Name .....

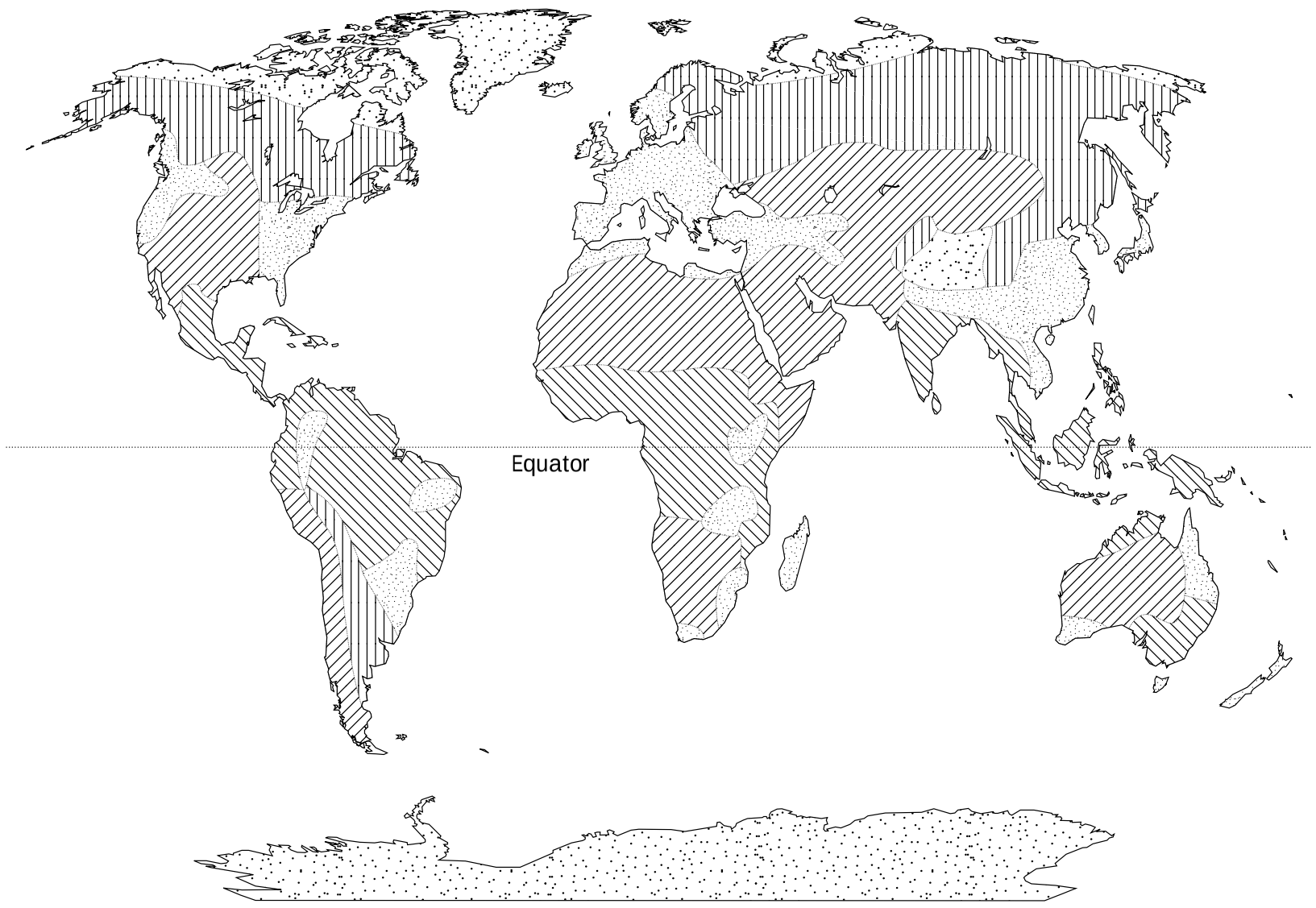
World Climate Zones

Class .....

Polar climate
This very cold climate is found in the polar regions of the world and on the highest mountains. Temperatures can range from 10°C in the summer to –40°C in the winter. Not much rainfall (less than 250 mm). The ground is always frozen so farming is impossible.

Warm temperature climate
This is a group of similar climates which are found in many areas, including Britain. Average temperatures range from 2°C to 26°C. Rainfall is light, usually about 1000 mm.

Tropical rainy climate
This climate is found in tropical latitudes. The Sun is high in the sky for the whole year. The very hot and moist conditions cause a lot of convection rainfall. Average temperatures are up to 32°C and annual rainfall can reach 2000 mm. Dense forest grows in layers.

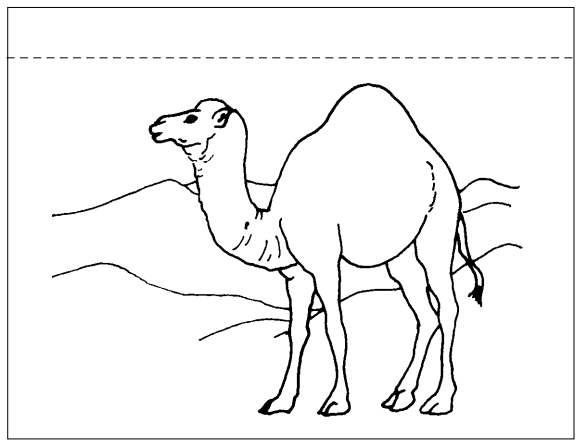


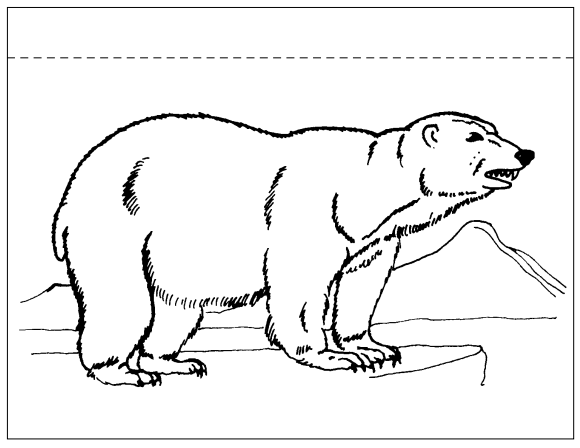
Cool temperature climate
This zone is found south of the Arctic. Bands of coniferous forest stretch across northern Europe and Canada. The high latitude keeps temperatures cold. They range from –40°C in winter to 21°C in summer. Rainfall is low. It is not usually more than 500 mm.

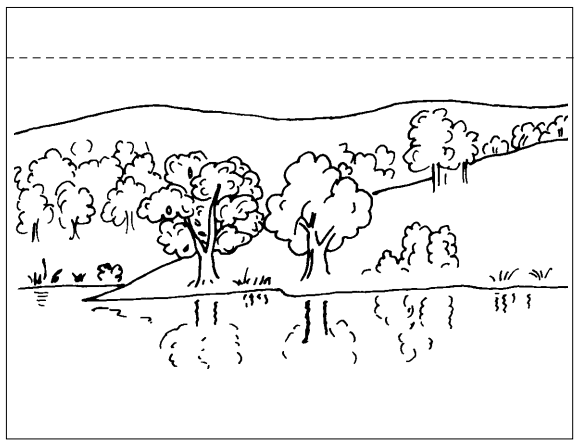
Dry and desert climate
Very dry areas, mostly found around the tropics, on the west side of continents. Local winds blow from the land to the sea, keeping the air dry. Daytime temperatures can reach 50°C. Nights can be very cold with no clouds to keep the heat in.

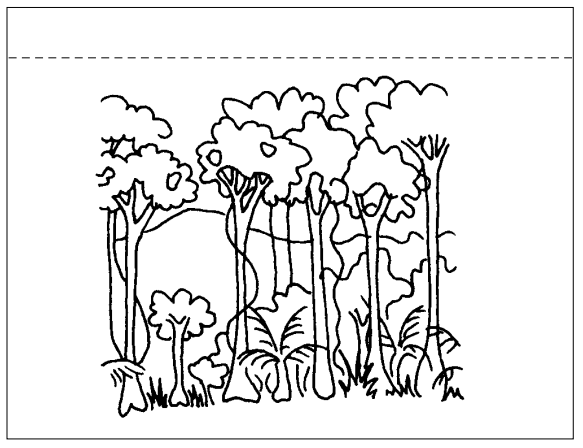
Key

- Polar climate
- Cool temperate climate
- Warm temperate climate
- Dry and desert climate
- Tropical rainy climate









Set 4: *Themes 2* Poster 4: World Climate Zones

TEACHER'S NOTES

National Curriculum

This poster relates to section 8c of the programme of study. It shows the distribution of the major climate zones. The localities studied during KS2 can be located on the map as a prelude to the study of the local weather conditions. The map can be used to identify other parts of the world with a similar climate.

This poster is suitable for pupils achieving level 3 and above.

Activities

The world map is divided into five climate zones. These are shaded and a key is provided. Please note that this map is greatly simplified and many sources show as many as 18 different zones.

a Adding colour

The first task is to use colours to separate the different zones. Ony four colours are needed as the polar climate can be left blank. To increase difficulty, the pupils could consider using logical colours ie blue shades for cool, red for desert etc. The key should also be shaded with the appropriate colours. For higher level pupils, the key could be blanked out so that they have to make their own based on the shading on the world map.

b Looking for patterns

Once the map has been coloured, pupils can look to see if there are any patterns on the map. If no ideas occur, the following clue may help: start at the equator and see what climate zones are found when moving north to the top and south to the bottom of the map. The answer is that similar bands of climate type occur at about the same distance each side of the equator. For example, if one starts at the equator, the sequence is tropical rainy, dry and desert, then warm temperate. This is as far as I would recommend for pupils achieving level 3. With pupils achieving higher levels, you may like to explain the importance of the elevation of the Sun (overhead at the equator and lower in altitude towards the poles). Higher level pupils could be told about the simplification of the zones and think of exceptions eg the Great Lakes area in Canada is very warm in summer.

c The information boxes

The content of the information boxes is more appropriate to higher level pupils. The boxes give basic climatic data and attempt simple explanations of the different climate types.

Pupils should research some of these climate types further, possibly in groups. At the end of their research, each group can report back to the rest of the class.

d Adding the picture flaps

The picture flaps at the bottom of the poster are aimed at students achieving level 3. However, the exercise could be carried out by any pupils using the poster. There are five picture boxes, each with a flap at the top, along the bottom of the poster. Pupils should colour these and then carefully cut them out. Pupils should decide which picture belongs to which climate group. They can then glue under the flap and fix the picture over the appropriate box, so that it can be 'flapped' up to reveal the contents.

Extension activities

The pupil sheet on the opposite page gives more specific details of one climate zone. This should be the basis of a more extended piece of work where pupils research into the climate, landscape, traditional life and changes in the rainforests. Pupils can work in the library/resource centre or from a project box set up by staff or library service.

Rainforests

What do rainforests look like?

Rainforests are found in different parts of the world but most of them have the same features. Many thousands of types of plants are found in the forests. Not all of them are trees. Small plants such as ferns, bushes and young trees grow in the shade near to ground level.

Above these is a 'canopy' of tree tops at a height of about 20 metres. This layer of branches keeps most of the ground beneath it in the shade. Some larger trees grow above the canopy and may reach a height of 40 metres.

How the plants have adapted

1 The hot and wet climate is very suitable for plants to grow in.
2 The leaves of the trees are large and shiny. This helps the raindrops to slip off them.
3 The bottom of the trunks of the tall trees are very wide to help them stay upright.
4 Plants grow high up on the trees to reach light.
5 The heavy rain washes the goodness out of the soil. The soil only stays fertile because of the leaves and other pieces of plant which fall down and rot away to make **nutrients**.

Why are the rainforests useful to us?

1 Rainforests contain a huge number of plants. We would lose these if the forests were cleared. The forests are also the home of many animals.
2 Many of the plants may be useful to us as they contain substances which can be made into medicines.
3 The forests are the 'lungs of the Earth'. They release oxygen and absorb the carbon dioxide gas that we breathe out and make with our machines.
4 The forests are the homes of many groups of people.

How do people affect the forests?

People who have lived in the forests all their lives can farm the land without damaging the environment. Unfortunately, areas of forest are now being burned and ploughed to make farmland. This is not a good idea because the soil is not fertile because the rain has washed the nutrients away. This is called **leaching**.

The farms are often abandoned and the local environment ruined.

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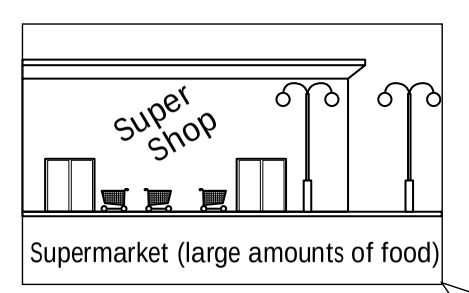
Name .....

Economic Activities 1

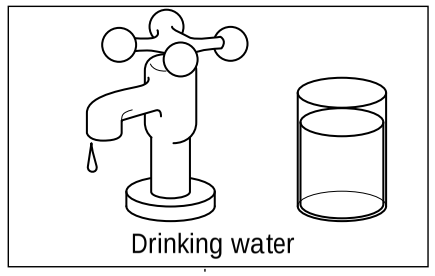
Class .....

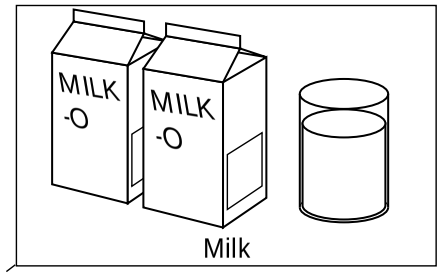
Getting the goods

This poster shows many of the goods and services that we use. You need to draw arrows to show if we go out to get the goods, or if they come to us. In the boxes you can write down or draw a picture to show how we get the goods or services. One example has been finished for you.



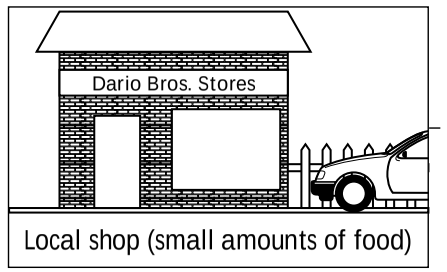
Supermarket (large amounts of food)


Drinking water



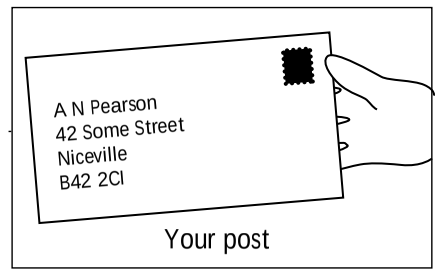
Milk

We go to the supermarket by car or bus

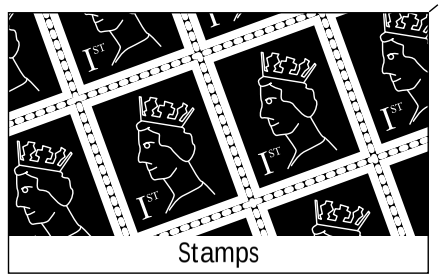


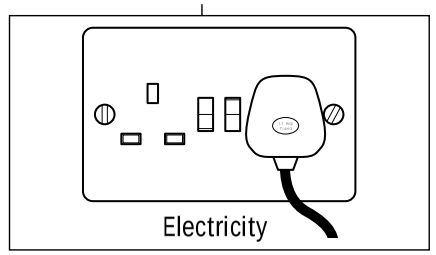
Local shop (small amounts of food)

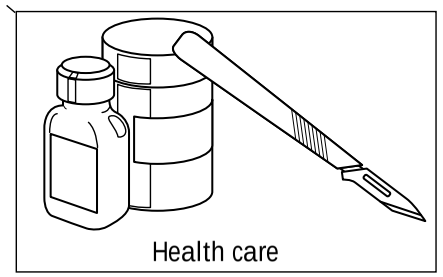
home



Your post


Stamps


Electricity


Health care

Set 4: *Themes 2* Poster 9: Economic Activities 1

TEACHER'S NOTES

National Curriculum

This poster relates to section 9a of the programme of study. It examines some of the goods and services available in settlements.

This poster is suitable for pupils achieving level 3 and above.

Activities

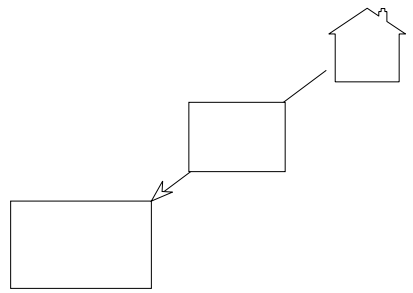
'Getting the goods' is a simple activity where students have to complete unfinished sections of the poster to show how different goods and services are obtained.

A certain amount of preparation is useful before the exercise, possibly in the form of a discussion. Start by considering the things that we need which we cannot provide by ourselves. This is likely to yield a list which is mainly goods, although some services could be mentioned. It is important at this point to try to distinguish between goods, such as food, furniture or petrol, and services such as health care or education. Some things, such as water, may be confusing as it is not so obviously a product as, say, milk.

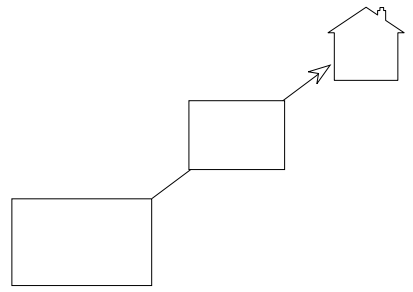
It is also worthwhile talking about how we get the various goods and services; do we go out to get them, or do they come to us. Again, there will be the possibility of confusion. Some people may have milk delivered to the door when others buy their milk in a shop. Health care is also complicated. For example, we go to the health centre under normal circumstances but medical help comes to us in emergencies.

There are two tasks on the poster. The first is to draw the arrow over the dashed line. The arrow shows the path of the goods as follows:

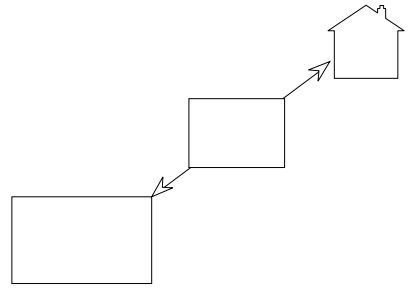
We go out to get the goods or services:



The goods or services come to us:



Both options are possible (eg milk):



The blank boxes at the centre of the poster can be used to give more information about how we get the goods or services. Either a short statement can be written in the space or pupils can draw a picture in each box.

Pupils should list which goods and services are available in their settlement. They should consider how this will change in larger or smaller settlements.

Extension activities

Extension work to build on this poster could include the keeping of a diary of goods and services. It might start like this:

OCTOBER 1995 WEEK 43

23 MONDAY
Milk delivered to door
Post delivered to door
Water and electricity connected
Walked to local shops

24 TUESDAY
Milk delivered to door
No post
Took bus to health centre
Walked to post office

25 WEDNESDAY

Local economic activities, together with other land-uses such as housing, open space and public amenities can be examined and compared on the basis of the size of the area they take up. This is probably best carried out using large-scale maps of the local area. These can either be prepared by staff (very time consuming but fun), or you may be able to buy commercially produced maps. Local town or city centre plans can be purchased from:

Charles E Goad Ltd
8-12 Salisbury Square
Old Hatfield
Hertfordshire
AL9 5BJ.

A4 sections of these maps can be copied for a modest licence fee.

There are many ways of working with such maps. Copies can be coloured to show different land-uses and then the sizes of these areas compared. Different land-uses can be cut out and ranked in order of size. Students should colour in different land-uses on the map and the key and then compare the different sizes. Extension work would then be to try and explain why different land-uses have different sizes.

Industrial awareness

Pupils should carry out research into one of the following jobs:

- Working in a supermarket
- Post Office delivery
- The water industry
- Electricity production
- Health worker
- Milk production/delivery

Information can be obtained from the education offices of many of these industries. It may be possible to arrange visits to school by workers in some of these, perhaps from the local community.

Cross-curricular links

English

Pupils could complete this topic by writing up a 'day in the life' of a worker in one of these industries.

History

Pupils could try to find out when each of the services described on this poster first came to their settlement or area.

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