

## Unit 23 Local action, global effects

### About the unit

In this unit pupils investigate the conflict between increasing economic activity and conserving the environment and resources. They do this through four short case studies at different scales – a local river, the River Rhine, an English national park and Antarctica.

The unit encourages pupils to think about how individual action taken at a local level may have positive or negative effects at a variety of scales. This provides a strong link with citizenship. There are numerous opportunities for pupils to practise their research and enquiry skills.

There is some overlap with unit 13 ‘Limestone landscapes of England’, which focuses on the Yorkshire Dales National Park. If both units are studied, it is suggested that either a different national park is used here to avoid repetition, or that the impact of tourists on the park be considered instead of a limestone quarry.

This unit is expected to take 12–20 hours.

### Key aspects

#### Geographical enquiry and skills

Pupils will:

- ask geographical questions
- suggest investigation sequences
- collect/record/present evidence
- analyse evidence and draw conclusions
- communicate appropriately
- use fieldwork techniques
- use secondary evidence
- draw maps, plans and graphs
- communicate, including using ICT
- experience decision making

#### Knowledge and understanding of places

Pupils will:

- locate place and environments

- describe scale contexts
- explore interdependence and global citizenship

#### Knowledge and understanding of patterns and processes

Explored through:

- environmental issues
- resource issues

#### Knowledge and understanding of environmental change and sustainable development

Pupils will study:

- environmental change and management
- sustainable development

### Expectations

#### At the end of this unit

**most pupils will:** describe and explain how physical and human processes interact to produce distinctive characteristics of places and environments; recognise how conflicting demands on different types of environment may arise and describe and compare different approaches to managing these environments sustainably; appreciate that different values and attitudes, including their own, result in different approaches that have different effects on people and places; suggest relevant geographical questions and appropriate sequences of investigation of environmental issues; select and use effectively a range of skills and sources of evidence; present their findings in a coherent way and reach conclusions that are consistent with the evidence

**some pupils will not have made so much progress and will:** describe and begin to explain how physical and human processes can lead to similarities and differences in the environments of different places and in the lives of people who live there; suggest explanations for the ways in which human activities cause changes to different types of environment and the different views people hold about them; recognise how people try to manage environments sustainably; begin to suggest relevant questions to investigate environmental issues; select and use appropriate skills and sources of evidence; suggest plausible conclusions to their investigations and present their findings both graphically and in writing

**some pupils will have progressed further and will:** describe interactions within and between physical and human processes and explain how these interactions help change different types of environments; begin to explain that human actions, including their own, may have unintended environmental consequences and that change sometimes leads to conflict; appreciate that consideration of sustainable development can affect their own lives as well as the planning and management of all environments and resources; identify geographical questions and establish their own sequence of investigation of environmental issues; select and use accurately and effectively a wide range of skills; evaluate critically sources of evidence, present full and coherently argued summaries of their investigations and reach substantiated conclusions

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## Prior learning

It is helpful if pupils have:

- prior knowledge and understanding of environmental relationships and issues
- undertaken and practised geographical enquiries, asked and answered questions, developed their research skills
- developed their map skills, especially in relation to the use of OS maps and photographs
- practised formal report writing

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## Language for learning

Through the activities in this unit pupils will be able to understand, use and spell correctly words relating to:

- sustainability, *eg conservation, honeypot site, impact matrix, cost–benefit analysis, national park, world park*
- geology, *eg impermeable rock, permeable rock*

Writing – through the activities pupils could:

- organise content into a whole piece, with the relationship between points/paragraphs clearly signalled, *eg therefore, nevertheless*
- use correctly full stops, commas, brackets, semicolons, dashes
- understand the effect of different aspects of formality, *eg passive verbs, third person, abstract nouns*

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## Resources

Resources include:

- atlases
- maps – geological, local and OS maps of Peak District (Dovedale)/Yorkshire Dales (Malham)
- photographs of land use and employment activities in national parks, in Antarctica and along the River Rhine and adjacent North Sea coast
- newspaper articles on conservation issues in national parks, the North Sea, Antarctica
- video footage to show landscapes, landforms, economic activities, leisure activities in selected case studies
- textbooks and other book resources
- local experts to inform and advise on planning issues, roles and responsibilities in relation to conservation and development
- access to the internet

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## Future learning

This unit provides a base for later enquiries and decision-making exercises at key stage 4, for GCSE coursework enquiries and for units on environmental issues. It provides helpful illustrations for future work on citizenship, linked to PSHE programmes.

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## Links

The activities in this unit link with:

- other geography units – unit 8 ‘Coastal environments’, unit 13 ‘Limestone landscapes of England’
- ICT – using a mapping package or geographic information system (GIS), using internet search engines
- key skills – working with others, improving own learning and performance
- citizenship – considering other people’s experiences, expressing and explaining views, understanding the responsibilities of central and local governments
- PSHE – taking responsibility for own actions
- science – work on environmental chemistry

### What leisure activities are located on and by the river?

- to ask geographical questions and suggest appropriate sequences for investigation
- to select and use appropriate techniques to present evidence, *eg maps*
- to use fieldwork techniques to identify different leisure uses
- to determine how conflicting demands on an environment arise
- through a decision-making task, how and why attempts are made to plan and manage environments
- to consider the effects of environmental planning and management on people, places and environments

*How is a stretch of the local river used?*

*What conflicts of interests occur between different leisure users?*

- Identify a stretch of local river to survey different uses and leisure activities. Involve pupils in preparing for the investigation and prepare them thoroughly for their fieldwork. On the visit, map all different uses and take photographs of and/or video the leisure facilities/activities – pupils can use these records to establish possible conflicts of interest between different uses and user groups later. Data-collection forms could be designed and loaded onto a palmtop computer for completion in the field.
- Arrange a meeting with a leisure and recreation officer from the local authority or tourist board (either during the visit or back at school) to identify the planning and management issues involved in catering for different interest groups. Help pupils to prepare a suitable selection of questions and discuss the level of formality required for the meeting.
- Ask pupils to record what they have found by drawing annotated sketch maps and diagrams. (For some rivers maps may already exist.) Also ask pupils to complete an 'impact matrix' to help them assess any conflict of interest between different leisure users.

*How can the different leisure activities be managed to reduce conflict?*

*Who decides how the river and its environment are used?*

- Organise pupils into groups to identify and talk about conflict issues and to prepare a detailed plan for managing different leisure activities so that conflicts of interest are resolved. Ask pupils to write up their suggestions as notes for a presentation to the local planning department and the leisure and amenity committee.
- As an extension task, ask pupils to plan the development of a local park to cater for different age and interest groups. Produce an information leaflet about the park for the local community, parents and children to show how they can play a part in protecting it.

- produce a map of different uses and leisure activities along a stretch of river in the field
- produce annotated sketch maps and diagrams of the leisure activities to summarise findings
- take suitable photographs and/or video of the leisure facilities/activities to identify potential conflict of interests between different uses and user groups
- prepare a presentation with a suggestions plan to manage leisure activities
- produce an information leaflet detailing leisure activities in a local park (higher-attaining pupils)
- The planning and leisure and recreation departments of the local council may be useful sources of information.
- Prepare an impact matrix with the different leisure uses on both axes. How one activity might affect the other can be noted in the grid boxes.
- ICT: a mapping/GIS package would enable a variety of uses and the impact they have on the area chosen to be illustrated spatially.
- Citizenship: this activity provides an opportunity for pupils to use their imagination to consider other people's experiences, to think about, express and explain views that are not their own, and to reflect on the importance of resolving conflict fairly.
- If the notes pupils make are good enough to speak from, they will have a permanent record of their thinking in their notebooks.

**Learning objectives**

Pupils should learn:

**Possible teaching activities****Learning outcomes**

Pupils:

**Points to note****How are rivers used and misused by people?**

- to select and use appropriate graphical techniques to present evidence on maps and diagrams, including using ICT
- to conduct a geographical enquiry independently
- to evaluate the effects on the environment of the use of a resource
- to appreciate the need for resource planning to evaluate different management strategies
- to appreciate how places are interdependent

*What conflicts of interest occur from different uses of a river?*

*Why are rivers so vulnerable to misuse and pollution?*

*How can the use of a river be managed to overcome the problem of pollution?*

*How can international agencies safeguard rivers and sea areas for future generations?*

- Ask pupils to use an atlas to identify the River Rhine and the North Sea as international waterways and to label important aspects on an outline map.
- Introduce pupils to a selection of secondary data on the commercial traffic, industry and urban developments along the course of the Rhine, from source to mouth. Ask them to identify patterns of distribution and the 'chemical cocktail' of pollutants entering the river and to add these to their map.
- Ask pupils to produce a report on 'The state of the Rhine', to include an assessment of the problems and to suggest possible solutions. Ask pupils to refer to the international nature of the problems and solutions and to the responsibilities of local, regional and national governments, as well as of private industries, individuals and groups. Pupils may need reminding that the report should be objective, formal and impersonal. Weaker writers are likely to need more structured support.
- Ask pupils to research the causes and consequences of pollution in the North Sea and to produce a plan to protect the sea's environment and ecosystem. Help pupils to understand how individual actions may contribute to large-scale issues.

- interpret information from maps, photographs, diagrams and data from a variety of sources and at different scales
- identify, describe and explain the different strategies involved in managing an international waterway
- describe how individuals, by acting responsibly at a local scale, can make a difference on a large scale
- identify, describe and explain the most appropriate strategy for managing the causes and consequences of pollution in the North Sea (higher-attaining pupils)

- Citizenship: this activity provides pupils with an opportunity to reflect on the responsibilities of central and local government, and the world as a global community, and the political, economic, environmental and social implications of this.
- ICT: this activity provides pupils with an opportunity to use the internet to research pollution issues.
- Extension: pupils undertaking the extension task may be given an appropriate time allocation and a considerable degree of independence. It may be set as an alternative task for higher-attaining pupils, instead of the exercise on the River Rhine, and subsequently shared with the whole class.

**Learning objectives**

Pupils should learn:

**What is a national park?**

- to select and use secondary sources of evidence
- to select and use appropriate techniques to present evidence
- to identify how conflicting demands on the environment arise
- how and why attempts are made to plan and manage environments
- to evaluate different strategies used to manage an area
- to evaluate the effect on the environment of the use of a resource
- to identify the effects of environmental planning and management on people, places and environments

**Possible teaching activities**

*How do people use national parks?*

*What conflicts of interest result from their use?*

- Invite pupils to suggest a definition of a national park and then define it correctly. Involve pupils in a mapping exercise to record the locations and names of all national parks, motorways and conurbations in England and Wales. Discuss patterns and relationships evident. Focus in particular on the Peak District or the Yorkshire Dales national parks.
- Ask pupils to use OS maps, photographs and narrative to match land, leisure and employment uses in the Peak District. Help them identify the distinctive landscape features of the White Peak (limestone) and the Dark Peak (millstone grit).
- Ask pupils to plan a walk for a group of geography students to see different landscape features in the area. Mark these, noting what they would see at different locations.
- Ask pupils to use a range of resources including employment statistics to determine the main employment opportunities within the Peak District National Park, eg *farming, quarrying, tourism*. Compare these with the employment data for the park's residents – account for the differences and try to establish the problems which ensue.

*What is a 'honeypot' site?*

*How might the pressures on national parks be managed?*

- Conduct a case study of a 'honeypot' site (Dovedale in the Peak District or Malham in the Yorkshire Dales), through carrying out a cost–benefit analysis. Identify the attractions and the pressures of tourism on the site. Use newspaper articles on Dovedale or Malham to assess the impact that being a honeypot has on an area.
- Ask pupils to put forward a plan which allows people to access the area but also makes suggestions about reducing their impact.

**Learning outcomes**

Pupils:

- produce a map of Britain's national parks showing important links to motorways and conurbations
- identify landscape features from photographs and maps of different scales
- carry out a cost–benefit analysis exercise to assess impact
- identify and explain different views, opinions and solutions to employment and development issues in national parks
- discuss the complexity of decision making
- describe the work, roles and responsibilities of different local, national and environmental agencies

**Points to note**

- Citizenship: this activity provides pupils with an opportunity to learn about central and local government, and the public services they offer.
- A similar cost–benefit analysis exercise is shown in unit 8 'Coastal environments'.
- Unit 13 'Limestone landscapes of England' provides an opportunity for pupils to consider the impact of quarrying in a national park. If unit 13 has not been studied previously, the impact of quarrying may be considered here, instead of tourism.
- Key skills: links with working with others, where pupils work on a one-to-one or group basis and plan with others what needs to be done, confirm their understanding of the objectives, their responsibilities and working arrangements, and carry out tasks and review progress.

### Why is Antarctica a fragile environment?

- to select and use secondary sources of evidence
- to communicate appropriately
- to identify how conflicting demands on an environment arise
- how and why attempts are made to plan and manage environments
- to evaluate the effect of environmental planning and management on people, places and environments
- to explore the idea of sustainable development and recognise its implications for people, places, environments and their own lives

*Why is Antarctica under threat? What is a world park?*

*How can Antarctica be conserved and managed to sustain its environment?*

- Provide pupils with a range of resources that require careful interpretation, *eg map, photographic and video evidence, textbooks*, to suggest an answer to the question *Why is Antarctica important and how is it used by people?*
- Ask pupils to draw annotated sketch maps and diagrams of Antarctica and its landscape.
- Plan a role play to present a case for developing and exploiting the mineral resources of Antarctica. Organise pupils into groups to research and present the case on behalf of various groups, *eg a mining operator, government official from a less economically developed country (LEDC), member of Greenpeace, scientist with special interest in the ecology and environment, government representative opposing development, tour operator, United Nations representative*.
- Ask pupils to produce a report to the United Nations outlining the importance of Antarctica as a world park and which describes and explains different strategies for protecting its fragile environment. The report may be substantial and well structured, coming towards the end of year 9. It builds on report writing in previous units, and headings and topic sentences may be identified for weaker writers. Tone should be formal, objective and impersonal. Pupils' attention should be drawn to the specific features of formal writing, *eg passive verbs, third person, abstract words*. Remind pupils of the correct use of punctuation, *eg full stops, commas, brackets, semicolons and dashes*.
- Ask pupils to consider how global warming may affect Antarctica and to discover what may happen as a result. Ask them to consider what part they may be able to play as individuals to reduce the threat.

- interpret information from a range of sources and transform it to show the landscape of Antarctica
- identify, describe and explain the most appropriate strategy for managing Antarctica
- describe how and why responsible action at a local level can be beneficial at a larger scale
- write a well-structured, impersonal formal report, drawing upon skills practised in earlier units

- Homework activity: ask pupils to imagine they are a scientist working at one of the bases in Antarctica or a fieldworker on the ice floes and to write a diary about their experiences.
- Citizenship: this activity provides pupils with an opportunity to reflect on the world as a global community and the political, economic, environmental and social implications of this.
- More able pupils may be asked to write role cards for others to use.
- Language for learning: this activity provides pupils with an opportunity to organise content into a whole piece with the relationship between points/ paragraphs clearly signalled, *eg therefore, nevertheless*, and to use correctly full stops, commas, brackets, semicolons and dashes. Remind pupils of earlier work on formal writing, *eg unit 18 'The global fashion industry', unit 15 'Crime and the local community', unit 6 'World sport'*.
- Science: links with materials and their properties – possible effects of burning fossil fuels in the environment.



**Safety** – all off-site visits must be carried out in accordance with LEA and school guidelines