

Learning area

Mathematics
(Data)

Objective

- Completes questions about world temperatures from information in tables.

Resources

- atlas for each pupil
- calculator for each pupil
- blank world map for each pupil (optional)

Websites

- world almanac:
<http://www.infoplease.com/world.html>
- world climate:
<http://www.worldclimate.com>

Lesson plan and organisation

- Using an atlas, pupils locate the cities from the chart and mark them on the world map. Locate and label the Equator, label the Northern and Southern hemispheres and the magnetic North Pole.
- Discuss the hemispheres and how the seasons are reversed due to the angle of the sun.
- Explain that to calculate the annual average temperatures for cities with subzero degree winters, the subzero temperature is simply subtracted rather than added, but the total is still divided by four.
- Pupils work through the sheet, completing the tables, graph and problems, using the information provided and that which they have calculated.

Additional activities

- Pupils could access information from the Internet about other cities. The major cities of the USA would provide an interesting range of temperatures as this country has many climatic regions. Compare data to information on the worksheet and research other weather factors the cities may have, such as high winds, location at the base of two mountains etc.
- Pupils write stories about another city with different weather; for example, a January day in Moscow.
- Pupils create a collage of pictures of weather in cities around the world.

Answers

1.

Northern Hemisphere			
Winter	Spring	Summer	Autumn
December January February	March April May	June July August	September October November
Summer	Autumn	Winter	Spring
Southern Hemisphere			

2. (a) and (b)

	Winter	Spring	Summer	Autumn	Annual average	Temp. range
Amsterdam	5°	10°	18°	11°	11°	13°
Athens	10°	16°	29°	20°	16.75°	19°
Beijing	-5°	14°	26°	13°	12°	31°
Cape Town	13°	16°	21°	17°	16.75°	8°
London	4°	10°	18°	11°	10.75°	14°
Moscow	-7°	5°	17°	5°	5°	24°
New York	-1°	10°	24°	13°	11.5°	25°
Paris	3°	11°	17°	11°	10.5°	14°
San Francisco	10°	12°	16°	15°	13.25°	6°
Sydney	12°	18°	22°	18°	17.5°	10°

(c) Teacher check

(d) (i) Athens (ii) Moscow
(iii) Beijing (iv) San Francisco

(e) very, very cold (f) warm and sunny

(g) cold

Curriculum links

Country	Subject	Level	Objectives
England	Maths	KS 2	<ul style="list-style-type: none"> Interpret tables, represent data on graphs and use average and range to describe data sets.
Northern Ireland	Maths and numeracy	KS 2	<ul style="list-style-type: none"> Interpret tables, present data using graphs and use the mean and range of a set of data.
Republic of Ireland	Maths	5th/6th Class	<ul style="list-style-type: none"> Represent data on bar charts and calculate averages of data sets.
Scotland	Maths	Level D/E	<ul style="list-style-type: none"> Interpret data from a range of displays and calculate the average.
Wales	Maths	KS 2	<ul style="list-style-type: none"> Interpret tables, represent data using graphs and use average and range.