

**BBC**

Education Scotland



# **SEE YOU SEE ME**

**Autumn 2006**

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BBC 2

## **Unit Two**

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# **See You See Me**

**Autumn 2006**

## **Unit Two**

**The Highlands and Islands: physical features**

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# Physical features

## Introduction

The series *See You See Me: Physical Features* aims to give the viewer an insight into the kinds of features found in the Highlands and Islands of Scotland. The basics of map reading are also covered in the programmes.

The presenter, an animated character called Goggs, decides to go off on holiday at the start of the first programme but tells the viewer he is leaving them in the capable hands of Tartan Tours.

We soon discover that the coach company Tartan Tours are short of tour guides and they send their office junior, Tess, on the tour guide training course. The series follows Tess as she tries to master the various tour routes round the Highlands and Islands. But map reading and having a good memory are not all that stand in the way of Tess becoming a tour guide!

Goggs realises Tess is in difficulty and keeps popping back to check on her progress.

The three programmes in this unit are closely linked to the 5–14 Environmental Studies attainment outcomes for People and Place, in particular 'Landscapes and Physical Processes' (Level C).

The programmes aim to develop in pupils

- an awareness of the physical features in the Highlands and Islands of Scotland
- a basic understanding of how the landscape has formed
- an understanding of the main stages of a river
- a basic mental map of the Highlands and Islands where pupils can locate the main cities and towns, the main rivers, the main mountain ranges, a number of lochs, the main island groups and a number physical of features including the Great Glen and Ben Nevis
- a knowledge of Scottish terms for physical features such as 'glen' and 'strath'
- an understanding of terminology such as u-shaped valley and estuary
- an understanding of basic map reading, map orientation and compass directions
- an understanding of scale and calculating distances on a map
- an understanding of how a key works on a map
- an understanding of the effect of the physical landscape on people.

## Target audience

The programmes are aimed at primary 4 and 5 stages. This will generally cover levels B and C.

## Using the programmes

The programmes will provide a powerful but entertaining visual resource on the physical landscape of the Highlands and Islands. Pupils will be informed of the great diversity of scenery and its impact on the people that live there. The maps featured in the programmes are available as a PDF which teachers can print out. Pupils may wish to use these maps to follow the main characters on their journeys.

## Using the teacher's notes

The notes are intended to provide a basis from which teachers can develop and plan a stimulating and rewarding educational experience within the topic of the physical landscape of the Highlands and Islands. Teachers will of course want to produce their own worksheets to suit their own circumstances but there are some examples provided. There are also some suggestions for pre-programme activities and post-programme extension activities.

## Suggested resources

The following resources are recommended for this study of the Highlands and Islands of Scotland.

- Large physical map of Scotland
- Set of compasses for map reading
- Class copies of an OS map depicting an area of the Highlands and Islands
- Blank maps of Scotland for various mapping activities
- Suitable string or thread for the calculation of distance on a map

## Suggested pre-programme activities

Pupils should be introduced to maps and mapping skills such as scale, calculating distance and giving location and directions. An OS map of the local area of the school is a good starting point as pupils will be familiar with places, place names and physical features. Allow one to two weeks for the pre-programme work, at the end of which pupils should

- recognise an outline map of Scotland.
- know the difference between the Scottish terms for physical features – ben, cairn, loch, glen and strath.
- be familiar with various types of maps.
- be familiar with an OS map of their local area.
- recognise the various coloured lines for routes e.g. A road, B road, railway.
- recognise the various colours used for land use e.g. woodland/forest, mountain and water areas.
- be familiar with the eight main compass directions.
- be able to orientate an OS map to face north with the aid of a compass.

## Follow-up and extension activities

The activities suggested here can be undertaken at the teacher's discretion. There is no need to tackle every activity. They should be viewed as suggestions and utilised depending on the time available and pupil ability.

**Pupils may also like to visit the *See You See Me* 'Landscapes' website which has been built to complement the television programmes. This can be found at**

**<http://www.bbc.co.uk/scotland/education/sysm/landscapes>**

## Forward plan Environmental Studies: Social Subjects, Technology

### Physical features

Programmes 6–8 Attainment outcome focus: People and Place

Level B/C

Strands	Pupil experience: what pupils should learn	Resources	Assessment
<b>Knowledge and Understanding</b>	<b>Pupils should demonstrate an understanding of</b>		<b>Children should be able to</b>
Using maps	<ul style="list-style-type: none"> <li>– following routes on a large-scale map of Scotland starting from a given location and following roads and turnings given by the teacher</li> <li>– the meaning of 'scale' on a map, and the differences between maps of different scales</li> <li>– how to calculate distances from a map with reasonable accuracy using a ruler and a piece of string and multiplying the length obtained by the scale factor; using a calculator if necessary</li> <li>– map orientation and giving directions using the eight points of the compass</li> <li>– using four-figure grid references to describe a particular square on an OS map</li> <li>– the need for, and use of, a map key</li> <li>– the use of colour coding on maps to describe land</li> <li>– the need for, and use of, contour lines</li> <li>– the location of a number of main cities and towns</li> <li>– the location of a number of main rivers</li> <li>– the location of Scotland's main mountain ranges</li> <li>– the location of the Scotland's main island groups</li> <li>– the need for different maps for different purposes</li> </ul>	BBC Television programme See You See Me Physical features: Highlands and Islands Teacher's notes for the programmes Worksheets	<ul style="list-style-type: none"> <li>– calculate with reasonable accuracy the distance between two places on a map</li> <li>– state the four-figure grid reference for a particular square on an OS map</li> <li>– plan a mock mountain rescue exercise using an OS map</li> <li>– locate, with reasonable accuracy, a number of main cities and towns</li> </ul>
The physical environment	<ul style="list-style-type: none"> <li>– the main types of physical features found in the Highlands and Islands of Scotland, including the NW Highlands, the Grampian Mountains, the Great Glen and the island groups</li> <li>– key vocabulary including u-shaped valley, strath, glen, pass, mountain range, fault, tributary, estuary, canal and sea loch</li> <li>– the main stages of a river, from source through fast downhill flow and waterfalls to growth with tributaries and slower flow through wide later stages to the mouth</li> </ul>		<ul style="list-style-type: none"> <li>– locate, with reasonable accuracy, some mountain ranges, the lochs of the Great Glen, the main rivers and the island groups on a blank map of Scotland</li> </ul>
Human environment, ways of life	<ul style="list-style-type: none"> <li>– why locks are necessary in the Caledonian Canal</li> <li>– the dependence of islanders on the mainland for shops and services</li> </ul>		

## Forward plan Environmental Studies: Social Subjects, Technology

### Physical features (continued)

Programmes 6–8 Attainment outcome focus: People and Place

Level B/C

Strands	Pupil experience: what pupils should learn	Resources	Assessment
<p><b>Skills</b></p> <ul style="list-style-type: none"> <li>Preparing</li> <li>Carrying out the task</li> <li>Reviewing</li> <li>Reporting</li> </ul> <p><b>Developing informed attitudes</b></p> <p>Social and environmental responsibility</p>	<p><b>Pupils should demonstrate skills by</b></p> <ul style="list-style-type: none"> <li>– suggesting particular sources of information to assist with an enquiry task</li> <li>– planning a sequence of tasks to complete activities and worksheets</li> <li>– working co-operatively and as part of a group</li> <li>– reporting back to the class after group activity</li> </ul> <p><b>Pupils will consider</b></p> <ul style="list-style-type: none"> <li>– the responsible use of the natural environment</li> <li>– the notion of individual responsibility, behaviour and attitude</li> </ul>		<p><b>Children should be able to</b></p> <ul style="list-style-type: none"> <li>– complete all activities and worksheets on maps and the physical landscape of the highlands and islands and compile into a folder</li> <li>– discuss the various conservation and environmental issues raised in the programmes</li> </ul>

## Programme Six **The Grampian Tour**

—Transmission date 17 November 2006

### **Programme content**

In this programme Tess follows the Grampian Tour which takes her from Glencoe, to Ben Nevis, and then north to the Cairngorms. She then follows the route of the River Dee out to the North Sea at Aberdeen.

### **Extension activities**

#### **1 Using maps**

- Study the symbols used in the key of an OS map. Ask pupils to look for particular symbols on a map and talk about what they mean.
- Study the use of contour lines in describing a hill or mountain. Ask pupils to describe the sort of gradient represented by particular patterns of contours, ensuring they can distinguish between cliffs, steep slopes and gentle slopes. Pupils should be able to draw a reasonable representation of the cross-section of a particular hill or mountain.
- Ask pupils to make a plan, to an appropriate scale, of a piece of furniture in the classroom such as a desk. An appropriate scale for this might be 1:10, in which 1cm of full size would be represented by 1mm on the plan.
- Try to find the names and locations of Scottish nature reserves and National Parks, and mark them on an outline map of Scotland.
- The Ordnance Survey website 'Map Zone' may be useful. It can be found at  
<http://www.ordnancesurvey.co.uk/mapzone>

#### **2 Understanding the physical environment: landscapes and physical processes**

- Introducing pupils briefly to the major features of rivers, including how they get their water. Talk about the water cycle of evaporation, rainfall and drainage, and about the concept that water moving through soil is very much like water moving through a sponge.
- Discuss the major geographical features of rivers, and ask pupils to think about what factors might influence the shape they take up. Talk about how water always flows to the lowest place possible, and look at why rivers might meander and bend. Where might flood plains happen? Explore how tributaries feed into major rivers, and talk about some of the patterns that can be found at the mouths of rivers, such as firths and deltas.
- Make a collection of river data from rivers around the world. Decide on a theme, such as the five or six major rivers from each continent, or a list of the world's rivers in order of length. The information could be used to build a database containing the river's name, location and length. You could choose a few rivers and examine the people and countryside changes from the source to the sea.
- Talk about fold mountains, and give examples from around the world, including the Himalayas and Cairngorms. Pupils should be aware of the age difference between these two ranges. Teachers can demonstrate, using a tablecloth or a sheet of material, how fold mountains are formed. Ask the pupils place their hands about twelve inches apart on the material and push them gently together. The way the cloth fold as the sides come together shows how, when land masses are pushed together, a mountain chain is formed. The website

<http://gis.ednet.ns.ca/NSLI/Tectonics/tecnotes.htm>

may be useful here.

### **3 Searching and researching**

- Investigate the process of erosion by the action of ice, water, wind and heat. Look at how it affects the landscape. This can be achieved through research using CD Roms, search engines and websites.

### **4 Communicating and collaborating**

- Through searching the internet, locate the countryside or environmental rangers or wardens in your area. They may be employed by the local council. Find one who can come to give a class talk on their work.
- Organise a class visit to a nature reserve or national park.

## Programme Seven **The Northern Tour**

—Transmission date 24 November 2006

### **Programme content**

In this programme Tess follows the Northern Tour which takes her from Loch Linnhe up the Great Glen to Inverness. Then after visiting the Moray Firth she crosses west to the mountainous region of Torridon.

### **Extension activities**

#### **1 Using maps**

— Ask pupils to gather together different kinds of maps, such as pictorial tourist maps, bus, train or underground routes, plans of rooms or buildings, OS maps, street maps and so on. Talk about how they are used for different purposes and make a class display of the different types and their main uses.

#### **2 Understanding rules, rights and responsibilities**

— Talk about outdoor pursuits and how everyone taking part has a responsibility to wear appropriate clothing and act responsibly in the interests of safety. Should hillwalkers, mountaineers and skiers be allowed to go into dangerous places if they are not properly equipped? You could arrange a class discussion around this theme.

— Organise a class project on the mountain rescue services. Find out who they are, what they do, where they are based and how they are equipped.

#### **3 Communicating and collaborating**

— If you have a canal within travelling distance of the school, contact British Waterways Scotland to find out about its history and wildlife. Try to obtain maps of the canal and its surroundings. If possible, extend this with a visit to the canal.

The websites

<http://www.scottishcanals.co.uk>

and

<http://www.wowforwater.net>

may be useful here.

#### **4 Materials from the Earth**

— Ask pupils to find out about the three main types of rock (sedimentary, metamorphic and igneous). Investigate how these were formed, how old they might be and what their particular characteristics are. This can be extended into an examination of where these rocks are found in the landscape of the Scottish Highlands and Islands, and how they have influenced the landscape.

## Programme Eight **The Islands Tour**

—Transmission date 1 December 2006

### Programme content

In this programme Tess follows the Islands Tour across the Skye Bridge to Portree. After realising her map is in Gaelic she visits a seal colony at the base of the Cuillin Mountains. Tess then takes the ferry from Uig in the north of Skye to Tarbert in Harris. She then continues her journey across Harris up into Lewis.

### Extension activities

#### 1 Understanding the physical environment: landscapes and physical processes

- Ask pupils to investigate the different types of islands and how they are formed. Explain how continental islands are formed by land masses which have broken away from the mainland, oceanic islands are formed independent of other land. Oceanic islands may arise from either underwater volcanic activity or from the growth of coral masses.
- Carry out a research project into peat bogs, in particular those of the 'Flow Country' around Forsinard. The website

<http://www.snh.org.uk/pdfs/education/wwwpack.pdf>

will be useful. You can also write or e-mail Scottish Natural Heritage for information. The work might be focused on

- the composition and formation of a peat bog, or
- the conservation, flora and fauna of the Flow Country.

#### 2 Understanding the human environment: ways of life

- Ask pupils to find out about ferry crossings from mainland Scotland to the islands. They might use holiday brochures and timetables to find out about the times and cost of crossings. Draw the routes of the crossings on an outline map.
- Find out about the history of the Skye Bridge, and how it replaced a ferry. Compare the cost of crossing the bridge as a tourist with the cost paid by people who live on the island.
- Ask pupils to think about the advantages and disadvantages of living on an island. This could be turned into a class debate.

**Note that in all of the outdoor activities mentioned it is important to conduct a risk assessment and take appropriate measures before pupils take part.** The BBC is not responsible for the content of external websites.

## Worksheets

The following pages contain a selection of worksheets, which offer an introduction to map work and compass work. Most are self-explanatory. A blank map of Scotland is included, and this will be useful for a range of activities such as asking pupils to locate and draw in towns and geographical features. This might usefully be tied in to other work you have been doing with the class. You can also draw particular features on to a master copy of the map and ask children to identify them.

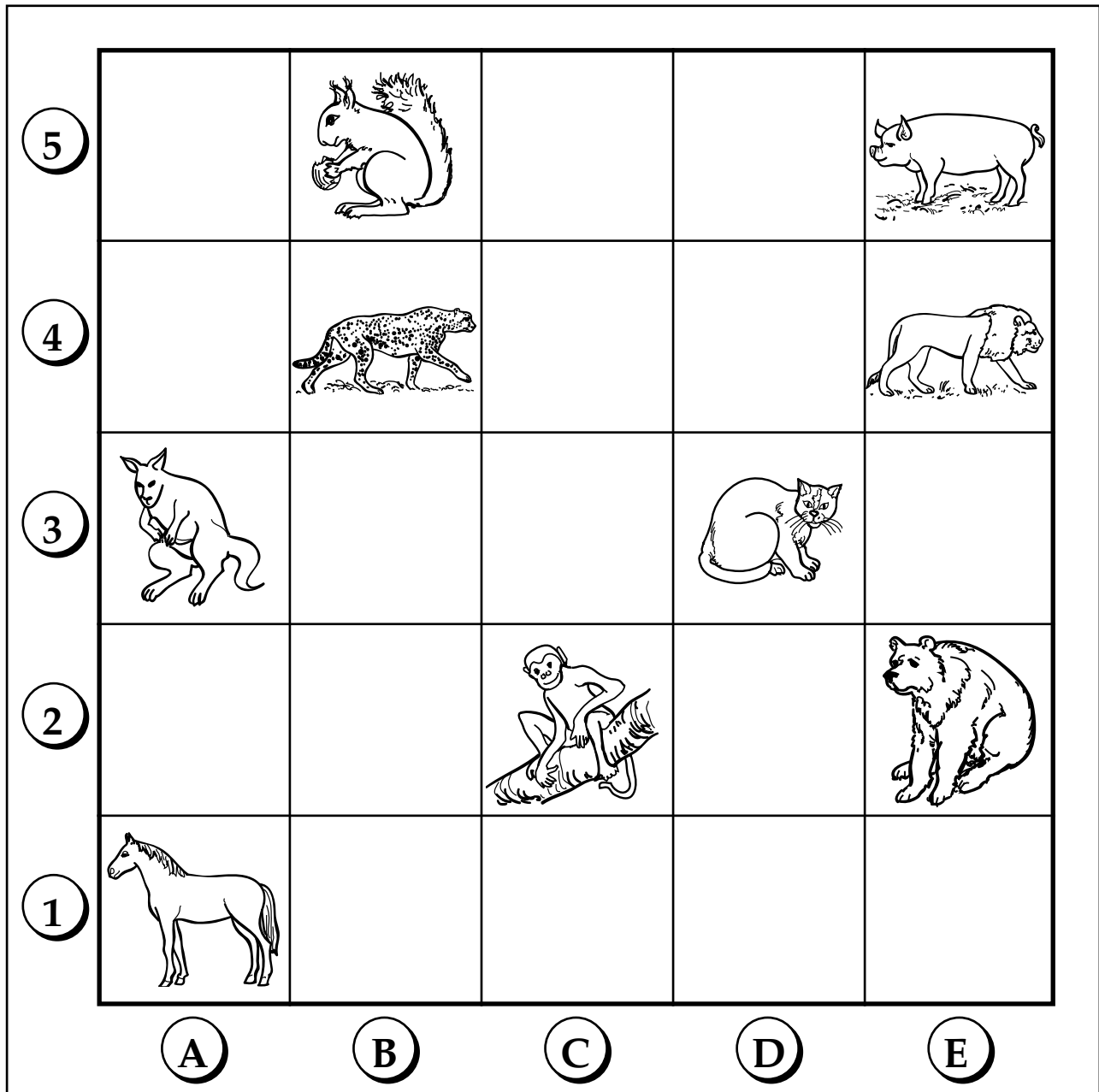
## Bibliography

*Mapping Skills* (Folens)

*Into Geography* (Arnold Wheaton)

*Journeys* (Scholastic)

## Find the animals



This is a web site where you can find out about animals.

To get the information, you have to press the right buttons.

Fill in the right buttons for each of the animals below. The first one is done for you.

horse

kangaroo

monkey

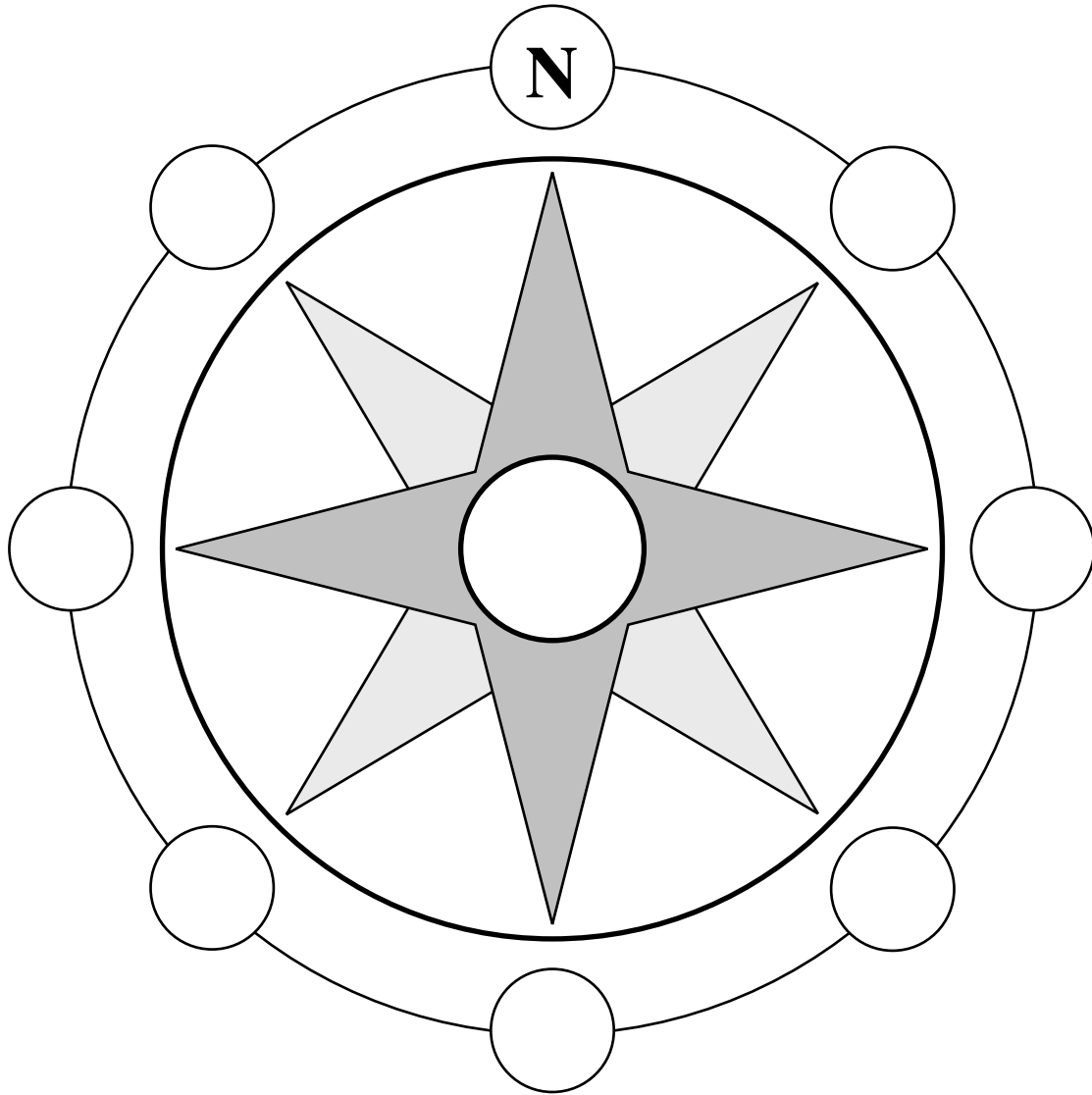
cheetah

pig

lion

cat

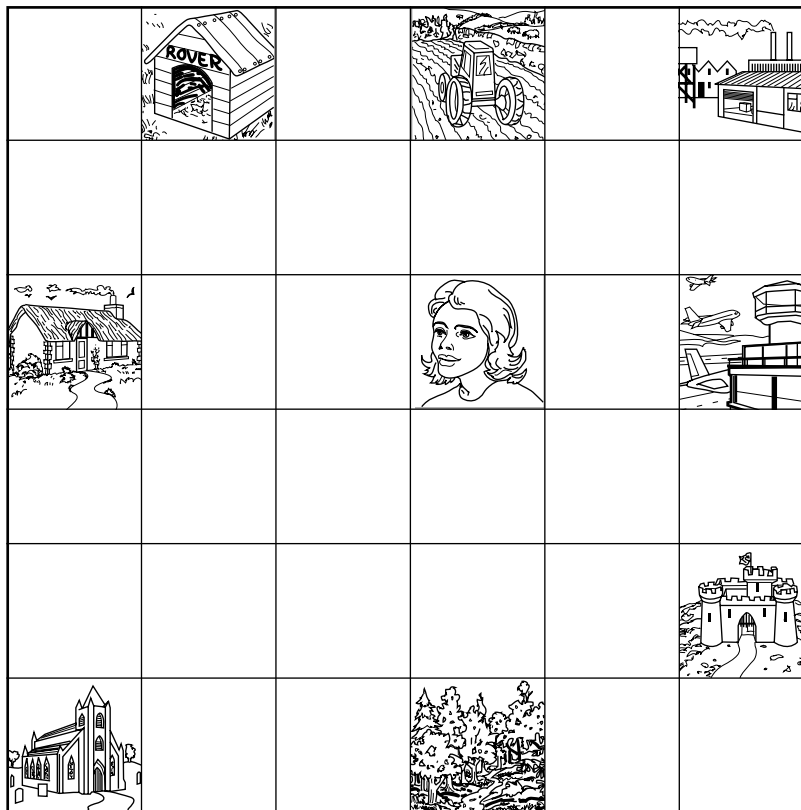
## Compass directions



Write the missing compass points in the correct circles above.

**E SE NW SW NE S W**

# Finding directions



1 In which direction is the girl looking? \_\_\_\_\_ .

- 2 Which picture is
- south of the girl? \_\_\_\_\_ .
  - north of the girl? \_\_\_\_\_ .
  - west of the girl? \_\_\_\_\_ .
  - south-east of the girl? \_\_\_\_\_ .
  - north-west of the girl? \_\_\_\_\_ .
  - north-east of the girl? \_\_\_\_\_ .

- 3 Which direction would you go in, to go from the
- kennel to the girl? \_\_\_\_\_ .
  - airport to the girl? \_\_\_\_\_ .
  - wood to the girl? \_\_\_\_\_ .
  - wood to the castle? \_\_\_\_\_ .
  - castle to the dog kennel? \_\_\_\_\_ .
  - from the farm to the wood? \_\_\_\_\_ .

3 Put the right directions in the gap.

- The church is to the \_\_\_\_\_ of the girl.
- The castle is to the \_\_\_\_\_ of the girl.
- The factory is to the \_\_\_\_\_ of the girl.
- The cottage is to the \_\_\_\_\_ of the girl.

## Outline map of Scotland

