

# Train Times



twinkl

# Aim

- I can solve time problems involving 12-hour and 24-hour times.

# Success Criteria

- I can convert between 12-hour and 24-hour times.
- I can count on a timeline to calculate how much time has passed.
- I can solve time problems using timetables, converting between 12-hour and 24-hour times.

# Match it Up

When telling the time, we can use 12-hour times or 24-hour times.

The 24-hour clock uses the hours 0 to 23 without a.m. and p.m.

Why don't we need a.m. and p.m. with the 24-hour clock?

24-hour times have 4 digits. The hours and minutes are usually separated by a colon. For example, 07:15, 11:00, 12:30 and 15:45.

Midnight is 00:00. What is midday on the 24-hour clock?

The 12-hour clock splits the 24 hours of the day into 2 halves: before and after midday. The hours from 0 to 12 in the morning are followed by a.m. (from the Latin **ante meridiem**, meaning before midday). After midday, the hours are followed by p.m.

What might p.m. stand for?

**Post meridiem** which means after midday in Latin.

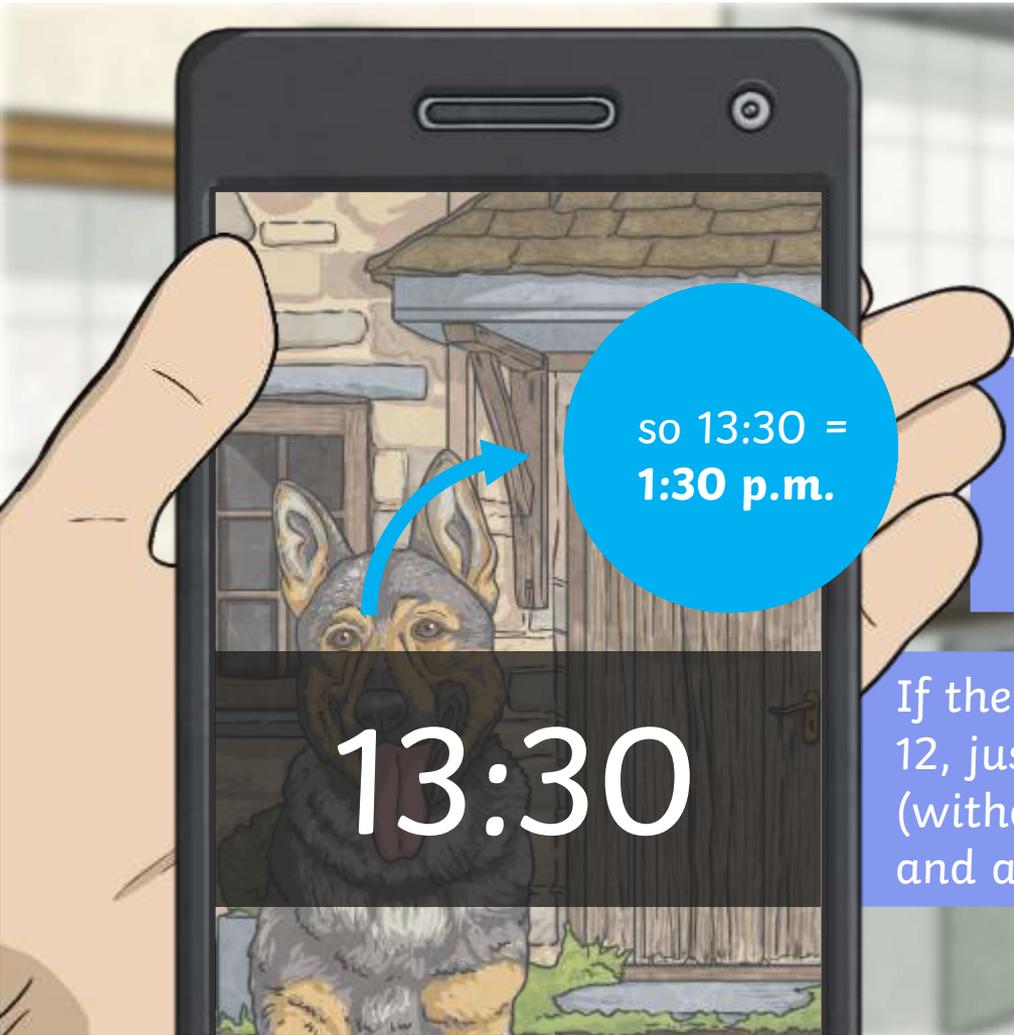
# Match it Up

How to convert 24-hour times to 12-hour times

If the hour time is 13 or above, subtract 12 from it. Times with hours above 12 become p.m. times.

If the hour time is less than 12, just leave the hour as it is (without a zero before the hour) and add a.m. to the time.

so 13:30 =  
**1:30 p.m.**



**13:30**

# Match it Up

Remove the letters  
a.m. or p.m.

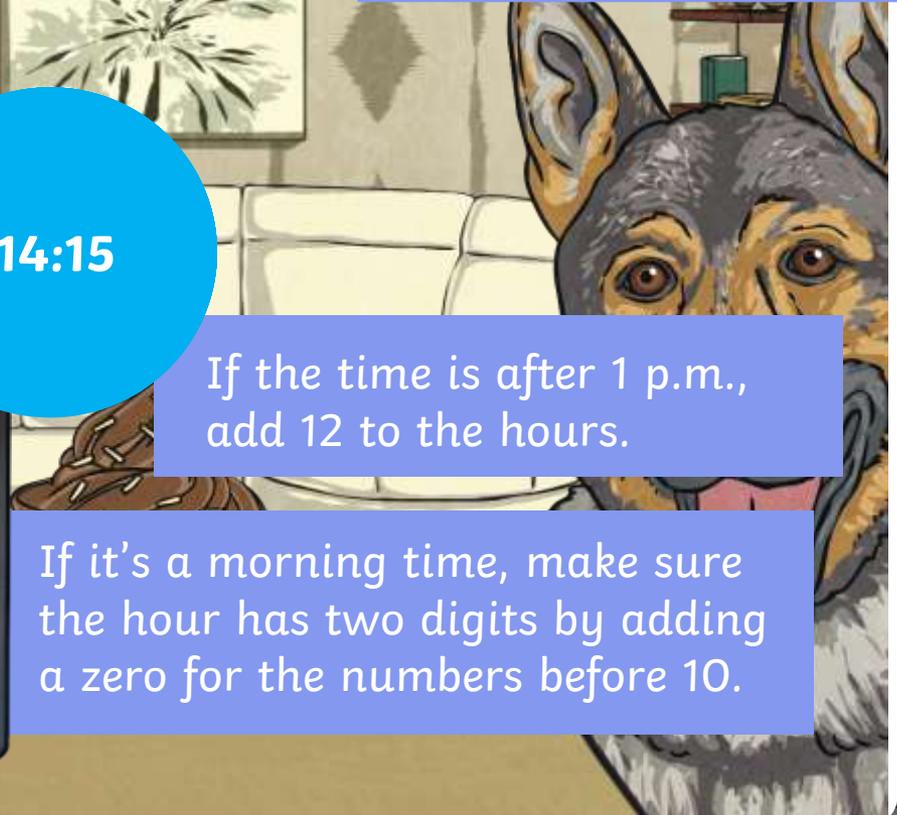
How to convert 12-hour  
times to 24-hour times.

14:15

If the time is after 1 p.m.,  
add 12 to the hours.

2 : 15  
P.M.

If it's a morning time, make sure  
the hour has two digits by adding  
a zero for the numbers before 10.



# Match it Up

Match these 24-hour and 12-hour times.

11:05

15:35

08:05

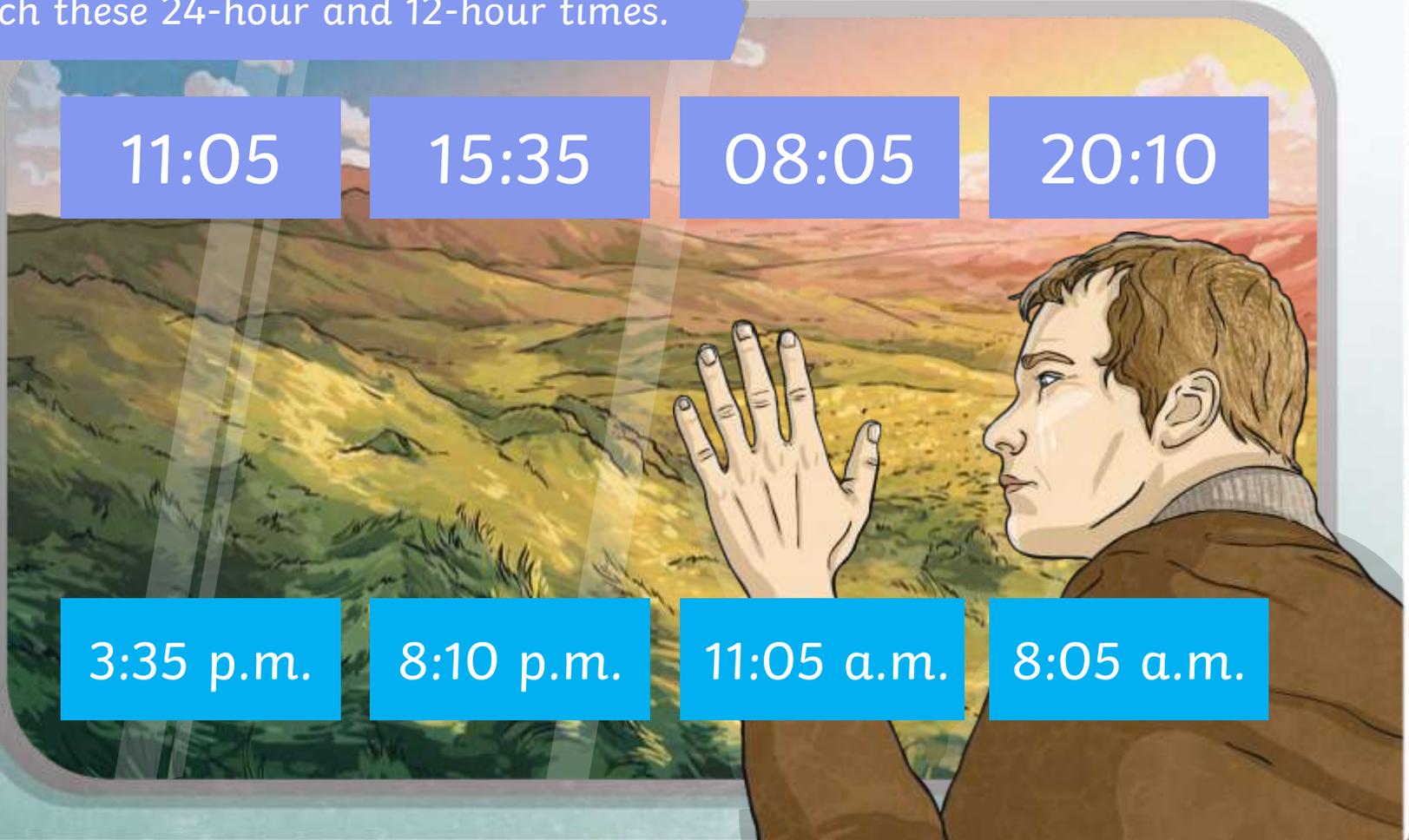
20:10

3:35 p.m.

8:10 p.m.

11:05 a.m.

8:05 a.m.



# Match it Up



Match these 12-hour and 24-hour times.

7:25 p.m.

11:55 a.m.

6:10 a.m.

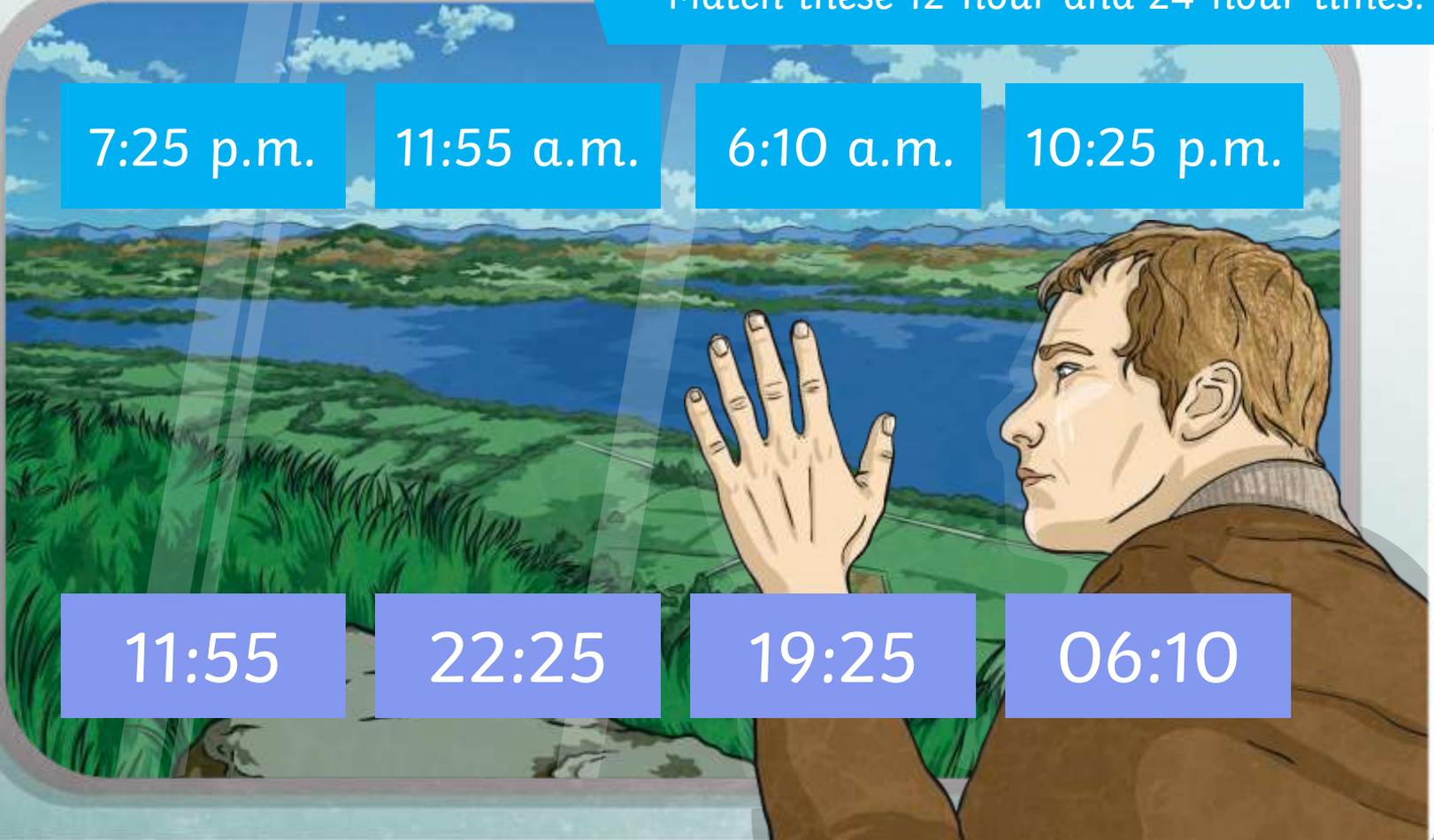
10:25 p.m.

11:55

22:25

19:25

06:10



# Converting Train Times

This train timetable is written in 24-hour clock.  
Rewrite in 12-hour times using a.m. and p.m.

24-Hour Times	Birmingham	Bristol	Taunton	Tiverton	Exeter
Departs at	<b>11:15</b>	<b>12:30</b>	<b>13:25</b>	<b>13:35</b>	<b>13:45</b> (arrives)

**Reminder**  
If the hour time  
is 13 or above,  
subtract 12.  
Add a.m. or p.m.

# Converting Train Times

This train timetable is written in 24-hour clock.  
Rewrite in 12-hour times using a.m. and p.m.

24-Hour Times	Inverness	Edinburgh	Durham	Sheffield	Nottingham
Departs at	<b>10:45</b>	<b>15:08</b>	<b>16:54</b>	<b>19:06</b>	<b>20:00</b> (arrives)

# Train Time Problems

Jo arrives at Taunton station at 1:15 p.m.  
How long must she wait until the train departs?

24-Hour Times	Birmingham	Bristol	Taunton	Tiverton	Exeter
Departs at	<b>11:15</b>	<b>12:30</b>	<b>13:25</b>	<b>13:35</b>	<b>13:45</b> (arrives)



How will we solve this problem?

1:5 p.m. =

# Train Time Problems

George arrives at Kilmarnock station at 9:20 p.m.  
How long must he wait until the train departs?

24-Hour Times	Glasgow	Dunlop	Kilmarnock	Carlisle	Manchester
Departs at	<b>21:13</b>	<b>21:38</b>	<b>21:53</b>	<b>23:45</b>	<b>01:59</b> (arrives)

Answer:



How will we solve this problem?

# Train Time Problems

How long is it from when the train leaves Edinburgh until it reaches York? Write your answer in minutes.

24-Hour Times	Edinburgh	Berwick	Newcastle	Darlington	York
Departs at	<b>13:30</b>	<b>14:15</b>	<b>15:00</b>	<b>15:30</b>	<b>15:55</b> (arrives)



How will we solve this problem?

# Train Time Problems

How long is it from when the train leaves Glasgow until it reaches Manchester? Use a time line to answer this problem. Write your answer in minutes.

24-Hour Times	Glasgow	Dunlop	Kilmarnock	Carlisle	Manchester
Departs at	<b>21:13</b>	<b>21:38</b>	<b>21:53</b>	<b>23:45</b>	<b>01:59</b> (arrives)

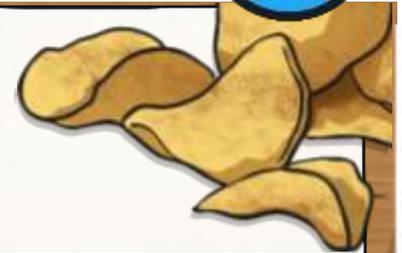


How will we solve this problem?

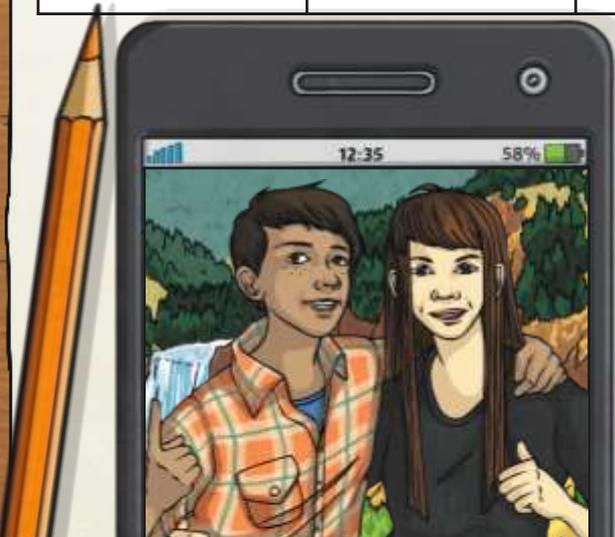
# Train Time Problems



How long is the train journey from Birmingham to Exeter?  
Write your answer in two ways: hours and minutes (e.g. 1 hour 30 minutes) and in minutes (e.g. 90 minutes).



24-Hour Times	Glasgow	Dunlop	Kilmarnock	Carlisle	Manchester
Departs at	<b>21:13</b>	<b>21:38</b>	<b>21:53</b>	<b>23:45</b>	<b>01:59</b> (arrives)



## Task: ★

Here are the times for a train from Edinburgh to York in 24-hour times.

24-Hour Times	Edinburgh	Berwick	Newcastle	Darlington	York
Departs at	14:00	14:45	15:30	16:00	16:30 (arrives)

1. Rewrite the timetable in 12-hour times, using a.m. and p.m.

12-Hour Times	Edinburgh	Berwick	Newcastle	Darlington	York
Departs at					(arrives)

2. Freddy arrives at Berwick station at 2:00 p.m. How long will he have to wait until the train to York departs?

Class	STD	Train type	ONE WAY	NO. OF	ONE	Class	NIL
Start date	3 OCT	Number	0142 011472				
From	BERWICK	Start date	3 OCT	Price	£5.60		
To	YORK	From	ANY				



Here are the times for a train from Birmingham to Exeter in 12-hour times.

12-Hour Times	Birmingham	Bristol	Taunton	Tiverton	Exeter
Departs at	11:30 a.m.	12:45 p.m.	1:30 p.m.	1:45 p.m.	2:15 p.m. (arrives)

3. Rewrite the timetable using 24-hour times.

24-Hour Times	Birmingham	Bristol	Taunton	Tiverton	Exeter
Departs at					(arrives)

4. How long is the journey from Edinburgh to York? Write your answer in two ways: hours and minutes (e.g. 1 hour 20 minutes) and in minutes (e.g. 80 minutes).

24-Hour Times	Edinburgh	Berwick	Newcastle	Darlington	York
Departs at	14:00	14:45	15:30	16:00	16:30 (arrives)

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5. Sascha has a 20-minute walk to get to Tiverton station. She says that if she leaves her house at 13:05 she will have enough time to walk to the station before the train departs. Is she right? Show how you know.

12-Hour Times	Birmingham	Bristol	Taunton	Tiverton	Exeter
Departs at	11:30 a.m.	12:45 p.m.	1:30 p.m.	1:45 p.m.	2:15 p.m. (arrives)

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# Task ★★

Here are the times for a train from Glasgow to Manchester in 24-hour times.

24-Hour Times	Glasgow	Dunlop	Kilmarnock	Carlisle	Manchester
Departs at	22:30	22:55	23:05	23:50	02:10 (arrives)

1. Rewrite the timetable in 12-hour times, using a.m. and p.m.

12-Hour Times	Glasgow	Dunlop	Kilmarnock	Carlisle	Manchester
Departs at					(arrives)

2. Patrick arrives at Kilmarnock station at 10:40 p.m. How long will he have to wait until the train to Manchester departs?

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Class	Ticket type	Currency	Fare
STD	ONE WAY	ONE	NIL
	Start date	Number	0142 011472
	3 OCT		
From	Valid until	Fare	
KILMARNOCK	OCT	£5.60	
To	Manchester ANY		

Here are the times for a train from Inverness to Nottingham in 12-hour times.

12-Hour Times	Inverness	Edinburgh	Durham	Sheffield	Nottingham
Departs at	10:50 a.m.	3:10 p.m.	4:55 p.m.	7:10 p.m.	8:05 p.m. (arrives)

3. Rewrite the timetable using 24-hour times.

24-Hour Times	Inverness	Edinburgh	Durham	Sheffield	Nottingham
Departs at					(arrives)

4. Heidi arrives at Sheffield station at 18:35. How long will she have to wait until the train to Nottingham departs? It took her 15 minutes to walk from home to the station. What time did she leave home? Write your answer using a.m. or p.m.

5. How long is the journey from Glasgow to Manchester? Write your answer in two ways: hours and minutes (e.g. 1 hour 20 minutes) and in minutes (e.g. 80 minutes).

24-Hour Times	Glasgow	Dunlop	Kilmarnock	Carlisle	Manchester
Departs at	22:30	22:55	23:05	23:50	02:10 (arrives)

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6. A journey from one station to the next station takes more than 100 minutes, but less than 120 minutes. What could the two stops be? Are there any other possible answers? Explain why you think this.

12-Hour Times	Inverness	Edinburgh	Durham	Sheffield	Nottingham
Departs at	10:50 a.m.	3:10 p.m.	4:55 p.m.	7:10 p.m.	8:05 p.m. (arrives)

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# Task

Here are the times for a train from Carlisle to Coventry in 24-hour times.

24-Hour Times	Carlisle	Preston	Crewe	Birmingham	Coventry
Departs at	11:06	12:15	13:04	14:19	14:30 (arrives)

1. Rewrite the timetable in 12-hour times, using a.m. and p.m.

12-Hour Times	Carlisle	Preston	Crewe	Birmingham	Coventry
Departs at					(arrives)

2. Toby arrives at Crewe station at 12:38 p.m. How long will he have to wait until the train to Coventry departs?

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Here are the times for a train from Inverness to London in 12-hour times.

12-Hour Times	Inverness	Edinburgh	Wigan	Wolverhampton	London
Departs at	11:09 a.m.	2:52 p.m.	5:28 p.m.	6:46 p.m.	8:32 p.m. (arrives)

3. Rewrite the timetable using 24-hour times.

24-Hour Times	Inverness	Edinburgh	Wigan	Wolverhampton	London
Departs at					(arrives)

4. Lydia arrives at Wigan station at 17:09. How long will she have to wait until the train to London departs? It took her 13 minutes to walk from home to the station. What time did she leave home? Write your answer using a.m. or p.m.

12-Hour Times	Inverness	Edinburgh	Wigan	Wolverhampton	London
Departs at	11:09 a.m.	2:52 p.m.	5:28 p.m.	6:46 p.m.	8:32 p.m. (arrives)

5. How long is the journey from Inverness to London? Write your answer in two ways: hours and minutes (e.g. 1 hour 20 minutes) and in minutes (e.g. 80 minutes).

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6. A journey from one stop to the next stop takes more than 1 hour, but less than 90 minutes. What could the two stops be? Are there any other possible answers? Explain why you think this.

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7. A new route has been introduced. The train is a high speed train and it reduces the journey time from Inverness to London by 1 hour 15 minutes. If the train leaves Inverness at 10:30 a.m., what time should it arrive in London? Write your answer in 24-hour time.

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# Solve It



24-Hour Times	Inverness	Edinburgh	Durham	Sheffield	Nottingham
Departs at	<b>10:45</b>	<b>15:08</b>	<b>16:54</b>	<b>19:06</b>	<b>20:00</b> (arrives)



Billy is going to the train station to catch the 16:54 train from Durham to Sheffield. He leaves his house at 4:15 p.m. He has a 5 minute walk to the bus stop. He waits at the bus stop for 5 minutes, then catches the bus to the station which, is a 17 minute journey. He then has an 8 minute walk to the station. How long will he have to wait at the station before the train leaves?

Use this timetable to write your own story problem for your partner to solve.

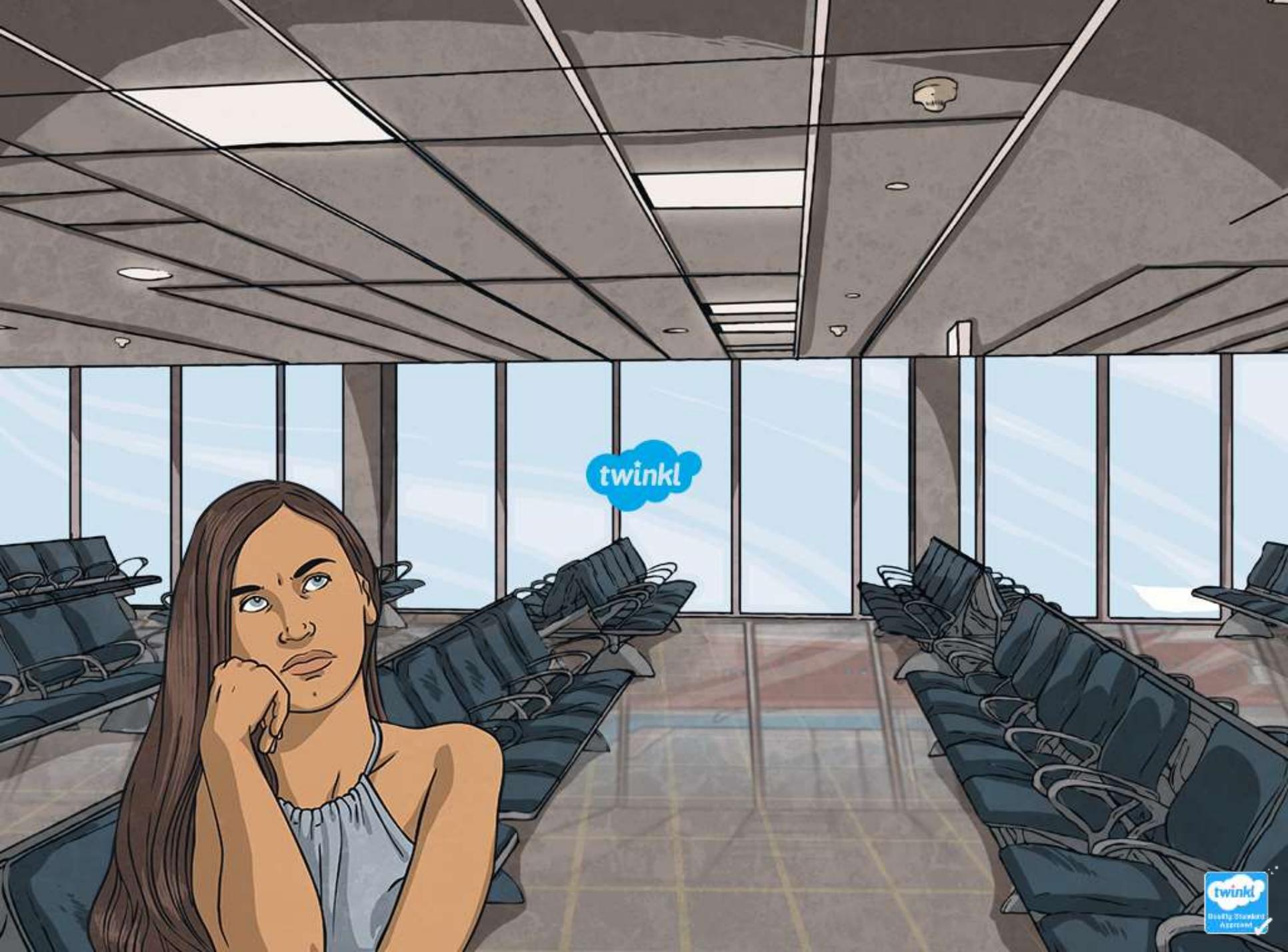
# Aim



- I can solve time problems involving 12-hour and 24-hour times.

# Success Criteria

- I can convert between 12-hour and 24-hour times.
- I can count on a timeline to calculate how much time has passed.
- I can solve time problems using timetables, converting between 12-hour and 24-hour times.



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