



### ICT in Geography at Key Stage 3

Geography activities are intended to provoke and answer questions about the natural human worlds, using different scales of enquiry to view them from different perspectives. The National Curriculum orders for Geography develop knowledge of places and environments throughout the world, an understanding of maps, and a range of investigative and problem-solving skills both inside and outside the classroom. It focuses on understanding and resolving issues about the environment and sustainable development, and different societies and cultures and their interdependence. ICT plays an important part in all of these aspects.

#### The QCA Schemes of work

The QCA schemes of work identify eight main areas of ICT activity that are required to support work in Geography.

- Use CD-ROMs and the Internet for research
- Use a digital camera/video camera/palmtop computer to record images/data during fieldwork
- Use graphing/spreadsheet/database programs to record, analyse and present data
- Use a word processor/desktop publishing/multimedia program/presentation program to present findings
- Use drawing/painting programs to produce graphics and annotated diagrams
- Use a mapping program/geographic information system (GIS) to map and analyse data
- Use an interactive whiteboard to display and annotate images
- Use email to establish links with people in other areas to gather information

The following paragraphs identify the Geography units where ICT is needed and give a brief description of how it is to be used.

#### Year 7

##### Unit 1 Making connections

Use a mapping program to plan a route to get from their primary school to the secondary school and to produce a class map showing the location of all of the schools involved. Use a digital video camera to record parts of the local area that other pupils could not visit. Use a database program to record the results of a survey on connections between places, then analyse and present the results. Use a digital camera to collect and present images from a visit to part of the locality. Use an Internet search engine to find information about a place they would like to visit. Use a word processor or desktop publishing program to present information on the place they would like to visit.

##### Unit 2 The restless earth – earthquakes and volcanoes

Use the Internet and CD-ROMs to research earthquake and volcano locations. Use the Internet to access online newspapers and news sites to investigate a recent volcanic eruption. Use a painting or drawing program to produce eye-catching graphics for a five-minute report on the Kobe earthquake. Use the Internet to investigate the role of aid agencies in a recent earthquake disaster.

##### Unit 3 People everywhere

Use a graphing program to draw a population pyramid. Use the Internet to provide population pyramids and other resources such as population clocks, for comparison purposes or further investigation. Use a spreadsheet or modelling program to show a simple population model illustrating population growth.

##### Unit 4 Flood disaster – how do people cope?

Use the Internet to locate an account of floods in Bangladesh for pupils to read and discuss. Use the Internet to locate sources of information to use to write a comparison of flooding in Britain and Bangladesh. Use a word processor to identify and describe the pattern and variation in human response to natural hazards.

##### Unit 5 Exploring England

Use a spreadsheet or graphing program to present information relating to Britain's 'weather opposites' e.g. links between amount of rainfall and height above sea level. Use the Internet to access sites for route planning and rail and bus timetables when planning a sightseeing tour of England for a group of European visitors.

##### Unit 6 World sport

Use an Internet search engine to find names and dates of birth for players of a Premiership football team. Use an Internet search engine to find out which countries' teams reached the quarter-finals of the 1998 World Cup in France. Use the Internet to access sites for route planning and rail and bus timetables and/or a route planning

program when planning a journey to a chosen team's next game. Use a spreadsheet to compare different routes to a chosen team's next game. Use the Internet to access football club pages to find the branches of supporters' clubs/retail outlets of two or three teams.

## **Year 8**

### **Unit 7 Rivers – a fieldwork approach**

Use a spreadsheet to design a data-collection sheet for a river and load onto a palmtop computer. Use the palmtop computer to collect data in the field. Use a digital camera to record interesting physical features or ecological links in the field. Use a word processor, desktop publishing program and spreadsheet to analyse, process and present the data collected on the palmtop computer and digital camera.

### **Unit 8 Coastal environments**

Use a painting or drawing program to produce and amend annotated diagrams on the stages of development of one or more landforms. Use a word processor or desktop publishing program to produce an information leaflet illustrating coastal landforms in Dorset or another suitable location. Use the Internet to investigate why cliffs collapse. Use a word processor or desktop publishing program to write a newspaper article explaining why cliffs collapse.

### **Unit 9 Shopping – past, present and future**

Use a mapping program to plot shops, services and sphere of influence for the largest shopping centre in the area. Use the Internet to research one particular Internet shopping facility.

### **Unit 10 Weather patterns over Europe**

Use the Internet to obtain weather satellite images of Europe. Use an interactive whiteboard to display a recent weather satellite image of Europe. Draw in important features and annotate using the interactive whiteboard marker. Repeat for subsequent lessons with up-to-date images, dating and saving each sketch map. Use a spreadsheet or database program to carry out a mini-enquiry into weather patterns and relationships using pre-prepared data.

### **Unit 11 Brazil**

Use the Internet and email to establish links with a school in Brazil to enable pupils to investigate how life in the UK is linked to Brazil. Use a word processor or desktop publishing program to prepare a briefing booklet for delegates attending an environmental conference in the Brazilian capital. Use the Internet and CD-ROMs to research a particular aspect of Brazil's geography. Use a video camera or multimedia presentation program to present findings on their aspect of Brazil's geography. Use a CD-ROM to access development statistics for Brazil and the UK. Use a geographic information system (GIS) to map distributions of variations in the quality of life. Use a spreadsheet to record and graph data on chosen development indicators for Brazil and the UK. Use a word processor or desktop publishing program to produce a newspaper front page, which shows a typical day in Brazil in 2010.

### **Unit 12 Images of a country**

Use a digital camera/video camera to produce an information pack/video on the local area. Use the Internet to access images of different countries. Use an interactive whiteboard to display the images of different countries and annotate using the interactive whiteboard marker.

### **Unit 13 Limestone landscapes of England**

Use a presentation program to present characteristics of a landform feature. Use the Internet and CD-ROMs to find information on a limestone region in Europe.

### **Unit 14 Can the earth cope? Ecosystems, population and resources**

Use a mapping program/geographic information system (GIS) to investigate whether population and resources are interrelated. Use the Internet to carry out a resource enquiry e.g. soil erosion, waste recycling and landfill, wind energy, water supply, pollution of seas/lakes. Find out which issues have already had an impact on their lives and which might affect them/their children in the future.

### **Unit 15 Crime and the community**

Use a digital camera to record images of graffiti and vandalism in the local area. Relate the images to a map or aerial photograph of the area. Use the Internet to access US crime maps for comparison with their data plotted on a street map.

Use a mapping program or spreadsheet to record data of offending rates at a regional scale and write an analysis of their findings. Use an Internet search engine to access websites to obtain comparisons of crime rates.

## **Year 9**

### **Unit 16 What is development?**

Use a mapping program/geographic information system (GIS) to analyse data on world patterns of development, and search for patterns in a range of development indicators. Use a spreadsheet to rank and graph data on world patterns of development. Use the Internet to access information for an additional case study e.g. information about particular transnational corporations (TNCs) and development organisations. Use a mapping program/geographic information system (GIS) to establish a series of enquiries and then predict and plot the distribution of key indicators. Identify countries or areas which match predicted relationships and plot an indicator(s) to answer the enquiry.

### **Unit 17 The changing economic geography of France**

Use a mapping program/geographic information system (GIS) or spreadsheet to produce suitable graphs to represent France's economic structure. Use the Internet and CD-ROMs to research a particular aspect of France

and use the information to produce a series of annotated wall maps. Use a mapping program/geographic information system (GIS) to analyse data on economic activity, predicting and searching for patterns of change. Use a mapping program/geographic information system (GIS) or spreadsheet to produce maps, graphs and tables/lists to show the economic structure and pattern of economic activity for a selected region of France. Use the Internet to access information about two or three of France's transnational corporations (TNCs). Use a word processor and a writing frame to write a paragraph detailing the links which make France dependent on other countries and their relation to the geographical distribution of a specified economic activity.

#### **Unit 18 The global fashion industry**

Use a word processor or desktop publishing program to write a newspaper article on fashion and rates of pay in selected countries, using the Internet and CD-ROMs as sources of information. Use a word processor and a writing frame to produce a fact sheet about world trade. Use the Internet to research information on the link between the top 10 transnational corporations (TNCs) and the gross domestic product (GDP) of selected countries. Use a word processor or desktop publishing program to produce a 'flyer' to publicise the issue of fair trading.

#### **Unit 19 Tourism – good or bad?**

Use a video camera and a presentation program to prepare a report on the main changes and trends in the UK tourist industry in the last 30 years.

#### **Unit 20 Comparing countries**

Use the Internet to search newspaper and television websites for stories on chosen countries. Use an Internet search engine to locate the top 10 websites about the chosen countries. Use an Internet search engine or email to gather information to compare two chosen countries.

#### **Unit 21 Virtual volcanoes and Internet earthquakes**

Use the Internet to carry out a 'virtual' field visit to Stromboli.

Use a word processor, desktop publishing program or multimedia program to produce a brochure or web page of Stromboli's geographical features for tourists. Use the Internet to investigate recent volcanic eruptions.

Use the Internet to investigate the nature and effects of recent earthquakes. Use a word processor or desktop publishing program to write a newspaper report on their findings of a recent earthquake. Use a desktop publishing program or multimedia program to prepare a presentation on a chosen aspect relating to earthquakes or volcanoes.

#### **Unit 22 Mining on the Internet**

Use the Internet to carry out a comparative study of changes in the mining industry in a chosen locality. Use email to post a message on an appropriate website to enquire about the impact of change in the mining industry on people in the chosen locality. Share responses with the class and, if possible, with former coal-mine workers. Use email to write up findings about their chosen locality and send to their email correspondents. Use the Internet to consider the reliability of data on relevant websites and the problems/dangers of such free access.

#### **Unit 23 Local action, global effects**

Use a spreadsheet to design a data-collection sheet for leisure activities on a local river and load onto a palmtop computer. Use the palmtop computer to collect data in the field. Use a mapping program/geographic information system (GIS) to illustrate spatially the variety of uses and the impact they have on the local river. Use the Internet to research the causes and consequences of pollution in the North Sea.

### **Years 7–9**

#### **Unit 24 Passport to the world**

Use the Internet to research 10 facts about another country. Use a database program to record findings, produce graphs and analyse findings of a survey on people's holiday locations and reasons for their choices. Use the Internet to extract information about recent world disasters to produce a class poster or a booklet for a younger class to use.

### **Long term Planning**

At Key Stage 3 the ICT units that support the Geography activities should be planned so they occur before them. ICT Unit 2 Information and presentation, ICT Unit 10 Information: reliability, validity and bias and ICT Unit 11 Data: use and misuse will help pupils to research using CD-ROMs and the Internet. ICT Unit 4 Models: rules and investigations and ICT Unit 5 Data: designing structure, capturing and presenting data gives pupils the skills needed to use graphing/ spreadsheet/database programs to record, analyse and present data and supports pupils with the Geography units that involve modelling and using a mapping program/ geographic information system (GIS). ICT Unit 1 Using ICT and ICT Unit 3 Processing text and images enables pupils to present their findings using a word processor/desktop publishing program/multimedia program/presentation program.

### **Hardware**

A digital camera/video camera and palmtop computer are required to record images/data during fieldwork. An interactive whiteboard is required to display and annotate images.

### **Assessment**

At Key Stage 3 the ICT needed to support the Geography units will usually have been taught separately, and should be assessed during ICT lessons. Where the Geography Department has responsibility for delivering sections of the ICT Curriculum, ICT will need to be recorded and assessed.

### Key Stage 3 Software and Hardware for Geography Checklist

QCA Unit of Work	Application		Software
Unit 1 Making connections	Mapping program Digital camera/video camera Database program	Internet Word processor Desktop publishing program	
Unit 2 The restless earth – earthquakes and volcanoes	Internet CD-ROMs Painting or drawing program		
Unit 3 People everywhere	Graphing program Internet Spreadsheet or modelling program		
Unit 4 Flood disaster – how do people cope?	Internet Word processor		
Unit 5 Exploring England	Spreadsheet or graphing program Internet		
Unit 6 World sport	Internet Spreadsheet		
Unit 7 Rivers – a fieldwork approach	Spreadsheet Palmtop computer Digital camera	Word processor Desktop publishing program	
Unit 8 Coastal environments	Painting/drawing program Word processor	Desktop publishing program Internet	
Unit 9 Shopping – past, present and future	Mapping program Internet		
Unit 10 Weather patterns over Europe	Internet Interactive whiteboard Spreadsheet or database program		
Unit 11 Brazil	Internet Email Word processor Desktop publishing program	CD-ROMS Video camera or multimedia presentation program	
Unit 12 Images of a country	Digital camera/video camera Internet Interactive whiteboard		
Unit 13 Limestone landscapes of England	Presentation program Internet CD-ROMs		
Unit 14 Can the earth cope? Ecosystems, population and resources	Mapping program/geographic information system (GIS) Internet		
Unit 15 Crime and the community	Digital camera Internet Mapping program or spreadsheet		
Unit 16 What is development?	Mapping program/geographic information system (GIS) Spreadsheet Internet		
Unit 17 The changing economic geography of France	Mapping program/geographic information system (GIS)	CD-ROMs Word processor Internet	
Unit 18 The global fashion industry	Word processor Desktop publishing program	Internet CD-ROMs	
Unit 19 Tourism – good or bad?	Video camera Presentation program		
Unit 20 Comparing countries	Internet		
Unit 21 Virtual volcanoes and Internet earthquakes	Internet Word processor	Desktop publishing program Multimedia program	
Unit 22 Mining on the Internet	Internet Email		
Unit 23 Local action, global effects	Spreadsheet Internet Palmtop computer	Mapping program/geographic information system (GIS)	
Unit 24 Passport to the world	Internet Database program		