

IGCSE Geography
Unit 6: Industrial Systems

Recommended Prior Knowledge

An understanding of how economic activity can be classified and the factors that affect the location of industry. A good general knowledge.

Context

It is recommended that this is the sixth of the units to be studied. The unit incorporates some work on Environmental Risks and Benefits (3.5) through the study of the impact that industrial activity can have upon the environment. Case studies of industrial systems are incorporated as appropriate. The skills gained in this unit will have useful applications throughout.

Outline

The scheme of work allows pupils to understand the wide range of factors that influence industrial location and offers opportunities for them to make decisions for themselves. The unit also enables pupils to develop an awareness of the costs and benefits involved in any form of economic activity and presents them with a number of key environmental issues. Suggested activities from the core texts are differentiated.

| Learning Outcomes | | Suggested Teaching Activities | Resources |
|-------------------|--|--|---|
| 3.2a | <p>To classify industries into primary, secondary and tertiary.</p> <p>To describe and explain how the proportions employed in primary, secondary and tertiary industries differ in LEDCs and MEDCs and may change with time and level of development.</p> | <p>Pupils use suggested resources to define the key terms and brainstorm examples of each. Pupils define and understand the term employment structure and understand that a variety of graphs can be used to show employment structures - <i>pie, divided bar and triangular graphs</i>. Pupils draw graphs to show the differences between the employment structure of LEDC's and MEDC's and describe/explain the main differences. Pupils understand how and why employment structures vary over time and space. Pupils could conduct a class survey of jobs and compare with the national data or data for other countries.</p> | <p>The New Wider World Pages 92 and 93. Exercises 1 and 2 Page 95.</p> <p>Longman Geography for GCSE Page 150 and 151.</p> <p>http://www.projectgcse.co.uk/geography/structures.htm</p> <p>http://www.geography.learnontheinternet.co.uk/topics (Select Employment Structures)</p> <p>http://www.s-cool.co.uk/subject_index.asp (Select GCSE, then Geography then Industry - Key Terminology and Classifying Industry).</p> <p>Question 5a Paper 1/2 November 1999.</p> <p>Question 6 Paper 3 November 1998</p> <p>Question 6 Paper 1/2 October 2000</p> |

| Learning Outcomes | | Suggested Teaching Activities | Resources |
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| 3.2b | To describe and identify the influence of inputs (materials, power, capital, labour, transport), processes and outputs (products and waste) of the location of industries. | Pupils are introduced to industry as a system and define key terms – “inputs”, “processes” and “outputs”. Pupils draw a generalised systems diagram to show the main factors that affect industrial location decisions. Pupils take notes on the factors that affect the location of industry and understand how the importance of these factors will vary between industries e.g. raw material oriented and market oriented. Pupils complete a decision making exercise giving the advantages and disadvantages of sites for different types of industries. | <p>The New Wider World Page 136 and 137</p> <p>Longman Geography for GCSE Page 151 to 159.</p> <p>http://www.geography.learnontheinternet.co.uk/ (Select Industrial Systems)</p> <p>http://www.s-cool.co.uk/ (Introduction To Industry and Industrial Location)</p> <p>http://www.bbc.co.uk/education/gcsebitesize/geography/ (Select Economic Activity - Industrial Location)</p> <p>http://www.projectgcse.co.uk/geography/location.htm</p> <p>Question 5a Paper 1/2 November 1999.</p> |
| 3.2b 3.2c | Describe the factors influencing the location of a processing or manufacturing industry. | e.g. motor vehicle assembly industry: Pupils define key term "assembly industry". Pupils discuss and draw a systems diagram for the motor vehicle assembly industry. Using the case study of Nissan in Sunderland, pupils are able to explain the factors that affect the location of a motor vehicle assembly plant. | <p>Longman Geography for GCSE Page 135</p> <p>Essential Mapwork Skills Pages 86 - 87</p> <p>http://www.geography.learnontheinternet.co.uk/topics/ (Select Industrial Systems)</p> <p>http://www.s-cool.co.uk/ (Select GCSE, then Geography, then Industry, then An Introduction to Industry)</p> <p>http://www.bbc.co.uk/education/gcsebitesize/geography/ (Select Economic Activity - Inward Investment)</p> <p>Question 5 Paper 1 May 1998 Question 6 Paper 1/2 October 2000</p> |

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| 3.2c | Describe the factors influencing the location of a processing or manufacturing industry. | Pupils understand that many motor vehicle assembly industries are transnational companies. Pupils explain why transnational companies are increasing and the costs and benefits that they can bring to a country. Pupils describe the distribution of either Nissan transnational production using Paper 1 May 1998 Question 5 or Ford using The New Wider World . | <p>The New Wider World Pages 144 and 145</p> <p>Longman Geography for GCSE pages 156 - 157. Question 5 Paper 1 May 1998.</p> <p>http://www.s-cool.co.uk/ (Select GCSE, then Geography - Industry in the Developing World).</p> <p>http://www.bbc.co.uk/education/gcsebitesize/geography/index.shtml (Select Economic Activity - Inward Investment)</p> |
| 3.2b 3.2c | Describe the factors influencing the location of high technology industries. | <p>Pupils define key terms “footloose industry” and “greenfield site”.</p> <p>Pupils discuss and draw a systems diagram for high technology industries. Using the case study of the M4 corridor or Cambridge (UK examples), pupils explain the factors that affect the location of high technology industry.</p> | <p>The New Wider World Page 140 and 141. Exercise 3 Page 157.</p> <p>Longman Geography for GCSE pages 164 - 165.</p> <p>www.s-cool.co.uk/ (Select Location for M4 case study)</p> <p>Question 5 Paper 1 June 2000.</p> <p>Question 5 Paper 3 November 1999</p> |
| 3.5 | To describe how manufacturing industry can affect the quality of life. | Pupils build upon the work already covered on transnational companies and high-technology industry to understand the growth of industry in the Newly Industrialising Countries. Pupils describe the impact of industrial growth to include ideas such as increased GDP, employment, impact upon education and health etc. Pupils also understand the impact that new industry can have at a local scale and draw a flow diagram to show the stages in the positive multiplier effect. | <p>www.s-cool.co.uk/ (Select Geography, then GCSE, then Industry in the Developing World.)</p> <p>http://www.bbc.co.uk/education/gcsebitesize/geography/ (Select Economic Activity - Industrial Growth and Decline)</p> <p>The New Wider World Page 146 - 147.</p> <p>Longman Geography for GCSE Page 161.</p> |

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|--|--|---|
| 3.5 Describe how manufacturing industry can pose threats to the environment. | <p>Pupils discuss the ways in which industry can damage the environment to include air, water and noise pollution using appropriate examples such as the chemical spill from Sandoz into the River Rhine. Pupils research and write a report to show the various types of industrial pollution and suggest possible solutions. Pupils discuss why it is important to protect the environment from industrial pollution to include their own opinions and values. Pupils could also include the problem of acid rain and how manufacturing industries, which release sulphur dioxide, contribute to the problem. Pupils research the causes and effects of acid rain and present their ideas as a newspaper report to include the countries that cause the pollution and the areas at risk. Suggested case study: Scandinavia. Pupils describe the solutions to the problem of acid rain including those at source and those which treat the effects of the problem. Make the clear link to the burning of fossil fuels in power stations here.</p> | <p>The New Wider World Page 221. Exercise 8 P Longman Geography for GCSE Page 236.</p> <p>http://www.zephyrus.demon.co.uk/geography/resources/environ/water.html</p> <p>Question 6 Paper 1/2 October 2000</p> <p>http://www.geocities.com/CapeCanaveral/Hall/9111/FRA/ME.HTML</p> |