Year 10

Home Learning 2

Focus for this week: Time, Timetables and Speed problems

Essential learning:	• Reading and setting time on analogue and digital clocks
Practising:	• Comparing 12 hour (am and pm) and 24 hour time • Reading time-tables • Finding the duration between two times
Learning about:	• Writing the number of minutes as hours (as a decimal)
Extension:	• Solving distance, speed and time problems • Using other 'compound measures' such as density and pressure

Tasks:

- Complete at least two worksheets
- Login to MyMaths and complete MyMaths tasks
- Spend 10 minutes a day on Times Table Rock Stars; Numbots OR Sumdog
- Practise reading and saying the time (to someone else) throughout the day. Say it in different ways (e.g. 25 past 4 in the afternoon; 4:25 pm; 16:25)
- Please email a photo of any worksheets or poster you complete to the email address below. *This will earn you a golden token.*

Additional activities:

- Have a time trial: measure a track, time a ball to move along it; calculate the speed
- Design a time-table for your week (or your day)
- Play 'Countdown' (e.g. https://nrich.maths.org/6499) on your own or with someone else
- Complete SAM learning Maths tasks
- Do Diagnostic questions or Mangahigh tasks for more challenge *(email Mr.Croft for more info)*
- More challenge: Go to https://corbettmaths.com/wp-content/uploads/2013/02/speed-distance-time-pdf1.pdf for distance/speed/time exam style questions
- More challenge: Go to https://corbettmaths.com/wp-content/uploads/2013/02/timetables-pdf.pdf to for time-table exam style questions.

If you have queries about this work, please contact me at acroft@bower-grove.kent.sch.uk

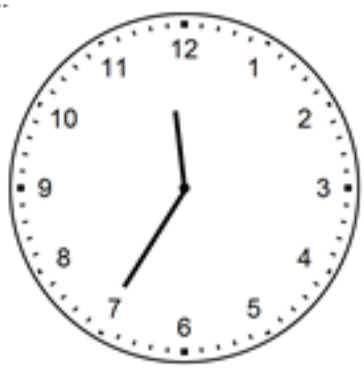
20/4/20 Maths Worksheet 1: Reading and setting the time

Write down the time shown on the following clocks.

1.

.....

2.



.....

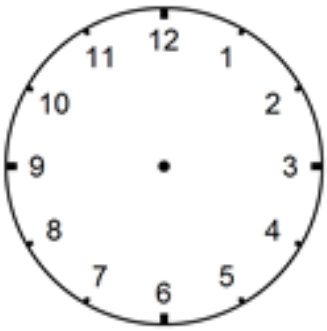
3.

.....

Show the times given on the clocks below.

4.

Ten to twelve

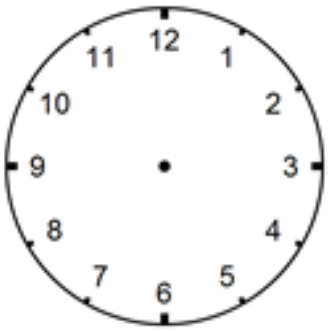


5.

Quarter to five

6.

Six twenty five



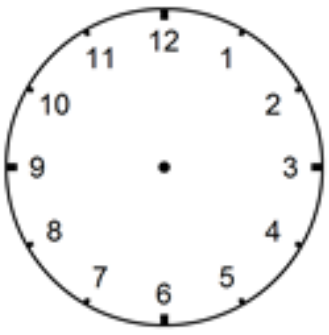
Show the times given on the clocks below.

7.

2:50

8.

9:05



9.

7:40

Email completed worksheets to me at acroft@bower-grove.kent.sch.uk . Each good attempt earns a golden token.

20/4/20 Maths Worksheet 2: 24 hour clock and time-tables

1 Write the following as 24 hour times.

a) 1:30 pm ..... b) 4:15 am .....

c) 10:35 pm ..... d) 2:40 am .....

e) 3:50 pm ..... f) 11:23 am .....

2 Write the following as 12 hour times (use am or pm).

a) 17:30 ..... b) 11:10 .....

c) 22:25 ..... d) 05:20 .....

e) 12:45 ..... f) 19:21 .....

3 Circle the correct time for each of the following.

a) Joan works each afternoon. She starts work at 02:00 / 14:00

b) Harvey washes cars each Saturday morning. He starts work at 09:10 / 21:10

c) Jen washes the lunchtime pots in a café. She starts work at 11:15 / 23:15

d) Alice works the night-shift at the supermarket. She **finishes** work at 18:00 / 06:00

Credit: AQA Entry Level worksheet 5930 Specification

Bus Stops	Day Times						
St Paul's Cathedral	08:34	10:00	11:45	13:45	14:30	16:30	18:36
Tower Of London	08:46	10:12	11:57	13:57	14:42	16:42	18:48
Tower Bridge	08:48	10:14	11:59	13:59	14:44	16:44	18:50
The Shard	08:56	10:22	12:07	14:07	14:52	16:52	18:58
Tate Modern	09:03	10:29	12:14	14:14	14:59	16:59	19:05
London Eye	09:12	10:38	12:23	14:23	15:08	17:08	19:14
Westminster	09:17	10:43	12:28	14:28	15:13	17:13	19:19
Downing Street	09:23	10:49	12:34	14:34	15:19	17:19	19:25
Buckingham Palace	09:30	10:56	12:41	14:41	15:26	17:26	19:32
Hyde Park	09:38	11:04	12:49	14:49	15:34	17:34	19:40
Oxford Circus	09:45	11:11	12:56	14:56	15:41	17:41	19:47
Piccadilly Circus	09:51	11:17	13:02	15:02	15:47	17:47	19:53
Covent Garden	10:03	11:29	13:14	15:14	15:59	17:59	20:05

4. Answer the following questions:

a) The bus leaves London Eye at 09:12. What time does it arrive at Covent Garden?

b) The bus leaves Tower Bridge at 2:44 pm. What time does it arrive at Covent Garden?

c) The bus arrives at Hyde Park at 7:40 pm. What time did it leave Westminster?

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20/4/20 Maths Worksheet 3: Duration between two times and time-tables

1 Jodie started her homework at 5:15
She it took her 1 hour 30 minutes to complete it. What time did she finish?

……

2 Jacob got on the train at 1:10 pm
He got off the train at 2:35 pm How long did his journey take?

……

3 Ravi wants to arrive at the cinema at 4:45
If it takes him 35 minutes to walk to the cinema from his home, what time should he set off?

……

4 A lesson lasting 50 minutes starts at 9.30 am.
What time does the lesson end?

……

5 Complete the table to show the start and end times of the following films.

	Start time	Length of film	End time
Fast beyond	7:20	1 hour 15 minutes	……
Like us	8:45	1 hour 50 minutes	……
Beyond Hope	……	1 hour 40 minutes	11:00
Blame Game	6:30	……	8:10
Never again	……	2 hours 5 minutes	11:35

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20/4/20 Maths Worksheet 4: Time as a decimal

To convert from minutes into hours: $hours = \frac{number\ of\ minutes}{60}$

Example 1 : To convert 45 minutes into hours $45 \div 60 = 0.75\ \ so\ 45\ minutes = 0.75\ hours$

Example 2 : To convert 100 minutes into hours $100 \div 60 = 1.666\ldots$

$so\ 100\ minutes = 1.67\ hours\ (2\ d.p.)$

Task A: Convert the following amounts of minutes into hours (as a decimal)

a)	15 minutes	b)	30 minutes	c)	95 minutes
d)	44 minutes	e)	8 minutes	f)	320 minutes
g)	18 minutes	h)	90 minutes	i)	85 minutes

Task B: Convert the following amounts of minutes into hours (as a decimal)

You will need to convert from hours and minutes to just minutes (e.g. 1 hour 10 minutes = 60 + 10 = 70 minutes)

a)	1 hour 15 minutes	b)	2 hours 30 minutes	c)	1 hour 20 minutes
d)	2 hours 44 minutes	e)	1 hour 8 minutes	f)	5 hours 30 minutes
g)	10 hours 18 minutes	h)	1 hour 45 minutes	i)	4 hours 15 minutes

Task C: Convert the number of hours (as a decimal) into minutes (multiply by 60)

a)	0.7 hours	b)	0.1 hours	c)	0.9 hours
d)	1.3 hours	e)	3.6 hours	f)	1.25 hours
g)	4.5 hours	h)	0.333333333… hours	i)	2.7333333333…. hours

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20/4/20 Maths Worksheet 5: Distance, Speed and Time

To learn about Distance, Speed and Time:

1. Have a look at this website: https://www.bbc.co.uk/bitesize/topics/z83rkqt/articles/zhbtng8
2. Watch this video: http://corbettmaths.com/2016/01/01/speed-distance-time/

Now answer the following questions using the formula: $Speed = \frac{Distance}{Time}$

Question 1: Calculate the average speeds for each of the following, without using a calculator.

(a) A car travels 60 miles in 2 hours
(b) A lorry travels 120 miles in 3 hours
(c) A cyclist travels 45 miles in 5 hours
(d) A jogger travels 30km in 4 hours
(e) A runner runs 100 metres in 10 seconds
(f) A car travels 195 miles in 3 hours
(g) A helicopter travels 425 miles in 5 hours
(h) A helicopter flies 840 miles in 7 hours
(i) A dog runs 216 metres in 12 seconds
(j) An airplane travels 984 miles in 6 hours
(k) A bird flies 19 miles in 2 hours
(l) A car travels 600km in 8 hours

Question 2: Calculate the average speeds for each of the following, without using a calculator.

(a) A car travels 20 miles in 30 minutes
(b) A lorry travels 32 miles in 30 minutes
(c) A bird flies 17 kilometres in 30 minutes
(d) A man jogs 2 kilometres in 15 minutes.
(e) A helicopter flies 18 miles in 15 minutes
(f) An F1 car travels 32 miles in 15 minutes.
(g) A dog runs 3 kilometres in 10 minutes
(h) A jet travels 23 miles in 6 minutes.
(i) A car travels 12 miles in 20 minutes
(j) A car travels 9 miles in 12 minutes
(k) A motorcycle travels 36 miles in 40 minutes
(l) A car travels 27 kilometres in 45 minutes.

Question 3: Calculate the average speeds for each of the following.

(a) A car travels 63 miles in 1 hour 30 minutes
(b) A man runs 15 miles in 2 hours 30 minutes
(c) A helicopter flies 238 miles in 3 hours 30 minutes
(d) A car travels 85.5 miles 2 hours 15 minutes
(e) An airplane flies 315 kilometres in 1 hour 45 minutes
(f) A lorry travels 351 miles in 6 hours 45 minutes
(g) A car drives 154 miles in 2 hours 20 minutes
(h) A helicopter flies 160 kilometres in 1 hour 40 minutes

Question 4: Calculate the average speeds for each of the following.

(a) A man jogs 6 miles in 1 hour 12 minutes
(b) A motorcycle drives 130 miles in 2 hours 36 minutes
(c) A helicopter flies 152 miles in 1 hour 54 minutes
(d) A plane travels 1272 kilometres in 5 hours 18 minutes
(e) A car travels 98 miles in 2 hours 27 minutes
(f) A rocket travels 750 miles in 3 minutes
(g) A car travels 6.4 miles in 7 minutes. Give your answer to 2 decimal places.
(h) A ship sails 105 miles in 4 hours 28 minutes. Give your answer to 2 decimal places.
(i) A plane travels 400 miles in 1 hour 55 minutes. Give your answer to 2 decimal places.
(j) A car drives 500 kilometres in 7 hours 13 minutes. Give your answer to 2 decimal places.

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