Monday

LO: To read, write and convert time.

Please have a go at completing the following statements. These will help you solve the questions today:

60 seconds = _____ minutes

_____ minutes = 1 hour

_____ hours = 1 day

7 days = _____ week

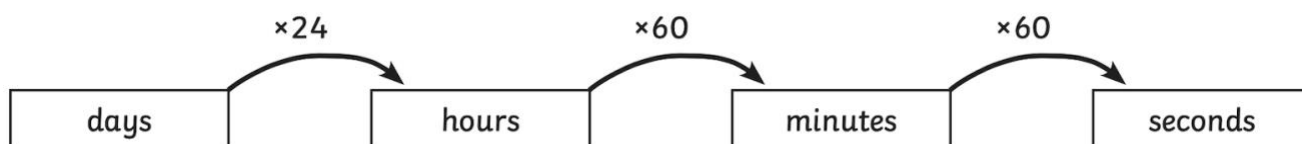_____ days = 1 year (This changes to _____ days in a leap year)

_____ weeks = 1 year

_____ months = 1 year

10 years = _____ decade

100 years = _____ century

_____ = 1 millennium

Convert these times to the unit shown:

a) 4 days = _____ hours
b) 5 hours = _____ minutes
c) 7 minutes = _____ seconds
d) 8 hours = _____ minutes
e) 9 days = _____ hours
f) 5 minutes = _____ seconds
g) 2 ½ days = _____ hours
h) 3 ¼ hours = _____ minutes
i) 4 ¾ hours = _____ minutes

Now have a go at converting these times to the units shown (please be aware that these times are more than one unit away).

a) 4 days = _____ minutes
b) 6 hours = _____ seconds
c) 5 days = _____ minutes
d) 3 hours = _____ seconds
e) 2 days = _____ seconds
f) 5 days = _____ seconds

Order these time measurements from shortest time to longest time:

2 days   38 hours   1000 minutes

_____

4 hours   200 minutes   12,500 seconds

_____

Challenge:
Now have a go at the following questions. You may need to convert the time measurements to help you solve the questions!

Match the pairs to find the odd one out.

| 8.5 years | 87 months |

| 9 weeks 5 days | $7\frac{1}{4}$ years | 68 days |

| 75 days | 102 months |

Compare the periods of time using the correct symbols.

| < | > | = |

9 weeks 14 days [   ] 10 weeks 3 days

93 days [   ] 13 weeks 2 days

150 months [   ] $12\frac{3}{4}$ years

8 years 24 months [   ] 9 years 11 months

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9. Read the notices then answer the questions below.

New bungalows
Building here for between 5 and 6 years.

Flats
Available to buy in 14 weeks.

Houses
Houses available to buy in 100 days.

a) How much longer will you have to wait for a house than a flat?
b) What is the least amount of months that the bungalows could take to build? What is the most?
c) If the builders build one bungalow each month for 5.5 years, how many bungalows will they build?

Tuesday

L.O. To read, write and convert time between analogue and digital 12- and 24-hour clocks.

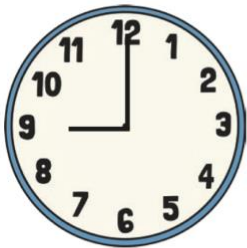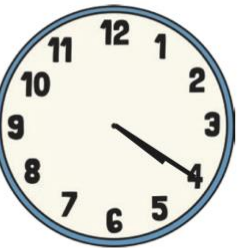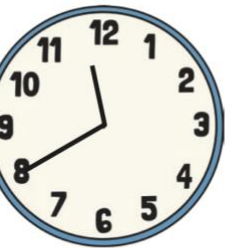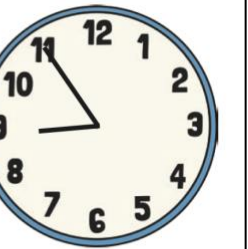There are two ways of telling the time:

The **12-hour clock** runs from 1am to 12 noon and then from 1pm to 12 midnight.
The **24-hour clock** uses the numbers 00:00 to 23:59 (midnight is 00:00).
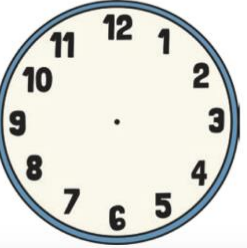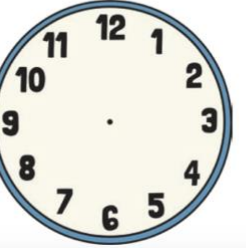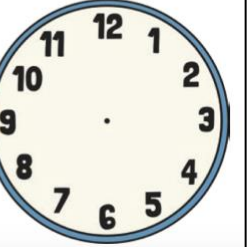
When converting 24-hour time to 12-hour, subtract 12 to the hour and keep the minutes the same.
When converting 12 hours to 24-hour, add 12 to the hour and keep the minutes the same.

Change these analogue times to digital times:

Change these digital times to analogue times:

12:30	07:45	06:10	03:05	02:15

Complete the charts, changing 12-hour digital times into 24-hour times and 24-hour times into 12-hour times.

12-Hour Time	24-Hour Time
2:15 a.m.	
	15:20
	03:15
11:15 p.m.	
	23:10
	10:40
11:35 a.m.	
10:05 p.m.	11:55
	20:20
2:45 a.m.	
	01:05
	18:15

7:55 p.m.	
	17:10
3:55 a.m.	
	18:20
	22:40
6:40 p.m.	

Here are the feeding times for animals at a zoo. The times have been written in a 24-hour format. Convert them to 12-hour times, using a.m. and p.m.

24-Hour Time	Animal	12-Hour Time
11:05	Chimpanzees	
12:15	Seals	
12:35	Penguins	
13:20	Tigers	
14:25	Crocodiles	
15:15	Farm Animals	
16:00	Reptiles	

Here is a bus route from Spenton to Leighsby. The times have been written in a 12-hour format. Convert the times to 24-hour times.

12-Hour Time	Animal	24-Hour Time
10:05 a.m.	Spenton	
11:45 a.m.	Wilton	
12:25 p.m.	Spursby	
1:00 p.m.	Carton	
2:10 p.m.	Posterly	
3:05 p.m.	Versbury	
4:40 p.m.	Leighsby	

Challenge:
Rewrite these times from earliest in the day to latest. The first one has been done for you:

2:15 p.m.	05:35.	4:15 a.m.	14:20	*4:15 a.m.*	*05:35*	*2:15 p.m.*	*14:20*
4:30 a.m.	13:40.	7:20 a.m	11:55				
12:25	3:15 p.m.	10:55	6:40 a.m				
15:00	9:15 a.m.	21:05.	3:45 p.m.				

Shop opening times	
Monday	9:15
Tuesday	9:30
Wednesday	
Thursday	9:05
Friday	9:30
Saturday	9:50
Sunday	

Sophie is waiting for the shop to open on Monday.

1. How long will she have to wait?

2. On Wednesday, the shop opens 15 minutes later than on Tuesday. Write in the table below to show the time that it opens.

3. On Sunday, Sophie's watch is showing this time when the shop opens. Write in the table to show the time that it opens.

Wednesday

L.O. To read, interpret and use timetables accurately.

Train Terminal to The Boardwalk: Monday to Friday

Station	am	am	pm	pm	pm	pm	pm	pm	pm
Train Terminal	9:06	10:36	12:06	1:36	3:06	4:36	6:06	7:36	9:06
Shopping Centre	9:19	10:49	12:19	1:49	3:19	4:49	6:19	7:49	9:19
Sports Complex	9:25	10:55	12:25	1:55	3:25	4:55	6:25	7:55	9:25
University Campus	9:44	11:14	12:44	2:14	3:44	5:14	6:44	8:14	9:44
Botanical Gardens	9:48	11:18	12:48	2:18	3:48	5:18	6:48	8:18	9:48
Bus Station	10:00	11:30	1:00	2:30	4:00	5:30	7:00	8:30	10:00
The Boardwalk	10:11	11:41	1:11	2:41	4:11	5:41	7:11	8:41	10:11

The Boardwalk to Train Terminal: Monday to Friday

Station	am	am	pm	pm	pm	pm	pm	pm	pm
The Boardwalk	10:26	11:56	1:26	2:56	4:26	5:56	7:26	8:56	10:26
Bus Station	10:37	12:07	1:37	3:07	4:37	6:07	7:37	9:07	10:37
Botanical Gardens	10:49	12:19	1:49	3:19	4:49	6:19	7:49	9:19	10:49
University Campus	10:53	12:23	1:53	3:23	4:53	6:23	7:53	9:23	10:53
Sports Complex	11:12	12:42	2:12	3:42	5:12	6:42	8:12	9:42	11:12
Shopping Centre	11:18	12:48	2:18	3:48	5:18	6:48	8:18	9:48	11:18
Train Terminal	11:31	1:01	2:31	4:01	5:31	7:01	8:31	10:01	11:31

1. Record the time would arrive at the Bus Station if you caught the following trains and calculate how long the journey would take.
    a. The 10:49 a.m. from the Shopping Centre: _____
    b. The 1:55 p.m. from the Sports Complex: _____
    c. The 6:44 p.m. from the University Campus: _____
    d. The 9:48 p.m. from the Botanical Gardens: _____

2. Record the time you would arrive at the Shopping Centre if you caught the following trains and calculate how long the journey would take.
    a. The 10:26 a.m. from The Boardwalk: _____
    b. The 4:49 p.m. from the Botanical Gardens: _____
    c. The 8:12 p.m. from the Sports Complex: _____
    d. The 10:37 p.m. from the Bus Station: _____

3. Calculate how long you would wait for a train if you arrived at the following stations at the following times (travelling towards The Boardwalk).

   a. The Shopping Centre at 10:30 a.m.   _____

   b. The Bus Station at 12:15 p.m.   _____

   c. The University Campus as 6:40 p.m.   _____

   d. The Train Terminal at 8:33 p.m.   _____

4. Calculate how long you would wait for a train if you arrived at the following stations at the following times (travelling towards the Train Terminal).

   a. The Sports Complex at 11:00 a.m.   _____

   b. The Boardwalk at 12:45 p.m.   _____

   c. The University Campus at 4:35 p.m.   _____

   d. The Botanical Gardens at 8:50 p.m.   _____

5. Josh is travelling from the Shopping Centre to the Botanical Gardens. He misses the 12:19 p.m. train. How long must he wait for the next train?

6. Mira needs to arrive at the Train Terminal at about 5:30 p.m. She is travelling from the University Campus. Which is the best train for her to catch?

7. Toby lives near the Shopping Centre and words at The Boardwalk. He never gets a seat on the 9:19 a.m. train, so he decides to wait for the next one. What time will he arrive at work?

8. Meredith lives near the Train Terminal. She has a busy day ahead. First, Meredith has an appointment with her eye doctor (whose office is in the Shopping Centre) at 11:00 a.m. It usually takes around an hour. Then she needs to catch a train to the Botanical Gardens to have a picnic with her friends. She has to be back at the station by 5:15 p.m. so she can catch the next train to her grandparents' house (who love near The Boardwalk). She wants to be home and in bed by 10:30 p.m. Plan out which trains Meredith should catch for her busy day.

   a. From the Train Terminal to the Shopping Centre: _____

   b. From the Shopping Centre to the Botanical Gardens: _____

   c. From the Botanical Gardens to The Boardwalk: _____

   d. From the Boardwalk to the Train Terminal: _____

Thursday

Q14. The table below shows five journeys a taxi driver made one day.

journey number	start time	number of passengers	distance	cost
1	9:15 am	2	8 km	£7.50
2	9:40 am	1	12 km	£9.90
3	10:30 am	3	7 km	£7.60
4	10:50 am	1	21 km	£15.50
5	12:10 pm	4	15 km	£12.00

On journey number 5, the passengers shared the cost equally.

How much did **each** passenger pay?

£

How many **passengers** made journeys of more than 10km?

passengers

The 12km journey took 40 minutes.

What time did the taxi finish its journey?

am

Q2. Here is the calendar for August 1998.

August 1998

Sun	Mon	Tues	Wed	Thur	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Simon's birthday is on **August 20th**.

In 1998 he had a party on the **Sunday after** his birthday.

What was the **date** of his party?
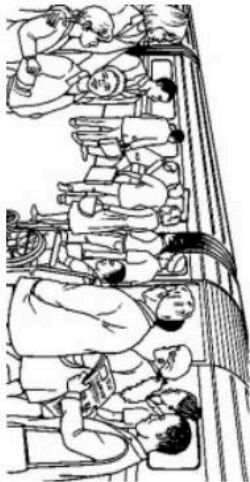

Tina's birthday is on **September 9th**.
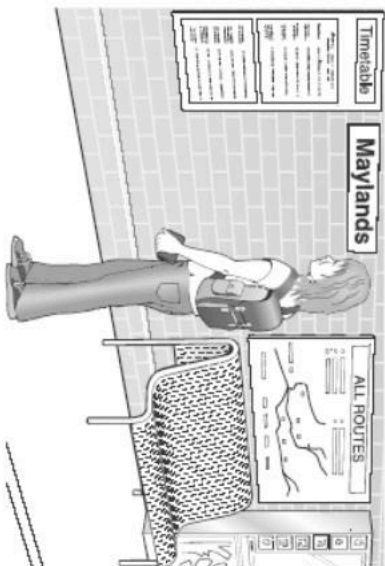
On what **day of the week** was her birthday in 1998?

....

Q2.

Here is part of a train timetable.

Edinburgh	–	09:35	–	–	13:35	–
Glasgow	09:15	–	11:15	13:15	–	15:15
Stirling	09:57	–	11:57	13:57	14:29	15:57
Perth	10:34	10:51	12:34	14:34	14:50	16:35
Inverness	–	13:10	–	–	17:05	–

How long does the first train from Edinburgh take to travel to Inverness?

✎

Ellen is at Glasgow station at 1.30pm.

She wants to travel to Perth.

She catches the next train.

At what time will she arrive in Perth?

✎

Q4.

Here is part of the morning train timetable from Perth to Midland in Australia.

Perth	07:11	07:20	07:27	07:35	07:43	07:55
Maylands	–	07:28	07:33	07:43	07:49	08:03
Ashfield	–	–	07:38	–	07:54	–
Success Hill	07:25	–	07:41	–	–	07:57
Midland	07:32	07:41	07:48	07:56	08:05	08:16

What time is the first train from Maylands that stops at Success Hill?

✎ Maylands [:]

Mr Evans is in Perth and wants to be in Midland by 08:00

What is the time of the **latest** train he can take from Perth?

✎ Perth [:]

Bus 2 Timetable

Station	06:00	07:00	08:00	09:00	10:00	12:00		15:00	16:00	17:00
Theatre	06:43	07:43	08:43	09:43	10:43	12:43			16:43	17:43
Museum	07:20	08:20	09:20	10:20	11:20	13:20	15:20			18:20
Hospital	07:50	08:50	09:50	10:50	11:50	13:50	15:50	16:50		
Supermarket	08:37	09:37	10:37	11:37	12:37	14:37	16:37	17:37	18:37	

Now read these statements and decide if they are true or false, explaining your reasoning.

a) A bus leaves the station on every hour.

_____

b) It takes exactly two hours and thirty-seven minutes to travel from the station to the supermarket.

_____

c) If you take the correct bus from the theatre to the hospital, you can arrive at the hospital at exactly 3pm.

_____

d) The journey time from the museum to the supermarket is shorter than the journey time from the theatre to the hospital.

_____

1) Use the statements below in order to create your own train timetable, using the 24-hour clock.

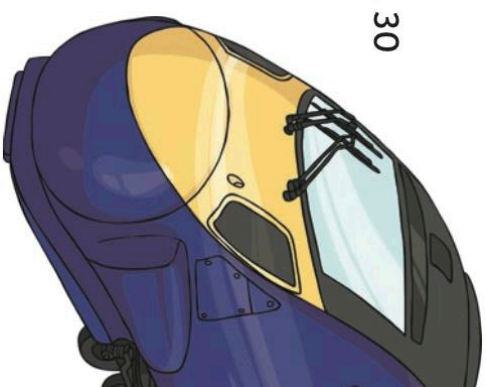| Train Timetable					
Twinkl Town					
Zoo					
Twinkl Towers					
Stadium					
City Centre					
Airport					

The train always leaves Twinkl Town at ten minutes to the hour.

The journey time to Twinkl Towers from the Twinkl Town station is between 30 and 35 minutes.

The train always leaves the zoo between five and quarter past the hour.

The stadium is reached 48 minutes before the city centre station.

The journey time between the city centre station and the airport is between 2 hours 45 minutes and 3 hours.

2) Now create your own timetable questions based on the timetable you have created.

Friday

Time word problems

1. Ellie takes the train to Edinburgh. She sets off at 09:25 in the morning and arrives at 09:47. How long was her journey?

2. Ben travels on a coach to Manchester. His coach sets off at 08:19. The journey is 23 minutes long. At what time did he arrive?

3. Annabel drives to Cardiff.   Her journey takes her 41 minutes. She arrives at 11:55.   What time did she set off?

4. On holiday, Anna cycles to Killarney. She sets off at 14:27 and arrives at 14:58. How long was her journey?

5. Ellie takes the train to Edinburgh. She sets off at 09:25 in the morning and arrives at 11:47. How long was her journey?

6. Ben travels on a coach to Manchester. His coach sets off at 08:19. The journey is 1 hour 23 minutes long.   At what time did he arrive?

7. Annabel drives to Cardiff.   Her journey takes her 2 hours and 41 minutes. She arrives at 11:55. What time did she set off?

8. On holiday, Anna cycles to Killarney. She sets off at 14:27 and arrives at 17:09. How long was her journey?

9. Alexander goes on a walk to climb Ska Fell Pike. The climb takes him 3 hours and 33 minutes.   He arrives at the top of the mountain at 14:22. At what time did he start his climb?

10. Whilst on holiday in Egypt, Miss Nicol decides to go on a camel ride. She sets off at 14:36 and her ride goes on for 1 hour and 36 minutes. When does her ride end?
    If the sun sets at 17:09, how long has she got to get home before the sun sets?

11. Mr Harverson goes on a walk on the Isle of Wight. When he sets off, his watch tells him that it is 10:24. His walk is 2 hours 28 minutes long. However, upon arrival, he finds that his watch is 11 minutes fast. At what time does he really arrive?

12. Mrs Razzell goes on a space walk from the ISS which lasts 2 ¾ hours. She completes her spacewalk at 23:31. If it took her 39 minutes to put on her spacesuit before the walk, at what time did she start to put her suit on before the spacewalk?

13. Mrs Edwell does a tightrope walk across Niagara Falls. She sets off at 09:21. The walk would normally take her 1 hour 47 minutes, but on her way across she stops for a picnic for 27 minutes. At what time does she arrive at the other end of the tightrope?

14. Mrs Van Roijen decides to abseil down the Shard in London. The journey down normally takes 33 minutes. However, on her way down, she stops for 18 minutes to take some photos.   Eventually she arrives at the bottom of the Shard. Looking at her watch she sees that it is now 12:15. At what time did she set off?

Challenge

C.S.I.

The Case of Who Stopped Time

Time has frozen. Every clock, watch and timepiece across the world has stopped at exactly the same time. The police are clueless as to who the person could be that that has instigated this dastardly crime. All that is left behind are 5 clues pointing to the clever culprit.

The task to solve this crime falls upon you, as you are the Chief Inspector for C.S.I, Crime Scene Investigation.

You have been given the clues. Now your task is to solve the challenges and narrow down the suspects until you ultimately uncover when the person was born and thus telling you who stopped time.

C.S.I.
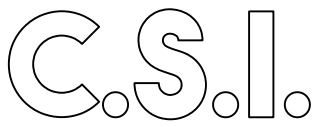
The Case of Who Stopped Time

Use this chart to mark off the innocent suspects

| The Suspects						
Name	Sex	Summer	Hour	minute	am or pm	clue
Doug Graves	Male	Winter	8	15	am	
Ella Wong	Female	Winter	5	15	pm	
Fred Steele	Male	Spring	12	30	am	
Angelina Mcgee	Female	Autumn	6	45	am	
Lori Webster	Female	Autumn	11	15	pm	
Betty Hoffman	Female	Summer	7	15	pm	
Gina Watson	Female	Autumn	11	00	pm	
Maxine Shaw	Female	Autumn	1	30	am	
Noah Reyes	Female	Winter	10	00	am	
Anita Schmidt	Female	Autumn	5	45	pm	
Constance Pierce	Female	Autumn	7	00	pm	
Gretchen Newton	Female	Summer	7	30	pm	
Miriam Gross	Female	Spring	9	15	pm	
Brenda Foster	Female	Autumn	11	45	am	
Andrew Lawson	Male	Winter	5	00	am	
Jan Logan	Female	Winter	12	45	pm	
Marg Frank	Female	Autumn	11	45	pm	
Latoya Walker	Female	Summer	2	45	am	
Wilbur Garner	Male	Summer	2	00	am	
Bert Rivera	Male	Spring	10	30	pm	
Jennifer Poole	Female	Spring	7	00	pm	
Gwendolyn Huff	Female	Autumn	6	00	am	
Anne Campbell	Female	Winter	10	15	pm	
Charles Owen	Male	Spring	3	00	pm	
Lynn Lowe	Female	Summer	12	00	pm	
Paul Santos	Male	Spring	9	00	pm	
Kelly Ramirez	Female	Autumn	11	15	am	
Nichole Bowen	Female	Summer	4	00	am	
Frederick Nash	Male	Winter	12	30	am	
Dwight Morris	Male	Summer	10	45	am	

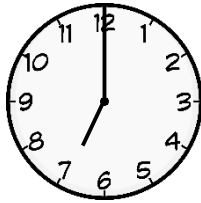# C.S.I. The Case of Who Stopped Time

Clue one:
Is the person male or female? Discover the answer by examining the clocks below. Shade in the clocks that are displaying the correct time. If there are more clocks displaying the correct time then the person is a female. If there are more incorrect clocks then the person is a male.
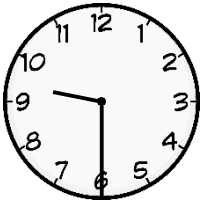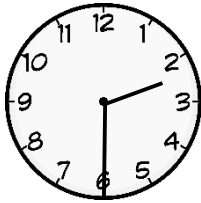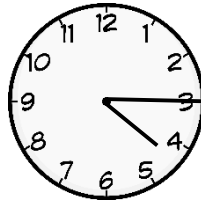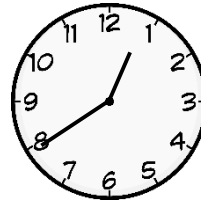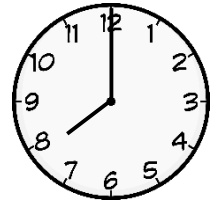
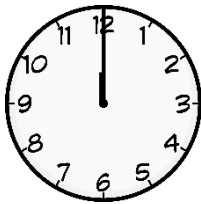|					
9:30	2:30	12:35	4:15	12:35	8:00
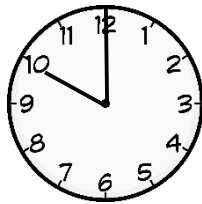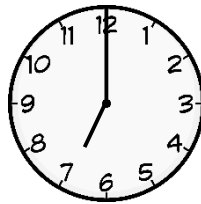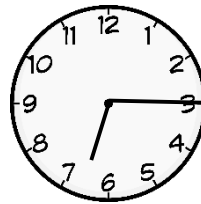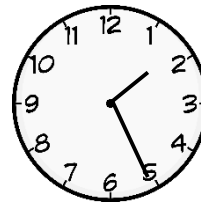
12:00	12:10	7:00	6:20	1:20	10:45
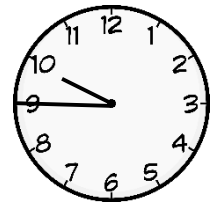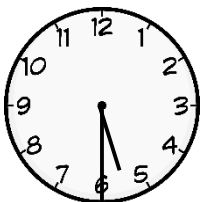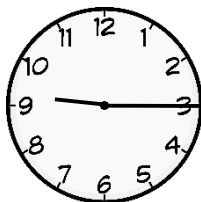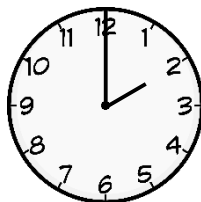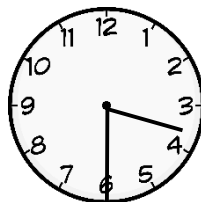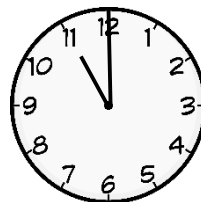
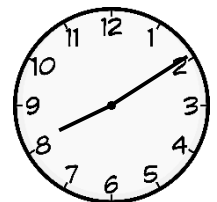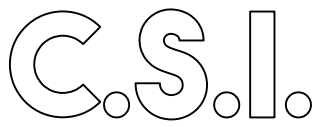|					
5:25	9:15	2:00	6:20	11:00	8:10

The person is a:

C.S.I. The Case of Who Stopped Time

Clue Two
What season was the person born in? Complete the problems and use the last answers to reveal the season in the chart below.

	+15 minuets	+1 hour	– 30 minutes	– 15 minutes
9:30	⇨ ☐	⇨ ☐	⇨ ☐	⇨ ☐
1:45	⇨ ☐	⇨ ☐	⇨ ☐	⇨ ☐
11:30	⇨ ☐	⇨ ☐	⇨ ☐	⇨ ☐
12:15	⇨ ☐	⇨ ☐	⇨ ☐	⇨ ☐
4:00	⇨ ☐	⇨ ☐	⇨ ☐	⇨ ☐

10:30 time	4:30 autumn	10:00 they	9:45 lunch	11:45 at	4:45 winter	12:00 born
10:15 dinner	2:00 clock	11:30 sun	12:30 season	4:15 spring	6:15 hot	2:30 time
1:30 year	4:00 summer	2:15 were	4:45 cold	1:15 moon	12:45 in	4:15 month

Unscramble the words to find out what season the person is born in

_____
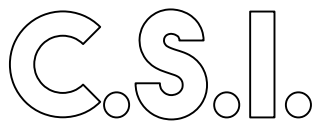
C.S.I. The Case of Who Stopped Time

Clue Three:
What hour was the person born? Follow the sequence of clues by adding or subtracting the amount of time until you uncover their final age. Then write your answer below.

| start	+15 minutes	+2 hours	+45 minutes	+ 30 minutes	+2 hours	+30 minutes
7:00						
					+15 minutes	
					-30 minutes	
+7 hours						
+30 minutes		+60 minutes	+3 hours	-15 minutes	-45 minutes	-1 hour
+5 hours						
-45 minutes						
-120 minutes		+45 minutes	+3 hours	+15 minutes	-30 minutes	+3 hours
+4 hours						

The hour the person is born is: _____

The Case of Who Stopped Time

Clue four:
Solve the following cryptogram using the code below to find out the minute they were born. Match the letter for each amount of minutes, to or past on the clock face.

Key:
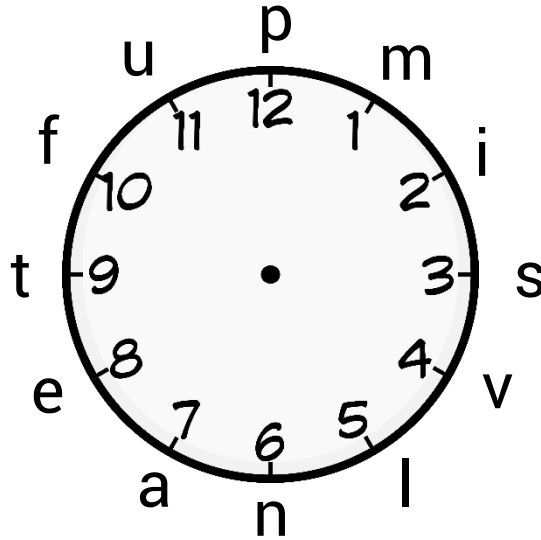
10 to	10 past	10 to	quarter to	20 to	40 past	half past

5 past	10 past	half past	5 to	quarter to	20 to	quarter past		o'clock	25 to	quarter past	quarter to

20 to	25 past	20 to	20 past	20 to	Half past

C.S.I.
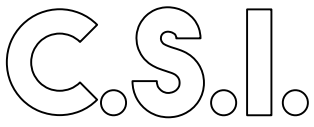
The Case of Who Stopped Time

Clue One:
Find out if the person is born in the morning or afternoon. Follow the maze counting up in 15 minutes intervals from the start time. Moving only horizontally or vertically. The box you end in tells you if the person was born in the morning **(am)** or afternoon **(pm)**.

Start 10:15

10:45	10:15	10:30	11:15	11:30	1:15	2:00	11:45	11:30	3:00	8:45	2:00
12:00	11:30	10:45	11:45	12:30	12:00	11:45	11:45	2:00	9:30	11:30	12:00
12:30	11:30	11:00	11:45	12:00	12:15	12:30	12:30	12:15	3:00	4:30	2:15
1:00	11:45	11:15	11:30	2:00	12:15	12:45	1:30	3:00	11:30	11:15	2:00
4:00	2:30	2:00	1:45	1:30	1:15	1:00	2:00	11:30	11:45	7:45	8:15
3:30	3:15	2:15	2:45	2:00	1:15	2:00	2:15	3:15	6:00	7:30	5:45
3:00	2:45	2:30	3:00	5:15	6:00	5:45	7:00	7:00	6:45	7:00	7:15
3:15	2:30	2:30	3:15	5:15	5:30	5:45	6:00	6:15	6:30	6:30	7:30
3:30	3:45	3:15	5:00	5:00	5:00	5:45	5:45	6:00	8:15	8:00	7:45
4:00	4:00	4:15	4:30	4:45	4:45	10:00	9:30	10:00	8:30	8:30	8:15
4:15	4:45	4:15	4:30	4:30	9:45	10:00	9:45	9:30	8:45	10:15	9:30
10:45	10:30	5:00	11:15	10:45	10:30	10:15	9:45	915	9:00	10:45	10:30
11:00	10:45	10:30	10:45	11:00	10:30	10:15	11:00	9:45	10:30	11:00	10:45

11:15 AM	11:15 PM

The person was born in the:

The person is: