Mathematical Talk

Which symbol shows ‘greater than’?

Which symbol shows ‘less than’?

Which symbol shows ‘is equal to’?

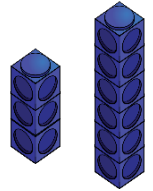
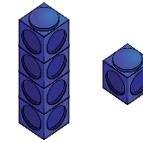
Is _____ greater than, less than or equal to _____?

How can we show that using words?

What can we use to represent the seven, to help us compare the two amounts?

Varied Fluency

Draw the symbols around the cubes to show greater than, equal to or less than.



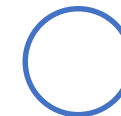
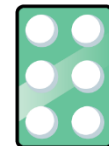
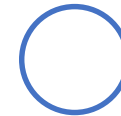
Use cubes to show that,

$$3 < 4$$

$$6 > 2$$

$$5 = 5$$

Use <, > or = in each circle to make the statement correct.



Seven

Introduce <, > and =

Reasoning and Problem Solving

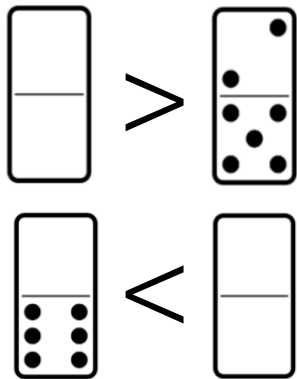
Circle all the numbers from the track that **cannot** go in the box. Explain why.

$$6 < \square$$



6, 5, 4, 3, 2, 1
because $6 <$
means '6 is less
than', so the other
number needs to
be greater than 6

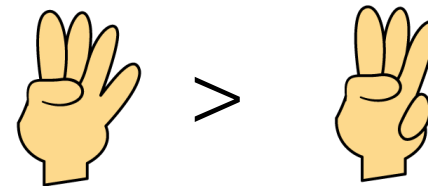
Complete the blank dominoes.



The first blank
domino should
have more than 7
dots.
The second blank
domino should
have 7 or more
dots.

Game

- Both children make a fist.
- On 3, show some fingers.
- Use <, > or = to compare.



This game can be extended to develop fluency. To extend:

- Can we move places to change the sign?
- How can we change fingers to use the '=' sign?
- Can we use two hands each?

Compare Numbers (10)

Notes and Guidance

Children use previous learning to choose an efficient method to compare numbers. They will use their understanding of a number's value to compare them. Children may draw on prior knowledge such as counting, sorting, grouping etc. to help them compare. Children should be given access to a variety of concrete resources and images to support them.

Mathematical Talk

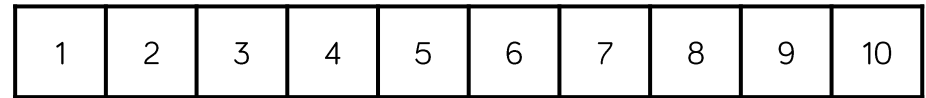
What happens to the sign when you swap the numbers around?
 Will zero always be the smallest?
 What strategies did you use?
 Which number is the largest? How do you know?
 Which number is the smallest? How do you know?
 Which symbol represents ____?
 How can you describe these two numbers?

Varied Fluency

Here are two number cards.



Use resources to make these numbers. Which is greater? Can you use a number track to check your answer?



Use $<$, $>$ or $=$ to make the statements correct.

5 ○ 6
 8 ○ 1
 10 ○ 0

Choose your own numbers to complete the statements.

____ $<$ ____ ____ $>$ ____ ____ $=$ ____

Compare Numbers (10)

Reasoning and Problem Solving

One of these statements is incorrect.
Use cubes to prove which one.

$$8 > 4$$

$$7 < 10$$

$$3 > 6$$

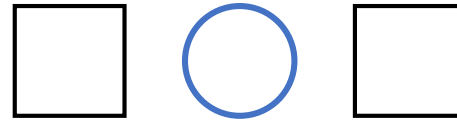
$3 > 6$ is incorrect.

Using number cards 0 – 10, how many ways can you make the statement correct?

_____ is more than _____

Numerous answers. Check if children are working at random or working systematically.

Children should roll two dice and fill in their total in blank boxes. They should then choose the correct inequality symbol to compare their numbers.



Compare Numbers (20)

Notes and Guidance

Children build on comparing numbers to 10 by comparing numbers up to 20

In this step, children will be given abstract numbers written in digits and need to be encouraged to use previous learning to choose an efficient method to compare numbers.

Make sure children are also continuing to compare numbers below 10 as well as 10 and above.

Mathematical Talk

What happens to the sign when you swap the numbers around?

What does compare mean?

What language will you use when comparing?

Will zero always be the smallest number when comparing?

What numbers are you comparing?

Which number is the largest/greatest? How do you know?

Which number is the smallest? How do you know?

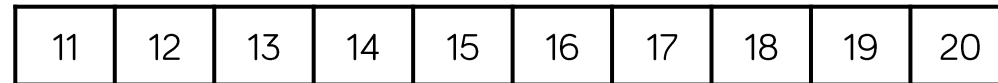
Which symbol can you use in your statement?

Varied Fluency

Circle the greatest number.

- Twelve Twenty
- 8 17

Here are two number cards. Use a number track to explain which one is smaller, and by how many.



Complete the statements.

14 ○ 9
 19 ○ 20
 13 < _____

Compare Numbers (20)

Reasoning and Problem Solving

Dora has three jars of sweets.



A = 12 B = ___ C = 17

She says:



A has the least sweets.
C has the most sweets.

How many sweets could be in B?

Possible answers:
13, 14, 15, 16

Discussion point
with class:
can it be 12 or 17?

It cannot because
it would have to be
phrased 'A and B
have the
least/most'.

Fill the gaps:

_____ is more than 15 but less than 20

_____ is less than eighteen but more
than twelve.

What numbers could go in the gaps?

Explain your answer.

Possible answers:

16, 17, 18, 19

13, 14, 15, 16, 17

Compare Objects

Notes and Guidance

Comparing objects is introduced once children have a secure understanding of numbers in a place value chart.

Children are expected to compare a variety of objects using the vocabulary ‘more than’, ‘less than’ and ‘equal to’ and the symbols $<$, $>$, $=$

Mathematical Talk

How can you arrange the objects to make them easy to compare?

Do groups of ten help you count? Why?

Do groups of ten help you compare? Why?

Varied Fluency

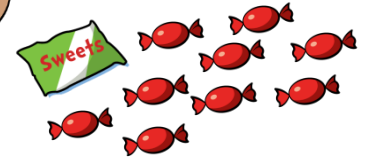
■ A packet of sweets contain 10 sweets.



Rosie's sweets



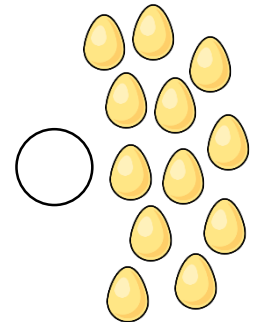
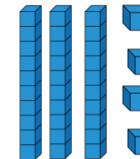
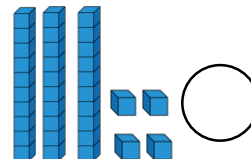
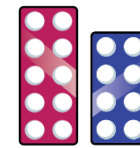
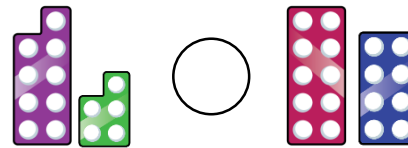
Amir's sweets



Who has the most sweets?

- Use cubes to show that:
- Eleven is less than fifteen
 - 19 is greater than 9
 - 2 tens is equal to 20

■ Use $<$, $>$ or $=$ to complete.



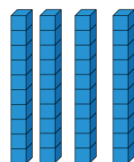
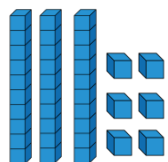
Compare Objects

Reasoning and Problem Solving

Rosie and Amir are comparing numbers they have made.

Rosie's number

Amir's number



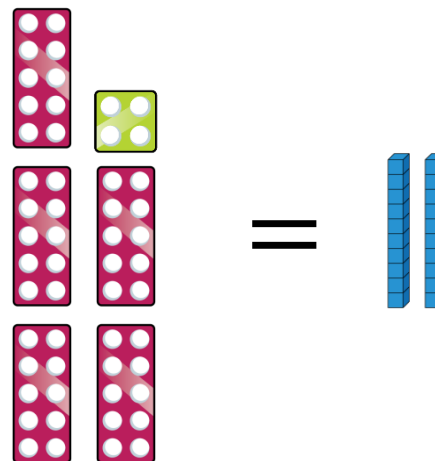
My number is greater because I have more objects.

Is Rosie correct?

Explain your answer.

Rosie is incorrect because Amir has 4 tens which makes 40 and Rosie has 3 tens and 6 ones which makes 36, therefore Amir has more.

Add more Base 10 to make the number shapes and the Base 10 equal.



How much did you add in total to make them equal?

What is the smallest amount you could add if the symbol changed to $<$?

Children should add 3 tens and 4 ones to make 54 on both sides.

If the symbol changed to $<$ the smallest amount they could add is 3 tens and 5 ones.

Compare Numbers

Notes and Guidance

Children compare numbers using the language greater than, less than, more than, fewer, most, least and equal to.

They are able to use the symbols $<$, $>$ and $=$ to write number sentences.

Children should have access to concrete resources to help them justify their answers.

Mathematical Talk

Can you prove your answers using concrete resources?

Can you prove your answers by drawing a diagram?

Is there more than one answer?

Do you need to work the number sentences out to decide which is greater?

Varied Fluency

Complete the statements using **more than**, **less than** or **equal to**.

42 is _____ 46

81 is _____ $60 + 4$

$30 + 8$ is _____ thirty-eight

Complete the number sentences.

4 tens and 9 ones $>$ _____

_____ $<$ $70 + 5$

_____ = eight tens

Put $<$, $>$ or $=$ in each circle to make the statements correct.

28 ○ 30

90 ○ $70 + 28$

$30 + 23$ ○ $40 + 13$

$20 + 14$ ○ 24

Compare Numbers

Reasoning and Problem Solving

How many different numbers can go in the box?

$$13 < \square < 20$$

There are six different numbers:
14, 15, 16, 17, 18, 19

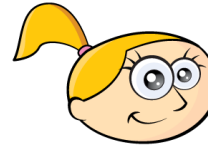
True or False?

One ten and twelve ones is bigger than 2 tens.

Explain how you know.

True
One ten and twelve ones = 22
Two tens = 20

Eva says,



When comparing numbers, the number with the highest number of ones is always the bigger number.

Do you agree?

Give some examples to support your answer.

Disagree, for example 19 is smaller than 21

White

**Rose
Maths**

Block 1 - Place Value

Theme 6 – Order numbers

Order Objects (10)

Notes and Guidance

Children should order three groups of objects. They should be exposed to different methods for comparing such as comparing two groups initially, and lining groups up.

Children should be introduced to the vocabulary 'greatest' and 'smallest' and begin to use it correctly.

Mathematical Talk

How did you compare the piles or groups?

How do you know group _____ is the greatest?

How do you know group _____ is the smallest?

Group _____ has the greatest amount of _____

Group _____ has the smallest amount of _____

Varied Fluency

Grab a small handful of counters and put them in **three** piles. Order the piles from greatest to smallest.

Order the groups of cars from greatest to smallest.

Group 1 

Group 2 

Group 3 

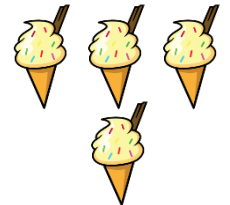
Complete the statements.



___ ice creams



___ ice creams



___ ice creams

The smallest amount of ice creams is _____

The greatest amount of ice creams is _____

Order Objects (10)

Reasoning and Problem Solving

Whitney is ordering the amount of spots on these three ladybirds, from the greatest amount of spots to the least.



She says,



I can just compare the first two to work out the answer.

Do you agree? Explain why.

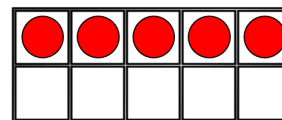
No, she needs to know how many spots are on the third ladybird to correctly place them all.

Jack has 6 sunflowers.
Rosie has more sunflowers than Jack.
Amir has more sunflowers than Rosie.

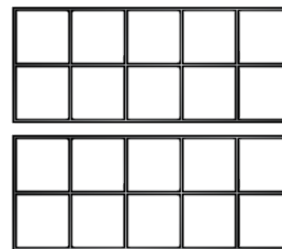
Who has the least amount of sunflowers?

Draw counters on the ten frames so that they are ordered from greatest to smallest.
How many ways can you find?

Greatest



Smallest



Jack has the least amount of sunflowers.

There are various solutions. Children could even add to the first ten frame which give even more combinations.

Order Groups of Objects (20)

Notes and Guidance

Children build on ordering groups up to 10 by applying the same skills to numbers up to 20

It is important for children to recap ordering numbers below 10
Children will now order three groups of objects in this step to support them in ordering 3 abstract numbers in the following step.

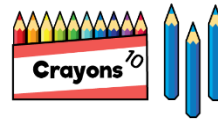
It is important to share different methods so children are continually exposed to more efficient ways.

Mathematical Talk

- How can you order the groups?
- How can you work out which is the largest/smallest?
- Can you just look at two groups first? Why?
- What is happening to the numbers when we order from largest to smallest?
- Can you think of an amount less than the smallest group?
- How is your drawing different to your partners?
- Can you describe the order using largest and smallest?
- What would happen to your description if we changed the numbers around?

Varied Fluency

Order the numbers of crayons from smallest to greatest.



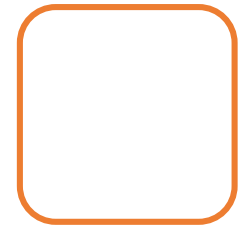
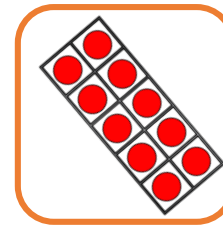
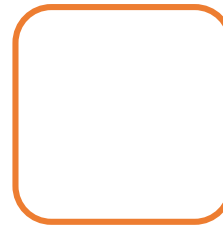
Use cubes to make these numbers and then order them from greatest to smallest.

19

3

14

Draw counters in each box to make the increasing pattern correct.



Smallest



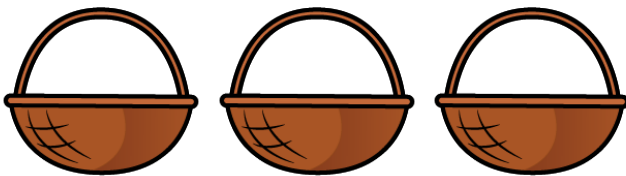
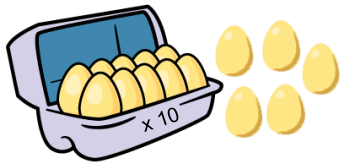
Greatest

Order Groups of Objects (20)

Reasoning and Problem Solving

All of the eggs are placed into baskets.

How many different ways can you make it correct?



Greatest

Least

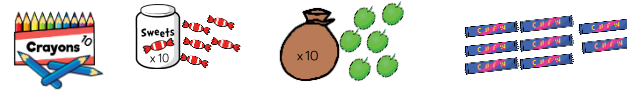
Various answers.

E.g.

8, 5, 2

9, 4, 1 etc.

Alex orders the groups of objects from smallest to greatest.



Teddy says,



This is the incorrect order because there are more apples than chew bars.

Do you agree with Teddy?

Has Alex done anything else wrong?

I agree with Teddy, there are more apples than chew bars. There are also more sweets and crayons than chew bars.

The order should be:

chew bars, crayons, sweets, apples.

Order Numbers (10)

Notes and Guidance

Children order numbers from smallest to greatest or greatest to smallest. Children should use concrete and pictorial representations to prove or check their answers.

Children use the vocabulary ‘smallest’ and ‘greatest’ and may also use the $<$ or $>$ symbols to show the order of their numbers.

Mathematical Talk

Explain how you ordered the dominoes.

Can you use the inequality symbols to compare/order numbers?

How many answers are there? Can you prove it with cubes?

Which is/has the greatest? How do you know?

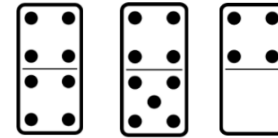
Which is/has the smallest? How do you know?

How are you going to order the amounts?

How have these objects/numbers been ordered? How do you know?

Varied Fluency

Order the dominoes from smallest to greatest.



Complete the sentences:

- The greatest number is _____
- _____ is the smallest number.

Order the number cards from smallest to greatest.



- _____ is the greatest number.
- _____ is the smallest number.
- _____ is greater than _____
- _____ is smaller than _____

Use $<$ or $>$ to make the statement correct.



Order Numbers (10)

Reasoning and Problem Solving

Use 10 cubes.

Place them into 3 piles.

Order the piles from greatest to smallest.

How many different ways can you find?

Possible answers:

7, 2, 1

6, 3, 1

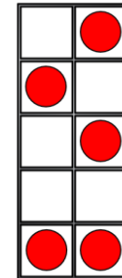
5, 3, 2

Etc.

Jack says,



I have ordered the numbers from smallest to greatest.



Do you agree with Jack?
Explain your reasoning.

Jack is incorrect because his ten frame isn't full, it only had 5 in it so this should be in the middle.

Order Numbers (20)

Notes and Guidance

Children now order abstract digits from 0 to 20
They can choose to represent these with concrete materials or draw them pictorially to help them order.

Children need to apply their knowledge of tens and ones to help them work within the abstract. For example, when comparing 8 and 15 only the number 15 has a ten, therefore it must be greater.

Mathematical Talk

How have you been asked to order the numbers?
Which is the greatest? How do you know?
Which is the smallest? How do you know?
Is it easier to order groups of objects or numbers? Why?
If you have numbers, can you still use objects? Does this help? Why?
What was your strategy for comparing numbers?
Could you order the numbers in the opposite way?
Does any number stay in the same place when we do this? Why?

Varied Fluency

Order the numbers from greatest to smallest.

13 18 15

Three children were playing basketball.
The scoreboard shows how many hoops they scores each.
The winner is the child who scores the most hoops.

Eva: 9 Jack: 16 Tommy: 13

Place the children in 1st, 2nd and 3rd

Order the numbers from greatest to smallest:

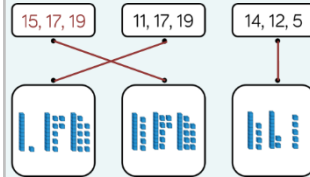
- 12, 5, 7
- 20, 17, 11

Now order them from smallest to greatest. What do you notice?

Order Numbers (20)

Reasoning and Problem Solving

Complete the image and match the numerals to the correct picture.



Order the numbers in each group from smallest to largest.

Order all of the numbers from smallest to largest.

5, 12, 14
15, 17, 19
11, 17, 19

5, 11, 12, 14, 15, 17,
17, 19, 19

Mr Monaghan says,



My number is greater than 8 but less than 15

What could his number be?

Possible answers:

9, 10, 11, 12, 13 or 14

Ordinal Numbers

Notes and Guidance


This is a non-statutory statement in the Year 1 curriculum. It has been included to see numbers as positional. It also links to previous lessons such as ordering numbers.

Stem sentences support children with using new mathematical language correctly.


Mathematical Talk

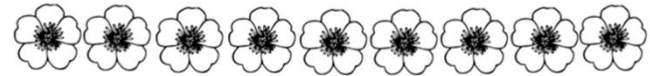
- When would I use 'last' place? Explain how you know.
- How can you work out where _____ is?
- When might we use ordinal numbers?
- What does first mean?
- Which is the first cube in the tower?
- What does last mean?
- Where is the last cube in the tower?
- Is there always a first and last? Why?
- Is there always a 4th? Why?

Varied Fluency

-  Create a tower using different coloured cubes. Describe the order of the colours using 'first', 'second' 'third' and 'last' etc. Can you give your partner accurate instructions so that they can create the same tower?



-  Colour the 7th flower blue. Start counting from the left.



Colour in another flower and complete the sentence.

The _____ flower is _____.

-  Three children have a race.



- Alex finishes first.
- Amir finishes third.
- What position does Whitney finish in?

Ordinal Numbers

Reasoning and Problem Solving

Two children have used the instructions to make a pattern.

There are four shapes.

The first is a circle.

The last is a square.

The other two shapes are a triangle and a rectangle.

Here are their patterns.

Amir ○ △ □ □

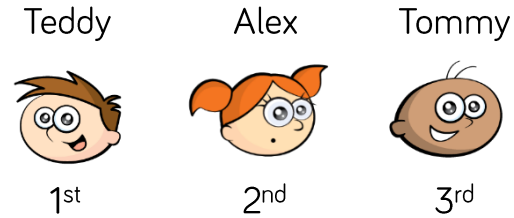
Dora ○ □ △ □

Who is correct?

They could both be correct because the instructions aren't clear, it doesn't state which order the middle two shapes need to be in.

Tommy, Teddy and Alex take part in a race.

The results are:



Fill in the blanks:

Tommy finished behind _____.

Teddy finished in front of _____.

Alex finished in front of _____ but behind _____.

Tommy finished behind Teddy/Alex.

Teddy finished in front of Alex/Tommy.

Alex finished in front of Tommy but behind Teddy.

The Number Line

Notes and Guidance

Children will use a number line to practise and consolidate skills learnt so far. They should use the number line to:

- Count to 10
- See one more/one less
- See greater than/less than statements
- Order numbers

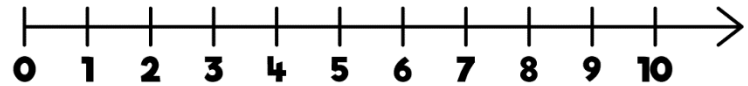
Using a number line gives children the opportunity to count from zero.

Mathematical Talk

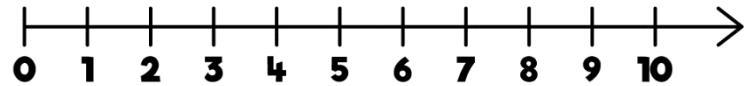
- Can you label the number line?
- How do you know where to put the numbers?
- How are numbers presented on a number line?
- What does each mark on the number line represent?
- Where does the number line start?
- How did you choose where to put them?
- Where does the number line end?
- Do we have to start counting from 0 every time?
- Which way will we ‘jump’ when we find one more/less?

Varied Fluency

- On the number line,
 - Circle the number 7
 - Underline a number **greater** than 7
 - Draw an arrow to the number that is **one less** than 5
 - Put a box around the **smallest** number.



- How many jumps from zero is eight?



Is this more or less than the number of jumps to nine?

- Write 5, 9 and 2 in the correct order on the number line.



The Number Line

Reasoning and Problem Solving

Game



Roll a die.

Place a counter on the number line covering the number shown by the die.

Work out how many jumps to 0 and how many to 10

Which is closer?

If you rolled a 6 and did three jumps, what numbers could you land on?

Can you roll a number where there are 7 and 3 jumps to 10 or 0?

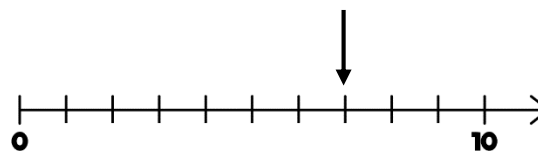
Which numbers could they be?

Open ended. For example, if they roll a 4, they are 6 jumps from 10 and 4 from 0, so they are closer to 0

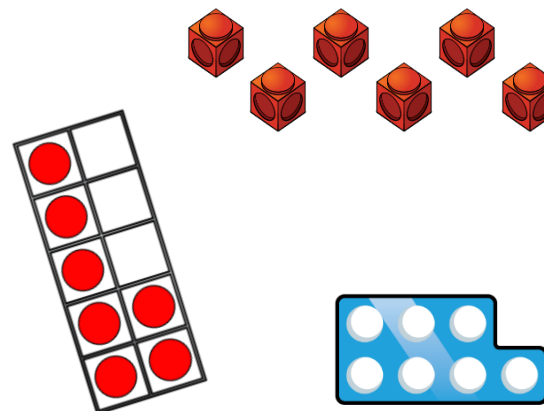
3 or 9 depending which way they jumped.

Children might work out this could be 3 or 7, but because there isn't a 7 on a dice it must be 3

Mo points to a number on the number line.



Which of these could **not** represent this number?



The cubes couldn't because there are only six of them and Mo has pointed to seven. The number piece and ten frame both show seven.

Order Objects and Numbers

Notes and Guidance

Children order numbers and objects from smallest to greatest or greatest to smallest.

They should be encouraged to use concrete or pictorial representations to prove or check their answers.

Children use the vocabulary ‘smallest’ and ‘greatest’ and may also use the $<$ or $>$ symbols to show the order of their numbers.

Mathematical Talk

How does the number line help you order the numbers?

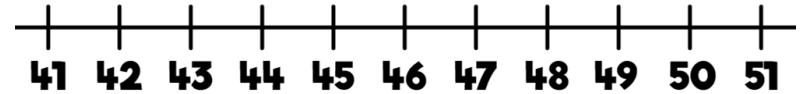
How does Base 10 prove that your order is correct?

How did you know which of the diagrams represented the smallest/greatest number?

Did you look at the tens or ones?

Varied Fluency

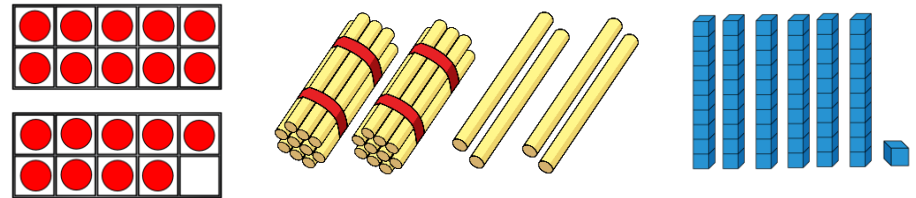
- Circle the numbers 48, 43 and 50 on the number line.



Put the numbers 48, 43 and 50 in order starting with the smallest.

- Use Base 10 to make the numbers sixty, sixteen and twenty-six. Write the numbers in order starting with the greatest number.

- The diagrams represent different numbers.



Circle the greatest number.

Circle the smallest number.

Complete the number sentence $\text{_____} > \text{_____}$

Order Objects and Numbers

Reasoning and Problem Solving

Order the numbers below.
Which would be the fourth number?

33 53 37

29 34 43

Explain how you ordered them.

If I ordered them from smallest to largest:
29, 33, 34, 37, 43, 53 then 37 would be the fourth number.

Alternatively, if I order the numbers from largest to smallest:
53, 43, 37, 34, 33, 29 then 34 would be the fourth number.

Mo has written a list of 2-digit numbers.



The digits of each number add up to five.
None of the digits are zero.

14, 23, 32, 41

Can you find all the numbers Mo could have written?

Write the numbers in order from smallest to largest.

What strategy did you use?