

Measure Prior Assessment Question 4:

Objective: I can read timetables and calculate intervals of time.

NC: M 2: use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places

Teacher Input Ideas:

Display the timetable from the prior learning assessment or one of the timetables provided in the activities section below .

Encourage a discussion about timetables :

- What information is displayed in a timetable?
- Can the children think of a time they have used a timetable?
- What are they for? Who uses them? Why?

Give the children time to retrieve simple information from the timetable you provide. Model how to use the structure to retrieve times or information.

Then model using a timetable to work out how long something lasts/how long it will take? When it will be finished? Model calculating intervals of time using information from the timetable. Model strategies that the children can use to calculate, such as practical clocks, number lines and jottings (see the other lesson 4 for intervals of time).

Practice Activities

Purple Practice: Most suited for children who made errors in question 4 a and c of the prior learning and will benefit from exploring how timetables are structured.

The purple activity provides the children with a timetable for feeding the animals at a sea life centre. Discuss with the children how the table is presented and structured. What different times can they see? What does each row show? What information is provided in each column? How do they know? What information can we find out about group 1?

The children are then provided with basic retrieval questions using the timetable to find out different times and groups.

Green Practice: Most suited for children who made errors in Question 4 b, d and e of the Prior Learning Assessment and will benefit from calculating differences in time using timetables.

For the green activity the children are provided with the same timetable as the purple activity and the children are presented with questions requiring them to calculate with time.

Yellow Practice Most suited for children who show some accuracy in Question 4 and are ready to explore timetables with 24 hour times and gaps in the timetable.

This activity is across 2 sheets using an example of a train timetable.

Sheet one encourages the children to familiarise themselves with the timetable for trains from Leicester to London. This provides children with the opportunity to explore how the timetable is organised.

Look at the timetable first and discuss:

- What is being displayed? Why? How is the information structured? Explain how this helps passengers use the information.
- What do you notice about the trains? Which trains go to London? Which ones go to Market Harborough? Why do you think this is?
- What times do the trains leave? What different times are shown? What time do they arrive? How long does each journey take? Explain how you calculated this.

The children are provided with retrieval questions in the first sheet, where they are to read the timetable and answer with times or trains.

The second sheet encourages the children to retrieve information from the timetable and then calculate with time.

Mastery For this activity the children are provided with a bus timetable that only displays a few times. The children are to look at the information they have and use this to work out the times of the buses not displayed. Encourage lots of discussion about the time table.

Key questions: What information have you got? Why are not all of the times displayed? How can people work out what times the buses are after 10 o'clock, after 12 o'clock? Is there a pattern? Explain how this makes it easy for the people catching the bus? Which information is helping you to work out the next time what is the difference in times? How long does each journey take?

Answers:

Purple:

1) What time is group 1 feeding the sharks?

8:05

2) What time is group 2 feeding the penguins?

12:00pm

3) Which group feeds the penguins at 3:30 pm?

group 3

4) Which groups feed the turtles in the morning?

Groups 1 & 2

5) What time is the last feed for the turtles?

6:45pm

Green:

1) How long does each group feed the animals for?

50 mins

2) How long is it between the turtles first feed of the day and their last feed of the day?

10 hours 30 mins

3) Atlanta works at the Sea Life Centre from 8 am to 5pm. Her Job is to work with the groups of children to feed the animals and work at the information centre when the animals do not need feeding. How long does she spend feeding the animals with groups of children ?

2 hours 30 mins or 150 mins

4) How long does each animal have to wait between their feeds in the timetable?

3 hours and 30 mins

Yellow

1) 12:23

2) 13:25

2) train 15

4) train 16

5) 45 minutes

6) 1 hour and 12 mins

7) 22 minutes

8) 18 minutes

Mastery:

1) 10:07

2) 10:44

3) The times are repeated. Every 15 minutes splits the hour into 4 equal sections, so there are 4 buses every hour at the same minutes past every hour

Below is a timetable for feeding times at a Sea Life Centre for groups of children:

	Group 1	Group 2	Group 3	Group 4
Sharks	8 :05 am	11:35 am	3:05 pm	6:35 pm
Turtles	8:15 am	11:45 am	3:15 pm	6:45pm
Penguins	8:30 am	12:00 pm	3:30 pm	7:00 pm
Octopus	8:55 am	12:25 pm	3:55 pm	7:25 pm

1) What time is group 1 feeding the sharks?

2) What time is group 2 feeding the penguins?

3) Which group feeds the penguins at 3:30 pm?

4) Which groups feed the turtles in the morning?

5) What time is the last feed for the turtles?

Below is a timetable for feeding times at a Sea Life Centre for groups of children:

	Group 1	Group 2	Group 3	Group 4
Sharks	8 :05 am	11:35 am	3:05 pm	6:35 pm
Turtles	8:15 am	11:45 am	3:15 pm	6:45pm
Penguins	8:30 am	12:00 pm	3:30 pm	7:00 pm
Octopus	8:55 am	12:25 pm	3:55 pm	7:25 pm

1) How long does each group feed the animals for?

2) How long is it between the turtles' first feed of the day and their last feed of the day?

3) Atlanta works at the Sea Life Centre from 8 am to 5pm. Her job is to work with the groups of children to feed the animals and work at the information centre when the animals do not need feeding. How long does she spend feeding the animals with groups of children ?

4) How long does each animal have to wait between their feeds in the timetable?

Below is a timetable displayed on a board in the train station for the next 4 trains leaving Leicester and travelling to London.

	Train 13	Train 14	Train 15	Train 16
Leicester	11:38	12:13	12:26	12:38
Market Harborough	11:51	12:26	-	12:51
Kettering	12:01	-	-	13:01
Wellingborough	12:08	-	-	13:08
Bedford	12:23	-	-	13:23
Luton Parkway	12:39	-	-	13:39
London St Pancras	13:06	13:25	13:36	14:06

- 1) Zainab gets on the train that leaves Leicester at 11:38. She gets off at Bedford. What time does she arrive?

- 2) Jay and his mum want to leave Leicester train station around 12 o'clock. What time will they arrive at London St Pancras station?

- 3) Saahil needs to arrive in London St Pancras station for 2pm . Which train will he need to get from Leicester?

- 4) Isla is leaving from Leicester train station and wants to meet her friend Sofia on the train who lives in Wellingborough. Isla gets to Leicester train station for 12 o' clock. Which train will she need to get on?

Below is a timetable displayed on a board in the train station for the next 4 trains leaving Leicester and travelling to London.

	Train 13	Train 14	Train 15	Train 16
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Kettering	12:01	-	-	13:01
Wellingborough	12:08	-	-	13:08
Bedford	12:23	-	-	13:23
Luton Parkway	12:39	-	-	13:39
London St Pancras	13:06	13:25	13:36	14:06

- 5) Zainab gets on the train that leaves Leicester at 11:38. She gets off at Bedford. How long is her journey?

- 6) Jay and his mum want to leave Leicester Train station around 12 o'clock. How long are they on the train for?

- 7) Sarah is travelling from Market Harborough. She arrives at the train station 3 minutes after train 14 leaves. How long does she have to wait for the next train to London?

- 8) How much longer does train 16 take to get from Leicester to London than train 15?

Below is a bus timetable from a village called Anstey to the train station. Use the timetable to answer the questions.

Anstey	9:07	9:22	9:37	9:52	then every 15 minutes
Shopping centre	9:14	9:29	9:44	9:59	
Train station	9:20	9:35	9:50	10:05	

- 1) Cyrus wants to get a bus from Anstey after 10 o'clock. What time is the first bus he can catch?

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- 2) Arthur needs to be at the train station for 11 o'clock. What time bus will he need to get from the shopping centre?

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- 3) Continue the timetable for the next 8 times. What do you notice about buses leaving every 15 minutes

Is there a pattern? Why?