Time – Week 2

Answers

Monday 15th June 2020

L.O. I am learning write times using a 24 hour clock.

White Rose Maths

24-hour clock

1 Here are some times.

| 06:15 | 13:07 | 09:29 | 19:53 | 21:40 |

| 01:36 | 15:19 | 04:42 | 08:00 | 20:00 |

a) Write the times into the correct part of the table.

am	pm
06:15	13:07
09:29	19:53
01:36	21:40
04:42	15:19
08:00	20:00

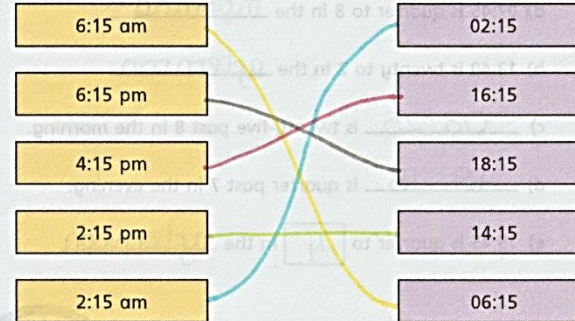How did you know which time went where?
Talk to a partner.

b) Kim gets up at 8:00 am.

Which of the times from the table is this? __08:00__

c) Scott goes to bed at 8:00 pm.

Which of the times from the table is this? __20:00__

2 Match the times.

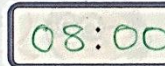| 6:15 am | → | 06:15 |
6:15 pm	→	18:15
4:15 pm	→	16:15
2:15 pm	→	14:15
2:15 am	→	02:15

3 Alex is planning her day.

a) "I will go to school at 8 o'clock in the morning."

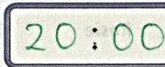Show this time on each clock.
Use 24-hour time on the digital clock.

08:00

b) "I will go to bed at 8:00 pm."

Show this time on each clock.
Use 24-hour time on the digital clock.

20:00

What is the same about your answers to parts a) and b)?
What is different?

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4 Complete the sentences.

a) 07:45 is quarter to 8 in the **morning**

b) 13:40 is twenty to 2 in the **afternoon**

c) **08:25** is twenty-five past 8 in the morning.

d) **19:15** is quarter past 7 in the evening.

e) 15:45 is quarter to **4** in the **afternoon**

5 Rosie, Ron, Annie and Mo are telling the time.

Rosie: It is 03:20

Ron: It is 15:20

Annie: It is 3:20 am.

Mo: It is 3:20 pm.

Who is correct? Circle your answer.

Rosie   Ron   Annie   Mo   **can't tell**

Talk about it with a partner.

They could all be right, we don't know if it is morning or afternoon.

6 Write the times as 24-hour clock times.

a) 3:27 am **03:27**   b) 3:27 pm **15:27**

2:27 am **02:27**   4:27 pm **16:27**

1:27 am **01:27**   5:27 pm **17:27**

12:27 am **00:27**   6:27 pm **18:27**

7 Write the 24-hour clock times using am and pm.

a) 04:14 **4:14 am**   e) 13:27 **1:27 pm**

b) 09:41 **9:41 am**   f) 19:17 **7:17 pm**

c) 12:56 **12:56 pm**   g) 20:48 **8:48 pm**

d) 00:56 **12:56 am**   h) 23:09 **11:09 pm**

8 Dexter wants to watch a programme at 6:00 pm.

He looks at his clock and it shows this time. `17:10`

Oh no!
It is 10 past 7,
I have missed it.

Is Dexter correct? **NO**

Talk about it with a partner.

It is ten past 5, the show doesn't start for 50 minutes.

Challenges:

Complete the times.

13 : 45 Quarter to two in the <u>afternoon</u>	**15 : 15** Quarter past three in the afternoon
11 : 20 Twenty past eleven in the <u>morning</u>	**17 : 35** Twenty-five to six in the evening
15 : 50 Ten to four in the <u>afternoon</u>	**08:40** Twenty to 9 in the morning

Teddy is not correct. Children should give examples to show this is incorrect. For example: 18:00, 8:30, 10:38 etc.

Eva could be correct. The clocks are both showing twenty past 8. However, children should recognise that the analogue clock does not show whether the time is a.m. or p.m., so this could be showing 8.20 a.m. or 8.20 p.m.

Tuesday 16th June 2020

L.O. I am learning to find the duration of events.

White Rose Maths

Finding the duration

1 The table shows the start and finish times of some after-school clubs.

Club	Start time	Finish time
Drama	15:30	18:30
Art	15:30	16:30
Rowing	15:45	17:45

a) How long does Drama club last?

Drama club lasts **3** hours.

b) How long does Rowing club last?

Rowing club lasts **120** minutes.

2 The clocks show the start and finish times of some activities.
Work out the duration of each.

a)

start   finish   **25** minutes

b)

17:29   17:53
start   finish   **24** minutes

c)

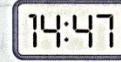start   finish   **37** minutes
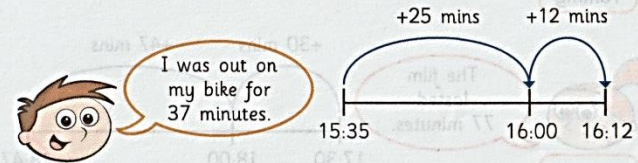
d)

12:18   14:47
start   finish   **149** minutes

3 Teddy went out on his bike at 15:35 and got home at 16:12
He wants to work out how long he was on his bike.
Here are his workings.

I was out on my bike for 37 minutes.

+25 mins   +12 mins

15:35   16:00   16:12

Do you agree with Teddy? __Yes__
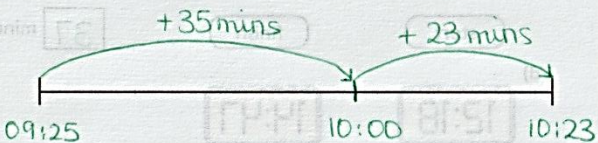
Talk about it with a partner.

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4 Work out the durations in minutes.

Use the number lines to help you.

a) From 07:35 to 08:21 is **46** minutes.

+ 25 mins   +21 mins

07:35   08:00   08:21
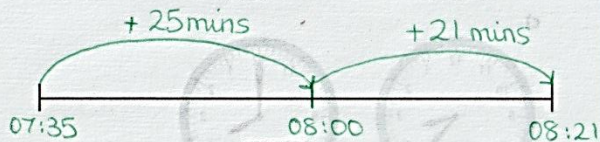
b) From 09:25 to 10:23 is **58** minutes.

+35 mins   + 23 mins

09:25   10:00   10:23

5 Tommy and Eva started watching a film at 17:30 and it finished at 18:47

+1 hour   +17 mins

The film lasted 1 hour and 17 minutes. — Tommy

17:30   18:30   18:47

+30 mins   +47 mins

The film lasted 77 minutes. — Eva

17:30   18:00   18:47
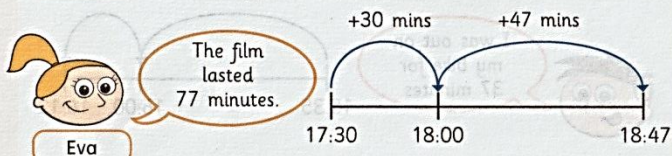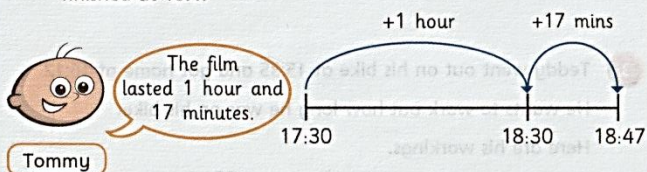
Who do you agree with? **Both**

Talk about it with a partner.

6 Teddy got on the bus at 15:27

He got off the bus at 16:33

How long was his bus journey?

Give your answer in hours and minutes.

1 hour and **6** minutes

7 The film *Arctic Adventure* starts at 18:35 and finishes at 20:56

How long does the film last?

Give your answer in hours and minutes.

2 hours and **21** minutes

8 The clocks show the start and finish times of a race.

17:45

start   finish

The race lasted 2 hours and 15 minutes. — Alex

The race lasted 14 hours and 15 minutes. — Mo

Who do you agree with? **Alex**

Talk about it with a partner.

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Challenges:

Amir's journey was
59 minutes long.

Eva finishes at
13:00 or 1 o'clock

Both children's methods are correct.

Teddy has found the duration by 15 + 15 + 15 + 10 = 55 minutes.

Rosie has found the duration by noticing that one hour after the start of lunch it will be 1:15, so she needs to take 5 minutes from 1 hour to also give 55 minutes.

Wednesday 17ᵗʰ June 2020

L.O. I am learning to compare the duration of events.

Comparing durations

White Rose Maths

1 The timetable shows Huan's morning at school.

09:00 – 10:00	Maths
10:00 – 10:15	Break
10:15 – 10:30	Phonics
10:30 – 11:15	Guided reading
11:15 – 12:00	English

a) What is Huan's longest lesson in the morning?

Maths

How do you know? It lasts 1 hour

b) What is Huan's shortest lesson in the morning?

Phonics

How do you know? It lasts 15 minutes

c) Which two lessons are the same length?

Guided Reading and English

How do you know? They both last 45 minutes

d) How much longer is Huan's Maths lesson than his Phonics lesson?

45 minutes

2 Annie and Amir both went to the park on Saturday.

a) I got to the park at 12:30 and left at 13:07

How long did Annie spend at the park?

37 minutes

b) I got to the park at 14:50 and left at 15:33

How long did Amir spend at the park?

43 minutes

c) Who spent longer at the park? Amir

How much longer did they spend there?

6 minutes

3 Write <, > or = to compare the durations.

a) 09:00 – 10:15 (>) 09:10 – 10:15

b) 19:00 – 20:15 (<) 18:50 – 20:10

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c) 08:56 – 09:15 (=) 08:36 – 08:55

d) 17:51 – 18:34 (>) 17:43 – 18:20

e) 13:05 – 14:22 (>) 07:16 – 08:09

f) 12:21 – 15:16 (<) 14:01 – 17:01

4 The table shows some information about bus journeys from the station to town.

Bus	Leaves station	Arrives town
A	09:15	10:00
B	10:04	10:42
C	10:37	11:34
D	11:12	12:25

a) *I know which bus journey was the longest without working out the durations.*

How does Eva know this? Talk about it with a partner.

* Talk to an adult
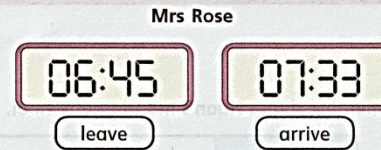
b) Which bus has the shortest journey time from the station to the town?

Bus __B__

c) Write the buses in order, starting with the one that takes the longest.

__D__   __C__   __A__   __B__

5 Mrs Rose and Mr White both look at the time when they leave for work and when they arrive at work.

Mrs Rose

06:45   07:33

leave   arrive

Mr White leaves at 06:59 and arrives at the same time as Mrs Rose.

Who has the shortest journey time? __Mr White__

How do you know? He leaves his house later but arrives at the same time

6 Two films are showing at the cinema.

Steel Man
Start time: 17:15
Finish time: 18:51

Arctic Adventure
Start time: 16:55
Finish time: 18:37

1 hour 36 mins   1 hour 42 mins

Which film is longer? __Arctic Adventure__

Show your workings.

Challenges:

The journey to London is **longer** than the journey to Manchester.

Journey times:

London = 2 hours 50 minutes

Leeds = 28 minutes

Manchester = 1hour 10 minutes

Eva is incorrect. Eva took longer to finish the race therefore she finished after Mo. The winner of a race is the person who finishes in the shortest amount of time.

Jack has worked out the time from 3:15 p.m. until ten to 9 in the evening. He should start at 8:50 a.m. and work through noon to 3:15 p.m.

Thursday 18th June 2020

L.O. I am learning to find start and end times of events.

Check your answers.
If you make a mistake, try and work out where it went wrong.

Start and end times

White Rose Maths

1 Brett gets home from school at this time in the afternoon.

He wants to watch a cartoon at 4:00 pm.

a) How long does Brett have to wait for the cartoon to start?

18 minutes

b) The cartoon lasts for 25 minutes. What time will it finish?
Give your answer as a 24-hour clock time.

4:00 pm = 16:00   **16:25**

2 Nijah has football practice at 16:10

It lasts for 45 minutes.

a) What time will it finish?
Give your answer as a 24-hour clock time.

16:55

b) It takes Nijah 15 minutes to get home.

What time will she get home?
Give your answer as a 24-hour clock time.

17:10

3 The table shows the duration of some lessons at school.

Lesson	Duration
Maths	50 minutes
Phonics	30 minutes
Science	45 minutes
English	55 minutes

a) Maths starts at 09:15
What time does it finish?

10:05

b) Science starts at 13:30
What time does it finish?

14:15

c) Phonics finishes at 10:50
What time does it start?

11:20

d) English finishes at 15:10
What time does it start?

16:05

How did you work this out? Talk to a partner.

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Check your answers.
If you make a mistake, try and work out where it went wrong.

4 Tom wants to watch a film at 18:45

The film lasts 1 hour and 23 minutes.

Tom works out what time it will finish.

Here are some of his workings.

+1 hour   +15 mins   +8 mins

18:45   19:45   20:00   20:08
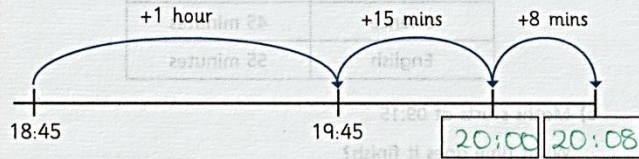
Complete the number line to work out what time the film will finish.

The film will finish at __20:08__

5 Fill in the clocks to show the finish times.

Start time	Duration	Finish time
a)	35 minutes	05:15
b) 17:51	1 hour and 17 minutes	19:08
c)	71 minutes	09:28

6 Tommy wants to watch a TV programme at 17:00

The TV programme is 75 minutes long.
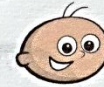
> The programme will finish at 75 minutes past 5

Do you agree with Tommy? __NO__

Talk about it with a partner. _There are only 60 minutes in an hour._

7 Mr Lee needs to get the train.

The timetable shows what time the trains leave.

15:17	15:49	16:04	16:25	16:55

a) The train journey lasts 127 minutes.

Mr Lee needs to arrive at his destination by 18:15

What is the latest train he can get?

__16:04__

b) Mr Lee lives a 19-minute walk from the station.

What time does he need to leave his house to catch this train?

__15:45__

Challenges:

Gymnastics ends at 16:45
Football ends at 16:50

Football ends the latest.

I agree with Amir, because Whitney has not remembered that there are 60 minutes in an hour and has added 45 minutes to 2:40 Children may use a number line to prove Amir is correct.

Possible answers include:

Start at 15.20 and end at 16.10
Start at 15.25 and end at 16.05
Start at 15.30 and end at 16.00
Start at 15.35 and end at 15.55
Start at 15.40 and end at 15.50

Friday 19th June 2020

L.O. I am learning to measure time in seconds.

Check your answers.
If you make a mistake, try and work out where it went wrong.

White Rose Maths

Measuring time in seconds

1) The table shows how long it took four children to run a race.

| Child	Time
Annie	2 minutes 40 seconds
Dora	2 minutes 3 seconds
Tommy	2 minutes 30 seconds
Teddy	2 minutes 4 seconds

a) Match each child to a time.

Annie   Dora   Tommy   Teddy

00:02:30   00:02:04   00:02:03   00:02:40

b) Using the fact that there are 60 seconds in one minute, write each child's time in seconds.

Annie [160] seconds   Tommy [150] seconds

Dora [123] seconds   Teddy [124] seconds

2) Scott draws a bar model to help him convert 3 minutes and 17 seconds into seconds.
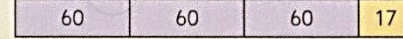
| 60 | 60 | 60 | 17 |

60 + 60 + 60 + 17 = 197
So 3 minutes and 17 seconds = 197 seconds

Talk to a partner about why Scott's method works.

3) Complete the statements.

a) 2 minutes and 17 seconds = [137] seconds
   60 + 60 + 17

b) 5 minutes and 12 seconds = [312] seconds
   60 + 60 + 60 + 60 + 60 + 12

c) 4 minutes and 42 seconds = [282] seconds
   60 + 60 + 60 + 60 + 42

d) 3 minutes and [19] seconds = 199 seconds
   60 + 60 + 60 + ? = 199

e) [6] minutes and 7 seconds = 367 seconds

f) [4] minutes and [21] seconds = 261 seconds

g) 654 seconds = [10] minutes and [54] seconds

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Check your answers.
If you make a mistake, try and work out where it went wrong.

4 Write <, > or = to compare the times.

a) 1 minute and 23 seconds **>** 81 seconds

b) 2 minutes and 15 seconds **=** 135 seconds

c) 89 seconds **<** 1 minute and 34 seconds
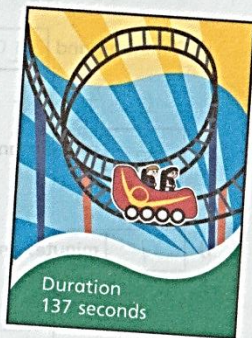
5

> 327 seconds is the same as 3 minutes and 27 seconds.

Do you agree with Whitney? **NO**

Why? **327 seconds = 5 minutes 27 seconds.**

6 How long does the roller coaster ride last in minutes and seconds?

Duration 137 seconds

The roller coaster ride lasts

2 minutes and **17** seconds.

7 Alex, Jack and Amir are doing a puzzle.

They want to know who did it the quickest.

> **Alex:** I did it in 152 seconds.

> **Jack:** I did it in 2 minutes and 42 seconds.

> **Amir:** I did it 10 seconds faster than Alex.

a) How long did each child take to complete the puzzle? Give your answer in seconds, and in minutes and seconds.

Alex **152** seconds **2** minutes and **32** seconds

Jack **162** seconds **2** minutes and **42** seconds

Amir **142** seconds **2** minutes and **22** seconds

b)

> **Jack:** I won because my time was highest!

Do you agree with Jack? **NO, he took the longest.**

Talk about it with a partner.

Challenges:

Jack is quickest. If we convert 2 minutes 23 seconds into seconds it is $120 + 23 = 143$ seconds.
So Jack was 10 seconds quicker than Alex.

- TRUE
- FALSE

4 minutes is equal to 240 seconds
- FALSE

170 seconds is equal to 2 minutes 50 seconds

Dora thinks there are 100 seconds in 1 minute, but there are 60. Dexter is correct
$60 \times 4 = 240$
$240 + 15 = 255$ seconds.