White Rose Maths

Summer - Block 3

Time

Year 2

Overview

Small Steps

- O'clock and half past
- Quarter past and quarter to
- Telling time to 5 minutes
- Hours and days
- Find durations of time
- Compare durations of time

NC Objectives

Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day.

Compare and sequence intervals of time.

O'clock and Half Past

Notes and Guidance

Children recap the Year one objective of telling the time to the hour and half past the hour.

Children should be given the opportunity to create times using individual clocks with moveable hands.

Children read and write times from clocks.

Mathematical Talk

What do the numbers represent on the clock face?
Which is the hour hand? Which is the minute hand?

Where will the hour hand be at ____ ?
Where will the minute hand be at ____?
What do you notice about the minute hand at half past?

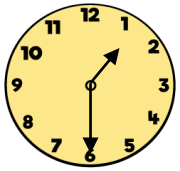
Can you show me _____?

Varied Fluency

- Match the events to the approximate times they happen.
  Can you show the time on your clock?

9 o'clock	Lunchtime
Half past 10	Go to school
12 o'clock	Home time
Half past 3	Playtime

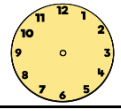
- What time is it?



It is _____ past _____

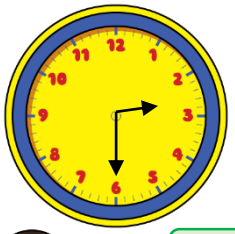
- Complete the tables.

5 o'clock	

Half past 4	
1 o'clock	

O'clock and Half Past

Reasoning and Problem Solving



Who is telling the time correctly?

The time is half past 6

Dora

The time is half past 3

Amir

The time is half past 2

Alex

Can you spot the mistakes they've made?

Alex is correct. Dora has confused the minute hand with the hour hand.
Amir has not noticed that the hour hand has not gone past 3 yet.

It is half past 11 so the hour hand should be on the 11

Is Alex correct?
Explain your reasoning.

Alex is incorrect. If the time is half past 11 the hour hand should be half way between the 11 and 12

Oh no! The minute hand has fallen off the classroom clock!

Lunchtime is at 12:00

Have the children missed their lunchtime?

Unfortunately, the children have missed their lunch. The hour hand is halfway between 12 and 1 so the time is 12:30

Quarter Past & Quarter To

Notes and Guidance

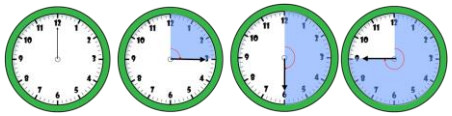
Children read and draw the times 'quarter to' and 'quarter past'. They use their knowledge of fractions and turns to identify quarter past and quarter to.
Children should recognise that the hour hand moves along with the minute hand. Therefore when the time is quarter past the hour, the hour hand will be just past the hour and when the time is quarter to, the hour hand will be just before the hour.

Mathematical Talk

Where are the hands pointing to?
Can we divide the clock face into four equal parts? Can we link this to fractions?
If the minute hand is pointing at 3, how many minutes have passed the hour?
If the minute hand is pointing at 9, how many minutes until the next hour?
Show me quarter past/to….

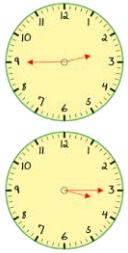
Varied Fluency

- Look at the clocks.

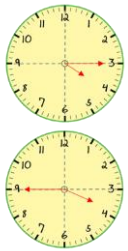


Discuss how the minute hand has travelled. Identify when the time is quarter past the hour and quarter to the hour. Give the children individual clocks with moveable hands and ask them to make quarter to/past times.

- Match the clocks to the correct time.



Quarter to four
Quarter past four
Quarter to three
Quarter past three

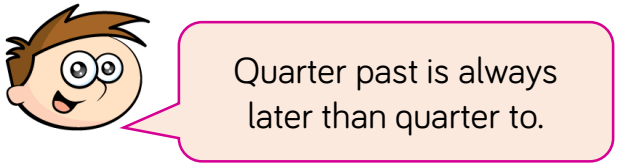


- Complete the table.

The minute hand is pointing to ____ The hour hand is just after ____ The time is *quarter* _____ *seven*		The minute hand is pointing to three. The hour hand is just after six. The time is *quarter past six.*	
The minute hand is pointing to ____ The hour hand is just before _____. The time is *quarter* _____ *two.*		The minute hand is pointing to nine. The hour hand is just ____ twelve. The time is *quarter to twelve.*	

Quarter Past & Quarter To

Reasoning and Problem Solving



Do you agree with Teddy?
Explain why.

It depends on the hour of the times given. For example: quarter to 12 is later than quarter past 11
If the hour remains the same than Teddy is correct.

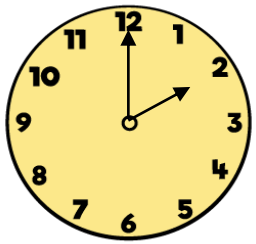
How many quarters of an hour are between 7 o'clock and 9 o'clock.

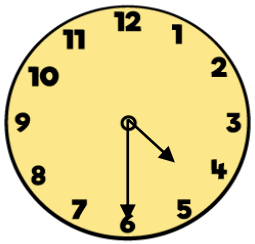
Explain how you found the answer.

There are 8 quarters of an hour between 7 o'clock and 9 o'clock.

The train to Blackpool leaves at quarter past and quarter to every hour.

Make a list of the times of the trains Oliver can catch if he gets to the train station between 2 o'clock and half past 4





Oliver could catch the following trains:
Quarter past 2
Quarter to 3
Quarter past 3
Quarter to 4
Quarter past 4

Telling Time to 5 Minutes

Notes and Guidance

Children read and show analogue time to 5-minute intervals. Children should be confident at counting from 0 to 60 in steps of 5 so they can then apply this to counting around the clock in fives and use this method to work out what time is shown.

Children need to recognise that once the minute hand gets past 6 the time is described as 'to' the next hour, rather than 'past' the hour.

Mathematical Talk

How many minutes are there between each pair of numbers on a clock?
How many different ways can you count round the clock?
Where will the minute hand be at _____? Where will the hour hand be at _____?
How do we know whether it is a 'past' or a 'to' time?
Can you show _____ past/to _____?

Varied Fluency

- Using a demonstration clock, ask the children to count round in minutes. When the minute-hand is pointing to a number, record how many minutes have passed the hour in a table. What do they notice? Will this pattern continue?

Minute hand pointing to	Minutes past the hour
1	5
2	10
3	15

- Show the children times to 5-minute intervals on a large clock. Ask the children to identify what time is being shown. Give the children individual clocks with moveable hands. Ask the children to make times to 5 minute intervals.

- Match the times to the correct clock.

20 past 6

10 to 2

25 to 3

5 to 9

20 to 11

10 past 1

Telling Time to 5 Minutes

Reasoning and Problem Solving

It is ten to one.

Dora

It is ten past ten.

Amir

It is ten to two.

Alex

Who is correct? Explain your answer.

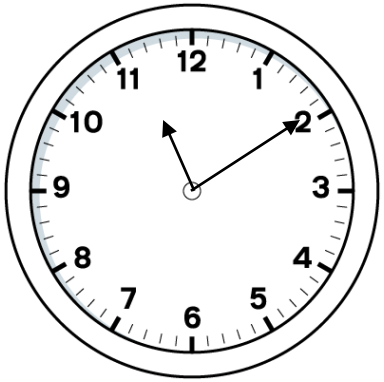
Alex is correct. Dora has said the hour before not the next hour. Amir has confused his minute and hour hands.

Four lots of 5 minutes is the same as quarter of an hour.

Do you agree with Rosie? Explain why.

Rosie is incorrect. Four 5 minutes are the same as 20 minutes.

Sophia starts her Maths questions at 10 past 11



Each question takes her 5 minutes to complete.
She completes 7 questions.

What time does Sophia finish her Maths questions?
Explain how you found the answer.

Sophia finishes her Maths questions at quarter to 12

Children may use a clock to count round seven lots of 5 minutes.

Children may do $5 \times 7 = 35$ and count 35 minutes round the clock.

Hours and Days

Notes and Guidance

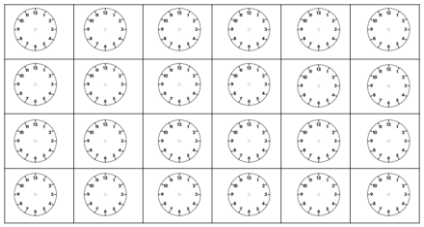
Children learn that there are 24 hours in a day and 60 minutes in an hour.
Children use clocks to convert minutes to hours and minutes.
Children should be encouraged to use their knowledge of counting in fives to help them convert.

Mathematical Talk

How many hours are there in a full day?
How many minutes are in an hour and a half? How could we calculate this?
Could we count in half an hours? How many half an hours are in one hour?
How many half an hours will there be in two hours?

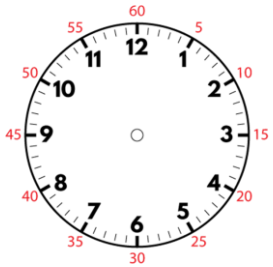
Varied Fluency

- Starting from midnight show every hour on the clocks for a full day.



There are ☐ hours in a day.

- Using the clock, show how many minutes there are in 1 hour.
1 hour = _____ minutes
How many minutes would there be in 2 hours?



- Match the bars to the times.

60 minutes		
60 minutes	60 minutes	
60 minutes		
60 minutes	10	

90 minutes

70 minutes

120 minutes

2 hours

1 hour

Hours and Days

Reasoning and Problem Solving

Tommy

There must be 12 hours in a day because we start from midnight and go up to 12 o'clock then start again from 1

Do you agree with Tommy? Explain why.

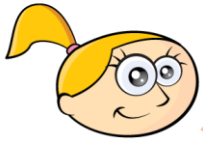
I disagree because there are 12 hours am and 12 hours pm therefore equaling 24 hours in a day.

Rosie

If you add three hours onto the current time, the amount of minutes to/past the hour do not change.

Do you agree with Rosie? Prove it.

I agree. The hour hand will change but the minutes will stay the same.



Eva

The day starts at 12 o'clock and ends at 12 o'clock.

Here are Eva's calculations for working out how many hours there are in a day.

12	6	12	6	12
1	7	1	7	
2	8	2	8	
3	9	3	9	
4	10	4	10	
5	11	5	11	

I counted them up, and there are 25 hours in a day.

What mistake has Eva made?

Eva has counted 12 o'clock three times.

The final twelve on her list is the start of the next day.

Find Durations of Time

Notes and Guidance

Children identify the start and end time of an event.
They use these times to work out how long an event lasted.
Children should understand this is the duration of an event.
Children use individual clocks and number lines to help them work out the duration of an event. They can count in steps of 5 minutes to help them.

Mathematical Talk

What is the start time? What is the end time?
How can we show this on the clock?
How long did the event last?

How did you work out the duration?
Are there any other methods for working out duration?

Varied Fluency

- How much time has passed from the start to end time?

Start Duration End

- Complete the table.

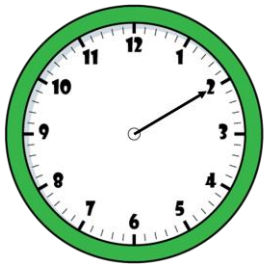
Start	End	Time passed	Duration
			____ minutes
			____ minutes
5 past 2	5 to 3		____ minutes

- Jack leaves school at quarter past 3
He arrives home at five to 4
How long was Iqbal's journey?

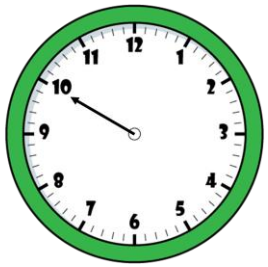
Find Durations of Time

Reasoning and Problem Solving

Oh no! The hour hand has fallen off the class clock!



Start



End

The clock shows the start and end time of a film.

How long do you think the film lasted?

The film could have lasted 40 minutes, but children may reason that most films last more than an hour, so it is more likely to be an hour and 40 minutes or two hours and 40 minutes.

Aimee is planning her birthday. She wants to plan something to do from 9am to 5pm.

Here are the things she wants to do:

- Visit the zoo (3 hours)
- Go to Pizza Palace (1 hour and a half)
- Have breakfast (half an hour)
- Play party games (1 hour)
- Watch a film (2 hours)

Create a timetable for Aimee's day. Compare it to your friends – is it the same?

There are 8 hours in Aimee's day so children could create different combinations for Aimee's day.

Compare Durations of Time

Notes and Guidance

Children compare times using 'longer' and 'shorter'. They order times from longest to shortest and vice versa.
Children then compare durations of time taken by particular events.
They could explore ways to work out durations of time most efficiently, including using empty number lines and using their knowledge that there are 60 minutes in an hour.

Mathematical Talk

Which is longer 2 minutes or 1 hour?
How can you order the times?
How many minutes does each TV show last?
How can we count the minutes efficiently?
How much longer is …….. than ……..?
How can we efficiently work out the length of time each person works?

Varied Fluency

- Circle the longest time.

1 hour	40 minutes	Half an hour
55 minutes	Three quarters of an hour	35 minutes

Can you order the times from longest to shortest?

- Use the table to complete the sentences.

TV Show	Starts	Ends
Pop World	3 o' clock	Twenty to 4
Animal Patrol	Half past 6	Five to 7
Super Cars	Quarter past 8	Five past 9

_____ is the shortest TV show.

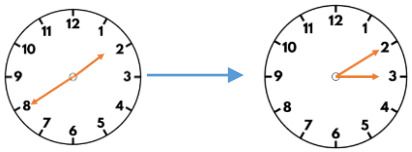
_____ is longer than _____ and _____

- Joe works from half past 10 until 3 o' clock.
Emma works from 9 o' clock until half past 12
Who works the longest amount of time?

Compare Durations of Time

Reasoning and Problem Solving

The clocks show the start and end time of the film Super Dog.



The film Crazy Cat starts at quarter past 1 and ends at quarter to 3

Teddy says,

Super Dog must be the longest film, because it ends the latest.

Do you agree with Teddy?
Explain why.

I do not agree with Teddy, because both films last exactly the same length of time – 1 hour and 30 minutes.

Rosie has an hour for her lunch break. If she takes 10 minutes to eat her lunch, does she have enough time to complete all of the playground activities?

Activity	Duration
Skipping	7 minutes
Ball skills	10 minutes
Treasure hunt	21 minutes
Trim trail	19 minutes

How do you know?

Rosie doesn't have time to complete all of the activities. Completing all of the activities would take 57 minutes. If she spends 10 minutes eating her lunch, she would only have 50 minutes left.