

READING TIME-TABLE OF JOURNEYS

Subject

Mathematics

Prepared By

[Instructor Name]

Grade Level

5

Overview

This lesson plan covers teaching content for;

1. How to read and interpret timetable information

Objectives

Students should be able to;

1. Explore the concept of timetables across a range of transport services.
2. Develop appropriate skills in order to interpret and understand timetables.
3. Compare 12- and 24-hour time systems.
4. Identify how to plan a journey using timetables.
5. Develop the skills to plan a real journey.

Activity Starter/Instruction

1. Explain to students the concepts of time (hours, minutes, days)
2. Tell them how to read a clock using the clock hands (small hand = hour, large hand = minute)
3. Ante meridiem = am = before midday
4. Post meridiem = pm = after midday
5. 1:00 pm = 1 hour after midday (13th hour of the day) = 1300
6. Get them familiar with common language such as 'quarter to', 'quarter past' and 'half past' to describe time.
7. Make them understand that timetables help us to organize ourselves.
8. Timetables help us organize schedules. There are many types of timetables in our everyday lives such as: bus, TV, movie and even class timetables.

Teacher Guide

Day 1/ Lesson 1: 20mins

1. Train and ferry time-table: London to Dublin

London Euston train depart:	06:46	09:00	11:28	19:38
Holyhead train arrive:	11:30	13:03	15:30	23:29
Change trains at:	Crewe	direct	Crewe	direct
Holyhead ferry depart:	12:00	14:10	17:15	02:40
Dublin Ferryboat arrive:	13:49	17:25	19:04	05:55

2. Look at the timetable with your students and ask questions such as:
3. How long does the first train from London Euston take to travel to Holyhead?
4. If you arrive at Holyhead at 13:03, how long do you have to wait for the ferry to depart?

Materials Required

- White board
- Marker
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Additional Resources

- <http://getonboard.transperth.wa.gov.au/Teachers/Le>
- <http://www.mrbartonmaths.com/resources/GCSE%20tables-and-distance-tables.pdf>
- <https://nrich.maths.org/958>
- <https://www.tes.com/teaching-resource/timetables-k>
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Additional Notes

Teacher Guide

Day 2/ Lesson 2: 15mins

1. To find out how long a journey lasts, you need to know the start time and the end time of the journey.
2. Fred sets off on a journey. He leaves Epsom station on the train at 7:10 a.m. His journey starts at 7:10 a.m. The train arrives at Waterloo station at 7:52 a.m. His journey ends at 7:52 a.m.
3. To find out how long Fred's journey was, we need to work out **how many minutes have passed** from the start of the journey to the end of the journey.
4. We can calculate Fred's journey time, by taking the start time, **10**, from the end time, **52**.
5. $7:52 - 7:10 = 42$ minutes
6. If the hours are different for example; 9:50 start time to 10:30 end time.
7. Simply count on the number of minutes from **9:50am to 10:00am** which is 10minutes.

Guided Practice

Day 3/ Lesson 3: 15 Mins

1. To begin, some discussion can take place about time zones and GMT as a base from which we can measure time zones.
2. Students could be set a short homework or task to investigate and research time zones.
3. Students should be given a list of countries and asked to find the time difference when compared to GMT. Include a wide variety of countries from all different time zones.
4. Students could then be presented with questions and/or challenges to investigate, involving flying around the world.
5. For example: I start my journey in London on January 1st heading to Greece. My flight leaves at 9.30am and last for four hours. What will be the local time when I land?
6. On January 6th, at 6pm (local time), I leave Greece and fly to India. The flight takes 8 hours. At what local time will I land in India?
7. On January 20th at 8am (local time), I fly from India to Brazil. The flight takes 20hours. What will the local time and date be when I arrive in Brazil?
8. Or students could be asked to plan their own around the world journey! Access to the internet would be really useful

5. If you left London Euston at 9:00am when should you arrive in Dublin?
6. If you had to be in Dublin by 2:00pm, which train would you catch from London Euston?
7. Which of these journeys from London to Dublin is the quickest?

Guided Practice

Day 4/ Lesson 4: 20mins

1. In this activity students are asked to create a school timetable given a set of restrictions.
2. The restrictions can be presented in a number of ways (ratios, percentages, fractions etc.)
3. One such example is given below.

Monday			B			L			
Tuesday			R			U			
Wednesday			E			N			
Thursday			A			C			
Friday			K			H			

4. Prepare a time-table with the format below.
 5. 20% of lessons should be Science
 6. There should be twice as many Technology lessons as Art lessons
 7. $\frac{1}{7}$ of the lessons must be either History or Geography
 8. The ratio of Art lessons to RS lessons is 1:1
 9. There should be more History lessons than Geography lessons
 10. There should be two RS lessons
 11. Science lessons should be split into Physics, Chemistry and Biology. There should be more Chemistry lessons than Biology or Physics lessons
 12. There should be 5 Math lessons
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8. Then count on from
10:00am to 10:30am
which is 30minutes.
9. Add it up; 10 minutes +
30 minutes = 40 minutes.
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for this investigation as students could
access flight times and also time zones.

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- 13.The number of Math and English lessons in the same
- 14.The rest of the lessons should be either French or
German lessons
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Summary

1. Go over the activities
with students and pick
students randomly to
provide answers.
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Assessment Activity

1. Throughout the lesson and activity, the
teacher will be questioning, prompting,
monitoring, and observing students as
they work on various examples.
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Assessment Activity

- Assess if students can;
- 1.Read and interpret timetable information correctly
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