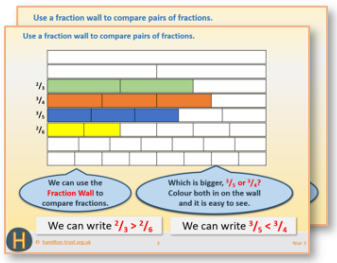
Week 10, Day 4

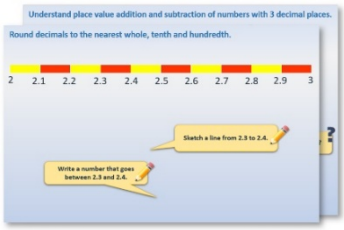
Read timetables using the 24-hour clock; calculate time intervals

Each day covers one maths topic. It should take you about 1 hour or just a little more.

1. If possible, watch the **PowerPoint presentation** with a teacher or another grown-up.



OR start by carefully reading through the **Learning Reminders**.



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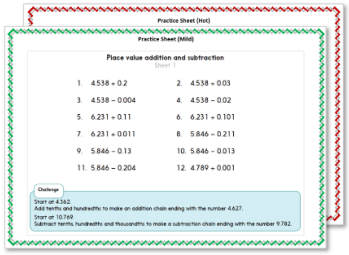
2. Tackle the questions on the **Practice Sheet**.
There might be a choice of either Mild (easier) or Hot (harder)!
Check the answers.



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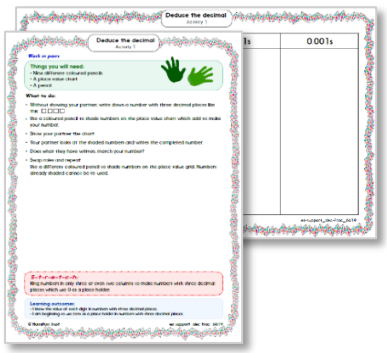
3. Finding it tricky? That's OK… have a go with a grown-up at **A Bit Stuck?**



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4. Think you've cracked it? Whizzed through the Practice Sheets?
Have a go at the **Investigation**…

Learning Reminders

Read timetables using the 24-hour clock; calculate time intervals.

3pm	19:20
7:20pm	18:37
8:30am	15:00
6:37pm	08:30

Pair up the 24-hour and 12-hour times.

3pm - 15:00
7:20pm - 19:20
8:30am - 08:30
6:37 - 18:37

Learning Reminders

Read timetables using the 24-hour clock; calculate time intervals.

The bus timetable uses 24-hour clock times.

Plymtown to Launsley Number 12 bus timetable							
Plymtown centre	07:00	09:00	11:00	13:00	15:00	17:00	19:00
Plymtown rail station	07:05	09:05	11:05	13:05	15:05	17:05	19:05
Burley Post Office	07:20	09:20		13:20		17:20	
Burley – South Street	07:24	09:24	11:20	13:24	15:20	17:24	19:20
Callymouth High Street	07:55	09:55	11:50	13:55	15:50	17:55	19:50
Callymouth College	08:05	10:05		14:05	16:00	18:05	
Launsley Library	08:30	10:30		14:30		18:30	
Launsley Town Hall	08:37	10:37	12:25	14:37	16:28	18:37	20:25

The 13:00 bus from Plymtown centre gets to Callymouth High St. at 13:55, which is 1:55pm, or 5 to 2 in the afternoon.

The 09:20 bus from Burley Post Office gets to Launsley Library at 10:30, which is 10:30am, or half past 10 in the morning.

The 16:00 bus from Callymouth College gets to Launsley Town Hall at 16:28, which is 4:28pm, or 28 minutes past 4 in the afternoon.

Hint

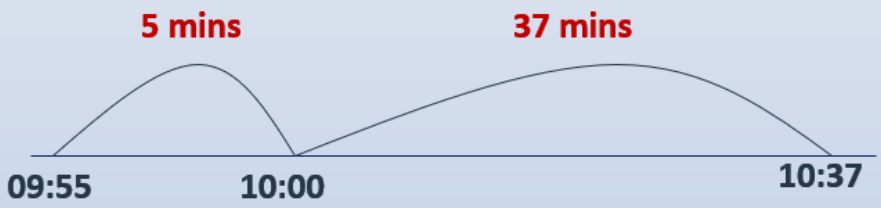
Look at the pairs of times in each column which are red.

Learning Reminders

Read timetables using the 24-hour clock; calculate time intervals.

The 09:55 bus from Callymouth High Street gets to Launsley Town Hall at 10:37. How long does it take?

We can do a jotting on a line to solve this and similar problems. Start with the earliest time and use hours as stopping points to count up.



37 mins + 5 mins = 42 mins

Practice Sheet Mild

Bus timetable

Here are the times for the bus from the town centre to the swimming pool in the afternoon.

Town centre	13:20	14:20	15:20	16:20
Library	13:27	14:27	15:27	16:27
Supermarket	13:43	14:43	15:43	16:43
Hospital	13:51	14:51	15:51	16:51
Park	14:05	15:05	16:05	17:05
Swimming pool	14:12	15:12	16:12	17:12

1. Sandip is in the town centre and wants to spend half an hour in the library before it shuts at 5pm. Which bus does he need to catch?
2. Billy has arranged to meet his Mum at the supermarket at 3pm. Which bus from the town centre does he need to catch?
3. How long does it take the bus to get from the town centre to the hospital?
4. How long does it take the bus to get from the supermarket to the park?
5. How long does it take to get from the town centre to the swimming pool?
6. Which is the shortest journey between stops?
7. Sally wants to spend two hours with her friends at the swimming pool before being picked up at 4:30pm. She lives 10 minutes walk from the Library bus stop. What time does she need to leave home?

Practice Sheet Hot

Reading timetables

Here are the times for the train from London to Bristol Parkway in the afternoon.

London Paddington	12:45	13:15	13:45	14:15	14:45	15:15
Reading	13:11	13:41	14:11	14:41	15:11	15:41
Didcot Parkway		13:56		14:56		15:56
Swindon	13:38	14:13	14:38	15:13	15:38	16:13
Bristol Parkway	14:07	14:40	15:07	15:40	16:07	16:40

1. Jackie has been to a museum in London. She gets back to London Paddington at twenty past 2 in the afternoon. When is her next train to Reading? What time will she get into Reading?
2. Sandip lives in Swindon. She wants to get to Bristol Parkway so she can get to her hospital appointment in time. If it takes her 5 minutes to walk from the station to the hospital, what train does she need to catch for her appointment at five minutes to 4?
3. Billy has arranged to meet his friend at Didcot Parkway station at 3pm. Which train does he need to catch from Reading?
4. How long does it take the train to get from London to Reading?
5. Which is the shortest journey between stops?
6. How long does it take to get from London to Bristol Parkway if the train does not stop at Didcot Parkway?
7. How much longer is the train journey when the train does stop at Didcot Parkway?
8. Choose a starting point and time, and a destination. Record the times as they would appear on a 12-hour digital watch and on an analogue watch (a watch face with hour and minute hands). Work out how long the journey would take.

Practice Sheet Hot
Reading timetables

Use this information about 12-hour and 24-hour times to help you to read timetables.

12-hour format	24-hour format
12:00 midday	12:00
1:00 pm	13:00
2:00 pm	14:00
3:00 pm	15:00
4:00 pm	16:00
5:00 pm	17:00
6:00 pm	18:00
7:00 pm	19:00
8:00 pm	20:00
9:00 pm	21:00
10:00 pm	22:00
11:00 pm	23:00

Practice Sheets Answers

Bus timetable (mild)

1. 13:20, 14:20 or 15:20
2. 14:20
3. 31 minutes
4. 8 minutes
5. 52 minutes
6. Town Centre to the Library and Park to Swimming Pool are each 7 minutes
7. 15:17

Reading timetables (hot)

1. The next train is at 14:45; Jackie will get to Reading at 15:11.
2. Sandip needs to catch the 15:13 train to Bristol Parkway.
3. Billy needs to catch the 14:41 from Reading.
4. The train takes 26 minutes.
5. The shortest journey is 15 minutes, between Reading and Didcot Parkway.
6. The train takes 1 hour and 22 minutes.
7. The train takes 3 minutes longer when it does stop at Didcot Parkway.

A Bit Stuck?

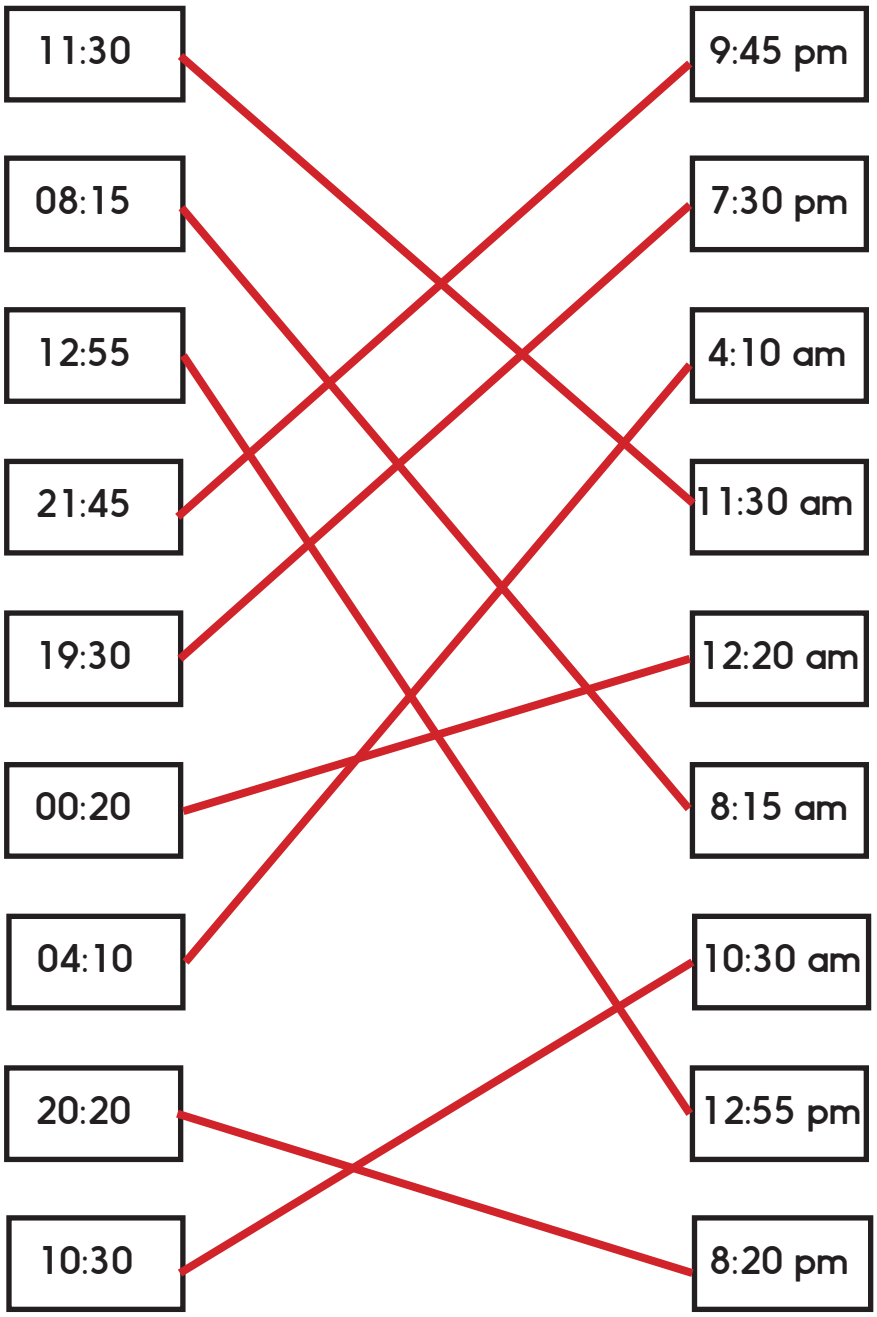
24-hour time match

Draw lines to match the equivalent times.

11:30	9:45 pm
08:15	7:30 pm
12:55	4:10 am
21:45	11:30 am
19:30	12:20 am
00:20	8:15 am
04:10	10:30 am
20:20	12:55 pm
10:30	8:20 pm

A Bit Stuck? Answers

24 hour time match



Investigation
Digits of time

1. How many times is the digit 9 is used between midday and midnight on the 24 hour digital clock?

Talk with a partner about how to break this problem down.

2. Would your answer be the same for the digit 3? Why/why not?

3. What other digits are used the same number of times as the 9?

4. Which digits do you think are used more often than the 9?
Explain why to a partner, then agree how to explain this is in writing.

5. Which digit do you think is used most?