Summer Scheme of Learning

Year 1

#MathsEveryoneCan
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Notes and Guidance

Meet the Characters

Children love to learn with characters and our team within the scheme will be sure to get them talking and reasoning about mathematical concepts and ideas. Who’s your favourite?

Teddy  Rosie  Mo  Eva  Alex
Jack  Whitney  Amir  Dora  Tommy
Dexter  Ron  Annie
<table>
<thead>
<tr>
<th>Week 1</th>
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<th>Week 6</th>
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<th>Week 9</th>
<th>Week 10</th>
<th>Week 11</th>
<th>Week 12</th>
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<td>Autumn</td>
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<td></td>
<td>Number: Place Value (within 10)</td>
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<td>Number: Addition and Subtraction (within 10)</td>
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<td>Geometry: Shape</td>
<td>Number: Place Value (within 20)</td>
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<td></td>
<td>Number: Addition and Subtraction (within 20)</td>
<td></td>
<td></td>
<td>Number: Place Value (within 50) (Multiples of 2, 5 and 10 included)</td>
<td></td>
<td></td>
<td>Measurement: Length and Height</td>
<td>Measurement: Weight and Volume</td>
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<td>Summer</td>
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<tr>
<td></td>
<td>Number: Multiplication and Division (Reinforce multiples of 2, 5 and 10 to be included)</td>
<td></td>
<td>Number: Fractions</td>
<td></td>
<td>Geometry: Position and Direction</td>
<td>Number: Place Value (within 100)</td>
<td></td>
<td>Measurement: Money</td>
<td>Measurement: Time</td>
<td></td>
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</tr>
</tbody>
</table>

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Overview

Small Steps

- Count in 10s
- Make equal groups
- Add equal groups
- Make arrays
- Make doubles
- Make equal groups - grouping
- Make equal groups - sharing

NC Objectives

Count in multiples of twos, fives and tens.

Solve one step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.
Count in 10s

Notes and Guidance

Children count in groups of tens for the first time. Previously they have counted in 2s and 5s. They use pictures, bead strings and number lines to support their counting.

Counting in 10s on a hundred square will also support children to see the similarities between the numbers when we count in tens.

Mathematical Talk

How many birds/flowers are there in total?

How can we use our number lines to help us count them?

Will _____ appear on our number line? Why?

What is the same about all the numbers we say when we are counting in tens?

Varied Fluency

How many birds are there altogether?

There are ____ birds in each tree.
There are ____ trees.
There are ____ birds altogether.

How many flowers are there altogether?

There are ____ flowers in each bunch.
There are ____ bunches.
There are ____ flowers altogether.

Use a 0-100 bead string to count in tens.
Can we count forwards and backwards in tens? 

Can we count in tens on a number track as well? How does this match counting on a bead string?
Count in 10s

Reasoning and Problem Solving

In a shop, grapes come in bunches of 10. Yes there are enough grapes. There are fifty grapes and Max only needs forty. Max wants to buy forty grapes. Are there enough grapes?

<table>
<thead>
<tr>
<th>Jemima is counting in 10s on part of a hundred square.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  2  3  4  5  6  7  8  9  10</td>
</tr>
<tr>
<td>11 12 13 14 15 16 17 18 19 20</td>
</tr>
<tr>
<td>21 22 23 24 25 26 27 28 29 30</td>
</tr>
<tr>
<td>31 32 33 34 35 36 37 38 39 40</td>
</tr>
<tr>
<td>41 42 43 44 45 46 47 48 49 50</td>
</tr>
</tbody>
</table>

She starts at 10

Shade in all the numbers Jemima will say.

What is the same about the numbers she says?

What is different about the numbers?

Jemima will say 10, 20, 30, 40 and 50. All the numbers have the same ones digit (0). They all have different tens digit. The tens digit goes up by 1 for each new number she says.
Making Equal Groups

Notes and Guidance

Children begin by using stories which link to pictures and concrete manipulatives to explore making equal groups and write statements such as ‘there are ___ groups of ___.’ They will recognise and explain how they know when they are equal or not. Children see equal groups that are arranged differently so they understand that the groups look different but can still be equal in number.
At this stage children do not explore multiplication formally.

Mathematical Talk

How do I know that the groups are equal? What does equal mean?

How many pencils are there in each pot? How can I complete the sentence to describe the groups?

What's the same and what's different?

Are Josh's groups equal or unequal? How can we make them equal?

Varied Fluency

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

Complete the sentences

There are ___ groups of ___ pencils.

There are ___ groups of ___ flowers.

Josh is drawing equal groups of 3

Complete his drawing.
### Making Equal Groups

#### Reasoning and Problem Solving

<table>
<thead>
<tr>
<th>Dora and Rosie are making hay bundles.</th>
<th>Possible answer: Dora has made equal groups because she has 3 groups of 3 hay bundles.</th>
<th>Use concrete materials or pictures to complete the questions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who has made equal groups?</td>
<td>Rosie has two unequal groups.</td>
<td>Alex has 4 equal groups.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Show me what Alex's groups could look like.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Whitney has 3 unequal groups.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Show me what Whitney's groups could look like.</td>
</tr>
<tr>
<td><img src="image1" alt="Dora" /></td>
<td><img src="image2" alt="Rosie" /></td>
<td></td>
</tr>
<tr>
<td>Explain how you know.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Children will show 4 groups where there are the same amount in each group for Alex and 3 groups that are unequal for Whitney. Encourage children to do this in more than one way.
Add Equal Groups

Notes and Guidance

Children use equal groups to find a total. They focus on counting equal groups of 2, 5 and 10 and explore this within 50.
Children could begin by linking this to real life, for example animal legs, wheels, flowers in vases etc.
Stem sentences alongside number sentences can help children link the calculation with the situation. Ensure children have the opportunity to say their sentences aloud.

Mathematical Talk

How many apples are there in each bag?
Do all of the bags have an equal number of apples?
How many equal groups can you see?
How can we represent this with counters/cubes/on a number line/in a number sentence etc?
What other equipment could you use to represent your pattern? What’s the same? What’s different?
Which is more, 3 groups of 10 or 4 groups of 5? Prove why.

Varied Fluency

How many wheels altogether?

How many fingers altogether?

How many apples are there? Complete the sentences.

How many fish are there?
Complete the sentences.

Can you show this using ten frames?
Add Equal Groups

Possible answer: I agree with both.

They are counting in groups of 10 so they need one more group of 10

Who do you agree with? Explain why.

Possible answers:
Rosie: $2 + 2 + 2 + 2 + 2 = 10$
Eva: $5 + 5 + 5 = 15$

Each of their totals is less than 40

Rosie has 5 equal groups.
Eva has 3 equal groups.

Eva's total is more than Rosie's total.

What could they be counting in?

Use equipment to help you.
Make Arrays

Notes and Guidance

Children begin to make arrays by making equal groups and building them up in columns or rows.

They use a range of concrete and pictorial representations alongside sentence stems to support their understanding.

Children also explore arrays built incorrectly and recognise the importance of columns and rows.

Mathematical Talk

How many equal groups do I have? How many in each group? Can I represent my apples with counters?

What is the difference between columns and rows? How many counters in each row? How many counters in each column?

How can I record my array with a number sentence?

Varied Fluency

Build an array with counters to represent the apples. Complete the sentences.

There are ____ apples in each row.
There are ____ rows.
____ + ____ + ____ = ____
There are ____ apples altogether.

Complete the table.

<table>
<thead>
<tr>
<th>Array</th>
<th>Description - columns</th>
<th>Description - rows</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Array 1" /></td>
<td>5 columns 2 cookies in each column</td>
<td>2 rows 5 cookies in each row</td>
<td>2 + 2 + 2 + 2 + 10 = 10 5 + 5 = 10</td>
</tr>
<tr>
<td><img src="image2.png" alt="Array 2" /></td>
<td>____ columns ____ donuts in each column</td>
<td>____ rows ____ donuts in each row</td>
<td></td>
</tr>
<tr>
<td><img src="image3.png" alt="Array 3" /></td>
<td>____ columns ____ fish in each column</td>
<td>____ rows ____ fish in each row</td>
<td></td>
</tr>
<tr>
<td><img src="image4.png" alt="Array 4" /></td>
<td>3 columns 5 cupcakes in each column</td>
<td>5 rows 3 cupcakes in each row</td>
<td></td>
</tr>
</tbody>
</table>
### Make Arrays

#### Reasoning and Problem Solving

<table>
<thead>
<tr>
<th>Amir and Whitney are making arrays.</th>
<th>Possible answer: Whitney has made a mistake because her array is not in columns. There are an unequal amount of squares in each row.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amir</td>
<td>![Amir's array]</td>
</tr>
<tr>
<td>Whitney</td>
<td>![Whitney's array]</td>
</tr>
<tr>
<td>Who has made a mistake? Explain why.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teddy and Alex are writing number sentences to describe the array.</th>
<th>Possible answer: They are both right. Teddy has counted the columns. Alex has counted the rows.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teddy</td>
<td>![Teddy's number sentence]</td>
</tr>
<tr>
<td>![Teddy's array]</td>
<td></td>
</tr>
<tr>
<td>4 + 4 + 4 + 4 + 4 = 20</td>
<td></td>
</tr>
<tr>
<td>Alex</td>
<td>![Alex's number sentence]</td>
</tr>
<tr>
<td>![Alex's array]</td>
<td></td>
</tr>
<tr>
<td>5 + 5 + 5 + 5 = 20</td>
<td></td>
</tr>
<tr>
<td>Who do you agree with? Explain why.</td>
<td></td>
</tr>
</tbody>
</table>

| Eva begins to make an array with 40 counters.                     | Possible answer: Array showing 10 + 10 + 10 + 10 = 40 Or 4 + 4 + 4 + 4 + 4 + 4 + 4 = 40 |
| Complete her array.                                               | Write two different number sentences to describe the finished array.                                                        |

![Eva's array]
Making Doubles

Notes and Guidance

Children explore doubling with numbers up to 20
Reinforce understanding that ‘double’ is two groups of a number or an amount. Children show and explain what doubling means using concrete and pictorial representations.

They record doubling using the sentence, ‘Double ___ is ___’ and use repeated addition to represent doubles in the abstract. They look at representations to decide whether that shows doubling or not.

Mathematical Talk

Can you sort these representations in to doubles and not doubles? How do you know they’ve been doubled?

What comes next in my table, why?

How can we show the double differently?

If double 2 is 4, what is double 20?
What is the largest double we can roll on a normal dice?

Varied Fluency

- Circle the representations which have been doubled:
  - [Image of hand] → [Image of double hands] → [Image of apples]
  - [Image of square] → [Image of green squares] → [Image of red apples]

- Take a number piece and double it. Complete the sentence.
  - Double ___ is ___
  - [Image of dice]

- Complete and continue the table.

<table>
<thead>
<tr>
<th>Build</th>
<th>Represent</th>
<th>Add</th>
<th>Double</th>
</tr>
</thead>
<tbody>
<tr>
<td>✅✅</td>
<td>✅</td>
<td>1 + 1 = 2</td>
<td>Double 1 is 2</td>
</tr>
<tr>
<td>✅✅</td>
<td>✅</td>
<td>2 + 2 = ___</td>
<td>Double 2 is ___</td>
</tr>
<tr>
<td>✅✅</td>
<td>✅</td>
<td>3 + 3 = ___</td>
<td>Double 3 is ___</td>
</tr>
<tr>
<td>💡💡</td>
<td>📜</td>
<td>___ + ___ = ___</td>
<td>Double 4 is ___</td>
</tr>
</tbody>
</table>
Making Doubles

Reasoning and Problem Solving

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

Possible answer: Whitney is correct because the image shows what she was left with. She had 8 after she doubled and double 4 is 8

Whitney

Louise started with 4 and ended with 8 donuts.

Eva

Louise started with 8 and ended with 16 donuts.

Mo

Louise started with 2 and ended with 4 donuts.

Who do you agree with? Explain why.

Complete the table by doubling each number.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
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<tr>
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<td>5</td>
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<td>6</td>
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<td>7</td>
<td></td>
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<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Possible answer:

The doubles increase by 2 each time.
The doubles are all even.
The doubles end in 2, 4, 6, 8 or 0

What patterns do you notice?
Make Equal Groups - Grouping

Notes and Guidance

Children start with a given total and make groups of an equal amount. They record their understanding in sentences, not through formal division at this stage.

Children can develop their understanding of equal groups by also being exposed to numbers which do not group equally.

Mathematical Talk

How can you tell if the groups are equal? How can you represent the equal groups? Do all numbers divide into equal groups of 2?
How do you sort the cubes into equal groups?
What would happen if there were 21 cubes?
Have I got equal groups?
How do you know?
Does each group need to be arranged in the same way for it to be equal?

Varied Fluency

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

Take 20 cubes. Complete the sentences.
I can make ____ equal groups of 2
I can make ____ equal groups of 5
I can make ____ equal groups of 10

Complete the table. Use equipment to help you.

<table>
<thead>
<tr>
<th>Representation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td>There are ____ altogether. There are ____ equal groups of ____</td>
</tr>
<tr>
<td><img src="image2.png" alt="Image" /></td>
<td>There are ____ altogether. There are ____ equal groups of ____</td>
</tr>
<tr>
<td><img src="image3.png" alt="Image" /></td>
<td>15 has been sorted into 3 equal groups of 5</td>
</tr>
<tr>
<td><img src="image4.png" alt="Image" /></td>
<td>____ has been sorted into ____ equal groups of ____</td>
</tr>
</tbody>
</table>
Make Equal Groups - Grouping

Reasoning and Problem Solving

Tommy and Jack each have the same number of sweets.

Tommy has 5 equal groups of 2
Jack has 1 equal group.
How many sweets are in Jack’s group?

I am thinking of a number between 20 and 30

I can only make equal groups of 5
What must my number be?

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

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

Answer: 25
Children can use practical equipment to solve this and discover what happens.
If you make equal groups of 2 with it there will be 1 left over.
If you make equal groups of 10 with it there will be 5 left over.
Sharing Equally

Notes and Guidance

Children explore sharing as a model of division. They use 1:1 correspondence to share concrete objects into equal groups.

Children also need to be given the opportunity to see when a number of objects cannot be shared equally into equal groups.

Mathematical Talk

How can I share the muffins equally?

How many muffins on this plate? How many on this plate? Are they equal? If I had 9 muffins what would happen?

How can I share the objects equally? How many equal groups am I sharing the objects into? Are the groups equal? Are there any left over?

Varied Fluency

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

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

- Tim has 16 bananas. He shares them equally between two boxes. How many bananas are in each box? Represent and solve the problem.
Sharing Equally

Reasoning and Problem Solving

Dora has 10 biscuits.

She wants to share them equally at her party.

How many people could be at the party?

Possible answers:

There could be:
10 people
5 people
2 people
1 person (Dora)

There are 10 cakes and 2 boxes.

An equal amount needs to be put into each box.

Possible answer:

Eva is correct. She has shared the cakes equally and put 5 into each box.

Jack

Put them into groups of 2

Eva

Share them into 2 groups.

Who is correct? Explain your answer.
Overview
Small Steps

- Find a half (1)
- Find a half (2)
- Find a quarter (1)
- Find a quarter (2)

NC Objectives

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

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

*Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, double/half).*

*Compare, describe and solve practical problems for: mass/weight (for example, heavy/light, heavier than, lighter than); capacity and volume (for example, full/empty, more than, less than, half, half full, quarter).*
Find a Half (1)

Notes and Guidance

Children explore finding a half for the first time using shapes and sets of objects. They will use the vocabulary ‘half’ and ‘whole’. Children will not at this stage use the fractional notation of $\frac{1}{2}$.

It is important that they know that a half means ‘one of two equal parts’ and are able to count them.

Mathematical Talk

- How many parts have I split my object into?
- How can you show a half of something?
- How do you know if a shape is split into halves?
- How many halves make a whole?
- Can we count them?
- How do you know if an object or shape has not been split in half?
- Is there more than one way to show half of a shape or object?
- Is this the same for all shapes?

Varied Fluency

- Show the children real life objects and how they can be cut in half.
  How can we cut these objects in half?

Can any of the objects be cut in half in more than one way?

- Which circles have been split into equal halves?

- Match the halves to make 5 complete shapes.
Find a Half (1)

Reasoning and Problem Solving

Eva and Jack are both attempting to split a rectangle in half.

Eva

Jack thinks he can find three more ways.

Jack

Find Jack's three examples.

Possible answers:

Sort the shapes into the table.

<table>
<thead>
<tr>
<th>Shapes that are split in half</th>
<th>Shapes that are not split in half</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Possible answer:

There are a number of different answers for other shapes children could add to the table.

Can you add any more shapes to the table?
Find a Half (2)

Notes and Guidance

Children use their understanding of finding half of an object or shape and apply this to finding half of a small quantity. It is important that children find the total amount and can then show how this number can be shared equally into two. The use of concrete manipulatives such as counters can help children to find a half.

Mathematical Talk

How can we find half of an amount?

How many groups do we need to share our beads between?

How can you check that you have found half?

How many equal parts should you have when you have split the objects in half?

Varied Fluency

Find half of each amount.

Find half of the amounts and complete the stem sentences.

There are ___ beads.
Half of ___ is ___

There are ___ marbles.
Half of ___ is ___

There are ___ sheep.
Half of ___ is ___
Find a Half (2)

Reasoning and Problem Solving

| How many different ways can you shade one half of the shapes? |
| --- | --- |
| Any combination that has three whole squares shaded out of the 6 |

Mo is finding halves.

It is hard to find half of an odd number.

Do you agree with Mo? Explain your answer.

Possible answer: I agree with Mo because an odd number cannot be shared equally between 2. It would not give a whole number answer.
Find a Quarter (1)

Notes and Guidance

Children explore quarters for the first time. They will develop their understanding of equal parts and non-equal parts and relate this to a shape or object being split up into four equal parts.

Children will use the words quarters and parts at this stage but will not use the fractional notation of $\frac{1}{4}$.

Mathematical Talk

How many parts does my whole have?
Are my parts equal or not equal?
How many equal parts can we see/count?

Can we make a quarter in a different way?

Which shapes show equal parts?
Which shapes show four equal parts?
Which shapes show quarters?

Varied Fluency

- Take two square pieces of paper, two circular pieces of paper and two rectangular pieces of paper.
  - Model folding one of each into four equal parts and the other into four non-equal parts.
    - Which shapes show equal parts? Which do not?
    - How many equal parts can we see?
    - Can we fold any of the shapes in a different way and still get equal parts?
  - Count the equal parts and then model counting them in quarters.

- Colour a quarter of each shape. Can you colour it in different ways?

- Tick the shapes that show quarters.
Find a Quarter (1)

Reasoning and Problem Solving

Alex and Jack are talking about quarters.

Alex is correct because quarters must be four equal parts.
Jack has split his square into four unequal parts so they are not quarters.

Are they correct? Explain your answer.

Use the squares to show:
- Less than a quarter shaded.
- Exactly a quarter shaded.
- More than a quarter shaded.

There are multiple solutions for each one.
Find a Quarter (2)

Notes and Guidance

Children find a quarter of a small quantity through equal sharing. It is important they can show the groups clearly by drawing around quantities or by physically sharing into something. Children will use the word quarters and parts at this stage but will not use the fractional notation of $\frac{1}{4}$.

They also begin to describe capacity using the terminology ‘a quarter full’.

Mathematical Talk

How many sweets do I have? How can I share them equally into four groups? What is one quarter worth?

Are my containers the same or different?
Can you should me a quarter full in each container.

How can I quarter this amount?
If I have 2, and it is a quarter, what will the whole look like?
What will the whole be worth?

Varied Fluency

Share each quantity into four equal groups.

There are ___ cakes.
There is ___ cake in each quarter.
A quarter of ___ is ___

There are ___ sweets.
There are ___ sweets in each quarter.
A quarter of ___ is ___

There are ___ peaches.
There are ___ peaches in each quarter.
A quarter of ___ is ___

Use a range of containers and rice/water.
Can you show me a quarter full in each container?
Do they look the same or different?

Use counters to complete the sentences.

A quarter of 4 is ___
A quarter of 8 is ___
1 is one quarter of ___
3 is one quarter of ___
Find a Quarter (2)

Reasoning and Problem Solving

One cube is a quarter, what could the whole look like?

Possible answers:
Any arrangement of 4 cubes.

Two cubes are a quarter, what could the whole look like?

Any arrangement of 8 cubes.

Three cubes are a quarter, what could the whole look like?

Any arrangement of 12 cubes.

How many different possibilities can you make?

There are many different possibilities which the children will find through their exploration with the multilink.

Mr. White has asked his class to put one quarter of the balls into the hoop.

I'm going to put one ball in the hoop.

I'm going to put three balls in the hoop.

I'm going to put four balls into the hoop.

Who is correct? Can you explain any mistakes made?

Whitney is correct because one quarter of 12 is 3.

Teddy has misinterpreted one quarter to just mean one.

Tommy knows that quarters are linked to fours but hasn't split the balls into four equal groups.
Overview
Small Steps

- Describe turns
- Describe Position (1)
- Describe Position (2)

NC Objectives
Describe position, direction and movement, including whole, half, quarter and three quarter turns
Describe Turns

Notes and Guidance

Children use the language ‘full’, ‘half’, ‘quarter’ and ‘three-quarter’ to describe turns made by shapes/objects.

Children should practically turn objects, shapes and themselves in different directions but do not need to describe the direction of the turns. Children should investigate whether they can finish facing the same direction if they complete different turns.

Mathematical Talk

What is each turn called?
Is there only one direction shapes/objects can move in?

Does it make a difference which way the shape / object / person is turned?

What part of a whole has the shape/object turned?
What will the shape/object look like before or after the turn?

Varied Fluency

Give the children instructions using the language ‘quarter turn’, ‘half turn’, ‘three quarters turn’ and ‘full turn’. Children could then work in pairs to give and follow directions. This could be developed into a routine with music or as the children line up.

Draw what each shape will look like once it has turned a:

- quarter turn
- half turn
- three-quarter turn
- full turn

Complete the sentence to describe the turns these shapes have made.

The shape has turned a __________________________ turn.
Describe Turns

Reasoning and Problem Solving

Are these statements correct? Is there more than one answer? Explain how you know.

The shape has made a quarter turn.

The shape has made a half turn.

The shape has made a three-quarter turn.

Correct in either direction. It could also be a three-quarter turn in either direction.
Correct in either direction.
The shape could have made a three-quarter turn clockwise or a quarter turn anticlockwise.

Alex turns her number shape and it finishes facing this direction.

What direction could it have started facing?

What turn could it have made?

A half turn.
A quarter turn
A whole turn

A quarter turn
A three-quarter turn
A three-quarter turn
Describe Position (1)

Notes and Guidance

Children use ‘left’, ‘right’, ‘forwards’ and ‘backwards’ to describe position and direction. They will describe the position of objects and shapes from different starting positions.

You could use board games such as Snakes and Ladders and Twister to explore positional language.

Where possible, this concept should be explored practically.

Mathematical Talk

What are the different directions we can move in?

How would I get to the ........?

How could you describe the movement?
How could we record the movement?

How would I get from the ....... to the ........?

Varied Fluency

- Use cones to mark out a route for a partner. Describe the route your partner needs to take using the words ‘left’, ‘right’, ‘forwards’ and ‘backwards’.

- Use a grid to move a bot to different places. Use the words ‘left’, ‘right’, ‘forwards’ and ‘backwards’ to describe the movements.

- Complete the sentences using ‘left’ and ‘right’ to describe the position of the coins.

The £1 coin is to the ______ of the 1p coin.
The 50p coin is to the ______ of the 1p coin.
The 2p coin is to the ______ of the 50p coin.
Describe Position (1)

Reasoning and Problem Solving

Use the clues to colour the shapes.

• The circle in the middle is blue.
• The circle on the right is red.
• The shape up from the right circle is green.
• The shape down from the circles is green.
• The square to the left of the green triangle is red.
• The four-sided shape up from the rectangle is blue.
• The triangle on the left is red.

Mo
The pink doughnuts are on the left.

Alex
The pink doughnuts are on the right.

Both children could be correct because they have not stated what the pink doughnuts are left or right in relation to.

The pink doughnuts are on the left of the yellow doughnuts and the pink doughnut are on the right of the blue and brown doughnuts.

Who is correct? Explain how you know.
Describe Position (2)

Notes and Guidance

Children will build upon directional language ‘left’ and ‘right’ to assist with describing position. They will describe position using: ‘top’, ‘in between’, ‘bottom’, ‘above’ and ‘below’. Children explore the position of objects and shapes from different starting points.

Where possible, this concept should be explored practically both in and out of the classroom.

Mathematical Talk

Where is the _____ in relation to you?

What is _____ of you?

What is _____ of this object?

How can we describe the position of _____?

Can you create your own instructions to build a tower?

Varied Fluency

Think about where you are sitting in the classroom. What can you see around you? Complete the table.

<table>
<thead>
<tr>
<th>In front of me</th>
<th>Behind me</th>
<th>To the left of me</th>
<th>To the right of me</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Use objects in your classroom or outside area to complete the sentences. Use the words: ‘top’, ‘middle’, ‘bottom’, ‘above’ and ‘below’ to describe the position.

The _____ is above _______.
The _____ is below _______.
In between _______ and _______ is _______.
Above _______ is _______ and _______.
There is nothing between _______ and _______.

Use 5 cubes to build a tower.

• Start with a yellow cube.
• Place a blue cube on top of the yellow cube.
• Place a white cube below the yellow cube.
• Place a red cube on the top of the tower.
• Place the green cube in between the yellow and white cube.
Describe Position (2)

Reasoning and Problem Solving

Whitney | Jack | Eva | Alex | Amir | Dora

Jack is directly above Alex.
Eva is directly below Alex.
_______ is to the right of Eva.
There is no-one above Amir.
What are the missing names?
Add people to complete the grid and describe where they are.

How many different ways can you describe the position of the 2p coin?

Possible answers may include:
The 2p coin is:
Below the 50p
Above the 10p
In between the £1 and 5p
To the left of the 5p
To the right of the £1
Summer - Block 4

Place Value (to 100)

Year 1
Overview

Small Steps

- Counting to 100
- Partitioning numbers
- Comparing numbers (1)
- Comparing numbers (2)
- Ordering numbers
- One more, one less

NC Objectives

Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.

Count, read and write numbers to 100 in numerals.

Given a number, identify one more and one less.

Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than, most, least.
Counting to 100

Notes and Guidance

Children build on their previous learning of numbers to 50. They continue grouping in 10s to make counting quicker and more efficient.

Children are introduced to the hundred square and use it to count forwards and backwards within 100.

Using dot-to-dot activities, both forwards and backwards, with a range of numbers is a fun way to explore counting to 100.

Mathematical Talk

What is the most efficient way to count the objects?

How many are in each group?

How many more groups would you need to make 100?

What do you notice about the layout of the hundred square?

Can you tell you friend an efficient way to find the number 57?

Will I count the number ___ if I am counting from ____ to ____?

Varied Fluency

How many flowers are there altogether?
Can you represent the flowers using ten frames and counters?

How many straws are there?
Bundle the straws into tens to make them easier to count.

Use the hundred square to:
- Count forwards from 80 to 92
- Count backwards from 73 to 65
- Write down the numbers between 75 and 81
- Find what number comes between 46 and 48
Counting to 100

Reasoning and Problem Solving

Teddy has made a number using the number shapes.

Teddy has counted the six 10s as 1s and added it to the 3.

He says

6 + 3 = 9

Teddy

What mistake has Teddy made?

Correct the mistake in each sequence.

- 34, 35, 36, 38, 39
- 98, 97, 96, 95, 93
- 78, 79, 18, 81, 82

- 34, 35, 36, 37, 38, 39
- 98, 97, 96, 95, 94, 93
- 78, 79, 80, 81, 82
Partitioning Numbers

Notes and Guidance

Children continue grouping in 10s to identify how many tens and ones are within a number. Flexible partitioning is not expected at this stage, however children may notice other ways of partitioning numbers by themselves. Children will use concrete resources to group objects into tens and ones. Place value charts can be introduced to read and record tens and ones within a number.

Mathematical Talk

Can you make groups? How many could we put in each group?

What happens when we have 10 ones?

How many groups of 10 are there?

How many ones are there?

Varied Fluency

Use Base 10 to make these numbers. Complete the stem sentences.

\[
\begin{array}{ccccccc}
70 & 36 & 64 & 81 & 22 & 66 & 49 \\
\end{array}
\]

70 has 7 tens and 0 ones.

Complete the part-whole models.

Show these numbers using a place value chart, Base 10 or straws.

<table>
<thead>
<tr>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>73</td>
<td>50</td>
</tr>
<tr>
<td>88</td>
<td>79</td>
</tr>
<tr>
<td>91</td>
<td>85</td>
</tr>
<tr>
<td>62</td>
<td>93</td>
</tr>
</tbody>
</table>
## Partitioning Numbers

### Reasoning and Problem Solving

<table>
<thead>
<tr>
<th>I have 9 ones.</th>
<th>Jack is incorrect.</th>
<th>Use Base 10 to make a number:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mo</td>
<td>Jack’s ten is equal to ten ones.</td>
<td>• Greater than 84</td>
</tr>
<tr>
<td></td>
<td>Mo only has 9 ones.</td>
<td>• Less than 70</td>
</tr>
<tr>
<td></td>
<td>Is Jack correct? Prove it.</td>
<td>• Greater than 75 but less than 87</td>
</tr>
<tr>
<td>Jack</td>
<td></td>
<td>Children may make a range of numbers to fit the given criteria. Ensure children are not mixing up the tens and ones.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I only have 1 ten so your number is bigger than mine.</th>
<th>Use Base 10 to make a number. The number has 5 tens and fewer than 8 ones.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>How many possible numbers are there?</td>
</tr>
</tbody>
</table>

| They could make 50, 51, 52, 53, 54, 55, 56 or 57 | So there are eight possibilities. |
Comparing Numbers (1)

Notes and Guidance

Children use their partitioning knowledge to begin comparing numbers within 100.

It is important for children to work with a range of equipment, both natural and man-made to make comparisons more visual.

Children use the language ‘more than’, ‘less than’ and ‘equal to’ alongside the inequality symbols.

Mathematical Talk

Which number has the most/fewest tens? Which number has the most/fewest ones?

Why is it important to look at the tens before the ones?

If the number is greater/less which direction will we move on the number line?

How can we count efficiently?

Varied Fluency

Use Base 10 to make these numbers on place value charts. Write how many tens and ones are in each number.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>78</td>
<td>Tens</td>
<td>Ones</td>
</tr>
<tr>
<td>61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>92</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Which number from each pair is the largest? Discuss how you know.

On the hundred square, find a number:
- Less than 69
- Greater than 79
- Greater than 69 but less than 79

Use equipment from your classroom to compare the amounts using >, < or =.
Comparing Numbers (1)

Reasoning and Problem Solving

Eva and Alex have some number cards.

1  2  4  Eva

3  5  6  Alex

They both use two of their cards to make two-digit numbers.

Eva’s number is bigger than Alex’s number.

What could their numbers be? How many answers can you find?

Eva could have 41, or 42 and Alex could have 35 or 36.

How many ways can you complete the part-whole models to make the calculation correct?

Children can choose a range of numbers to complete the part-whole models, but need to ensure the first model is greater than the second. Possible answers include: 50 > 8 51 > 48 etc.
Comparing Numbers (2)

Notes and Guidance

Children compare numbers and amounts using comparison language, more than, less than, equal to as well as the symbols <, > and =
Children demonstrate their understanding of the value of the digits in a 2-digit number. They represent this using concrete manipulatives before ordering numbers. Children should be aware when comparing three or more numbers opposite inequality symbols should not be used. (e.g. □< □> □)

Mathematical Talk

Which number is the biggest/smallest? How do you know?
When ordering, which digit should you consider first?
Is there more than one number that could complete the statement?
What is the largest/smallest number that could complete the statement?

Varied Fluency

Compare the amounts using <, > or =

Complete the statements:
70 < □ □ > 70 □ < 70
□ < 1 0 < □ □ < 100

Complete the stem sentences and statements.
62 is _____ than 55 but _____ than 70
□ □ < □ □ < □ □ □ □ > □ □ > □
□ is greater than ____ but less than ____

47
Comparing Numbers (2)

Reasoning and Problem Solving

Tommy has marked numbers on his number lines. Has he made any mistakes?

65 is greater than 60 and therefore should come after 60 on the number line. 56 is less than 60 so should come before it on the number line. Tommy could have read the tens and ones digit the wrong way around or mixed up the 2 numbers.

Explain to a friend the mistake you think he has made.

Show the numbers on your own number line.
- 75
- 34
- 91
- 57

How many different ways can you complete the place value charts to make the statement correct?

<table>
<thead>
<tr>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

<

<table>
<thead>
<tr>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

50 < 53
51 < 53
52 < 53

Placing a 6, 7, 8 or 9 in the tens column means that children can then place any number in the ones column.
Ordering Numbers

Notes and Guidance

Children order sets of objects and numbers from smallest to largest and largest to smallest.

Children revisit and practise position and ordinal numbers (first, second, third etc.)

Mathematical Talk

How are we ordering these objects/numbers? Which should we start with?

Which is the biggest/has the most?
Which is the smallest/has the least?
Which number/group comes next? How do you know?

How many more/less objects are in group A than group B?

Varied Fluency

Put these objects in the correct place in the table.

<table>
<thead>
<tr>
<th></th>
<th>Most</th>
<th>Least</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number Pieces</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eggs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In groups of 4 roll some PE equipment. The furthest roll wins. Give a sticker and a high-five to the person who came first, second, third and fourth.

Order the numbers from smallest to largest

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>57</td>
<td>8</td>
<td>21</td>
</tr>
<tr>
<td>100</td>
<td>93</td>
<td>72</td>
</tr>
</tbody>
</table>
Mo creates a traffic jam using some toy cars on the carpet. The red car is 3rd from the front. It is also the 2nd from the back.

Use some cars or manipulatives to find out how many cars are in the traffic jam.

There are four cars in the traffic jam.

The numbers in each list are in size order. Complete the missing numbers.

<table>
<thead>
<tr>
<th>65</th>
<th>78</th>
<th>91</th>
<th>99</th>
</tr>
</thead>
<tbody>
<tr>
<td>89</td>
<td>80</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>57</td>
<td></td>
</tr>
</tbody>
</table>

Why did you choose the numbers you did? Are they the only numbers that could have completed the number tracks?

Children could choose any number > 78 but < 91
Children could choose any numbers < 72
Children can choose any numbers to make the track go from largest to smallest or smallest to largest.
**One More, One Less**

**Notes and Guidance**

Children find one more and one less than given numbers or amounts to 100

Children use concrete materials and physically add 1 more or take 1 away before moving to more abstract methods such as number tracks or hundred squares.

**Mathematical Talk**

Do we need to add more or take some away?
How can we represent this?
How many tens were there? How many tens are there now?
How many ones were there? How many ones are there now?
Which place value column changes when finding 1 more and 1 less?
What happens when I find 1 more than a number with 9 ones?
What happens when I find 1 less than a number with 1 one?

**Varied Fluency**

- Use manipulatives and ask children to show one more and one less than the given amounts.

- Complete the missing numbers.

- Use the number cards to make 2 digit numbers. Now write down one more and one less than the numbers you have made. Use equipment if needed.
One More, One Less

Reasoning and Problem Solving

Can you move two of the counters so Rosie has 1 more than Alex and Whitney has 1 less than Alex?

Alex

Rosie

Whitney

Always, Sometimes or Never True?

When finding 1 less than a number, the tens digit of the number stays the same.

Sometimes. If the number has 0 ones, the tens digit will change.

Has Dora shown the correct amount? Explain how you know.

Dora is not correct. Dora has shown 10 more by adding another rod instead of 1 more and adding another cube.

I am going to find one more.
Overview

Small Steps

- Recognising coins
- Recognising notes
- Counting in coins

NC Objectives

Recognise and know the value of different denominations of coins and notes.
Recognising Coins

Notes and Guidance

Children will recognise and know the value of different denominations of coins.
Children will use their knowledge of place value to match coins with equivalent values. For example, ten 1 pence coins is equivalent to one 10 pence coin. This could be linked with the concept of exchanging.
Teachers could use coins to support this activity (or pictures where appropriate).

Mathematical Talk

How have you organised the coins?

What is the value of each coin? How do you know?

How many 1 pence coins will you need to make 2 p? 5 p? 10 p? 20 p? 50 p? 1 pound?

How many 1 pound coins will you need to make 2 pounds?

Varied Fluency

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

Write down the value of each coin.

Match the cards with equal values.
Recognising Coins

Reasoning and Problem Solving

Dora says:

All coins are round.

Dora is incorrect.
A 50 p coin isn’t round.
A 20 p coin isn’t round.
A £1 coin isn’t round.

Do you agree with Dora?
Justify your answer.

Which is the odd one out?

20 p  8 p  2 p  10 p

8 p is the odd one out because we do not have an 8 p coin.

The tooth fairy left some money for two children.

Jack has 50 pence. Mo has one pound.

Jack is wrong because although the 50 pence coin is physically bigger it only has a value of 50 pence, but the pound coin has a value of 100 pence.

Jack thinks he has more money because his coin is physically bigger.

Explain why Jack is wrong.
Recognising Notes

Notes and Guidance

Once children are able to identify and recognise coins they need to be able to recognise notes.

Children use their understanding of place value to see that one note can represent many pounds, for example, a ten pound note could be 10 pound coins or 3 two pound coins and 4 one pound coins. Children also need to be aware that one note may be worth many times the value of another note.

Mathematical Talk

Can you name each note?

What is the same about each note?

What is different about each note?

How many ___ pound notes are equivalent to a ___ pound note?

Varied Fluency

How many of each note can you see?

There are ____ 5 pound notes.
There are ____ 10 pound notes.
There are ____ 20 pound notes.

What is the value of each note?

= ___ pounds

= ___ pounds

= ___ pounds

Fill in the blanks.

One = ___

One = ___
Recognising Notes

Reasoning and Problem Solving

Teddy is given one Christmas.
Eva is given two

Teddy

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

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

Eva

Both Teddy and Eva are wrong because they both have £10.
Eva has two £5 notes, which makes £10, and Teddy has a £10 note.

Jack, Rosie and Amir each have some money in their pockets.
Jack and Amir both have coins and Rosie has a note.

I have more money than Rosie.

I have less money than Rosie.

What note could Rosie have?

Always, sometimes, never

Money in notes is worth more than money in coins.

Rosie could have a £5 note.
She could not have a £10 or a £20 note because they are larger than Amir’s amount.

Sometimes - if you have £6 in coins it is worth more than a £5 note.
However you could also have less than £5 in coins.
Counting in Coins

Notes and Guidance
Children combine their knowledge of money with counting in 2s, 5s and 10s to count money efficiently.

They may draw coins or representations to match a given amount and use previous understanding to compare amounts of money.

Mathematical Talk
Can two people have the same amount of money, with a different number of coins?

Is the largest amount of coins always the largest amount of money? Can you prove it?

Is there one way, or more than one way?

Varied Fluency

- Using coins children make links to times tables. What do they notice?

- Use or draw coins to show the given amounts.
  - 10p in 5p coins.
  - 50p in 5p coins.
  - 50p in 10p coins.
  - 40p in 5p coins.

- Use <, > or = to compare the amounts.
Counting in Coins

Reasoning and Problem Solving

Tommy’s piggy bank is full of 2 pence pieces, 5 pence pieces and 10 pence pieces.

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

Fifteen 2 pence pieces equal 30 p.

Six 5 pence pieces equal 30 p.

Three 10 pence pieces equals 30 p.

Alex has 2 silver coins.
Teddy has 5 bronze coins.
Amir has 1 silver coin.

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

Alex has two 5 pence coins.
Teddy has five 2 pence coins.
Amir has one 10 pence coin.

They all have 10 p.

You could have two 10 pence coins making 20 pence and one 20 pence coin but there are not 5 bronze coins which make 20 pence.

Are there any other amounts that this works for?
Overview

Small Steps

- Before and after
- Dates
- Time to the hour
- Time to the half hour
- Writing time
- Comparing time

NC Objectives

Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening].

Recognise and use language relating to dates, including days of the week, weeks, months and years.

Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. Compare, describe and solve practical problems for time [for example, quicker, slower, earlier, later].

Measure and begin to record time (hours, minutes, seconds).
Before and After

Notes and Guidance

Children are introduced to key vocabulary related to time.

They use before and after to describe, sort and order events.

Building on this, they use first and next to describe an order of events. When talking about the day, children use the language: morning, afternoon and evening.

Mathematical Talk

Explain why you have placed the pictures before or after each other?
Could any of the pictures have gone in both?
Which activities do you do before school?
Which activities do you do after school?
What do you do in the morning?
What do you do in the afternoon?
What do you do in the evening?

Varied Fluency

Sort the activities into before and after school.

Can you think of one more activity for each group?
Can you sort the activities into three groups labelled morning, afternoon and evening?

Tommy is drinking a bottle of orange juice.
Match the words to the bottles to order them.

Describe a special day to a friend. Use the words: before, after, first, next, morning, afternoon, evening.
Before and After

Reasoning and Problem Solving

Dora is describing her day.

First, I went to the park. After lunch, I went to the cinema. Before the cinema, I went to a café for lunch.

Can you draw and label pictures to order Dora's day?

<table>
<thead>
<tr>
<th>First</th>
<th>Next</th>
<th>Then</th>
</tr>
</thead>
</table>

Children draw a picture so the ‘First’ box shows the park, the ‘Next’ box shows lunch and the ‘Then’ box shows cinema.

Draw pictures to show what could have happened before and after.

Before

After

Children draw pictures to show what could have happened. They might show someone kicking the ball in the ‘Before’ box and the goldfish bowl smashing in the ‘After’ box.
Dates
Notes and Guidance
Children learn about the days of the week and know there are 7 days in a week. They talk about events using today, yesterday and tomorrow.

Children learn about the months of the year and can pick out special dates within the year, for example, their birthday.

Children could explore and use a calendar displaying days and months within the classroom environment.

Mathematical Talk
What day is it today?
What day was it yesterday?
What day will it be tomorrow?
Which month is your birthday in?
Which month do we start school in?
Which months are the summer holidays in?
If today is ________, what will tomorrow be?

Varied Fluency
Fill in the missing days of the week and complete the sentences.
- Today is Wednesday, yesterday was ______.
- Yesterday was Monday, today is ______.
- Today is Saturday, tomorrow is ______.
- Tomorrow is ________, today is Wednesday.

Use a calendar to look at the names of the months. Discuss special dates in different children’s lives e.g. birthdays, celebrations, holidays. Complete the sentences.

My birthday is in ____________.
In ________, I went to ____________.
Eva is practising chanting the months of the year.

She says,

January, February, May, April, March, July, June, August, September, November, October, December.

Eva is incorrect. Correct her mistakes.

January
February
March
April
May
June
July
August
September
October
November
December

The 5th June is a Wednesday. What day is the 10th June?

Sort the days of the week into school days or non-school days.

School days – Monday, Tuesday, Wednesday, Thursday, Friday

Non-school days – Saturday, Sunday

At school

Not at school

The 10th June is a Monday.
Time to the Hour

Notes and Guidance

Children are introduced to telling the time to the hour using an analogue clock. They learn the language of o'clock and understand the hour hand is the shorter hand and the minute hand is the longer hand. Children read the time to the hour and know when the minute hand is pointing upwards to the number 12 it is an o'clock time, and understand that they need to look at the hour hand to see which hour it is.

Mathematical Talk

There are two hands on the clock. What is the same about each hand? What is different about each hand compared to the other?

Looking at all three clock faces, what is the same about the hands? What is different about them?

Where will the hour hand be at ___? Where will the minute hand be at ___? Can you show me ______?

Varied Fluency

- Match the times to the clocks.
  - 9 o'clock
  - Two o'clock
  - 5 o'clock

- Complete the times.
  - The time is ___ o'clock
  - The time is ___ o'clock

- Draw the hour hand and minute hand on clock faces to show the times:
  - Eight o'clock
  - 1 o'clock
  - Twelve o'clock
Time to the Hour

Reasoning and Problem Solving

Amir has read the hour hand and the minute hand the wrong way round. At three o'clock the longer minute hand should be pointing at 12 and the shorter hour hand should be pointing at 3.

When it is 11 o'clock both hands point at 11

Is Alex correct? Explain your reasoning.

Alex is incorrect. If the time is eleven o'clock, the hour hand should be pointing at 11 and the minute hand should be pointing at 12.

The time is 3 o'clock.

Can you spot Amir's mistake?
Time to the Half Hour

Notes and Guidance

Children are introduced to telling the time to the half hour. They learn the language half past.

They understand that, at half past the hour, the minute hand has travelled half way around the clock from the twelve and is pointing at the six and the hour hand is half way between the hours e.g. half way between one and two or half way between nine and ten.

Mathematical Talk

Which is the hour hand? Which is the minute hand? How do you know?

Where does the minute hand point to at half past? Can you see that the minute hand has travelled halfway around the clock? Could you show this to your partner?

Can you show me ____? 

Varied Fluency

- Match the times to the clocks.
  - Half past twelve
  - Half past two
  - Half past nine

- Complete the times.
  - The time is half past ___
  - The time is half past ___

- Draw the hour hand and the minute hand on clock faces to show these times:
  - Half past 1
  - Half past four
  - Half past 8
Time to the Half Hour

Reasoning and Problem Solving

Tommy has read the minute hand as showing the number of minutes past the hour, rather than understanding that the minute hand pointing to 6 means half past. The time is half past one.

Can you spot Tommy’s mistake?

Read the instructions and draw the hands on the clock.

- The minute hand is pointing at the six.
- The hour hand is half way between 10 and 11

What time is it?

The time is half past 10
Writing Time

Notes and Guidance

Children explore the difference between seconds, minutes and hours. They decide which activities would be measured in each unit of time.

Children explore suitable equipment e.g. stopwatches or sand timers to measure durations of time. They carry out activities and use suitable equipment to measure how long each activity takes e.g. timing how long it takes to run around the playground using a stopwatch.

Mathematical Talk

Would you measure the activity in hours, minutes or seconds?

How many star jumps do you think you can do in 10 seconds?

Let’s count to 20 seconds in our heads, stand up when you think we reach 20 seconds. How close were you?

Varied Fluency

Using a stopwatch, record how many times you can do these activities in 20 seconds.

- Star jumps
- Write your name
- Hops on the spot

Can you think of any activity which takes 20 seconds?

Would you measure the duration of the activities in seconds, minutes or hours? Sort the activities into three groups: seconds, minutes and hours.

- Brushing teeth
- Reading a book
- Saying the alphabet
- Holiday flight
- Playing outside
- Sleeping at night

Complete the sentences using seconds, minutes or hours.

- Playtime is about 20 ________ long.
- The school day is about 6 ________ long.
### Writing Time

#### Reasoning and Problem Solving

<table>
<thead>
<tr>
<th>Are the units of time chosen sensible for these activities?</th>
<th>Not sensible- a football match is measured in minutes because to use seconds would involve very large numbers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• A football match measured in seconds.</td>
<td>Dependent on the school playground, could be sensible, or it could be more sensible to measure in seconds.</td>
</tr>
<tr>
<td>• A lap around the school playground measured in minutes.</td>
<td>Sensible - parties can last at least 2 hours.</td>
</tr>
<tr>
<td>• A birthday party measured in hours.</td>
<td></td>
</tr>
</tbody>
</table>

Dora has a clock without an hour hand.

She says,

I can measure how long it takes someone to run around the playground 10 times using my clock.

Do you agree with Dora?

Explain your answer.

I agree, Dora can still measure time in minutes using her clock. The minute hand moving the distance from one increment to another shows one minute has passed. The minute hand moving one complete turn shows that one hour has passed.
Comparing Time

Notes and Guidance

Children compare amounts of time using the language faster, slower, earlier and later. They build on writing and measuring time by comparing different amounts of times using time language. Children understand that when someone wins a race the length of time will be shorter and if someone takes longer the length of time will be larger.

Mathematical Talk

Which is longer: one hour, one minute or one second?

If I finish a race first, am I faster or slower than everyone else?

Can you think of a comparison where you use faster and slower in the same sentence? e.g. A rabbit is faster than a tortoise but slower than a cheetah.

Varied Fluency

Teddy, Mo and Whitney are running a race. Here are their times.

Teddy - 52 seconds
Mo - 58 seconds
Whitney - 48 seconds

Use faster or slower to complete each sentence.
Teddy is _______ than Mo.
Teddy is _______ than Whitney.
Whitney is _______ than Mo.
Can you write any more sentences to describe the race using the words slower and faster?

Three planes are flying to Paris in the morning. Here are the times they arrive.

A
B
C

Use earlier and later to complete the sentences.
Plane A is _______ than Plane B.
Plane B is _______ than Plane C.
Plane C is _______ than Plane A.

Complete the sentences using <, > or =
1 minute ○ 1 hour ○ 30 seconds ○ 3 hours
2 seconds ○ 1 minute
Comparing Time

Reasoning and Problem Solving

Work in small groups. Complete the following activities and record how long it takes each person.

- Build a tower of ten bricks.
- Run a lap of the playground.
- Write your name five times.

Write three sentences about each activity using the words slower and faster.

Children will complete three sentences about each activity. They can then share the sentences with their groups and see how many different sentences they have created altogether.

Five friends are going to a party. Use the clues to work out when each friend arrived.

- Amir arrived later than Jack and Eva. Rosie arrived later than Amir but earlier than Ron.
- Eva arrived the earliest.

1st - Eva
2nd - Jack
3rd - Amir
4th - Rosie
5th - Ron