



Ireland's Deep Atlantic

A Classroom Resource

Business Studies & Geography



An tSraith Shóisearach do Mhúinteoirí
Junior**CYCLE**
for teachers



ÚDARÁS
CRAOLACHÁIN
NA hÉIREANN | BROADCASTING
AUTHORITY
OF IRELAND

SeaFever
PRODUCTIONS



Photo: Copyright George Karbus

INTRODUCTION

This resource is a collaboration between Junior Cycle for Teachers (JCT), RTE and the Broadcasting Authority of Ireland (BAI) and explores key learning and issues raised in the two-part documentary series 'Ireland's Deep Atlantic'. The documentary was supported by funding from the BAI and the documentary was hosted and directed by Ken O' Sullivan, of Sea Fever Productions. It is built on the principles of Education for Sustainable Development (ESD) focusing on the economic, environmental and social aspects of ESD.

Junior Cycle for Teachers (JCT) is a dedicated continuing professional development (CPD) support service of the Department of Education and Skills. Junior Cycle for Teachers aims to inspire, support and empower teachers in the transformation of junior cycle education in Ireland.

The Broadcasting Authority of Ireland (BAI) is the content regulator for Irish broadcasting services. The BAI has a range of functions including licensing, monitoring, developing Codes and Rules and supporting sectoral development. In addition, it provides production funding for high-quality programming on Irish culture, heritage and experience using funds collected through the television licence fee. The BAI is committed to increasing the availability of this content to Irish audiences and these dedicated junior cycle resources support it in achieving this objective. This is part of a larger initiative to bring high-quality Irish production into classrooms to support learning and foster the development of essential media literacy skills in young people.

In the development of this resource, the JCT Business Studies and Geography teams collaborated to create rich learning experiences to complement both subject specifications and in a wider context, the Framework for Junior Cycle 2015. The resources created are not designed to be used in a linear fashion, but rather to support the creation of learning experiences that work for individual schools in their individual contexts.

As you explore this resource, you may identify potential links with other subjects and potential to explore these topics in other areas of learning within junior cycle. Throughout the resource, links to the relevant extracts from Ireland's Deep Atlantic have been provided and the full documentary is available on [RTÉ Learn](#). Please let us know your experience of using these resources on social media via [@JCforTeachers](#) and [@BAItweets](#).

EDUCATION FOR SUSTAINABLE DEVELOPMENT: THE IRISH CONTEXT

This resource has been designed to complement the **National Strategy on Education for Sustainable Development (ESD)** which was developed by the Department of Education and Skills (DES), in consultation with key stakeholders and launched in 2014. It provides a framework to support the contribution that the education sector is making and will continue to make towards a more sustainable future at a number of levels: individual, community, local, national and international. This is one of the key strategies underpinning the Action Plan for Education 2016-2019. It also complements the **Sustainable Development Goals National Implementation Plan 2018-2020**, a whole-of-Government initiative to achieve a better and more sustainable future for all and is informed by the United Nations Sustainable Development Goals (SDGs).



The UN Sustainable Development Goals

Our resource supports the aim of the National Strategy on Education for Sustainable Development in ensuring that education contributes to sustainable development by equipping learners with the relevant knowledge (the **'what'**), the key dispositions and skills (the **'how'**) and the values (the **'why'**) that will motivate and empower them throughout their lives to become informed active citizens who take action for a more sustainable future¹. This resource focuses on supporting students in exploring environmental, social and economic considerations; considers issues of local, national and international concern, uses a variety of pedagogical techniques that promote active and participatory learning and the development of key dispositions and skills and supports students in developing their voice in reorienting societies towards sustainable development.

¹ Aim taken from <https://www.education.ie/en/Publications/Education-Reports/National-Strategy-on-Education-for-Sustainable-Development-in-Ireland-2014-2020.pdf>

EDUCATION FOR SUSTAINABLE DEVELOPMENT: LINKING WITH JUNIOR CYCLE

This resource was created and developed in a cross-curricular capacity between two JCT teams. As this resource was intended to have a cross curricular aspect, the initial starting point for considering learning experiences for students were the twenty-four statements of learning which describes the learning at the core of junior cycle. The twenty-four statements, underpinned by the eight principles, are central to planning for, the students' experience of junior cycle and schools will ensure that all statements of learning and the eight key skills feature in the programmes offered to their junior cycle students.

In the design of the resource, the team identified three statements of Learning that were underpinned by ESD and were also a key cornerstone of their subject specifications.

Statement of Learning 7:

The student values what it means to be an active citizen, with rights and responsibilities in local and wider contexts

I understand how government and politics works in Ireland and elsewhere. I understand that as citizens we all have rights and responsibilities. I respect the rights of minority groups in society. I feel inspired when I learn about ways that active citizens can contribute to building a better world within their local communities and in the wider world. I am willing and able to think carefully about and take action for change on issues that concern me or my community.

Statement of Learning 9:

The student understands the origins and impacts of social, economic, and environmental aspects of the world around her/him

I can describe natural processes which lead to change in the natural landscape. I appreciate that people living and making a living often change the landscape and that this happens in my locality as well as around the world. I understand the relationship between changing landscapes and human life. I am also aware that these changes, as well as political and cultural activities, link people, places and regions and that these links provide great opportunities but also present challenges.

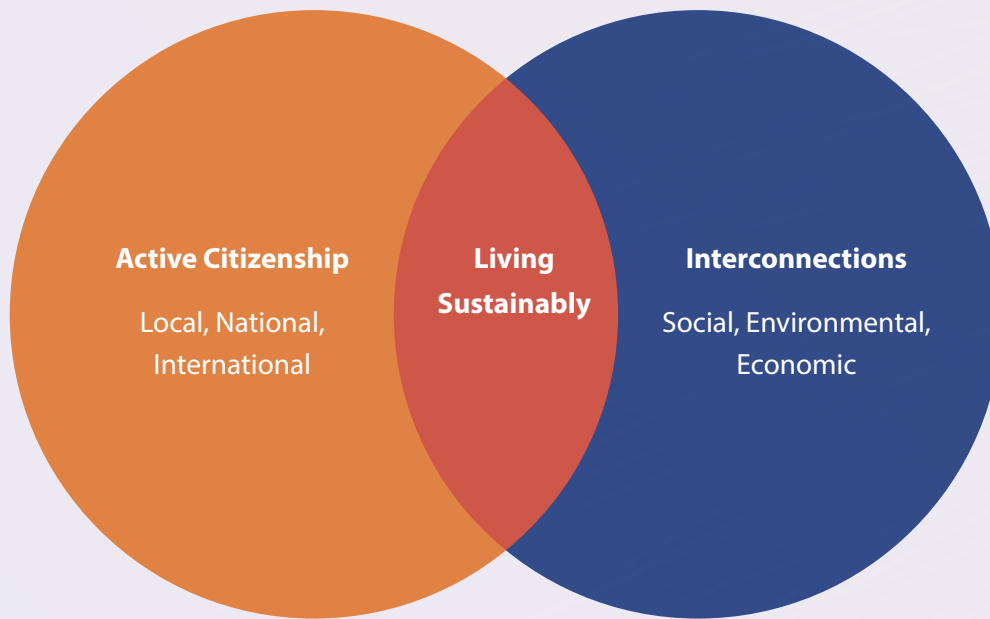
Statement of Learning 10:

The student has the awareness, knowledge, skills, values and motivation to live sustainably

I understand that the natural world is beautiful and of great significance and importance to the lives of everybody on the planet. I take responsibility for the choices I make about how I live and these choices have consequences for the environment and quality of life in my locality and beyond in the wider world. I try to 'think globally and act locally'. I can help my community play its part in improving our environment but can see that other communities have different concerns and I try to take those into account.

Based on the subject specifications and the identified statements of Learning, the teams identified three common areas that would be explored in the resource: Active Citizenship, Interconnections and Living Sustainably.

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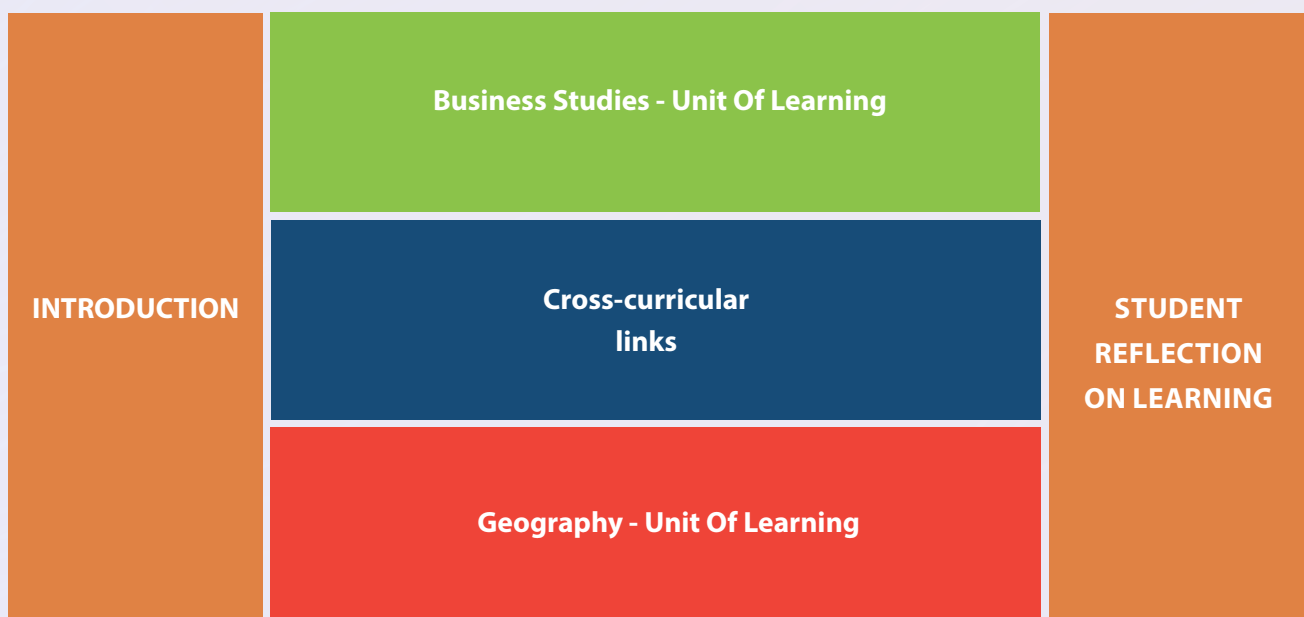


It was decided to structure the resource to promote cross-curricular collaboration, where possible, between Business Studies and Geography teachers. The resource includes four distinct yet complementary sections.

- An Introduction to Key Concepts
- Business Studies Unit of Learning
- Geography Unit of Learning
- Reflecting on Key Concepts

The introduction is built on three of the twenty-four statements of learning and can be explored by Business Studies teachers or Geography teachers or by both departments working in collaboration. The resource also includes two suggested units of learning - one for Business Studies and one for Geography, both developed using learning outcomes from the relevant subject specification.

The four sections offer opportunities for ongoing assessment and the development of key skills and also support the development of student understanding around the number of the Sustainable Development Goals.



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THE GLOBAL GOALS For Sustainable Development



Click on the link below for a short promotional video on Ireland's Deep Atlantic:

<https://www.rte.ie/learn/2019/0207/1028159-irelands-deep-atlantic/>

This may be useful to show to students to give them an insight into the programme and what to expect from the clips.

EDUCATION FOR SUSTAINABLE DEVELOPMENT: INTRODUCTORY UNIT

It's Ridiculous That We Call This Planet Earth

STATEMENTS OF LEARNING

Statement of Learning 7: The student values what it means to be an active citizen, with rights and responsibilities in local and wider contexts

Statement of Learning 9: The student understands the origins and impacts of social, economic, and environmental aspects of the world around her/him

Statement of Learning 10: The student has the awareness, knowledge, skills, values and motivation to live sustainably

Activating prior knowledge:





Clip One: Professor Andy Wheeler and Celtic Explorer.

<https://www.rte.ie/learn/2019/0401/1039867-clip-1-celtic-explorer/>

LEARNER EXPERIENCE

In the clip above you will hear from Professor Andy Wheeler from UCC. Professor Wheeler is working with the team of the Celtic Explorer, the Irish marine exploration vessel.

As you watch the video, detail what you See, what you Hear, what you Think and what you Wonder. Once you have watched the video and completed the boxes below, share your ideas with your partner. Your teacher will take feedback from the class and you are encouraged to reflect on your initial thoughts throughout your engagement with the materials in this resource.

I SEE, I HEAR, I THINK, I WONDER

I See



I Hear



I Think



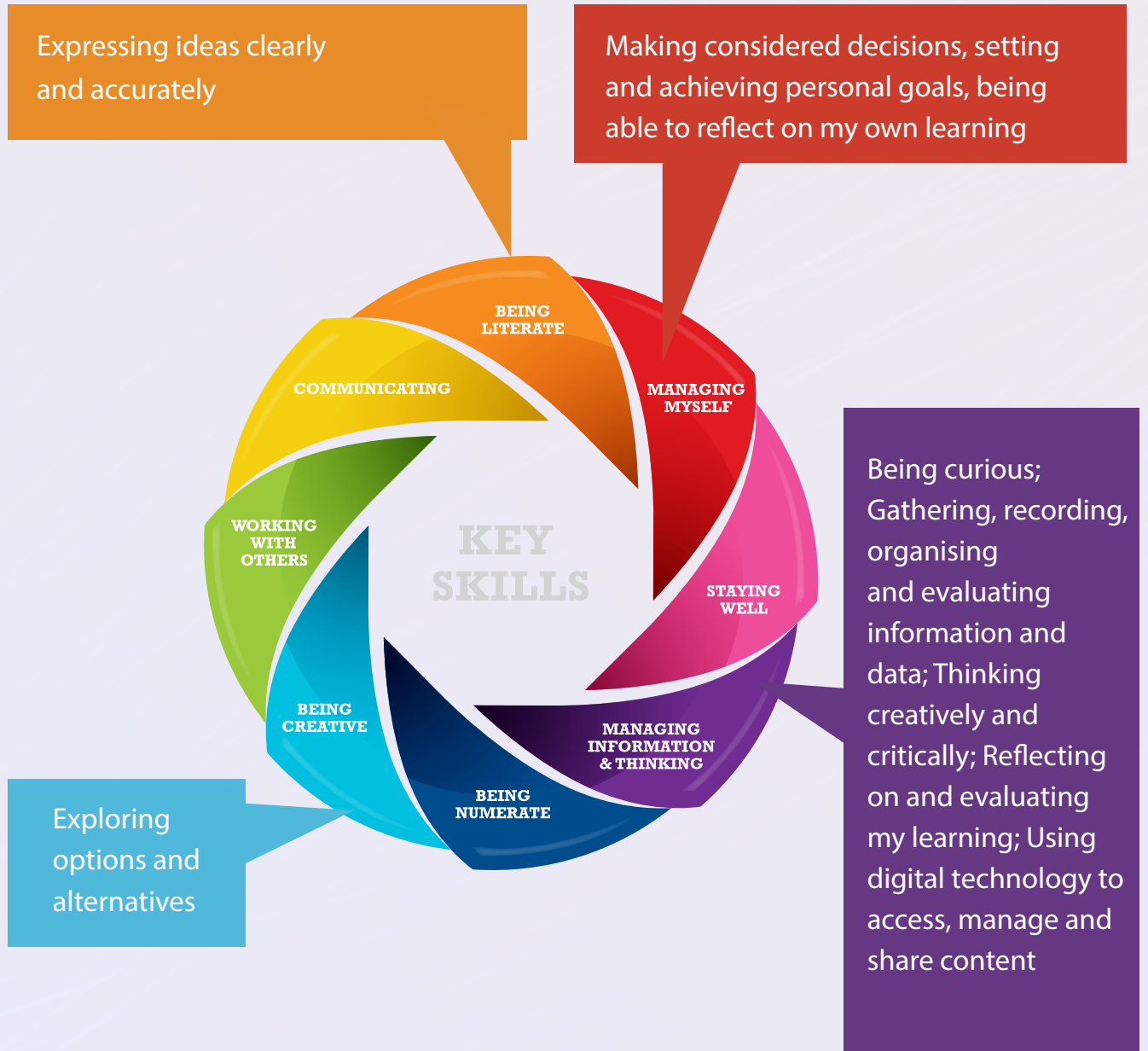
I Wonder





Teacher Note:

The Celtic Explorer is the larger of the two state-owned research vessels run by the Marine Institute. Research is an essential aspect of our learning in junior cycle and we have many opportunities to research areas of interest to us. It supports the development of a number of the key skills including managing myself, being creative, being literate, and managing information and thinking.



LEARNER EXPERIENCE: DEVELOPING RESEARCH SKILLS

Getting started

Gathering information

Evaluating & analysing

When we conduct research, we gather information about a particular topic, area or question that we would like to know more about. Information can be gathered from a wide range of sources and it is essential that we evaluate and analyse our findings. In this way, conducting research is not as simple as searching for information. Watch the video focusing on key steps in research and note some important things to remember when conducting research. Share these in your group and discuss why you think these are important.

CONDUCTING RESEARCH



Research in Ireland's Deep Atlantic with Ken O'Sullivan
<https://www.rte.ie/learn/2019/0401/1039869-research-in-irelands-deep-atlantic-with-ken-osullivan/>



Teacher Note:

Teacher Note: At this point you can use one of the various research supports produced by different subject teams in JCT. The following links are examples that you may wish to use: Conducting Research: <https://youtu.be/5D19Z7Fo-kA> Setting Research Goals: <https://youtu.be/ylyn33HcqIM> Conducting Research: <https://youtu.be/c6k-Fo0amRw> Checking Reliability: <https://youtu.be/5bpc3LvD8-I> Evaluating Findings: <https://youtu.be/j6mX0CalsAA>

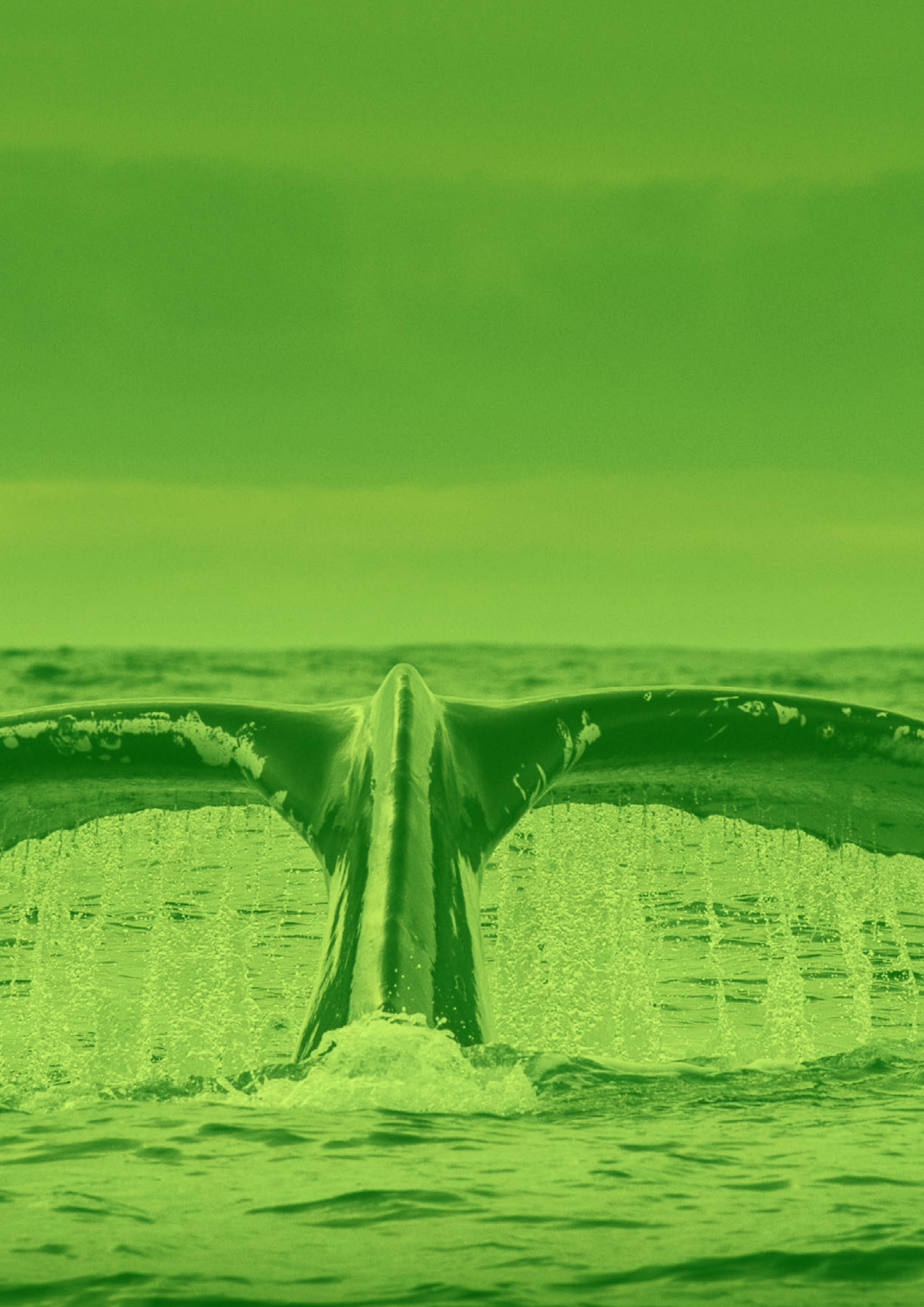
We will now explore the Sustainable Development Goals through viewing this short video from the United Nations: <https://www.youtube.com/watch?v=5G0ndS3uRdo> As you watch this video, make note of why you think these are important for us in today's world.

Students are then invited to choose one of the SDGs from the selection provided by the teacher. They are encouraged to explore the different actions under the sustainable development goals beginning with www.globalgoals.org and then to carry out research focusing on:

HOW IS THIS SUSTAINABLE GOAL RELEVANT FOR THEIR LIVES?



Students regroup with other students that have selected the same SDG and collaborate on a brief presentation to their class sharing the most important points from their research with the class.



BUSINESS STUDIES UNIT OF LEARNING:

The study of Business Studies at junior cycle encourages students to develop an appreciation of how their lives are shaped by economic and social factors. Business Studies also explores the interdependence of economic prosperity, societal wellbeing and the environment. It encourages students to think and act as responsible and ethical citizens. Business Studies aims to stimulate students' interest in the business environment and how they interact with it. It develops skills, knowledge, attitudes and behaviours that allow them to make informed and responsible decisions with all of the resources available to them, ensuring their and society's wellbeing while becoming more self-aware as learners.¹

The specification for Junior Cycle Business Studies focuses on improving students' understanding of the business environment and on developing skills for life, work and further study through the three interconnected strands: Personal finance, Enterprise and Our Economy. The student's engagement and learning in the Business Studies classroom is optimised by a fully integrated experience of the three strands:

Personal finance: Personal finance focuses on students developing a set of skills, knowledge and values that allows them to make informed decisions to effectively and responsibly manage their financial resources.

Enterprise: Enterprise encourages students to identify opportunities and turn them into practical and targeted activities within business and wider society through the development and application of their understanding, skills and values. It develops students' basic understanding of the financial, marketing and operational functions of an organisation.

Our economy: Our economy enables students to understand the dynamic relationship between the local, national and international economic situation. It develops students' ability to identify and understand basic economic concepts as they relate to personal finance, enterprise and the Irish economy.

In using this unit of learning, teachers will be exploring active citizenship where students will explore informed and responsible decision making and consider the interconnections between the social, environmental and economic aspects of the world of business. In doing this, students will have an opportunity to develop informed opinions on the topic of sustainable development. The unit of learning is designed to build on students' prior knowledge and to develop student knowledge and understanding for areas of further study. Students may also make connection with their learning in other subjects.

The activities in the unit of learning will also support students in developing a greater understanding of SDG 12, responsible consumption. Goal 12 sets out targets in areas such as sustainable consumption and production, sustainable tourism, fossil fuel production and the promotion of education policies that raise awareness of and support responsible consumption. For further information on SDG 12 please see <https://www.un.org/sustainabledevelopment/sustainable-consumption-production/>

¹ A <https://www.curriculumonline.ie/getmedia/a00357e9-fa82-4f60-99f7-adae882eeb67/FINAL-NCCA-Specification-for-Jr-Cycle-Business-Studies-v5.pdf>

Prior Knowledge

This unit of learning was designed based on the understanding that students would have engaged with prior learning in the following learning outcomes:

- LO 1.1: Review the personal resources available to them to realise their needs and wants and analyse the extent to which realising their needs and wants may impact on individuals and society
- LO 1.7: Distinguish between and appreciate their rights and responsibilities as consumers
- LO 3.1: Explain how scarcity of resources results in individuals having to make choices; predict possible consequences of these choices
- LO 3.2: Explain how individuals, organisations (profit and not-for-profit) and the government work together to distribute economic resources used - to produce goods and services.

Learning Outcomes in Focus in this Unit of Learning

LO 1.9 Debate the ethical and sustainability issues that arise from their consumption of goods and services and evaluate how they contribute to sustainable development through consumer behaviour

LO 2.5 Investigate the positive and negative impacts on a community of an organisation from an economic, social and environmental perspective

LO 3.6 Explain how economic growth can impact positively and negatively on society and the environment and justify the promotion of sustainable development

In keeping with the blended approach, we have highlighted those parts of each learning outcome which are addressed by each section of the unit. For example, the first set of learner experiences are designed to engage students with key concepts and examine their consumer behaviour. There is therefore a strong engagement with learning outcome 1.9 but the experiences and activities also explore some aspects of learning outcomes 2.5 and 3.6.

Key Learning for this unit arising from selected learning outcomes:

Students will:

- Develop an understanding of what it means to be a sustainable consumer
- Understand that the choices they themselves make, when seeking to satisfy their needs and wants, will impact on others and the environment
- Explore the impact of their own consumer choices in terms sustainability
- Appreciate that sustainability is an important current global issue
- Appreciate that scarcity and choice are issues facing individuals, organisations and communities
- Investigate, understand and evaluate the impact of organisations from social, economic and environmental perspectives
- Give valid reasons for the promotion of sustainable development.

Ongoing Assessment Opportunities:

- Think - pair - share activities to elicit student's prior knowledge
- Walking debate
- Case Studies to discuss specific issues or organisations in the context of ethics or sustainability.
- Students design an infographic or poster
- Visual Thinking Strategy (VTS) where, in groups, students are provided with a printed image and are given questions/prompts around the image that relate to exploitation of resources
- Students carry out a field investigation focusing upon the impact of an organization or industry on a community. As part of this investigation students will consider social, economic and environmental perspectives.
- Dotmocracy: students are asked what they believe are the most and least sustainable products from a 'basket of consumer goods'
- Student presentation
- Teacher feedback on ongoing classroom conversations and observations
- Student self-reflection on his/her own learning



KWL Prior to Unit of Learning

In this unit of learning students will deepen their understanding around SDG 12. Invite students to do a KWL asking what they know about responsible consumption and production and what they would like to know. As you move through the unit of learning, the SDG symbol is used throughout indicating you might wish to prompt students to reflect on anything that they have learned relevant to SDG 12.

<i>What I Know</i>	<i>What I Would Like to Know</i>	<i>What I have Learned</i>

Learner Experiences: Exploring Consumption

Reflecting on prior knowledge

Students are asked to reflect on their previous learning about being a consumer with a particular focus on their rights and responsibilities as consumers. Once this check-in is complete, the focus is drawn to their responsibility as consumers to be ethical and sustainability issues that arise from their consumption of goods.

Building on Prior Knowledge:

Students are given a list of everyday goods and services that are relevant to their lives. You can personalise this list to your own students' context but the list should include a good mixture of goods and services relevant to the students. Some suggestions are outlines in the grid below:

Mobile Phone	Bread	Bar of Soap	Chocolate	Clothing	Bicycle
Bananas	Water	Laptop	Electricity	Chair	Bed Linen
Shoes	Apples	TV	Wristwatch	Milk	Beef
Eggs	Fish	Potatoes	Paper	Bottle of Shampoo	

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Students are divided into groups of six and asked to work in pairs to sort the list in different ways. They share their responses with each other and the teacher then takes feedback from each group on what they found interesting about the lists

- Needs vs Wants
- Products that can be recycled vs products that cannot
- Products that are imported vs products that are not

Students are then asked to review the clip featuring Andy Wheeler which they may have viewed in the introductory activity. After viewing the clip, students are asked to work together in their group and offer responses to key messages and quotations below:

PAIR ONE:

What do you think he means by 'final resources'?
 What is he suggesting about ownership of these resources?
 Does this surprise you? Why/ Why not?

PAIR TWO:

Are there long-term consequences to our behaviour as consumers?
 Do we have any responsibilities to future generations?
 If yes, what are they?
 If no, why not?



Clip from Ireland's Deep Atlantic featuring the Celtic Explorer at sea and Professor Andy Wheeler from UCC

<https://www.rte.ie/learn/2019/0401/1039867-clip-1-celtic-explorer/>

Possible Assessment: Walking Debate



Based on their engagement in previous activities, students are invited to participate in a walking debate in which the teacher uses a number of prompts to encourage students to express and share their viewpoints and also to speak with confidence about their viewpoints. Suggestions for possible points to put to the students include:

- The way we consume goods and services has changed and we cannot avoid our negative impact as consumers
- As citizens of the planet we actually own all of the resources too
- The previous generation did not take care of the planet so we don't have to either

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Pause for Reflection: Considering what you have learned and discussed around the goods and services we consume, has your outlook or opinion on our behaviour as consumers changed in any way. What has changed and why?

Learner Experience: Being Sustainable

Developing a Shared Understanding of What It Means to be Sustainable

Students work in pairs to develop a shared understanding of what it means to be sustainable and what sustainability looks like. To prompt their discussions teachers may find it useful to share the quotes/stimuli below.

Students can use a mindmap or any other suitable way of capturing their ideas. Once they have completed their individual brainstorm, students share their ideas with the class through a suitable digital technology such as Padlet or Mentimeter.

Based on the student responses, the teacher leads the class to arrive at a shared understanding of what it means to be sustainable.

When the last tree is cut down, the last fish is caught and the last river is polluted only then will you realize that you cannot eat money

We do not inherit the earth from our ancestors, we borrow it from our children

Be. Local

shop the farmers market near you, or grow fruits and vegetables in your own yard.

Be. In Season

select produce at the peak of growing season for the best flavour and value.

Be. Sustainable

Be. Fair Trade

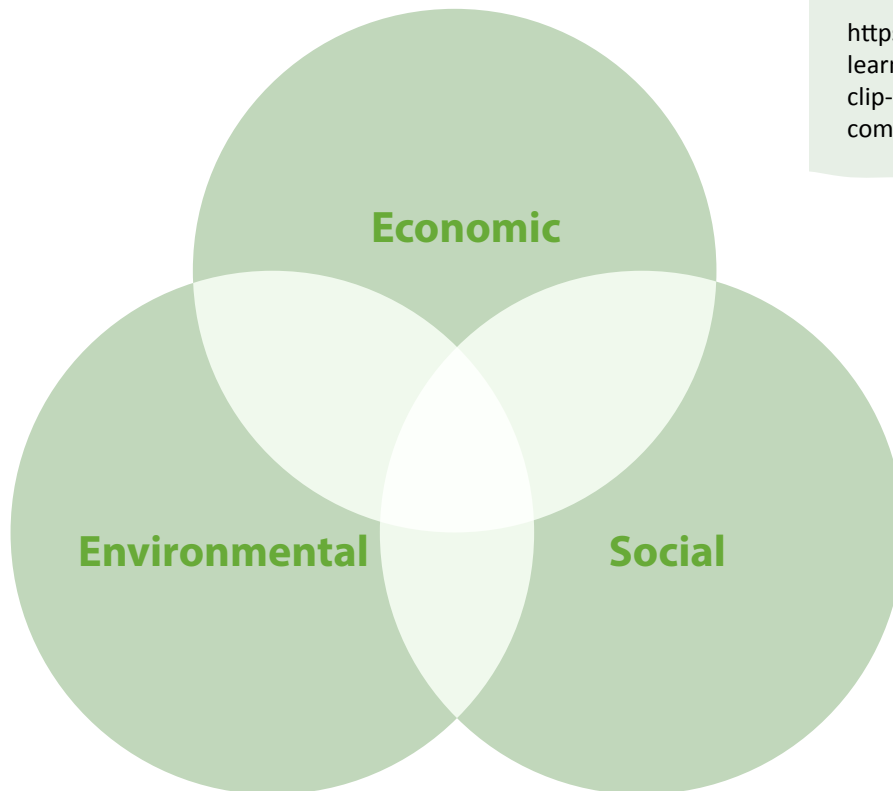
Support producers who uphold high social environmental standards.

Be. Organic

Enjoy foods produced using earth-friendly farming practices.

Sustainable Fishing Communities: One Exploration of Sustainability

Students watch the clip from Ireland's Deep Atlantic once without direction. Students then view the clip again, this time noting their thoughts through these three perspectives: Economic, Social and Environmental. It may be useful to use a graphic organiser to structure their thinking.



Clip from Ireland's Deep Atlantic featuring a piece on sustainable fishing communities.

<https://www.rte.ie/learn/2019/0401/1039871-clip-2-two-fishing-communities/>

Having done this, students are asked to prepare a short speech or a written article for the school newsletter focusing on 'Sustainability is thinking about our actions now and how they might on our future and the lives of future generations',

Teacher Note:

The specification for Junior Cycle Business Studies defines sustainability as 'a process of balancing the social, economic, and environmental systems that are in constant interaction for the well-being of individuals now and in the future. There are three core pillars of sustainability: the **Social**, the **Environmental** and the **Economic**.

Learner Experience: Considering the Consequences

Group Research Project



Students consider a 'basket of consumer goods' (actual or virtual) from a retailer/supermarket). Working in groups of four or five, they choose one product each to investigate. Based on their research they evaluate its sustainability (In keeping with their nature of Ireland's Deep Atlantic it would be interesting if at least one of the products in each basket is a fish-related such as tinned tuna).

The following prompts can be used by students when conducting their research:

- Consider the ingredients used and how these impact on resources – (renewables vs non-renewables, sourcing etc).
- Consider the level of demand for the product – this will have consequences for consumption of resources on a global scale.
- Consider the product packaging. Is it plastic? Is it recyclable? Etc.
- Consider transportation issues – food miles etc.
- Consider End-of-life uses. Is it reusable, recyclable? Etc.

Students can present their findings in any format of their choice but must show the sources of their information.

Possible extension activity: It might also be possible to rate each product based on a sustainability index which the students would create. This could take the form of a sliding scale (green, amber, red) or a spectrum / list of products generated from the group projects.

Reflection activity:



In context of 'shopping basket' activity students undertake self-evaluation of their own consumption habits and how they contribute (or not) to sustainable development.

Possible questions include:

- Are there products which I currently consume or use which might be unsustainable?
- What changes could I make to my consumer behaviour which would help reduce this negative impact on our world?



Clip from Ireland's Deep Atlantic featuring rubbish at the bottom of the ocean, a place where humans have never been but have an impact.

<https://www.rte.ie/learn/2019/0401/1039875-clip-4-impact-of-consumption/>

- If I change my consumer behaviour, how will this impact on my ability to fulfil my needs and wants?
- If I change my consumer behaviour, how will this impact on others?
- Is there anything I could do to encourage others (in my family or community) to make more sustainable consumer choices?

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AND PRODUCTION



Teacher Note:

The specification for Junior Cycle Business Studies defines sustainable development as development which meets the needs of the present without compromising the ability of future generations to meet their own needs. It is a continuous, guided process of economic, environmental and social change aimed at promoting the well-being of citizens now and in the future.

Learning Experience: Whale Watching – A Sustainable Development Case Study

Students watch a clip from Ireland's Deep Atlantic which tells the story of Antero. As they watch the clip students note their responses to the following questions:

In what industry was Antero previously employed? Was this an example of a sustainable industry? Why?

How did this industry impact on his community, future generations and the environment?

In what industry is Antero now employed? Is this an example of a sustainable industry? Why?

How does this industry impact on his community, future generations and the environment?



Teacher takes feedback from the class and leads the class to a shared understanding of the meaning of sustainable development.



Clip from Ireland's Deep Atlantic featuring Antero who is a whale watcher now working in the tourism industry. He previously worked as a whale watcher for the whale hunting industry.

<https://www.rte.ie/learn/2019/0401/1039877-clip-7-whale-watching-tourism/>

Learning Experience: The Impact of Organisations and Consumer Behaviour

Sounds in the Ocean and the Environmental Impact

In the previous learning experience we saw how an organisation or industry impacts on both the society and the environment. The teacher leads a discussion with students to establish their knowledge of oil and gas reserves off the Irish coast.

Students then watch the clip from Ireland's Deep Atlantic with Dr Joanne O'Brien (lecturer in GMIT) which highlights the impact of sound in the ocean.

As they watch the clip students:

- Identify the sources of sound in the ocean
- Note what they think is driving these sounds
- Consider the impact of seismic testing and sounds in the ocean

The teacher invites students to engage in a think pair share activity and uses the information from the students to discuss seismic testing for oil and gas reserves driven by the need for oil for plastic and the production of a wide range of materials and products, the need for gas and oil to fulfil our energy needs and the shipping activity driven by our consumer behaviour.

The Impact of an Organisation on the Community

Students will now investigate the positive and negative impacts on a community of an organisation from a social, economic and environmental perspective.

Any organisation could be chosen for this investigation, it might be particularly useful and relevant to consider your local context when making this choice. Some possibilities include: Shell Corrib Gas, Bord Na Mona, The GAA.

Students prepare a poster to present their findings under the headings Social, Economic and Environmental. The teacher clarifies each of these headings with students and reminds students to check the sources of their information and to keep a record of all sources of information.

Social Perspective: relating to society, people and communities etc. with a focus on how the actions of organisations impact on our communities, on the places where we live.

Economic Perspective: How something impacts on an economy; relates to money and profit.

Environmental Perspective: Impact on natural surroundings and resources including other living things.



Clip from Ireland's Deep Atlantic featuring seismic testing and sound in the Atlantic Ocean with Dr Joanne O'Brien (GMIT)

<https://www.rte.ie/learn/2019/0401/1039879-clip-5-sound-in-the-ocean/>



Learning Experience: Justifying the Promotion of Sustainable Development

Students watch the student interview with Ken O Sullivan who shares his thoughts on sustainable development and sustainable consumer behaviour.

Based on their learning across the unit of learning and Ken's insights students work in pairs to prepare a speech that they would give at a student evening at their local enterprise office (LEO). In their speech they explain, using examples, their reasons for wanting the local enterprise office to promote sustainable development amongst the businesses the LEO work with. In their speech students should refer to SDG 12. Further information on this goal via these links:

<https://www.un.org/sustainabledevelopment/wp-content/uploads/2018/09/Goal-12.pdf>

<https://www.un.org/sustainabledevelopment/sustainable-consumption-production/>



Clip from Ken, the producer of Ireland's Deep Atlantic in an interview with some students. In this piece Ken explores how Ireland as a developed country should take the lead in terms of sustainable consumption and production.

<https://www.rte.ie/learn/2019/0401/1039916-sustainable-consumption-and-production/>

KWL After Unit of Learning

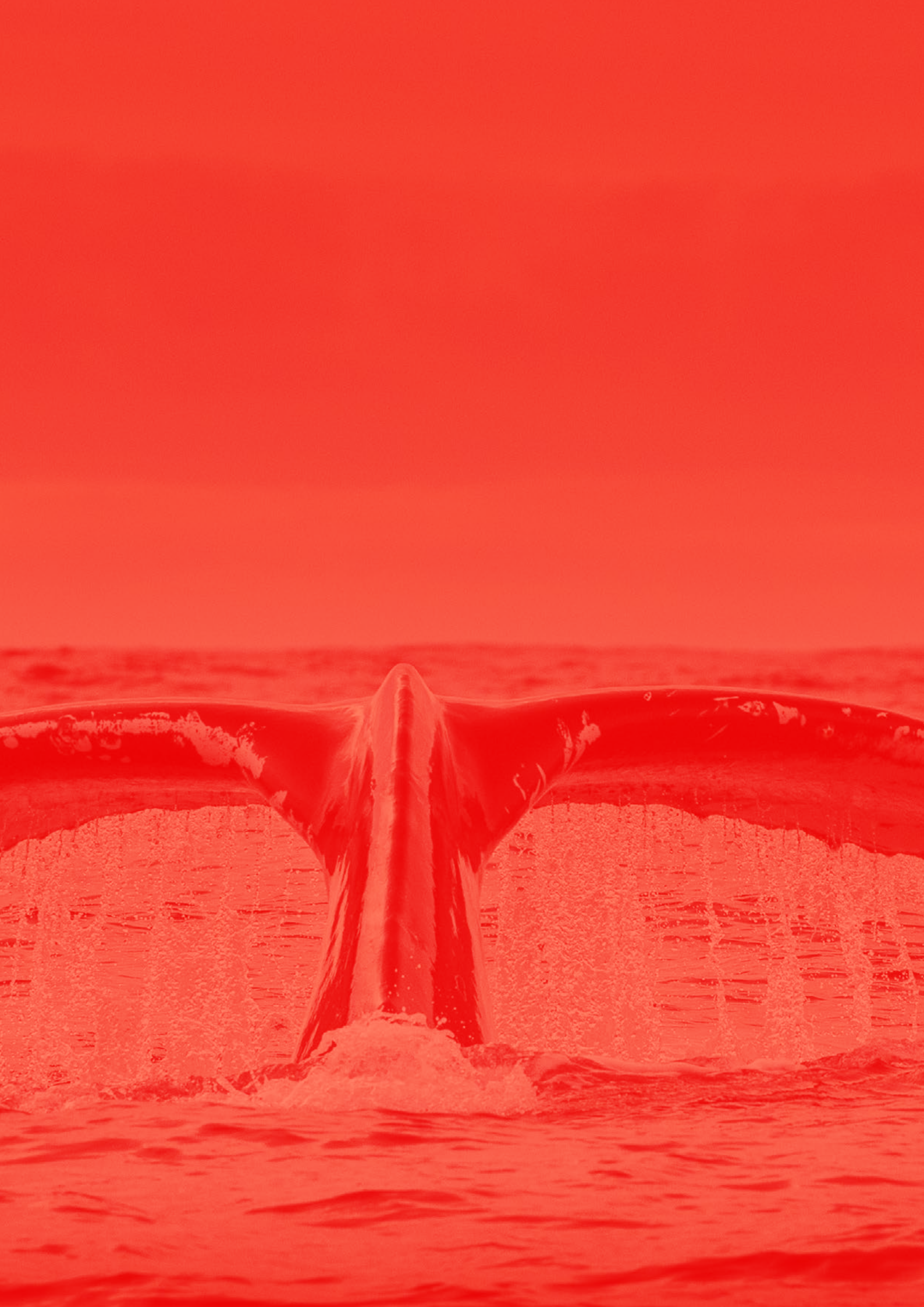
Return to the KWL and in the 'L' column note any new information you have learned in relation to SDG 12

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



Teacher Note:

In terms of LO 3.6, students will have developed the capacity to justify the promotion of sustainable development. When the class are learning later in their junior cycle journey about economic growth the teacher can invite students to return to their learning in this unit of learning when *explaining how economic growth can impact positively and negatively on society and the environment and justifying the promotion of sustainable development.*



EDUCATION FOR SUSTAINABLE DEVELOPMENT: GEOGRAPHY

RTÉ/BAI Ireland's Deep Atlantic

GEOGRAPHY

The study of Junior Cycle Geography enables students to become geographically literate. It stimulates curiosity, creating opportunities for students to read, analyse, synthesise and communicate about their immediate environment and wider world. It develops knowledge, skills, values and behaviours that allow students to explore the physical world, human activities, how we interact with our world and to recognise the interconnections between systems.

Geoliteracy

The specification is informed by the concept of Geoliteracy. This refers to students' ability to develop far-reaching decisions through geographical thinking and reasoning. Geoliteracy provides the framework for understanding in geography and is threaded throughout learning and teaching of geography. The core components of Geoliteracy are the three I's: interactions, interconnections & implications.

Strand 2: Exploring how we Interact with the Physical World

This strand focuses on facilitating students' understanding of how people interact with the physical world and the implications this might have for their lives. Students explore how we depend on, adapt, and change the physical world. Students apply their knowledge and skills to explain how we interact with our physical world for economic purposes, as well as how we adapt to physical phenomena.

Structured Inquiry

The structured inquiry process involves students asking questions, gathering data, evaluating and interpreting their findings, and presenting information. It encourages collaboration and communication with their peers and experts in other fields (Assessment Guidelines p. 10). The student is required to demonstrate knowledge, understanding, awareness and skills in conducting a structured inquiry which explores and analyses if and how the elements of the Geography specification (processes, patterns, systems and scale, geographical skills and sustainability) are manifested in the response.

Name: Interacting with the physical world

Task: Examine the environmental, economic and social impacts of our interaction with the physical environment - our oceans.

Success Criteria: Success criteria for this structured inquiry can be co-created with the students (Student Voice) in order to narrow the focus.

Response/Report: Students may present their findings in a variety of formats e.g. oral, written, audio.

Learning Outcomes

LO 2.2 Evaluate the environmental, economic and social consequences of rock exploitation and energy resources.

LO 2.4 Assess the exploitation of water, fish stocks, forestry, and soil as natural resources.

LO 2.9 Assess the interrelationships between the physical world, tourism and transport.

Prior Knowledge

This unit was designed based on the understanding that students would have engaged with prior learning in the following learning outcomes:

Renewable and non-renewable resources (LO 1.9)

Primary economic activity (LO 2.3)

Plate tectonics (LO 1.1 & LO 2.1)

Marine landscape (LO 1.5)

Rock exploitation (LO 1.2 & LO 2.2)

Key Learning for this unit arising from selected learning outcomes:

Students will:

- Identify fishing ports/tourist attractions/areas of rock exploitation in Ireland
- Explore Ireland's continental shelf and Irish ocean territory
- Assess the exploitation of fish stocks as a natural resource in a local area over time
- Evaluate the environmental, economic and social consequences of oil and gas exploration
- Assess the interrelationships between the physical world and tourism
- Consider the balance between economic, environmental and social systems that are necessary for meeting present day needs without compromising the needs of the future
- Recognise how their decisions and actions impact on local and global sustainability
- Develop knowledge, skills, behaviours, and values to live sustainably
- Give valid reasons for the promotion of sustainable development.

Ongoing Assessment Opportunities:

- 3-2-1 activity to elicit student's prior knowledge and to act as a catalyst to discuss key terminology
- Use of maps to identify fishing ports/tourist attractions/areas of rock exploitation in Ireland
- Pair work to explore Ireland's ocean territory
- Use of the ArcGIS (Aeronautical Reconnaissance Coverage Geographic Information System) measurement tool to calculate the area of Irish land and sea
- Structured inquiry: students focus upon the a) the environmental impacts b) economic impacts c) social impacts of the exploitation of fish.

Ireland's Deep Atlantic - A Classroom Resource

- Think-pair-share activities to consolidate information on 1) Fishing in the past 2) Fishing in the present 3) Fishing in the future
- Students present their findings on the exploitation of fish stocks over time in a local area to their class group using a variety of formats e.g. in a written, oral, audio or video format
- Cube activity for students to self-assess and peer-assess their structured inquiry focusing upon the changes in fishing practices in their local area over time
- Jigsaw activity to explore the environmental, economic and social consequences of oil and gas exploration where, in groups, students are provided with an image of an oil rig on fire or a news article on the impact of the exploitation of oil and gas or two maps from different times to show urban growth within an area. Students are given questions/prompts around the image that relate to environmental, social and economic impacts of oil and gas exploitation
- Visual Thinking Strategy (VTS) where, in groups, students are provided with a printed image and are given questions/prompts around the image that relate to whale watching and tourism
- Venn diagram where students graphically display and categorise the similarities and differences between the economic, environmental and social impacts of oil and gas exploitation (geoliteracy)
- Market place activity where students are provided with an opportunity to learn from their peers about whale watching as a tourist activity
- Research Activity where students research a local community where whale watching tours take place in order to assess the economic impact of whale watching to the local economy
- Role play different perspectives enabling students to assume an identity of someone in their community and to write a speech outlining their interaction with the physical world and what it means to them and their future
- Teacher feedback an ongoing classroom conversations and observations
- Student self-reflection on his/her own learning.

Elicit prior knowledge



3-2-1 activity

Students write three things they know, two things they want to know, and one-way fishing relates to them, onto post-its and place them on flip chart paper/walls/noticeboards/white boards in different sections around the room.

Using this prior knowledge discuss key terminology e.g. fishing, overfishing, sustainable exploitation. (This can be returned to at a later date as the students develop their knowledge of these key terms)

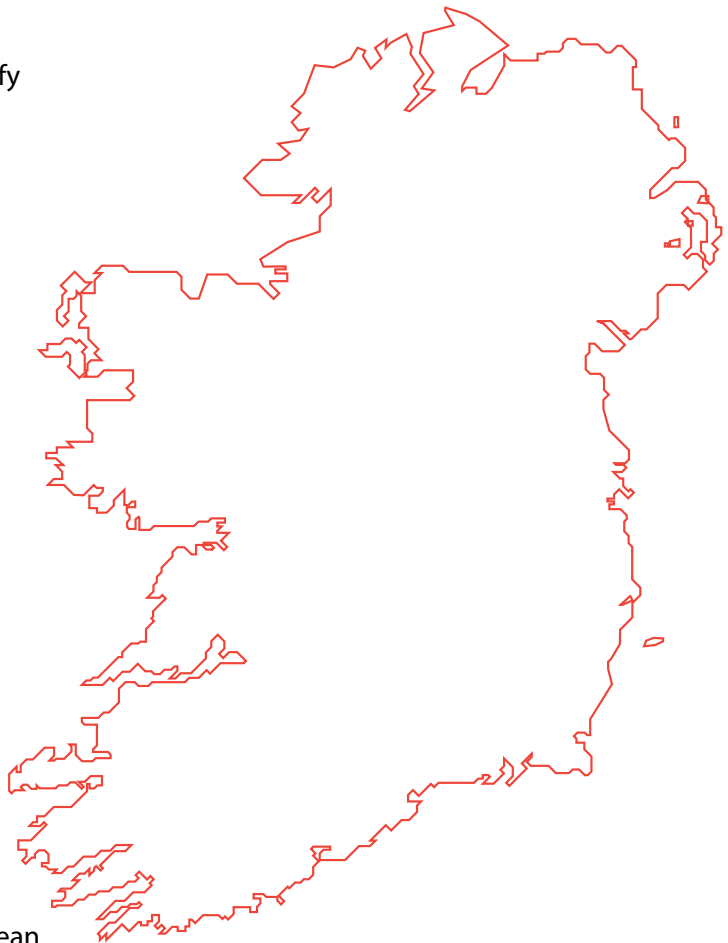
Learning Experience: Identifying fishing ports/tourist attractions/rock exploitation in Ireland



Map of Ireland: Group Work

On a map of Ireland, students identify and label the following:

- The main fishing ports
 - Castletownbere
 - Dunmore East
 - Howth
 - Killybegs
- Oil and gas reserves
 - Corrib Gas Field
 - Kinsale Head
 - Ballycotton
 - Seven Heads
- Tourist attractions along the coastline
 - The Giants Causeway
 - The Skellig Islands
 - The Cliffs of Moher
 - Fungie the Dolphin in An Daingean
 - The Copper Coast



A blank map of Ireland is provided here for use in the class

Learning Experience: Exploring Ireland's ocean territory



Irish ocean territory:

The following is a link to the [real map of Ireland](https://marine.ie/Home/site-area/irelands-marine-resource/real-map-ireland) which will be used for the activity below marine.ie/Home/site-area/irelands-marine-resource/real-map-ireland



Divide the class into numbers 1 and 2:



- The number ones are provided with a map of Ireland to sketch to scale on a sheet of paper
- The number twos will trace a shape (red on the real map of Ireland) that has been provided to them onto a sheet of tracing paper
- Ones and twos then pair up and discuss how the two sketches are connected
- Prompts are provided where appropriate.

The real map of Ireland is then shared with students, to highlight the comparison between the land and sea area of Ireland showing the importance of Ireland's ocean and the conservation of it.

Resources required:

Three maps associated with this activity can be found on pages 36-38.



Possible Extension activity

Area estimation

How much bigger is Ireland now that you have seen this?

Students are informed that the area of Irish land cover is 84,421 km².

Using the measurement tool in ArcGIS the area of Irish land and sea is calculated.

<https://www.arcgis.com/home/webmap/viewer.html?useExisting=1>

Resources required:

<https://www.marine.ie/Home/site-area/irelands-marine-resource/real-map-ireland>

<https://www.arcgis.com/home/webmap/viewer.html?useExisting=1>

Learning Experience: Assessing the exploitation of fish stocks as natural resource in a local area over time

Distinguishing between exploitation, over-exploitation and sustainability

Image Sorting

- Students are given various images of exploitation, over-exploitation and sustainable exploitation
- Students, in groups, must discuss each image and decide which category they feel it should be placed in
- Students need to justify their decision through geographical thinking and reasoning
- Decisions are fed back to the class group.



Based on the student responses, the teacher leads the class to arrive at a shared understanding of exploitation, over-exploitation and what it means to be sustainable.

Learning Experience : Exploring Ireland's Continental Shelf and Ocean Territory. Students watch the clip from Ireland's Deep Atlantic and prepare their responses to the following questions:

- What is the continental shelf?
- How is the continental shelf formed?
- Where is the continental shelf located?
- How are the continental shelf and fishing interconnected?



Clip Eight The Edge of the Continental Shelf Ireland's Deep Atlantic

<https://www.rte.ie/learn/2019/0401/1039917-clip-8-the-continental-shelf/>

How the exploitation of fish has changed over time in a local area

The class views the video focusing on fish stocks. Students are encouraged to take note of the impacts of the exploitation of fish stocks

Following the video the teacher leads a discussion of which of the impacts are economic, environmental or social.



Structured Inquiry: Students in groups ask questions and gather information, analyse and interpret data and present their findings on the exploitation of fish stocks.

- Students break into groups of 6, together based on the video stimulus they decide on what questions they wish to ask in relation to the environmental, economic and social impacts of the exploitation of fish
- The group may decide on a local area to base their study on
- The group then breaks into pairs and each pair gathers information on
 - a) the environmental impacts b) economic impacts c) social impacts of the exploitation of fish
- Each pair then presents the information to their group
- Together they analyse and interpret the data gathered and draw conclusions
- The group together present this information to the class group in a written, oral, audio or video format.



The Exploitation of Fish Stocks

<https://www.rte.ie/learn/2019/0401/1039873-exploring-irish-fish-stocks/>

Think-Pair-Share to consolidate information/assessment moment



A large chart is divided into 3 sections as follows:

- 1) Fishing in the past
- 2) Fishing in the present
- 3) Fishing in the future.

Students carry out a **Think-Pair-Share** using the questions below

- What happened in the past in relation to fish exploitation in the local area? Was it sustainable? Why?
- What is currently happening? Is it sustainable? Why?
- Students examine what may happen in the future and what we as citizens need to do at a local level bearing in mind economic, environmental, social sustainability of the exploitation of fish stocks.

Teacher Note:

While completing a structured inquiry of change in fishing practices in their local area over time, there may be an opportunity for students to visit a local fish farm/ invite a local fisherman into the school.

Structured inquiry approach as per Geography Assessment Guidelines. https://www.jct.ie/geography/key_documents



Cube on Reflective Questions: Peer Assessing and Self-Assessing:

Verbal Reflection Questions: What did you enjoy about this? What worked well? What would you have done differently? (Expanded 2 stars and a wish)

Learning Experience: Evaluating the environmental, economic and social consequences of oil and gas exploration

Location of oil and gas exploitation

Refer back to the [map of Ireland](#) with labels from earlier to examine the location of oil and gas exploitation along the coastline.



Examination of where seismic surveying is occurring along the Irish coastline

Department of Communications, Climate Action and Environment
Information on Regional Seismic Surveys: <https://www.dccae.gov.ie/en-ie/natural-resources/topics/Oil-Gas-Exploration-Production/data/regional-seismic-survey/Pages/Regional-Seismic-Survey.aspx>
Department of Communications, Climate Action and Environment
Regional Seismic Survey Map 2013-2014 <https://www.dccae.gov.ie/documents/2013-2014%20RSS%20Data%20Available%20-%20Map.pdf>

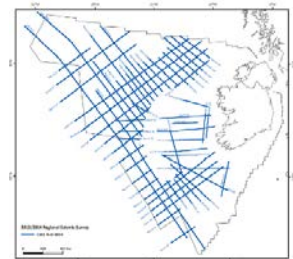


Image of the above map available at the end of this document.

Using the map the teacher facilitates a discussion on the connections between the location of oil and gas exploitation and where seismic activity is occurring along the Irish coastline and the possible environmental impacts.

Exploring the impact of oil and gas exploitation Jigsaw activity

Teacher sets up six stations with prompts. Prompts could include the following:

1. Video: sound in the ocean
2. Image of an oil rig/on fire
3. News article on the impact of the exploitation of oil and gas: environmental
4. Two maps from different times to show urban growth within an area

Students move around the stations gathering information. On return from the stations the students share their information with their group. As a group, the students fill in three circles entitled Environmental, Social and Economic impacts of oil and gas exploitation.



Clip Five Sound in The Ocean
Ireland's Deep Atlantic Clip
with Dr Joanne O'Brien
(GMIT)

<https://www.rte.ie/learn/2019/0401/1039879-clip-5-sound-in-the-ocean/>

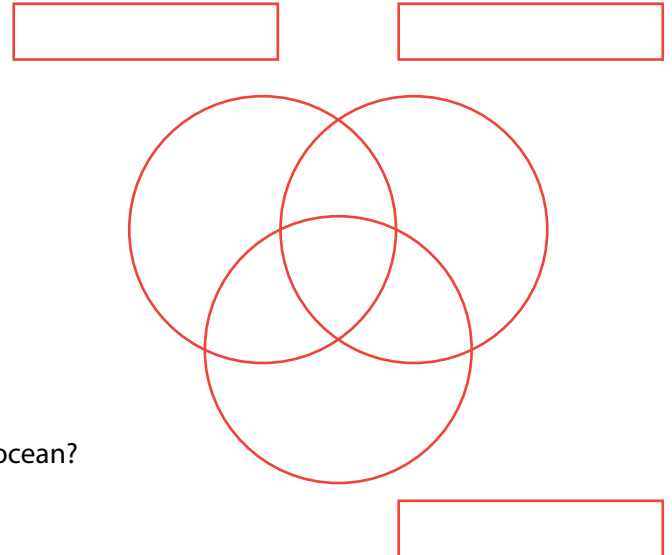


Assessment moment: Economic, Environmental and Social impacts of oil and gas exploitation

Venn-Diagram

Students use the circles from the above activity to populate the Venn-diagram.

The students can graphically display and categorise the similarities and differences between the economic, environmental and social impacts of oil and gas exploitation (geoliteracy).



Link: How else do we interact with the physical world/ ocean?

- Overfishing,
- Oil and Gas
- Whale hunting to whale watching for tourism and/or conservation

Learning Experience: Assessing the interrelationships between the physical world and tourism

Whale hunting to whale watching conservation/tourism

Pre-Video Activity – Anticipation Exercise:

- A worksheet is distributed to the class containing prompt questions such as:
- How has Antero's career changed over time?
- Why has his role in whale watching changed?
- In what industry is Antero now employed? Is this an example of a sustainable industry? Why?
- Students are given time to read the prompts and have any queries answered.
- During the clip, students answer the assigned questions and then share the information after the video with their group and then feedback to the whole class.



Clip Seven Whale Watching Tourism Ireland's Deep Atlantic Clip Seven Antero's Story.

<https://www.rte.ie/learn/2019/0401/1039877-clip-7-whale-watching-tourism/>





After-video Activity:

- Students come up with three questions using the information from the video clip and the key words gained from the discussion and put on a post-it
- Questions are placed in a jar
- The questions are shuffled in jar
- Each student takes out a post-it and they can either answer questions in class or for homework
- As a follow up, the questions are matched up with students who came up with the questions and then the students share their answers.



Reflective Activity:

If you could ask the Ken or Antero 3 questions, what would you ask?

Whale watching and tourism

Visual Thinking Strategy (VTS)



In groups students are provided with a printed image in the centre of a flipchart sheet. Students are given questions/prompts around the image to engage with such as:

- What is happening in the image?
- What makes you think that?
- Why do you think the people are there?
- How do you think this links to tourism?

These are possible images which could be used:

- tourists getting too close to a whale
- whale hunting
- whale watching tourism at a safe distance

Some sample images are included on page 39.

Market Place activity:

Students are provided with the opportunity to learn from their peers as they move around the room learning from the ideas captured on each group's flipchart sheet.



Research Activity: Whale watching as a tourist activity

In order to assess the economic impact of whale watching to the local economy, students **research** a local community where whale watching tours take place.

Examining the following:

- cost per trip,
- the length of the season,
- the other local services,
- the population of the local area – in particular the population pyramid, in order to assess migratory patterns, economic activities in the locality and/or change over time

Role Play: Different Perspectives

Students are given a role within their community and must write a speech outlining their interaction with the physical world and what it means to them and their future. Roles may include:

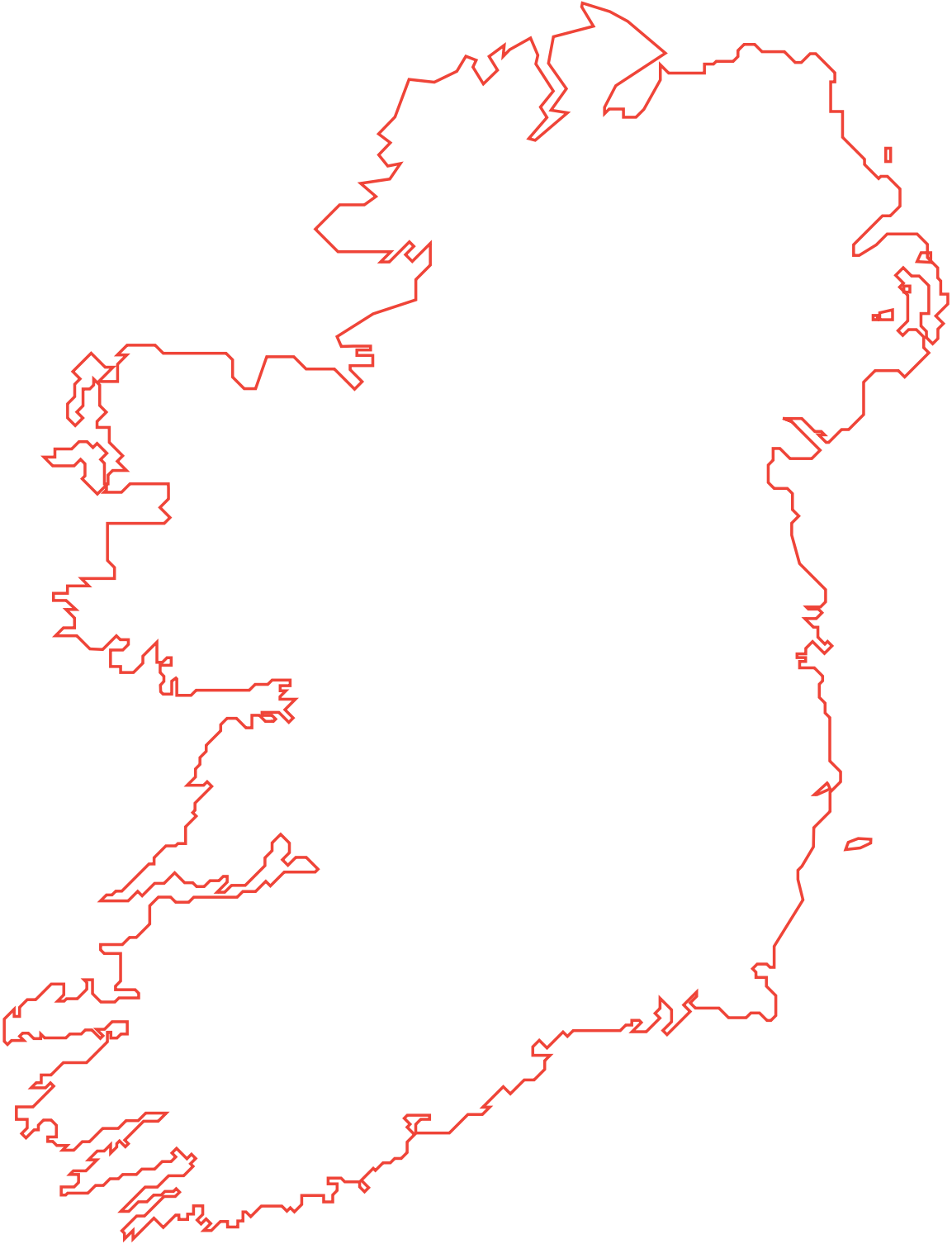
- Fisherman working for a large fishing trawler
- Business owner of a company organising whale watching trips
- Conservationist
- A young person living in the community
- Fisherman who sells fish on a small-scale in the local area
- Oil company owner



Exit Tickets:

1. What have I learned?
2. What would I like to know more about?

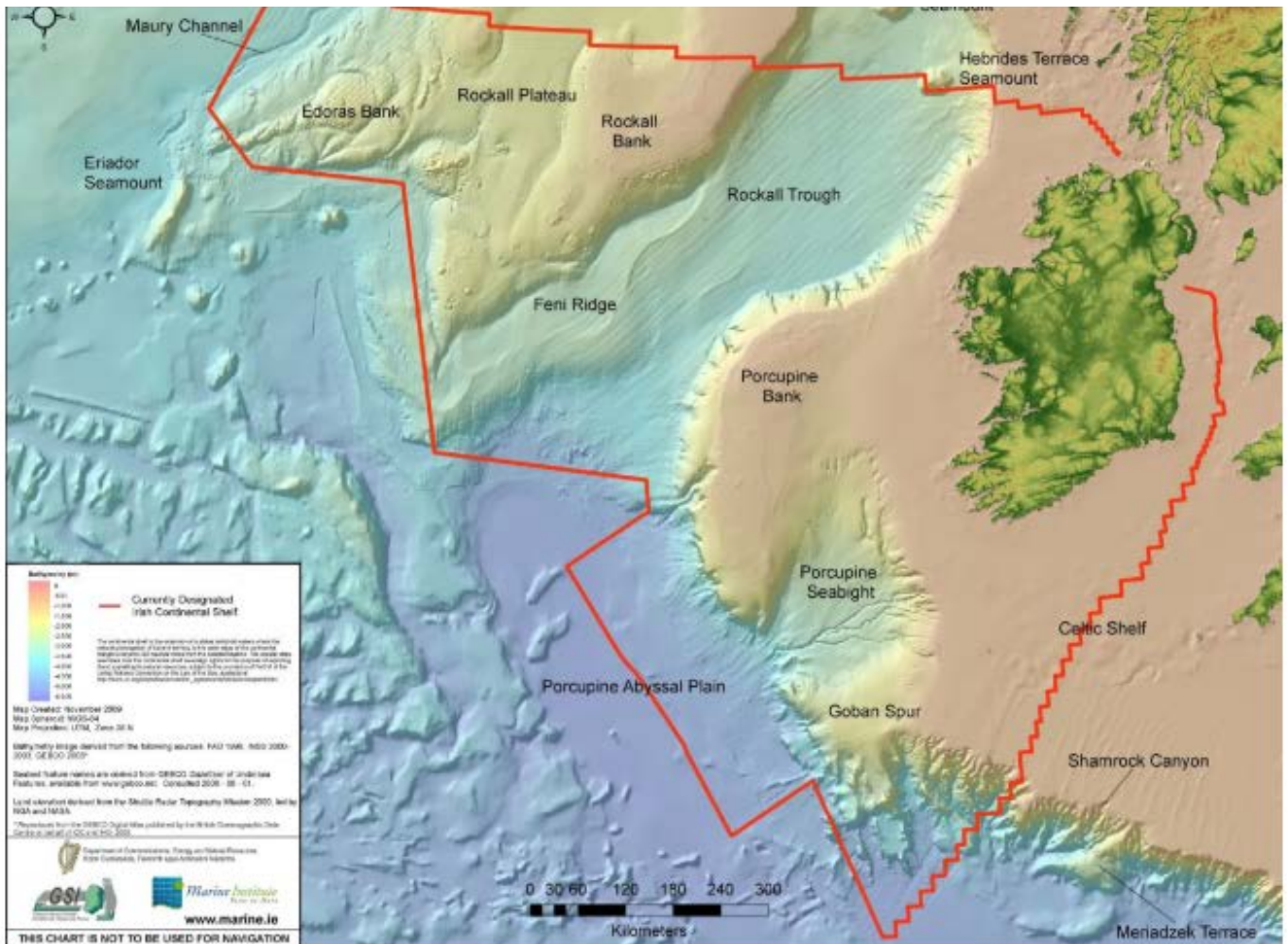
Map of Ireland



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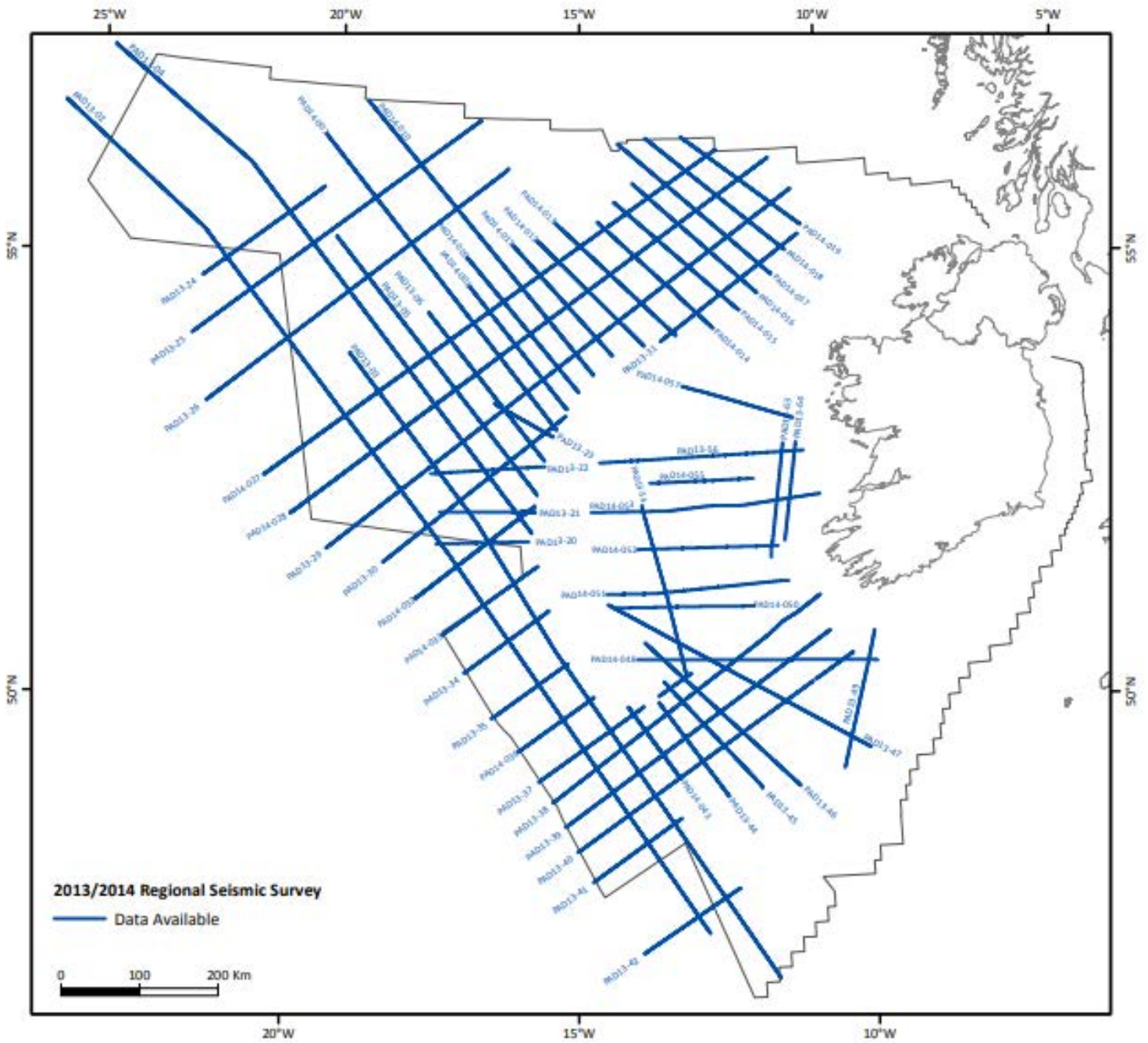
Image of the Real Map of Ireland

<https://www.marine.ie/Home/site-area/irelands-marine-resource/real-map-ireland>
source for Real Map of Ireland



2013/2014 Regional Seismic Survey

<https://www.dcae.gov.ie/documents/2013-2014%20RSS%20Data%20Available%20-%20Map.pdf>



Ireland's Deep Atlantic - A Classroom Resource



Images taken from Google Images - Labelled as non-commercial re-use.

EDUCATION FOR SUSTAINABLE DEVELOPMENT: REFLECTING ON OUR LEARNING



Teacher Note:

This section will focus on supporting students in reflecting on their learning throughout their engagement with Ireland's Deep Atlantic. This resource suggested opportunities for reflection before, during and after learning indicated by the Magnifying Glass icon throughout the resource.



Reflecting on how we are impacting on the environment:

As part of Ireland's Deep Atlantic and his broader research work Ken O'Sullivan has studied the migratory patterns of whales. Watch the video clips from Ireland's Deep Atlantic and the interview with Ken.

From your work in your Business Studies and Geography classes, work in groups to consider why the migratory patterns of whales are changing. Once students have identified the reasons behind the changes to the migratory patterns the teacher lists each one on the board or flipchart. Students choose the one they consider most likely and explain why they have chosen this one and what positive steps they think we can take to counteract this.



Ireland's Deep Atlantic: The migratory patterns of whales
Ireland's Deep Atlantic Clip
Six Whale Migration

<https://www.rte.ie/learn/2019/0401/1039920-clip-6-whale-migration/>

Ken O'Sullivan Learning
About Migratory Patterns

<https://www.rte.ie/learn/2019/0401/1039921-about-migratory-patterns/>



Teacher Note:

Possible reasons for the patterns changing include Overfishing, Seismic surveying, Tourism, Container ships

As part of Ireland's Deep Atlantic, Ken and his team looked at how our consumption of certain fish such as the Blue Fin Tuna has impacted on stocks of this fish. Watch the Clip to gain an insight.



Ireland's Deep Atlantic Clip Three Blue Fin Tuna
<https://www.rte.ie/learn/2019/0401/1039872-clip-3-blue-fin-tuna/>

STUDENT ACTIVITY: Acting on Our Reflections

Reflecting on what Ken spoke about in the video, consider the excerpts you viewed from Ireland's Deep Atlantic and the different learning experiences built around these. Pick out one aspect of your learning that really struck a chord with you and reflect on why this was so powerful or interesting. Share your thinking with the person sitting beside you. Do your reflections have anything in common?

As young people, you all have a voice and the capacity to promote sustainable living. The United Nations Sustainable Development Goals (SDGs) website <https://www.un.org/sustainabledevelopment/> outlines a number of campaigns that they have developed to support the SDGs which are all related as you have seen from your engagement with this resource. One of their campaigns focuses on youth and the potential for the student voice in achieving the targets set out for the different goals.

In their youth campaign they have identified some potential roles for young people in promoting, raising awareness and taking action around the SDGs (see next page) .



Reflecting on Learning
Ken O' Sullivan Reflecting on
Ireland's Deep Atlantic

<https://www.rte.ie/learn/2019/0401/1039922-reflecting-on-irelands-deep-atlantic/>



Teacher Note:

Share these potential roles with the class and ask them to discuss these in groups, considering which roles they feel they could consider and why and also the roles that they think would be more difficult for them and why.

Students then work in pairs taking on one of the roles below and use their reflections on their learning from Ireland's Deep Atlantic to create an action they could take to raise awareness of one or more of the sustainable development goals. Each pair presents their idea to the class and the thinking behind it. Suggested ideas include: Teachers can consider asking students to share their actions on the United Nations SDGs in Action App which can be downloaded from the app store on your device.



Young People and the Sustainable Development Goals

Critical thinkers:

Part of being young involves making sense of personal experiences and asking questions about the world around you. Youth have the capacity to identify and challenge existing power structures and barriers to change, and to expose contradictions and biases.

Change-makers:

Young people also have the power to act and mobilise others. Youth activism is on the rise the world over, bolstered by broader connectivity and access to social media.

Innovators:

In addition to bringing fresh perspectives, young people often have direct knowledge of and insights into issues that are not accessible to adults. Youth best understand the problems they face and can offer new ideas and alternative solutions.

Communicators:

Outside the international development sector, few people are aware that world leaders have come to a historic, far-reaching agreement to improve the lives of people and the planet by 2030. Young people can be partners in communicating the development agenda to their peers and communities at the local level, as well as across countries and regions.

Leaders:

When young people are empowered with the knowledge of their rights and equipped with leadership skills, they can drive change in their communities and countries. Youth-led organisations and networks, in particular, should be supported and strengthened, because they contribute to the development of civic leadership skills among young people, especially marginalised youth.

The interviews with Ken O' Sullivan were conducted by the Youth Media Team, second level young researchers and journalists who operate under the guidance of lecturers from LIT, Tipperary and UCD.





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