



# Curriculum Links





## AS and A level Field Studies

|                                 | Brief Description  | Equipment Includes  | Centres           |                   | Curriculum Information - OCR  |
|---------------------------------|--|---|-------------------|-------------------|---|
|                                 |  |   | PGL Little Canada | PGL Osmington Bay |   |
| <b>Human Geography</b>          |  |   |                   |                   |   |
| <b>Coastal Management</b>       | Students examine the conflicts that arise from coastal erosion and the options for coastal management. They investigate different types of coastal defences through field sketches and discuss how they should be managed in the future through a decision matrix. Each option is examined through cost benefit analysis and all relevant economic, social, educational and industrial impacts are investigated and discussed.   | Activity sheets, clipboards, questionnaires, digital camera     |                   |                   | OCR GCE Geography AS/A level: 3.1 AS Unit F761: Managing Physical Environments: Coastal Environments OCR GCE Geography AS/A Level: Topic 1.1 -Landscape Systems 1.1.1 Option A Coastal Landscapes: 1.a/1.b/1.c/2.a/2.b/4.a/4.b. Geographical Skills & Fieldwork Skills.             |
| <b>Impacts of Tourism</b>       | Students examine the reasons for the historical development of a tourist resort. Effects of recreational pressure on local employment, land use conflicts, the physical environment and traffic congestion are considered. Data is collected through land use mapping, pedestrian surveys and traffic counts. Information collected is analysed through classification of land use maps and collation of questionnaires. A report can be written and a management plan produced for future work.   | Activity sheets, digital cameras, questionnaires, land use maps |                   |                   | OCR GCE Geography AS/A level: 3.1 AS Unit F762: Managing Change in Human Environments: The growth of tourism OCR GCE Geography AS/A Level: Topic 2.1 Changing Spaces; Making Places 3.b/4.b/5.b/5.c. Geographical Skills & Fieldwork Skills.  |
| <b>Rural and Urban Issues</b>   | For rural issues, students investigate the changing function of a village over time and the issues associated with rural settlements. Geographical techniques are used to illustrate how an area has changed over time. Evidence of the impact of other settlements and the rural employment levels and type are discussed. For urban issues, producing land use classification maps of town centres allows students to investigate patterns in retail settlements and settlement function. Development of towns over time can be demonstrated through a study of building type and the CBD can be mapped. | Activity sheets, digital cameras, questionnaires, land use maps |                   |                   | OCR GCE Geography AS/A level: 3.1 AS Unit F762: Managing Change in Human Environments: Managing Urban Change; Managing Rural Change. OCR GCE Geography AS/A Level: Topic 2.1 Changing Spaces; Making Places: 1.a/3.a/3.b/3.c/4.a/5.b/5.c. Geographical Skills and Fieldwork Skills. |
| <b>Tourism and Environments</b> | Students examine the development of a tourist location. Landscape features and local history are considered alongside the effects of recreational pressure on local employment, land use conflicts, the physical environment and traffic congestion. Data can be collected through land use mapping, pedestrian surveys and traffic counts. Information collected can be analysed through classification of land use maps and collation of questionnaires and then included in a written report.   | Activity sheets, digital cameras, questionnaires, land use maps | <br>              | <br>              | OCR GCE Geography AS/A level: 3.1 AS Unit F762: Managing Change in Human Environments: The growth of tourism. OCR GCE Geography AS/A Level: Topic 2.1 Changing Spaces; Making Places: 1.a/3.a/3.b/3.c/4.a/5.b/5.c. Geographical Skills and Fieldwork Skills.                        |



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| <b>Physical Geography</b>             |  |  |   |   |  |
| <b>Coastal Processes and Features</b> | By working as part of a team students profile a beach, taking accurate measurements which are entered onto a pocket computer. Students discuss beach formation and the reasons why beaches differ in shape and sediment size. They then discuss the results obtained and suggest why sediment size varies in relation to its position on the beach. Simple experiments allow observations of long shore drift and wave refraction.   | Activity sheets, profiling kit, digital cameras  |  |  | OCR GCE Geography AS/A level: 3.1 AS Unit F761: Managing Physical Environments: Coastal Environments OCR GCE Geography AS/A Level: Topic 1.1 -Landscape Systems 1.1.1 Option A Coastal Landscapes: 1.a/1.b/1.c/2.a/2.b/4.a/4.b. Geographical Skills & Fieldwork Skills.  |
| <b>Rivers</b>                         | The form and function of rivers are studied from source to mouth in this river investigation, including width, depth, velocity, hydraulic radius, wetted perimeter, land use, surface run off, sediment size and common fluvial formations such as point bars, meanders, river cliffs and braided channels. Students can relate their findings to the human influence upon the sample sites. The data gathered in the field and digital photos taken can be used to write-up the day's findings. | Activity sheets, Pocket PC, digital camera, clinometer, channel profile kit, flow meters, callipers, sediment roundness chart, ranging poles |  |  | OCR GCE Geography AS/A level: 3.1 AS Unit F761: Managing Physical Environments: River Environments. 3.3 A2 Unit F763: Global Issues: Section A Environmental Issues: Earth Hazards: What are the hazards associated with flooding? (Not Osmington Bay) OCR GCE Geography AS/A Level: Topic 1.2 Earth's Life Support Systems 1.b/1.c Geographical Skills & Fieldwork Skills |



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| <b>Geology</b>                      |   |   |   |   |  |
| <b>Geology, Rocks and Fossils</b>   | Students examine sedimentary rocks formed under a range of environmental conditions and discuss the tectonic events that have shaped the landscape, with specific reference to the site they are visiting. Students hunt for fossils and examine the process of fossilisation from living creature to potential museum piece.   | Activity sheets, pencils, clipboards, rock guides, compass clinometer, metre ruler, spirit level, digital camera. |  |  | OCR Geology GCE AS/A level: AS Unit F791: Global Tectonics: Module 3 - Continental drift, Sea Floor Spreading and Plate Tectonics 1.3.2; Module 4 Geological Structures 1.4.4, 1.4.5; 3.2 AS Unit F792: Rocks – Processes and Products: Module 1 The Rock Cycle 2.1.1, 2.1.2, 2.1.3; Module 3: Sedimentary processes and products 2.3.1, 2.3.2, 2.3.3, 2.3.4, 2.3.5, 2.3.6, 2.3.7; 3.5 A2 Unit F795: Evolution of Life, Earth and Climate: Module 1: Formation of fossils 5.1.1, 5.1.2, 5.1.3, 5.1.4; Module 3: Fossil evidence of the evolution of organisms and mass extinctions 5.3.1, 5.3.6. |
| <b>People, Rocks and Landscapes</b> | Visiting a number of localities students discover how geology, as a natural resource, impacts on the environment and character of an area. Igneous geological features can attract industries, particularly tourism but can also produce areas of natural beauty and scientific importance thereby introducing conflict over a variety of issues. Students can create a report of their findings based on the viewpoints of people living in the community. | Activity sheets, rock guides, compass clinometer, metre ruler, spirit level, digital camera                       |  |  | OCR GCE Geography AS/A level: 3.1 AS Unit F762: Managing Change in Human Environments: Managing rural change, The growth of tourism. OCR Geology GCE AS/A level: 3.1 AS Unit F791: Global Tectonics: Module 3 - Continental drift, Sea Floor Spreading and Plate Tectonics 1.3.2; Module 4 Geological Structures 1.4.1, 1.4.3, 1.4.4, 1.4.5; 3.2 AS Unit F792: Rocks – Processes and Products: Module 1 The Rock Cycle 2.1.1, 2.1.2, 2.1.3; Module 3: Sedimentary Processes and Products 2.3.1, 2.3.2, 2.3.3, 2.3.4, 2.3.5, 2.3.6, 2.3.7.  |



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|   |  |  | PGL Little Canada   | PGL Osmington Bay   |  |
| <b>Biology</b>                                |  |  |   |   |  |
| <b>Haloseral Succession</b>                   | This is a study of the colonization in a salt marsh environment. By carrying out random sampling and performing accurate and detailed line transects, students observe the changes in succession and begin to appreciate the importance of conservation and management of fragile ecosystems. Students can also test their hypotheses using Spearman's Rank Coefficient calculation to determine if there is a relationship between different environmental factors, e.g. between the pH of the soil and species number. Remaining time can be spent writing up the methodology and discussing the day's findings. | Activity sheets, digital cameras, Pocket PC, thermometer, profiling kit, moisture meter, pH kit, quadrat, infiltration kit, stopwatch, plant ID sheets, identification books |    |    | OCR GCE Biology AS/A2: 3.2 AS Unit F212: Molecules, Biodiversity, Food and Health: Module 3 Biodiversity and Evolution: 2.3.1, 2.3.2, 2.3.3, 2.3.4, Practical Skills; 3.5 A2 Unit F215: Control. Genomes and Environment: Module 3 Ecosystems and Sustainability: 5.3.1, 5.3.2, Practical Skills. OCR GCE Geography AS/A level: 3.3 A2 Unit F763: Global Issues: Section A Environmental Issues: Ecosystems and environments under threat. OCR GCE Applied Science AS/A: 3.14 A2 Unit G633: Ecology and managing the environment: 3.14.1, 3.14.2, 3.14.3 OCR GCE Biology AS: Module 3 Exchange and transport - 3.1.3 E Module 4 Biodiversity, evolution and disease - 4.2.1 A,B,C,D,F,G / 4.2.2 A/G Module 6 Genetics, evolution and ecosystems - 6.3.1 A,C. |
| <b>Heathland Ecology and Management</b>       | An investigation of open heathland is undertaken. Line transects are made and measurements taken including pH, light levels and soil type. Quadrats are used to examine plant species along the transect. Expected changes in diversity within physical parameters are discussed, along with the role of heathland in the nitrogen and carbon cycles. In addition, the management and land uses of the area are discussed. Data analysis and statistical tests can be used to complete a report on the investigation.  | Activity sheets, digital camera, Pocket PC, infiltration kit, soil thermometer, moisture meter, pH kit, profiling kit, quadrat, plant ID guides, pocket ID books, anemometer |   |   | OCR GCE Biology AS/A2: 3.2 AS Unit F212: Molecules, Biodiversity, Food and Health: Module 3 Biodiversity and Evolution: 2.3.1, 2.3.2, 2.3.3, 2.3.4, Practical Skills; 3.5 A2 Unit F215: Control. Genomes and Environment: Module 3 Ecosystems and Sustainability: 5.3.1, 5.3.2, Practical Skills. OCR GCE Geography AS/A level: 3.3 A2 Unit F763: Global Issues: Section A Environmental Issues: Ecosystems and environments under threat. OCR GCE Applied Science AS/A: 3.14 A2 Unit G633: Ecology and managing the environment: 3.14.1, 3.14.2, 3.14.3 OCR GCE Biology AS: Module 3 Exchange and transport - 3.1.3 E Module 4 Biodiversity, evolution and disease - 4.2.1 A,B,C,D,F,G / 4.2.2 A/G Module 6 Genetics, evolution and ecosystems - 6.3.1 A,C. |
| <b>Investigations and Sampling Techniques</b> | This unit provides students with an introduction to a variety of different data collection techniques, both in theory and practically as part of an investigation. Techniques covered include belt transects, line transects, random sampling, quadrats and 'mark, release and recapture'. Students' work will have an emphasis on experimental design, accurate and consistent data collection, hypothesis testing and statistical analysis.  | Activity sheets, digital camera, Pocket PC, infiltration kit, pH kit, soil thermometer, moisture meter, profiling kit, quadrat, plant ID guides, pocket ID books, anemometer |  |  | OCR GCE Biology AS/A2: 3.2 AS Unit F212: Molecules, Biodiversity, Food and Health: Module 3 Biodiversity and Evolution: 2.3.1, 2.3.2, 2.3.3, Practical Skills; 3.5 A2 Unit F215: Control. Genomes and Environment: Module 3 Ecosystems and Sustainability: 5.3.1, 5.3.2, Practical Skills. OCR GCE Applied Science AS/A: 3.14 A2 Unit G633: Ecology and managing the environment: 3.14.1, 3.14.2. OCR GCE Biology AS: Module 3 Exchange and transport - 3.1.3 E Module 4 Biodiversity, evolution and disease - 4.2.1 A,B,C,D,F,G / 4.2.2 A/G Module 6 Genetics, evolution and ecosystems - 6.3.1 A,C.  |

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| <b>Biology</b>                |  |  |  |  |  |
| <b>Marine Zonation</b>        | Horizontal succession is studied using line transects across the littoral zone to measure the percentage and/or frequency cover of the organisms. Vertical zonation studies can also be carried out, using a 10cm quadrat - vertically on the rocks - to examine changes in species number and diversity on a small scale. Both methods are ideal for students undertaking projects with an emphasis on experimental design, accurate and consistent data collection, hypothesis testing and statistical analysis alongside concepts such as Ballantine's scale of exposure. | Activity sheets, digital camera, Pocket PC, profiling equipment, 100cm quadrat, 10cm quadrat, identification sheets and books, bug pots  | <br> | <br> | OCR GCE Biology AS/A2: 3.2 AS Unit F212: Molecules, Biodiversity, Food and Health: Module 3 Biodiversity and Evolution: 2.3.1, 2.3.2, 2.3.3, Practical Skills; 3.5 A2 Unit F215: Control. Genomes and Environment: Module 3 Ecosystems and Sustainability: 5.3.1, 5.3.2, Practical Skills. OCR GCE Applied Science AS/A: 3.14 A2 Unit G633: Ecology and managing the environment: 3.14.1, 3.14.2. OCR GCE Biology AS: Module 4 Biodiversity, evolution and disease - 4.2.1 A,B,C,D,F / 4.2.2 A,G Module 6 Genetics, evolution and ecosystems - 6.3.1 A.  |
| <b>Psammoseral Succession</b> | A Nature Reserve system is an ideal location for studying the abiotic and biotic factors of succession over sand and the factors that affect this process. Opportunities are provided to study different approaches to sustainable development and how humans impact upon succession. Data analysis and statistical tests can be used to complete a report on the investigation.   | Activity sheets, digital camera, Pocket PC, infiltration kit, pH kit, soil thermometer, moisture meter, profiling kit, quadrat, plant ID guides, pocket ID books, anemometer                           | ✘  |   | OCR GCE Biology AS/A2: 3.2 AS Unit F212: Molecules, Biodiversity, Food and Health: Module 3 Biodiversity and Evolution: 2.3.1, 2.3.2, 2.3.3, 2.3.4, Practical Skills; 3.5 A2 Unit F215: Control. Genomes and Environment: Module 3 Ecosystems and Sustainability: 5.3.1, 5.3.2, Practical Skills. OCR GCE Geography AS/A level: 3.3 A2 Unit F763: Global Issues: Section A Environmental Issues: Ecosystems and environments under threat. OCR GCE Applied Science AS/A: 3.14 A2 Unit G633: Ecology and managing the environment: 3.14.1, 3.14.2, 3.14.3 OCR GCE Biology AS: Module 3 Exchange and transport - 3.1.3 E Module 4 Biodiversity, evolution and disease - 4.2.1 A,B,C,D,F,G / 4.2.2 A,G Module 6 Genetics, evolution and ecosystems - 6.3.1 A,C. |
| <b>Stream Ecology</b>         | Students investigate how a river changes along its course from source to mouth, focusing on the change in invertebrate communities. Kick and sweep sampling is employed alongside identification keys, and students record their findings on pocket computers. Digital photographs help to identify sample sites, and the reasons for changes along the river, pollution levels, land use and management are examined fully.   | Activity sheets, Pocket PC, digital camera, channel profile kit, flow meters, sediment roundness chart, pH meters, sweep nets, bug pots, identification books and sheets                               |   |   | OCR GCE Biology AS/A2: 3.2 AS Unit F212: Molecules, Biodiversity, Food and Health: Module 3 Biodiversity and Evolution: 2.3.1, 2.3.2, 2.3.3, Practical Skills; 3.5 A2 Unit F215: Control. Genomes and Environment: Module 3 Ecosystems and Sustainability: 5.3.1, 5.3.2, Practical Skills. OCR GCE Applied Science AS/A: 3.14 A2 Unit G633: Ecology and managing the environment: 3.14.1, 3.14.2. OCR GCE Biology AS: Module 4 Biodiversity, evolution and disease - 4.2.1 A/B/C/D/F/G / 4.2.2 A,G Module 6 Genetics, evolution and ecosystems - 6.3.1 A.  |
| <b>Woodland Ecology</b>       | Students conduct a comparative investigation of coniferous and deciduous woodland. Line transects are made and measurements taken, including pH, light levels and soil type. Students use quadrats to examine plant species in different layers of woodland. Expected changes in diversity within physical parameters are discussed, along with the role of woodland in the nitrogen and carbon cycles.  | Activity sheets, digital camera, Pocket PC, infiltration kit, pH kit, soil auger, soil thermometer, moisture meter, profiling kit, quadrats, plant ID guides, pocket ID books, anemometer, light meter |   |   | OCR GCE Biology AS/A2: 3.2 AS Unit F212: Molecules, Biodiversity, Food and Health: Module 3 Biodiversity and Evolution: 2.3.1, 2.3.2, 2.3.3, 2.3.4, Practical Skills; 3.5 A2 Unit F215: Control. Genomes and Environment: Module 3 Ecosystems and Sustainability: 5.3.1, 5.3.2, Practical Skills. OCR GCE Geography AS/A level: 3.3 A2 Unit F763: Global Issues: Section A Environmental Issues: Ecosystems and environments under threat. OCR GCE Applied Science AS/A: 3.14 A2 Unit G633: Ecology and managing the environment: 3.14.1, 3.14.2, 3.14.3 OCR GCE Biology AS: Module 3 Exchange and transport - 3.1.3 E Module 4 Biodiversity, evolution and disease - 4.2.1 A,B,C,D,F,G / 4.2.2 A,G Module 6 Genetics, evolution and ecosystems - 6.3.1 A.   |



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|                              |  |   | PGL Little Canada   | PGL Osmington Bay   |  |
| <b>Environmental Science</b> |  |   |   |   |  |
| <b>Freshwater Pollution</b>  | Students investigate pollution levels in a freshwater system, using biotic and abiotic factors. Moving between sample sites, they focus primarily on the change in invertebrate communities. In addition, factors such as nitrate levels are measured. Students use sweep sampling and identification keys, recording their findings on pocket computers. Digital photographs help to identify sample sites and the reasons for changes between the sample sites are examined fully, including pollution levels and land use and management. | Activity sheets, digital camera, pocket PC, bug pots, tray, flexible net, identification guides and sheets, BMWP index, pH kit, nitrate test kits |  |  | OCR GCE Applied Science AS/A: 3.14 A2 Unit G633: Ecology and managing the environment: 3.14.1, 3.14.2. OCR GCE Biology AS: Module 4 Biodiversity, evolution and disease - 4.2.1 A/B/C/D/F/G / 4.2.2 A,G Module 6 Genetics, evolution and ecosystems - 6.3.1 A. |