Time Travellers

Time: 1 hour

Introduction People from all over the world take part in the annual 2041 trip to Antarctica. When everyone reaches Ushuaia, the southern-most town in the world, they need a couple of days to recover from jet-lag after their long journeys to South America

Learning Objective:
To learn about how time zones work around the world.

Resources:
1. Time zone map of the world (available on www.2041.com)
2. Time traveller worksheet (available on www.2041.com)
3. Clockfaces
4. Globe.

1 Give the children a copy of the time zone world map. Explain to the children that they will be calculating the time in different cities around the world based on the time in London. Time zones differ depending on where you are in the world. Time zones are either ahead of or behind London. We calculate time zones by taking Greenwich Mean Time (GMT) in London as the mid point in the world. If a country is five hours ahead of GMT, we say that it is GMT+5 hrs. If it is five hours later than GMT, we say it is GMT-5 hrs.

2 Hand the class the Time zone worksheet and see if they can fill out the table illustrated below. Children can use the Time zone world map to help them. They may also like to use clockfaces to do the working out manually.

Time in City (+/- GMT)				
London (GMT)	8am	6pm	1am	3pm
e.g. Buenos Aires (GMT-3 hrs)	5am	3pm	10pm	12pm
Paris (GMT+1 hrs)	9am	7pm	2am	4pm
New York (GMT-5 hrs)	3am	7pm	2am	4pm
Toronto (GMT-6 hrs)	2am	12pm	7pm	9am
Tokyo (GMT+9 hrs)	5pm	3am	10am	12am
Capetown (GMT+2 hrs)	10am	8pm	3am	5pm
Los Angeles (GMT-8 hrs)	12pm	10am	5pm	7am
Beijing (GMT+8 hrs)	4pm	2am	9am	11pm
Sydney (GMT+10 hrs)	6pm	4am	11am	1am
Moscow (GMT+3 hrs)	11am	9pm	4am	6pm

Differentiation

To simplify the exercise, make a time line on the whiteboard that goes from -12 to 0 and onto +12. Use counters to move forwards and backwards along the time line.

To extend the exercise, children can use the Time zone world map to work out what time flights from around the world arrive in Buenos Aires (before the 3 _ hour flight down to Ushuaia).

Answers:

City	Dep. Time	BA Time	Flight Time	Arrival in BA (GMT -3 hrs)
London (GMT)	9am	6am	13 hrs	7pm (SD)
Paris (GMT+1 hrs)	2pm	10am	14 hrs	12am (Midnight)
New York (GMT-5 hrs)	10pm	12am	11 hrs	11am (ND)
Toronto (GMT-6 hrs)	1am	4am	13 hrs	5pm (SD)
Tokyo (GMT+9 hrs)	4pm	4am (ND)	20 hrs	12am (Midnight SD)
Capetown (GMT+2 hrs)	6am	1am	9 hrs	10am (SD)
Los Angeles (GMT-8 hrs)	5pm	10pm	16 hrs	2pm (ND)
Beijing (GMT+8 hrs)	7.30am	8.30pm (PD)	23 hrs	7.30pm (SD)
Sydney (GMT+10 hrs)	11.30am	10.30pm (PD)	16 hrs	2.30pm (SD)
Moscow (GMT+3 hrs)	3.30pm	9.30am	16.5 hrs	2am (ND)

Key: **ND** = Next Day **PD** = Previous Day **SD** = Same Day

To work out the arrival time, the class should calculate how many hours behind or ahead of Buenos Aires (BA) the city is, and start the calculation by going back the number of hours to get the BA time. The second part of the calculation is to work out the arrival time in BA by adding on the flight time. Remember BA is GMT-3 hrs.

If you have time, you could add a 2 hour wait and a 3 hour flight down to Ushuaia to the Buenos Aires arrival times and find out when the 2041 team members arrived in Ushuaia.

Success Criteria

1. Children understand that there are time zones all round the world, ahead and behind London GMT.

2. The children can work out the time in cities ahead or behind GMT.

3. Some children can work out arrival times of journeys, using flight times and time differences.