

2

Fluency & Reasoning Teaching Slides



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O'clock and Half Past

Can you show these times on your clock?

Which clock shows 5 o'clock? How do you know?

Explain to a partner.







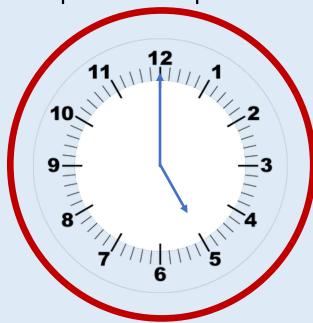
O'clock and Half Past

Can you show these times on your clock?

Which clock shows 5 o'clock? How do you know?

Explain to a partner.







O'clock and Half Past

Can you remember what a half past time looks like?

Which clock shows half past 7 o'clock? How do you know?

Explain to a partner.





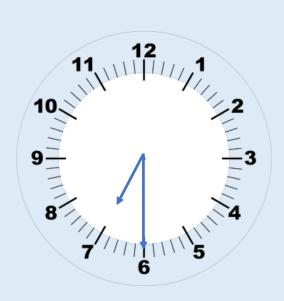


O'clock and Half Past

Can you remember what a half past time looks like?

Which clock shows half past 7 o'clock? How do you know?

Explain to a partner.







O'clock and Half Past

Match the activities to the approximate times they happen.

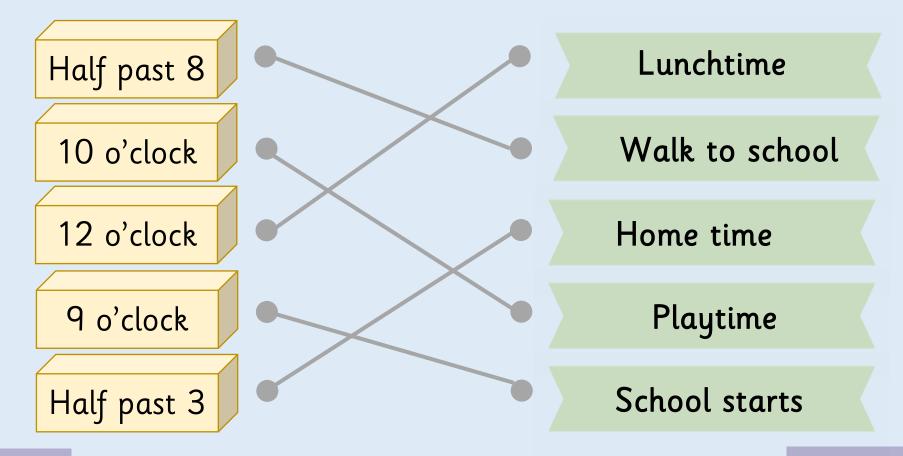
Can you show these times on your clock?

Lunchtime Half past 8 Walk to school 10 o'clock 12 o'clock Home time 9 o'clock Playtime School starts Half past 3

O'clock and Half Past

Match the activities to the approximate times they happen.

Can you show these times on your clock?



O'clock and Half Past

What time is it?









Where will the hour hand be at _____? Where will the minute hand be at _____!

O'clock and Half Past

What time is it?



Half past 11



Half past 2

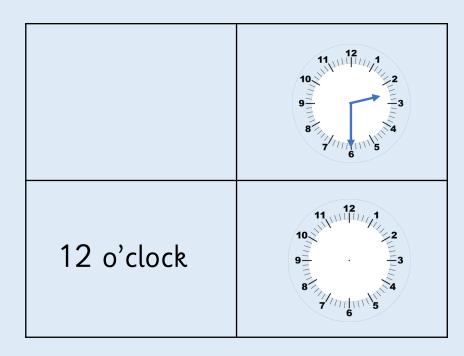


3 o'clock

O'clock and Half Past

Complete the table.

3 o'clock	
Half past 9	





Which is the hour hand? Which is the minute hand?

O'clock and Half Past

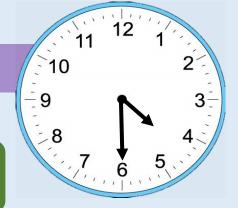
Complete the table.

3 o'clock	10 11 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Half past 9	

Half past 2	
12 o'clock	11 12 1 10 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

O'clock and Half Past

Who is telling the time correctly?





The time is half past 2.



The time is half past 4.



The time is half past 6.

Tia

Can you spot the mistakes they've made?

O'clock and Half Past

Who is telling the time correctly?





The time is half past 2.

Leanna has not looked at the hour hand accurately.



The time is half past 4.

Malachi is correct.



The time is half past 6.

Tia has confused the minute hand.

Tia

Can you spot the mistakes they've made?

O'clock and Half Past

Esin is trying to tell the time:



It is half past 9, so the hour hand should be on the 9.

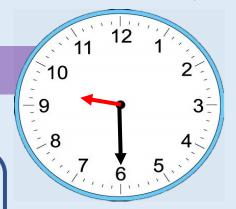


Esin

Is Esin correct? Explain your reasoning.

O'clock and Half Past

Esin is trying to tell the time:





It is half past 9, so the hour hand should be on the 9.

Is Esin correct? Explain your reasoning.



Esin

Esin is incorrect.

If the time is half past 9, the hour hand should be halfway between the 9 and 10.

O'clock and Half Past

Zach is looking at the hour and minute hands on a clock.



At 12 o'clock, the hour hand and the minute hand are pointing to the same number.

Is this the only example? How do you know?

O'clock and Half Past

Zach is looking at the hour and minute hands on a clock.



At 12 o'clock, the hour hand and the minute hand are pointing to the same number.



Is this the only example? How do you know?

Zach is correct.

O'clock and Half Past

Zach is looking at the hour and minute hands on a clock.



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

Lunchtime is at 12:00.



Have the children missed their lunchtime?

O'clock and Half Past

Zach is looking at the hour and minute hands on a clock.



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.

Discuss

O'clock and Half Past

What do the numbers represent on a clock face?

Which is the hour hand?

Which is the minute hand?

Where will the hour hand be at 4 o'clock? Half past 6?

Where will the minute hand be at 5 o'clock? Half past 9?

What do you notice about the minute hand at half past?



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Quarter Past and Quarter To

Look at the clocks.

Discuss how the minute hand has travelled.











Where are the hands pointing to?

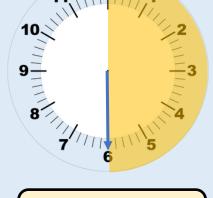
Quarter Past and Quarter To

Look at the clocks.

<u>Discuss how the minute hand has travelled.</u>









quarter past

half past

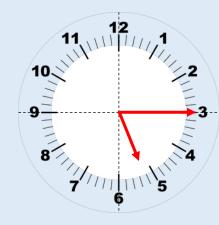
quarter to

Quarter Past and Quarter To

Match the clocks to the correct time.









Quarter to 5

Quarter past 5

Quarter to 4

Quarter past 4



Can we divide the clock face into four equal parts?

Can we link this to fractions?

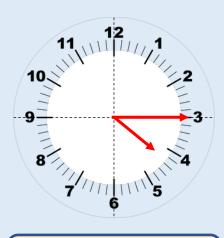
Quarter Past and Quarter To

Match the clocks to the correct time.









Quarter to 4

Quarter to 5

Quarter past 5

Quarter past 4

Quarter Past and Quarter To

Complete the table.

The	minute	e hand	is	pointing
to	·			
The	haur h	منامانم	·	a.t.

The hour hand is just after____.

The time is quarter _____ five.

The minute hand is pointing to____.

The hour hand is just before

The time is quarter _____ three.



The minute hand is pointing to three.

The hour hand is just after nine.

The time is quarter past nine.



The minute hand is pointing to nine.

The hour hand is just eleven.

The time is quarter to eleven.



Quarter Past and Quarter To

Complete the table.

The minute hand is pointing to three.

The hour hand is just after _five_-

The time is quarter <u>past</u> five.

The minute hand is pointing to _nine_.

The hour hand is just before three

The time is quarter <u>to</u> three.



The minute hand is pointing to three.

The hour hand is just after nine.

The time is quarter past nine.



The minute hand is pointing to nine.

The hour hand is just <u>before</u> eleven.

The time is quarter to eleven.



Quarter Past and Quarter To



Quarter past is a later time than quarter to because the time has already gone past the hour.



Rosie

Do you agree with Rosie? Explain why.

Quarter Past and Quarter To



Quarter past is a later time than quarter to because the time has already gone past the hour.



Rosie

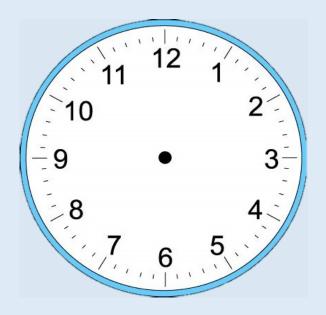
Do you agree with Rosie? Explain why.

It depends on the hour of the times given. For example: quarter to 10 is later than quarter past 9.

Quarter Past and Quarter To

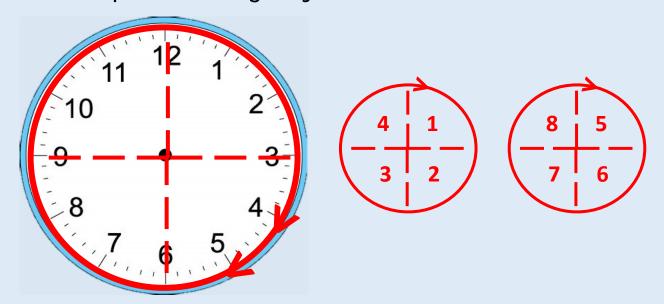
Use the clock to answer the question below.

How many quarters of an hour are between 3 o'clock and 5 o'clock? Explain how you found the answer.



Use the clock to answer the question below.

How many quarters of an hour are between 3 o'clock and 5 o'clock? Explain how you found the answer.

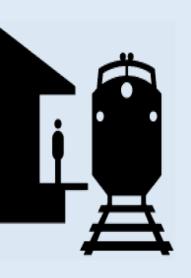


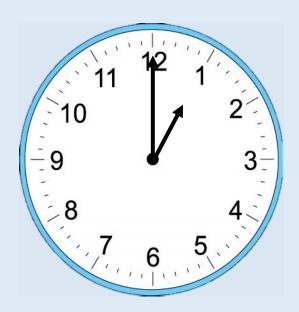
There are 8 quarters of an hour between 3 o'clock and 5 o'clock.

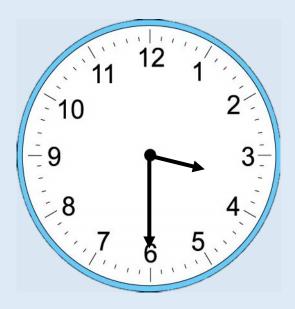
Quarter Past and Quarter To

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

Make a list of the trains Zach can catch if he gets to the train station between 1 o'clock and half past 3.







Quarter Past and Quarter To

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

Make a list of the trains Zach can catch if he gets to the train station between 1 o'clock and half past 3.







Zach could catch the following trains:

- Quarter past 1
- Quarter to 2
- Quarter past 2
- Quarter to 3
- Quarter past 3

Discuss

Quarter Past and Quarter To

Where are the hands pointing to?

Can we divide the clock face into four equal parts?

Can we link this to fraction?

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...



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Telling Time to 5 Minutes

What time is it?









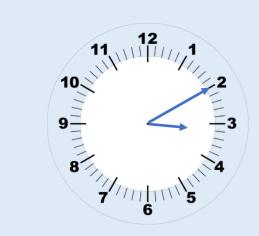
How many minutes are there between each pair of numbers on a clock?

Telling Time to 5 Minutes

What time is it?



5 minutes past 11



10 minutes past 3



15 minutes past 3

Telling Time to 5 Minutes

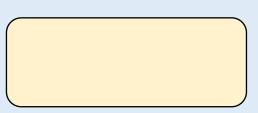
What time is it?





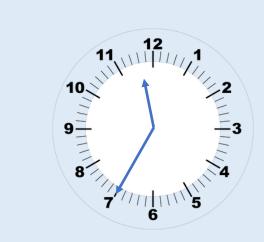






Telling Time to 5 Minutes

What time is it?







25 minutes to 12

10 minutes to 5

5 minutes to 12

Telling Time to 5 Minutes

Match the clocks to the correct time.

10 past 7



20 to 12



10 to 7



25 to 4



25 past 8



5 to 11



Telling Time to 5 Minutes

Match the clocks to the correct time.

10 past 7



25 to 4



25 past 8



5 to 11



10 to 7



20 to 12



Telling Time to 5 Minutes

What time is it?



____ minutes past ____



____ minutes to



____ minutes to ____



____ minutes past ____

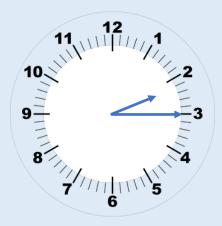


Where will the minute hand be at _____.

Where will the hour hand be at ____.

Telling Time to 5 Minutes

What time is it?



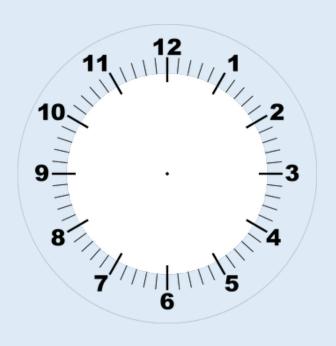


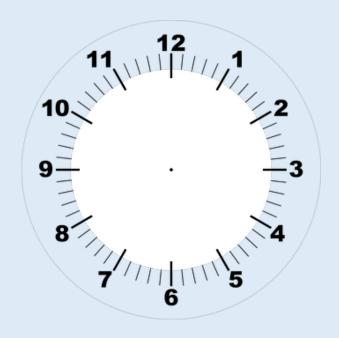




Telling Time to 5 Minutes

Draw clock hands on the face to show the given times.





25 minutes to 8 o'clock

25 minutes past 4 o'clock



How do we know whether it is a 'past' or a 'to' time?

Telling Time to 5 Minutes

Draw clock hands on the face to show the given times.

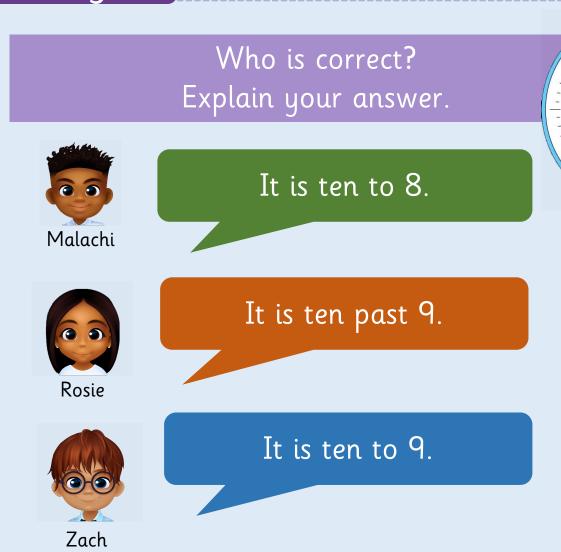


25 minutes to 8 o'clock



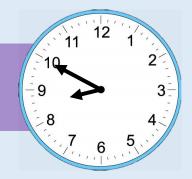
25 minutes past 4 o'clock

Telling Time to 5 Minutes



Telling Time to 5 Minutes

Who is correct? Explain your answer.





It is ten to 8.

Malachi has said the hour before not the next hour.



It is ten past 9.

Rosie has confused her minute and hour hands.



Zach

It is ten to 9.

Zach is correct.

Telling Time to 5 Minutes

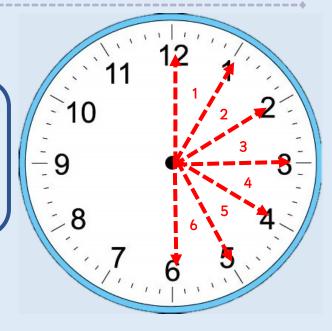


Seven lots of five minutes is the same as half an hour.

Do you agree with Esin? Explain why.

Telling Time to 5 Minutes

Seven lots of five minutes is the same as half an hour.





Do you agree with Esin? Explain why.

Esin is incorrect.

Six 5 minutes are the same as half an hour.

Telling Time to 5 Minutes

Leanna starts her Maths questions at 5 past 4.





Each question takes her five minutes to complete.

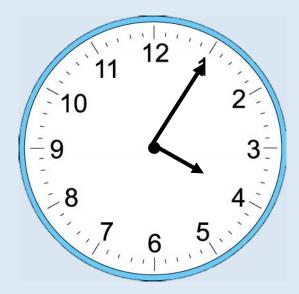
She completes nine questions.

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

Telling Time to 5 Minutes

Leanna starts her Maths questions at 5 past 4.





What time does Leanna finish her Maths questions?

Explain how you found the answer.

Each question takes her five minutes to complete.

She completes nine questions.

Leanna finishes her Maths questions at 10 to 5.

Children may do $5 \times 9 =$ 45 and count 45 minutes round the clock.

Discuss

Telling Time to 5 Minutes

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?

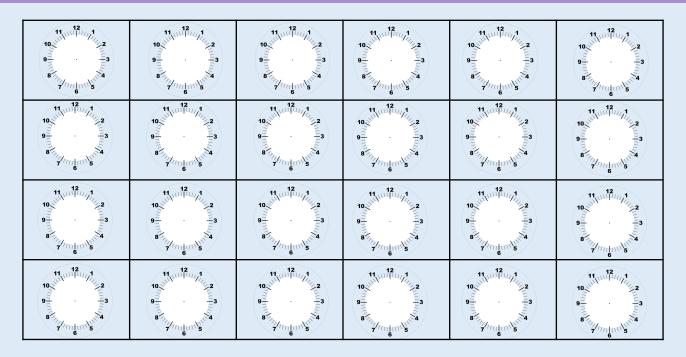
Can you show ____ past/to ____?



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Hours and Days

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



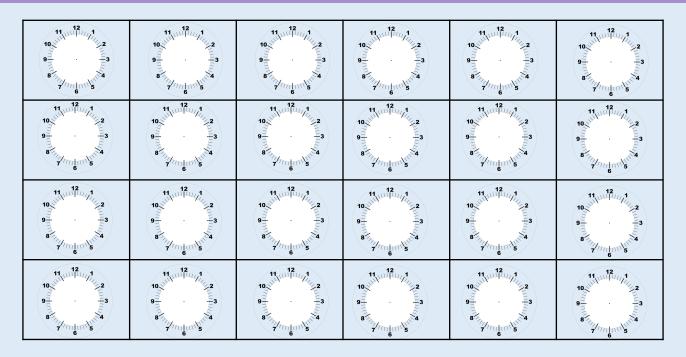
There are _____ hours in a day.



How many hours are there in a full day?

Hours and Days

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

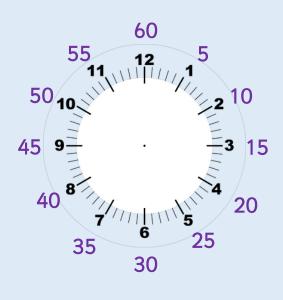


There are $\underline{24}$ hours in a day.

Children will draw hands on clocks with the minute hand always on 12 and the hour hand at the next number along each time.

Hours and Days

Use a clock to show how many minutes there are in one hour.



Can you use two clocks to help you complete the sentences?

1 hour and 10 minutes = ____ minutes.

1 hour and 15 minutes = _____ minutes.

____ hour and 30 minutes = 90 minutes.

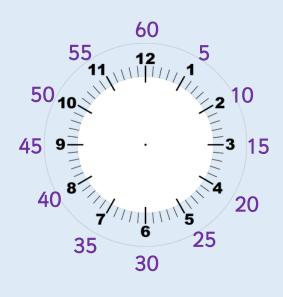


How many minutes are in an hour and a half?

How could we calculate this?

Hours and Days

Use a clock to show how many minutes there are in one hour.



$$1 \text{ hour} = \underline{60} \text{ minutes}.$$

Can you use two clocks to help you complete the sentences?

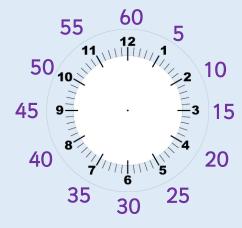
1 hour and 10 minutes = 70 minutes.

1 hour and 15 minutes = $\frac{75}{}$ minutes.

1 hour and 30 minutes = 90 minutes.

Hours and Days

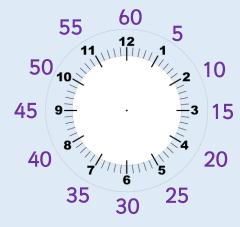
Convert the activity times from minutes to hours and minutes.



Activity	Duration in minutes	Duration in hours and minutes
Football	75 minutes	
Netball	60 minutes	
**Basketball	90 minutes	
Swimming	100 minutes	
Hockey	120 minutes	

Hours and Days

Convert the activity times from minutes to hours and minutes.



Activity	Duration in minutes	Duration in hours and minutes
Football	75 minutes	1 hour and 15 minutes
Netball	60 minutes	1 hour
** Basketball	90 minutes	1 hour and 30 minutes
Swimming	100 minutes	1 hour and 40 minutes
Hockey	120 minutes	2 hours

Hours and Days



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 Malachi?

Explain why.

Hours and Days



Malachi

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 Malachi?

Explain why.

Malachi is incorrect because there are 12 hours in a morning and 12 hours in an afternoon therefore equalling 24 hours in a day.

Hours and Days



If you are looking at a clock and adding five hours on, the minutes do not change.

Is Tia correct?

Prove it.

Hours and Days



If you are looking at a clock and adding five hours on, the minutes do not change.

Is Tia correct?

Prove it.

Tia is correct.

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

Hours and Days

Zach and Esin have found two different methods for working out how many hours are in a day.



Zach

I counted in twos for every hour of the day.



I did 12 +12.

Explain why Zach and Esin chose the methods they did?

Whose method is most efficient?
Why?

Hours and Days

Zach and Esin have found two different methods for working out how many hours are in a day.

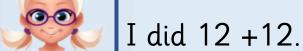


I counted in twos for every hour of the day.

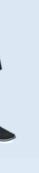
Zach knows there are two of each hour 1–12 in a day so he has counted each hour twice in twos.



7ach



Esin knows there are 12 hours in a morning and 12 hours in an afternoon.



Esin

Esin's method is more efficient because it is quicker and there is less opportunity for error.

Hours and Days



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



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

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

What mistake has Rosie made?

3338	13388	37333	8888	4830
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	

Hours and Days



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



Rosie

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

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

What mistake has Rosie made?

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	

Rosie has counted 12 o'clock three times.

The final 12 on her list is the start of the next day.

Discuss

Hours and Days

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 hours?

How many half hours are in one hour?

How many half hours will there be in two hours?



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Find Durations of Time

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

Duration



End



What is the start time?

What is the end time?

How long did the event last?



What is the start time? What is the end time?

Find Durations of Time

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







What is the start time?

10 o'clock

What is the end time?

20 minutes past 10

How long did the event last? 20 minutes

Find Durations of Time

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







What is the start time?

What is the end time?

How long did the event last?



How did you work out the duration?

Find Durations of Time

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







What is the start time?

25 minutes past 8

What is the end time?

20 minutes to 9

How long did the event last?

15 minutes

Find Durations of Time

Complete the table.

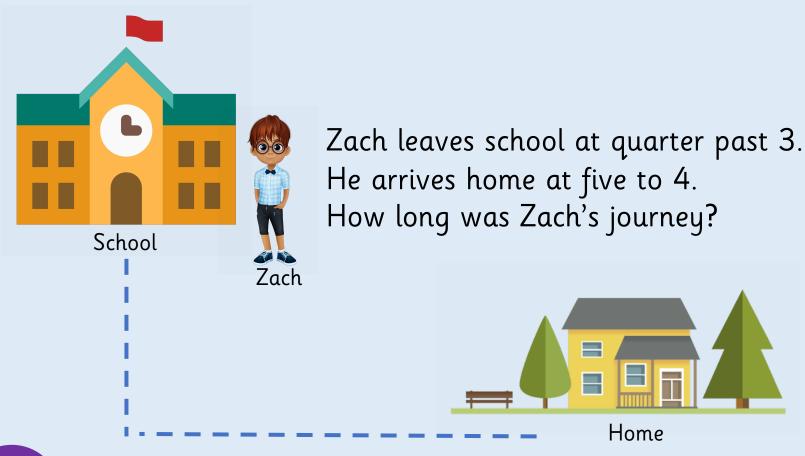
Start	End	Time passed	Duration
11 12 1 10 11 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11 12 1 10 11 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	minutes
11 12 1 10 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	minutes
11 12 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11 12 1 10 1 10 1 10 1 10 1 10 10 10 10 10 10	11 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	minutes

Find Durations of Time

Complete the table.

Start	End	Time passed	Duration
11 12 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		11 12 1 10 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	15 minutes
11 12 1 10 11 12 1 10 12 13 13 14 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	11 12 1 10 1 12 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11 12 1 10 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	minutes
11 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11 12 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11 10 11 10 11 10 11 11 11 11 11 11 11 1	50 minutes

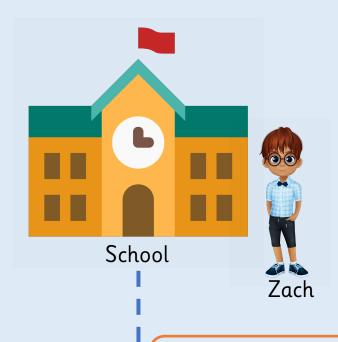
Find Durations of Time



?

How did you work out the duration?

Find Durations of Time



Zach leaves school at quarter past 3. He arrives home at five to 4. How long was Zach's journey?

It took 40 minutes for Zach to arrive home.





How did you work out the duration?

Find Durations of Time

Rosie is going to the cinema.

She needs to be in Brighton at 6 o'clock.

She can either:



- Get the twenty past 5 bus that takes half an hour.
- Get the half past 5 train that takes 30 minutes.

Should Rosie catch the bus or the train? Explain why.

Find Durations of Time

Rosie is going to the cinema.

She needs to be in Brighton at 6 o'clock.

She can either:



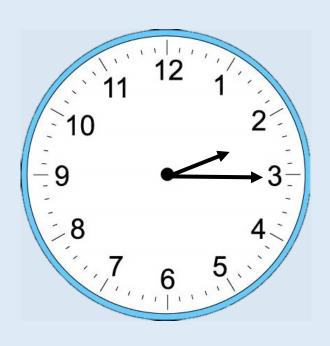
- Get the twenty past 5 bus that takes half an hour.
- Get the half past 5 train that takes 30 minutes.

Should Rosie catch the bus or the train? Explain why.

Rosie should catch the twenty past 5 bus because she will get to Brighton at ten to 6.
The train will arrive at 6.

Find Durations of Time

Leanna records the time every half an hour. Her sequence looks like this:

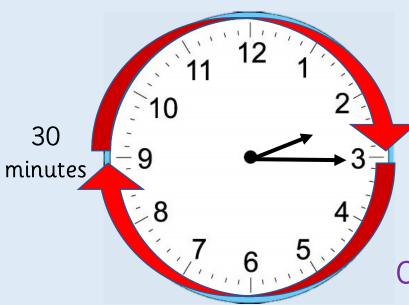


Quarter past 2, quarter to 3, quarter past 4, quarter to 5

What do you notice?
Can you explain why this happens?

Find Durations of Time

Leanna records the time every half an hour. Her sequence looks like this:



Quarter past 2, quarter to 3, quarter past 4, quarter to 5 30 minutes

What do you notice?
Can you explain why this happens?

Leanna's sequence is going up by 30 minutes each time. It will either be quarter to or quarter past and the hour goes up every second time.

Find Durations of Time

Malachi is planning his birthday party. He wants to plan something to do from 9am to 5pm.



Here are the things he wants to do:

- Have breakfast (half an hour)
- Play party games (one hour)
- Go to crazy golf (two hours)
- Go to Pizza Palace (one hour and a half)
- Watch a film (two hours)

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



Find Durations of Time

Malachi is planning his birthday party. He wants to plan something to do from 9am to 5pm.



Here are the things he wants to do:

- Have breakfast (half an hour)
- Play party games (one hour)
- Go to crazy golf (two hours)
- Go to Pizza Palace (one hour and a half)
- Watch a film (two hours)

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

There are eight hours in Malachi's day so children could create different combinations for Malachi's day and recognise he will have an hour spare.

Discuss

Find Durations of Time

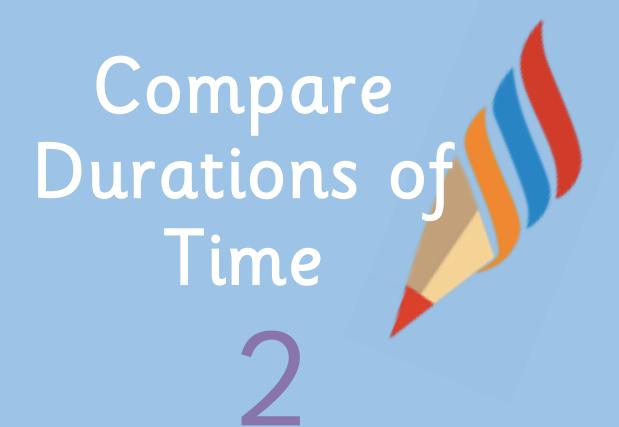
What is the start time? What is the end time?

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?



Fluency & Reasoning Teaching Slides www.masterthecurriculum.co.uk

Compare Durations of Time

Circle the longest time.

55 minutes

three quarters of an hour

half an hour

one hour

40 minutes

35 minutes

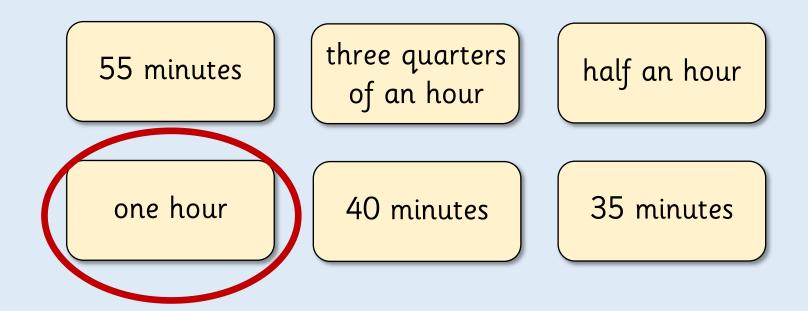
Can you order the times from longest to shortest?



Which is longer, two minutes or one hour?

Compare Durations of Time

Circle the longest time.



Can you order the times from longest to shortest?

Compare Durations of Time

Circle the longest time.

one hour

55 minutes

three quarters of an hour

40 minutes

35 minutes

half an hour

Can you order the times from longest to shortest?

Compare Durations of Time

Use the table to complete the sentences.

TV show	Starts	Ends
Football show	4 o'clock	20 to 5
Animal show	Half past 8	5 to 9
Drawing show	Quarter past 6	Half past 6

_ is the	shortest	TV	show.

Animal show is longer than _____

How much longer is the football show than the drawing show?

Compare Durations of Time

Use the table to complete the sentences.

TV show	Starts	Ends
Football show	4 o'clock	20 to 5
Animal show	Half past 8	5 to 9
Drawing show	Quarter past 6	Half past 6

Drawing show is the shortest TV show.

Animal show is longer than <u>Drawing show</u>.

How much longer is the football show than the drawing show?

25 minutes

Compare Durations of Time



Rosie works from half past 10 until 3 o'clock.

Malachi works from 9 o'clock until half past 12.

Who works the longest amount of time?



Compare Durations of Time



Rosie works from half past 10 until 3 o'clock.

Malachi works from 9 o'clock until half past 12.

Who works the longest amount of time?

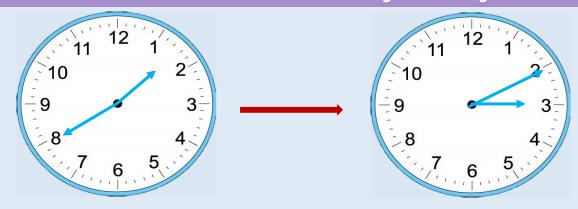


Malachi

Rosie works the longest amount of time.

Compare Durations of Time

The clocks show the start and end time for the film *Mr Whiskers*.



The film *Eager Bunny* starts at quarter past 1 and ends at quarter to 3.



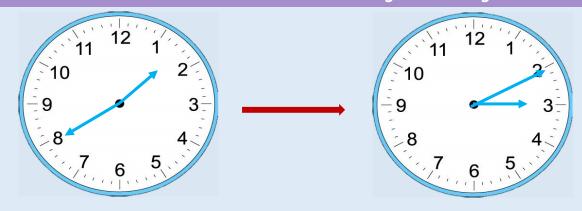
Tia

Mr Whiskers must be the longest film, because it ends the latest.

Do you agree with Tia? Explain why.

Compare Durations of Time

The clocks show the start and end time for the film *Mr Whiskers*.



The film *Eager Bunny* starts at quarter past 1 and ends at quarter to 3.



Tia

Mr Whiskers must be the longest film, because it ends the latest.

Do you agree with Tia? Explain why.

Tia is not correct because both films last exactly the same length of time — 1 hour and 30 minutes.

Compare Durations of Time

Always, Sometimes, Never?

If an activity finishes at the same time, they must have lasted for the same duration.

Compare Durations of Time

Always, Sometimes, Never?

If an activity finishes at the same time, they must have lasted for the same duration.

Sometimes.

It depends on what time the activities started.

If they started and ended at the same time, they would have lasted for the same duration.

Compare Durations of Time

Rosie has an hour for her lunch break.

Does she have enough time to complete all of the playground activities?



Activity	Duration
Treasure Hunt	21 minutes
Ball Skills	12 minutes
Hide and Seek	18 minutes
Hop Scotch	7 minutes

How do you know?

Compare Durations of Time

Rosie has an hour for her lunch break.

Does she have enough time to complete all of the playground activities?



Activity	Duration
Treasure Hunt	21 minutes
Ball Skills	12 minutes
Hide and Seek	18 minutes
Hop Scotch	7 minutes

Rosie does have time to complete all of the activities. Completing all of the activities would take 58 minutes and 58 minutes is less time than one hour.

Discuss

Compare Durations of Time

Which is longer: two minutes or one 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?