

# Maths - Year 4

## Measurement 1: Finding times and durations, and using the 24-hour clock

### Key Vocabulary

Minute	A unit to measure time. 60 seconds = 1 minute
Second	A unit to measure time.
Hour	A unit to measure time. 60 minutes = 1 hour
Days	A unit to measure time. 24 hours = 1 day
Week	A unit to measure time. 7 days = 1 week
Month	A unit to measure time. Approximately 4 weeks = 1 month
Year	A unit to measure time. 12 months = 1 year
Decades	A period of 10 years.
Centuries	A period of 100 years.
Analogue	A clock with hands that point to the numbers 1 to 12.
Digital	A clock without hands that uses numbers to show the time.
12 hour /24 hour clock	The 12 hour clock shows the time over a day in 12 hours, repeating the numbers for am and pm. The 24 hour clock shows the time over 24 hours (a day) from 00:00 to 23:59.

### Mathematical Skills

- Use a timetable or timeline to solve problems involving times and durations, including journey planning.
- Recall relationships between units of time, including 60 seconds = 1 minute, 60 minutes = 1 hour, 24 hours = 1 day, and use these to calculate equivalences.
- Show a given analogue time as a digital time, and vice versa.
- Show and read a given 12-hour time as 24-hour time, and vice versa.

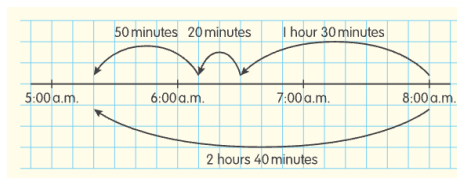
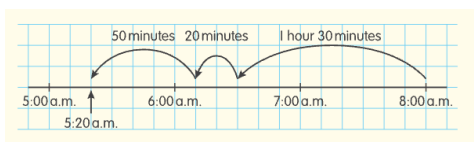
### Mathematical Methods

- Calculating elapsed time and using a stopwatch e.g. It is 7:57pm. What will the time be 24 minutes later?

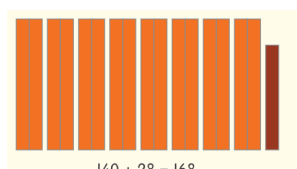
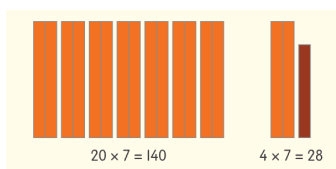
- Creating a timetable.

Activity	Start time	Finish time	Duration
Breakfast club	8:00 a.m.	8:55 a.m.	55 minutes
Registration	8:55 a.m.	9:10 a.m.	15 minutes
Assembly	9:10 a.m.	9:30 a.m.	20 minutes
Lessons	9:30 a.m.	10:30 a.m.	1 hour
Break time	10:30 a.m.	10:45 a.m.	15 minutes
Lessons	10:45 a.m.	12:00 noon	1 hour 15 minutes
Lunchtime	12:00 noon	1:10 p.m.	1 hour 10 minutes
Lessons	1:10 p.m.	3:15 p.m.	2 hours 5 minutes
Clubs	3:30 p.m.	4:30 p.m.	1 hour

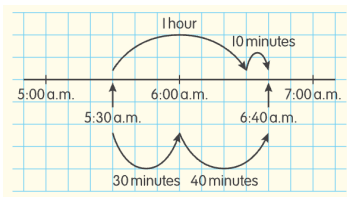
- Showing duration and time on a timeline.



- Converting between days, hours, minutes and seconds e.g. how many hours have passed in one week?  $24 \times 7$



- Solving problems involving time and duration e.g. finding out the duration of a TV programme that begins at 5:30am (half past 5) and finishes at 6:40am (twenty minutes to seven).



- Introducing the 24-hour clock.

1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00
a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	midday	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	midnight

- Reading timetables and planning a journey.

*Walk from home to bus stop by the school takes 5 minutes.*

**SpeedyBus**

Route 181	08:00	08:15	08:30	08:45	09:00	09:15	09:30	09:45
School	08:00	08:15	08:30	08:45	09:00	09:15	09:30	09:45
Garage	08:07	08:22	08:37	08:52	09:07	09:22	09:37	09:52
Supermarket	08:19	08:34	08:49	09:04	09:19	09:34	09:49	10:04
Westerby Train Station	08:26	08:41	08:56	09:11	09:26	09:41	09:56	10:11

Timetable 1 April-31 September

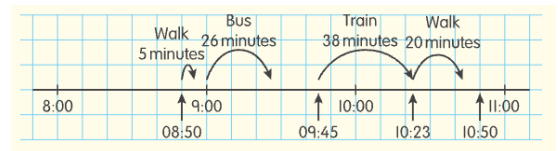
*Make sure there's enough time to buy a ticket!*

**Tracks Trains**

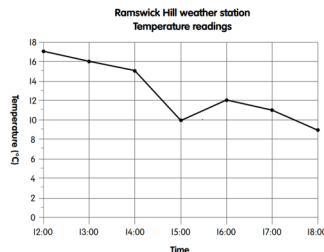
	To Birk Bay						
Saturday	08:20	08:51	09:00	09:23	09:45	09:58	
Westerby	08:20	08:51	09:00	09:23	09:45	09:58	
Capwich	08:50	09:21	09:30	09:53	10:15	10:28	
Birk Bay	08:57	09:27	09:38	10:01	10:23	10:36	

Timetable May-October

Stage	Start Time	End Time	Duration
Home to bus stop (walking)	08:50	08:55	5 minutes
School to station (bus)	09:00	09:26	26 minutes
Westerby to Birk Bay (train)	09:45	10:23	38 minutes
Birk Bay to Gallery (walking)	10:23	10:43	20 minutes



- Working with time graphs.



Can you..?

- What time does Molly get up?



- What time would she get up if she got up 25 minutes earlier?

- A film starts at 7:35pm and it lasts for 1 hour and 45 minutes. What time will it finish?

- What time is shown on the clock? Is it am or pm?

**19:38**