

Suggestions on how to use the Joyce Country & Western Lakes geopark project region as a case study for LEAVING CERT GEOGRAPHY CURRICULUM

The table below provides suggestions and ideas for teachers to use to incorporate aspects of the Joyce Country & Western Lakes geopark project within their classrooms. We want to encourage using the geopark region as an outdoor classroom, as a case study area and for the people living within it to realise what a special area it is and be proud of where they live.

We hope to design resources in conjunction with teachers, so if you are interested in working with us, please [contact us](#). We look forward to hearing from and working with you.

Please note, the curriculum information is correct as of April 2020. Only the strand units that apply to the geopark project are mentioned here.

Level: LEAVING CERT (curriculum webpage)	Ideas on how to incorporate JCWL geopark with your teaching
<p>1.1 The Tectonic Cycle The mobility of the earth's crust produces endogenic forces, which give rise to geological structures within it. Crustal structures are created, modified and destroyed as part of the tectonic cycle.</p>	<p>1.1 Geopark area as a case study for the different types of plate boundaries e.g. Mid-Atlantic Ridge opening and forming the mountains in geopark. Also going in to geological history of geopark to explain how the volcanoes were formed and how the modern-day equivalent is the Pacific 'Ring of Fire'.</p>
<p>1.2 The Rock Cycle Rocks are continually formed, modified, destroyed, and reconstituted as part of the rock cycle. They are formed and modified by endogenic forces; they are destroyed by exogenic forces of erosion on exposure to weather and climate; they are reconstituted by the deposition of sediments.</p>	<p>1.2 Geopark area as a case study for formation of igneous, sedimentary and metamorphic rocks. Also going in to geological history to explain different rocks forming when Ireland was at different latitudes e.g. the limestone when Ireland was at the equator. Finny as an example of landslides. Lots of recorded landslides in area. Go in to why that area is susceptible to mass movement. Human interaction with rock cycle and mining/extraction e.g. Connemara marble, the old lead and silver mines, quarrying for aggregates and building material.</p>
<p>1.3 Landform Development (i) The development of landforms is influenced by geological structures which have resulted from the operation of the tectonic cycle.</p>	<p>1.3 Example of vertical displacement = the sandstone found on the Maumtrasna plateau 400m above sea level is also found around Clonbur 300m below surface. Examples of deformation structures = the mountains and the folds in the marble. Examples of any sedimentary structures in geopark area e.g. ripple marks, clearly defined bedding planes, cross-bedding etc. Examples of volcanic rocks and pillow basalt at Finny.</p>
<p>1.4 Landform Development (ii) The development of landforms is influenced by rock characteristics which have resulted from the operation of the rock cycle.</p>	<p>1.4 Contrast of landscapes in geopark area e.g. Joyce Country uplands and Western Lakes lowlands are evidence that spatial variations in rock type influence the physical landscape.</p>



1.5 Landform Development (iii)

The development of landforms is influenced by surface (exogenetic) processes which may vary (both spatially and temporally) in their intensity and frequency of operation.

1.6 Landform Development (iv)

All landforms represent a balance between endogenetic and exogenetic forces; this balance may change through time. Students should study the way in which landforms result from a combination of crustal uplift (in response to isostatic readjustment) and denudation by surface processes, and that sometimes landscapes illustrate that these opposing forces are temporarily out of balance.

1.7 Human Interaction

Human activities can impact on the operation of surface processes.

2.1 The Concept of a Region

A region is an area of the earth's surface, which can be identified by selected criteria operating at a variety of scales. Single or multiple indices may be used to study these regions.

2.2 The Dynamics of Regions

The study of regions show how economic, human, and physical processes interact in a particular area.

2.4 The Complexity of Regions (ii)

The boundaries and extent of regions may change over time.

CORE UNIT 3: THE GEOGRAPHICAL INVESTIGATION AND SKILLS

Students must submit a report of an investigation

Karst landscape features e.g. around the loughs are particular to the limestone in geopark area.

1.5 Finny as an example of mass movement (landslides). Lots of recorded landslides in area. Go in to why that area is susceptible to mass movement.

Use glacial features in geopark area to explain the glacial processes that happened there. Also the opportunity for fieldtrips to see these.

1.6 If evidence for things like isostatic readjustment etc in geopark area, can link to leaving cert here.

1.7 The canalisation of Lough Corrib is an example of canalisation. Can discuss the positives and negatives and ultimately why it didn't work.

2.1 Geopark area a case study of karst landscape e.g. in Cong and Clonbur and can use these as fieldtrip destinations. Also that some of these karst features are unique to the area. Geopark area as a case study for a region associated by language – the Irish language.

2.2 Use geopark area as a case study to pick 2 different areas within it to contrast in terms of physical processes (e.g. different landscapes, different rock types, different draining etc), economic processes (e.g. agriculture, mining, quarrying, tourism etc) and human processes (e.g. Gaeltacht vs non-Gaeltacht)

2.4 Use geopark area as an example. How boundary has initially changed from beginning of process (i.e. now includes the lakes) and boundary of Gaeltacht region and if these reflect things like urban growth and political boundaries and cultural groups.

Core Unit 3 Develop an investigation package-type thing that can be carried out in geopark area. E.g. Somewhere for students to collect data (river discharge, river velocity etc) in the field and can



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then write their report about. Secondary sources can include JCWL website and any other papers from research that is happening in geopark area. Can also encourage students to start using GIS systems to record their data and make correlations etc.



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