

UNIT 1 SESSION 3: HOW LONG WILL IT TAKE TO GET THERE?

Age range: 8 - 12 years

<p>Outline Learners will identify the position of the Prime/Greenwich Meridian on a world map. Using flight timetables showing journeys from the UK (London) to each of the four Young Lives countries, learners will calculate the time durations of the different journeys. Less able learners will use a timetable with flights shown in Greenwich Mean Time (GMT) only. More able learners will need to take into account time differences between the UK and the Young Lives countries.</p>		
<p>Learning objectives</p> <ul style="list-style-type: none"> To locate the position of the Prime/Greenwich Meridian line on a world map. To be able to read a timetable using the digital 24-hour clock. To calculate the time duration of a flight (taking into account time zones). 	<p>Learning outcomes</p> <ul style="list-style-type: none"> Learners will mark the position of the Prime/Greenwich Meridian line on a world map. Learners will read and interpret information in timetables using the digital 24-hour clock. Learners will calculate the time duration for flights from the UK (London) to each of the four Young Lives countries. Learners will use knowledge of time zones to calculate a time difference. 	
<p>Key questions</p> <ul style="list-style-type: none"> What are time zones and why do we have them? How long will your journey take? What is the time difference between...? 	<p>Resources</p> <ul style="list-style-type: none"> Unit 1 Slideshow (Sessions 1 - 3): Slides 23 – 29 Resource sheet 1: <i>Where is the Prime/Greenwich Meridian line?</i> Activity sheets 1 - 3: <i>How long will it take?</i> Learners' world maps from Unit 1 Session 2 (if completed) 	
<p>Curriculum links</p>		
<p>England <i>Pupils should be taught to:</i> Mathematics Measurement</p> <ul style="list-style-type: none"> Solve problems involving converting between units of time. Convert between miles and kilometres. <p>Statistics</p> <ul style="list-style-type: none"> Complete, read and interpret information in tables, including timetables. <p>Geography Locational knowledge</p> <ul style="list-style-type: none"> Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night). 	<p>Wales Mathematics Measures and money</p> <ul style="list-style-type: none"> Understand the relationships between units, and convert one metric unit to another. Select and use the appropriate mathematics, materials, units of measure and resources to solve problems in a variety of contexts. <p>Geography Locating places, environments and patterns</p> <ul style="list-style-type: none"> Identify and locate places and environments using globes, atlases, and maps. Use maps, imagery and ICT to find and present locational information. 	<p>Scotland Numeracy and Mathematics: Time</p> <ul style="list-style-type: none"> Using simple time periods, I can give a good estimate of how long a journey should take, based on my knowledge of the link between time, speed and distance. <p style="text-align: right;">MNU 2-10c</p>
<p>Important teaching note These are suggested activities and resources to support your teaching rather than guide it. Additional teaching input may be required to develop learners' knowledge, skills and understanding of some of these concepts.</p>		

Activity 3.1 (15 min)

- Note that learners will need prior knowledge and understanding of what time zones are and why we have them for this activity. The following slides do not provide a full explanation and serve as a reminder only.
- Show slide 24 of the *Unit 1 Slideshow (Sessions 1 - 3)* and follow the link to an interactive time zone world map showing the different time zones: www.timeanddate.com/time/map/. Point out the Prime/Greenwich Meridian Line and use slides 25-26 to provide a brief explanation to remind learners about the previous learning about time zones. If you completed *Unit 1 Session 2*, you could ask learners to mark the location of the Prime/Greenwich Meridian line on their world maps. A reference world map is provided in *Where is the Prime/Greenwich Meridian line?* (Resource sheet 1).
- Show slide 27. Explain that these clocks show concurrent times in Nairobi (Kenya), London (UK) and Mexico City (Mexico). You may like to ask learners to locate these countries on a world map. Say that in this photograph the time in the UK is 2:21pm. Explain that the time in Nairobi is two hours ahead of the time in the London. The time in Mexico City is six hours behind the time in London. *Please note that these time differences relate to British Summer Time.*
- Ask learners to use these time differences to check that the times shown on the Nairobi and Mexico City clocks are correct (Nairobi: 4:21pm, Mexico City: 8:21am). Ask whether it is morning or afternoon in Nairobi and discuss what pupils would normally be doing at this time of day. Then ask whether it is morning or afternoon in Mexico City and discuss what learners would normally be doing at this time of day.
- Show slide 28. Ask learners to use their understanding of time zones to sort the UK and four Young Lives countries according to the order in which they would celebrate the New Year. Learners could use an interactive time zone world map (www.timeanddate.com/time/map/) to help them with this.

Activity 3.2 (25 min)

Note that learners will need to be able to read digital 24-hour time for this activity.

- Show slide 29. Distribute copies of the differentiated flight time tables (*How long will it take?* – Activity sheets 1 to 2) showing the departure and arrival times for flights from the UK (London) to each of the Young Lives countries. Ask learners to calculate the missing information: flight arrival and departure times, flight durations and time differences. Two blank tables are also provided (Activity sheet 3) for teachers who wish to insert information for flights from a different originating city in the UK, for example from Belfast, Cardiff or Edinburgh. Note that in many cases, travelling from these starting points will involve a change in flight, making the calculation more complex. Alternatively this could be set as a challenge to extend more able learners.

Differentiation

- *Make it easier:* Give learners copies of *How long will it take?* Table A (GMT used for both flight departure and arrival times). Learners will need to calculate how long each flight will take and then use the time difference to calculate the arrival time in local time.
- *Make it slightly harder:* Give learners copies of *How long will it take?* Table B (GMT used for flight departure times and local times used for flight arrival times). Learners will need to take into

account the time difference between each country and the UK to calculate how long each flight will take.

- *Make it harder: Give learners copies of How long will it take? Table C (selection of information provided: flight departure times using GMT, flight arrival times using local times, flight durations and time differences). Learners will need to calculate the missing information.*

Further ideas

- Learners could use the Internet to research and plan their own journey to one of the Young Lives countries, starting from their city in the UK to the capital city of one of the Young Lives countries. Encourage learners to consider more sustainable travel options, for example, travelling overland. Learners could also calculate how long their journey would take.
- Ask learners to calculate the time taken for a round the world trip starting and ending in the UK, stopping off in each of the Young Lives countries along the way.
- Ask learners to use an interactive time zone world map to work out the current time in the UK and each of the four Young Lives countries. See: www.timeanddate.com/time/map/
- Learners could research time zones in other parts of the world and produce a map showing the current time in different country locations of their choice.

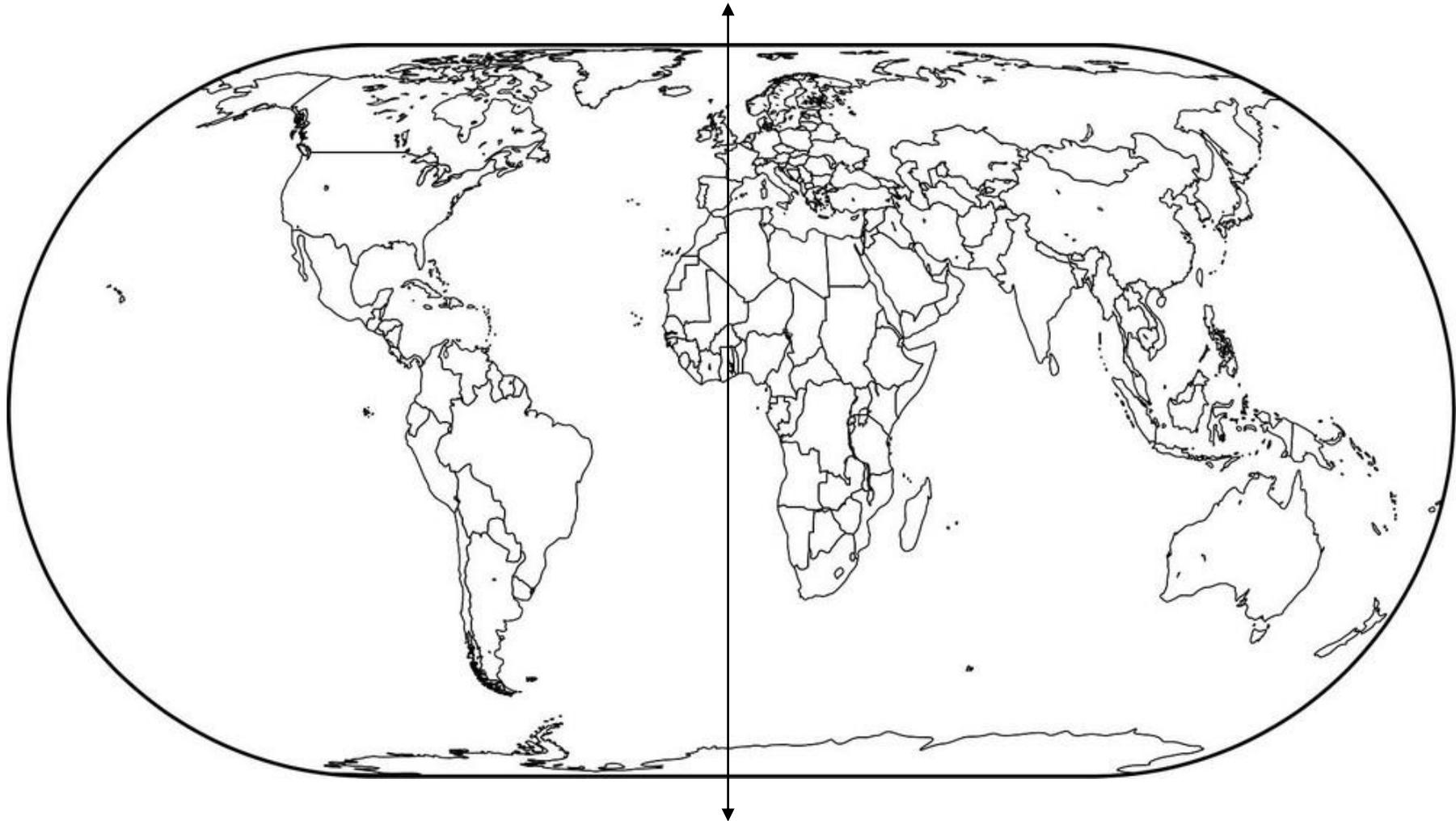
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Where is the Prime/Greenwich Meridian line?

Resource sheet 1



Prime/Greenwich Meridian line 0°0'0"

Map source: Geographical Association www.geography.org.uk

Activity sheet 1

How long will it take?

Reference table

Country	Destination ¹	Local Departure Time	Local Arrival Time	Flight Duration	Time Difference (Destination compared to GMT)
Ethiopia	Addis Ababa	21:00	08:00 (+ 1 day)	8 hours	+3 hours
India	Hyderabad	13:35	04:35 (+ 1 day)	9 hours 30 minutes	+5 hours 30 minutes
Peru	Lima ²	18:50	07:00 (+ 1 day)	17 hours 10 minutes	- 5 hours
Viet Nam	Hanoi ²	08:55	06:15 (+ 1 day)	14 hours 20 minutes	+7 hours

¹ All flights originate from London Heathrow. ² Flight with one stop (all other flights are direct).

Data source: <http://www.skyscanner.net/>

How long will it take?

Table A

Fill in the blanks

Country	Destination ¹	Departure time (GMT)	Arrival time (GMT)	Flight duration	Time difference (destination compared to GMT)	Local arrival time
Ethiopia	Addis Ababa	21:00	05:00 (+ 1 day)			
India	Hyderabad	13:35	23:05			
Peru	Lima ²	18:50	12:00 (+ 1 day)			
Viet Nam	Hanoi ²	08:55	06:15 (+ 1 day)			

¹ All flights originate from London Heathrow. ² Flight with one stop (all other flights are direct).

Data source: <http://www.skyscanner.net/>

Activity sheet 2

Table B

How long will it take?

Fill in the blanks

Country	Destination ¹	Departure time (GMT)	Local arrival time	Time difference (destination compared to GMT)	Flight duration
Ethiopia	Addis Ababa	21:00	08:00 (+ 1 day)	+3 hours	
India	Hyderabad	13:35	04:35 (+ 1 day)	+5 hours 30 minutes	
Peru	Lima ²	18:50	07:00 (+ 1 day)	- 5 hours	
Viet Nam	Hanoi ²	08:55	06:15 (+ 1 day)	+7 hours	

¹ All flights originate from London Heathrow. ²Flight with one stop (all other flights are direct).

Data source: <http://www.skyscanner.net/>

How long will it take?

Table C

Fill in the blanks

Country	Destination ¹	Local departure time	Local arrival time	Flight duration	Time difference (destination compared to GMT)
Ethiopia	Addis Ababa	21:00		8 hours	+3 hours
India	Hyderabad	13:35	04:35 (+ 1 day)		+5 hours 30 minutes
Peru	Lima ²	18:50	07:00 (+ 1 day)	18 hours 10 minutes	
Viet Nam	Hanoi ²		06:15 (+ 1 day)	14 hours 20 minutes	+7 hours

¹ All flights originate from London Heathrow. ² Flight with one stop (all other flights are direct).

Data source: <http://www.skyscanner.net/>

Activity sheet 3

How long will it take?

Blank table

Country	Destination	Departure time (GMT)	Local arrival time	Time difference (destination compared to GMT)	Flight duration
Ethiopia	Addis Ababa				
India	Hyderabad				
Peru	Lima				
Viet Nam	Hanoi				

How long will it take?

Blank table

Country	Destination	Local departure time	Local arrival time	Flight duration	Time difference (destination compared to GMT)
Ethiopia	Addis Ababa				
India	Hyderabad				
Peru	Lima				
Viet Nam	Hanoi				