STEAM EDUCATION FOR SUSTAINABLE DEVELOPMENT and FUTURES LITERACY

SGD13 Climate Action and Sustainable Development



Programme Phase: Strand 2 People Power and Place

Leaving Certificate Support Lessons

TOPICS: Biodiversity, Environment, Science, Sustainability













SDG 13 Strand 2 People Power and Place Climate Action and Sustainable Development



Climate Action & Sustainable Development

Strand 2

People Power and Place



Module Summary: CASD People Power and Place

This curated set of lessons from Muinín Catalyst programmes is designed to support students and teachers engaging with Strand 2 of the Climate Action and Sustainable Development (CASD) Senior Cycle subject.

Strand 2 invites students to explore the dynamic relationship between people and place, considering how identity, values, and political choices shape both local and global responses to climate change and sustainable development. These lessons provide structured opportunities to reflect on our place in the world, the drivers of climate injustice, and what a just transition might look like in Ireland and beyond.

Grounded in participatory, inquiry-based approaches, the lessons encourage learners to connect their lived experiences of place—whether in school, community, or nation—with global systems of power, production, and change. Students investigate how personal behaviour, collective action, and systemic transformation intersect, while developing futures literacy, resilience, and civic agency.

For teachers, the lessons offer scaffolded resources that align with the NCCA's vision of a values-driven, student-centred Senior Cycle. They support meaningful classroom dialogue around sensitive but vital issues such as eco-anxiety, social equity, and cultural identity, while equipping educators to facilitate student-led inquiry and collaborative problem-solving.

For students, Strand 2 is an invitation to examine how their own identities and communities are connected to broader global challenges and opportunities. These lessons bridge curriculum and action, helping schools to embed Strand 2 in a way that nurtures knowledge, skills, and values, while inspiring young people to see themselves as active citizens capable of shaping just, inclusive, and sustainable transitions.

Week 16: Shares lessons from our Future of the Ocean and Eco-Agency Youth-led Action that can be used to explore Strand 2, People Power and Place 2.4 and personal behaviour and action. See also Applied Learning Tasks Support for lessons to support and develop research skills 4.2.1

S2.4 FoO Lesson 9: Promoting Positive Action

This lesson aims to show learners the direct consequence that a simple negative action can have on the ocean and the life that exists in it, and the positive actions that can be taken to support the health of the ocean.

Resources include: Worksheet: Preparing for action & scenarios, Supporting Resource: Scenario

S2.4 EEA Lesson 8: Exploring What We CAN Do - Action 1: Building Community

A major contributor to anxiety is a feeling of isolation. Identifying concerns, connecting with others and sharing mutual worries helps us develop resilience and coping tools. In this lesson, learners will develop an understanding of what CAN be done to build community, which may lead to positive action.

Resources: Worksheet: Awareness and Connection - Mutual Worries, Worksheet: Awareness and Connection - My Worries, Teachers' Guide: Action 1

EEA Lesson 9: Exploring What We CAN do - Action 2 Connect: The More Than Human World Part of developing our resilience toolbox is to engage with mindfulness and spending more time in and surrounded by nature and connecting more with the other than human world. In this lesson, learners and educators will explore mindfulness and nature connection through a guided meditation and a nature connection exercise.

Resources: Worksheet: Be Calm, Connected and CreativeTeachers' Guide: Be Calm, Connected and Creative

Week 17: S2.9 Shares lessons from our Eco-Agency: Youth Led Development and Feeding the World Sustainably in the 21st Century co-developed with Killian Stokes, Moyee Coffee Co-Founder and Proudly Made in Africa CEO. These lessons can be used to explore Strand 2, People Power and Place 2.9 Examine what a just transition would look like for agriculture in Ireland.

S2.9 Lesson 5: Eco Agency: Society - Fishing, Tourism and Agriculture

Eco-anxiety affects us all. In industries like, fishing, tourism and agriculture, often in areas most vulnerable to climate change impacts, eco-grief is also being experienced. In this lesson learners will explore the possible effects of eco-anxiety on industry locally and in the broader sense.

Resources: Worksheet: Impact Brainstorming, Impact Goals and Pillars, Teachers' Guide

Lesson 1: 2000 Years of Human Agriculture, Population and Progress

Through this lesson, we'll learn about the growth in global populations through the ages exploring how population rates have rocketed up in the past century, understanding how and why population is expected to plateau at 10-11 billion by the end of 2100, and explore the links between population growth, agriculture, and food.

Resources: Worksheet: Population Curve Exercise, Worksheet: Nitrogen as Fertiliser,

Worksheet: World of Data Links and Questions

Lesson 2: The Food We Eat: Where Does Our Food Come From?

In this lesson, we'll dive into our cupboards, larders, shopping trolleys and bellies to learn what we eat and why, where we buy these foods, where and how they're made, and where they come from.

Resources: Worksheet:The Top Foods We Eat, Worksheet:The Food Pyramid, Worksheet 2
Breakfast

Lesson 3: Food, Agriculture and Climate Change

In this lesson, we'll learn about the connection between industrial agriculture, our global food systems and climate change. Learners will explore our food systems to understand the various and complex ways in which agriculture impacts the natural world, including through land and water use and the production of greenhouse gases from farming. In this lesson we'll attempt to explore whether a more sustainable and climate friendly way is possible and see if our food systems can be reinvented!

Resources: The Four Impacts of Agriculture Worksheet, Top Foods and their Environmental Impact Worksheet

Using the Resources:

If you wish to use these resources, we can offer an induction and online support throughout the module to help you plan integration into your projects and timetable. To register for this option, please contact us at e:hello@futurefocus21c.com For more information on the resources please visit www.muinincatalyst.com

Setting up an online learning environment for the lessons on this module:

Our lessons integrate the use of virtual learning environments. To ensure seamless use of our lessons, a module should be setup on your school's virtual learning environment such as Teams, Google Classroom, etc. Learners are encouraged to upload documents to share with their peers. If your virtual learning environment does not support document sharing, we recommend OneDrive or Google Drive. You can also use Google Sites or Microsoft Sway to encourage learners to present their work over the year - this can easily be set up to reflect the aims of TY and provide a showcase for their work as well as an assessment tool.

Setting up a Canva Education account:

As our lessons integrate design, our lessons also refer to Canva. Educators and schools can open a free Canva for Education account by registering here: Canva for Education provides primary and secondary school teachers and students with premium features and templates. You can then also set up lessons and invite your learners to the class.

Expertise

Expertise in developing the resources including design, layout and overarching pedagogical framework have been developed by Future Focus21c. Future Focus21c is Rebecca White and Anita McKeown, and a network of collaborators and content developers, nationally and internationally. Anita and Rebecca, have close to 5 decades of experience between them working across the arts, education, inclusive design place-based regeneration, STEAM education and sustainability, in both formal and informal settings with diverse learners and communities.

- Dr Anita McKeown, FRSA, FIPM, MEI is an award-winning artist|scholar and STEAM educator, co-designing values-based leadership through education and community processes at the intersection of art, equitable placemaking, Open Source Culture and Technology (ethical and ecological implications). She is also a certified as a Earth Charter Education for Sustainable Development Educator; Inclusive Teaching and Learning Educator, Enterprise and Innovation educator, Trauma-informed practioner and VUCA world design
- Ms. Rebecca White: UCD is an educator, consultant, trainer and curriculum developer, focusing on STEAM education, project-based, student-led learning and professional development for place-based learning. She is the Senior Learning Advisor for the Ocean Race and an Award-Winning Programme Developer
- External Expertise: We engage with <u>external experts</u> to bring contemporary and real-life knowledge to our resources. By working with these experts, we can ensure that our resources include future-focused learning and innovative ideas to expose learners to world-leading research in a digestible and accessible format. Learners are encouraged to critically think about and engage with knowledge and content in a learner-led and project-based manner.

For more information or to access online support in integrating the programme into your existing teaching please contact: hello@futurefocus21c.com

References and full programmes can be found here www.muinincatalyst.com/courses