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Draft Leaving Certificate Climate Action & Sustainable Development specification

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Senior cycle

Senior cycle aims to educate the whole person and contribute to human flourishing. Students' experiences throughout senior cycle enrich their intellectual, social and personal development and their overall health and wellbeing. Senior cycle has 8 guiding principles.

Senior Cycle Guiding Principles	
Wellbeing and relationships	Choice and flexibility
Inclusive education and diversity	Continuity and transitions
Challenge, engagement and creativity	Participation and citizenship
Learning to learn, learning for life	Learning environments and partnerships

These principles are a touchstone for schools and other educational settings, as they design their senior cycle. Senior cycle consists of an optional Transition Year, followed by a two-year course of subjects and modules. Building on junior cycle, learning happens in schools, communities, educational settings, and other sites, where students' increasing independence is recognised. Relationships with teachers are established on a more mature footing and students take more responsibility for their learning.

Senior cycle provides a curriculum which challenges students to aim for the highest level of educational achievement, commensurate with their individual aptitudes and abilities. During senior cycle, students have opportunities to grapple with social, environmental, economic, and technological challenges and to deepen their understanding of human rights, social justice, equity, diversity and sustainability. Students are supported to make informed choices as they choose different pathways through senior cycle and every student has opportunities to experience the joy and satisfaction of reaching significant milestones in their education. Senior cycle should establish firm foundations for students to transition to further, adult and higher education, apprenticeships, traineeships and employment, and participate meaningfully in society, the economy and adult life.

The educational experience in senior cycle should be inclusive of every student, respond to their learning strengths and needs, and celebrate, value, and respect diversity. Students vary in their family and cultural backgrounds, languages, age, ethnic status, beliefs, gender, and sexual identity as well as their strengths, needs, interests, aptitudes and prior knowledge, skills, values and dispositions. Every student's identity should be celebrated, respected, and responded to throughout their time in senior cycle.

At a practical level, senior cycle is supported by enhanced professional development; the involvement of teachers, students, parents, school leaders and other stakeholders; resources; research; clear communication; policy coherence; and a shared vision of what senior cycle seeks to achieve for our young people as they prepare to embark on their adult lives. It is brought to life in schools and other educational settings through:

- effective curriculum planning, development, organisation, reflection and evaluation
- teaching and learning approaches that motivate students and enable them to improve
- a school culture that respects students and promotes a love of learning.

Rationale

Leaving Certificate Climate Action & Sustainable Development enables students to apply an interdisciplinary and solutions focused approach to living in a sustainable world as they engage with complex and relevant sustainability challenges, including the climate crisis.

Environmental degradation is one of the most significant issues facing life on our planet and is a major challenge to human flourishing. The systems that regulate the Earth's stability are delicate and interconnected. We must ensure that human needs are met without breaching critical environmental limits. People and communities can initiate and contribute to positive transformations, addressing interrelated environmental issues including biodiversity loss and the climate crisis. Young people continually demonstrate their innovation, capacity, and passion in mobilising for action, as advocates for climate justice, and as active citizens initiating and participating in social change.

Leaving Certificate Climate Action & Sustainable Development enables students to learn about and experience meaningful action¹. They develop a foundational knowledge of climate science, of the damage and loss caused by climate change, and of climate mitigation and adaptation. They examine their role as global citizens, exploring the systems which govern decision making, the drivers of global poverty and environmental injustice. As they develop and apply their skills in evaluating, designing, and reflecting on action, students become effective organisers of collective change. In exploring the past, present, and future of climate action and sustainable development, students consider diverse worldviews, think critically, make informed decisions, and apply evidence to design effective solutions for a healthy environment and societal sustainability.

¹ See 'Teaching and Learning' section for further elaboration on the nature of action in this subject, p.8

The complex nature of environmental crises and how they are communicated influences people on cognitive, behavioural, social, and emotional levels. The experience of the subject enables students to manage the uncertainty brought about by environmental crises through hope, resilience, and a sense of solidarity. Students have opportunities to act on issues that allow them to see change locally whilst connecting to the bigger picture nationally and globally. They realise the solutions to sustainability challenges are found by looking across and, at times, meeting on the creative margins of disciplines. Through engaging critically with the concept of sustainable development, they come to an evidence-informed understanding of the actions required for all life on Earth to flourish in a sustainable and just manner. Through this subject, students have the potential to make a positive and worthwhile impact on the environment, particularly their local environments. By examining environmental issues through lenses of empathy, leadership, and community, the student experience in this subject has the potential to be transformative – not only for the students themselves but also for those in their surroundings.

Aims

The overarching aim of Leaving Certificate Climate Action & Sustainable Development is to develop students' capacity for informed and meaningful action for a just and sustainable world as they engage with key sustainability challenges, including the climate crisis. More specifically, Leaving Certificate Climate Action & Sustainable Development empowers students to:

- Build their understanding of a number of interconnected core concepts and principles related to climate action and sustainable development
- Apply their learning in exploring, designing, and taking action on key sustainability challenges, including the climate crisis
- Manage complexity using critical thinking, making informed decisions based on scientific evidence
- Develop their competence in thinking systematically, considering different perspectives
- Respond reflectively to environmental challenges and opportunities
- Realise the many benefits of place-based and outdoor learning.

Continuity and progression

Leaving Certificate Climate Action & Sustainable Development provides continuity and progression, building on the knowledge, skills, values and dispositions that stem from learners' early childhood education through to the junior cycle curriculum, extends to wider experiences within the school and progresses beyond senior cycle.

Junior Cycle

Junior cycle adopts a cross-curricular approach to integrating aspects of climate action and sustainable development into subject specifications. This allows teachers and students to plan for teaching, learning and assessment related to sustainability both within and across individual specifications, whilst also recognising sustainability links between subjects. Specific learning outcomes related to climate change and sustainable development are outlined in subjects such as science, geography, business studies, home economics and wood technology. Students learn about causes and effects of climate change, and initiatives attempting to address those effects. They investigate natural and renewable resources and the impact of their use on the environment. They explore how to minimise waste and recognise the environmental and social impacts of human decisions. They learn about the balance between environmental, economic and social systems and develop their capacity to act and live sustainably. Students learn about active citizenship through studying the Civic, Social and Political Education (CSPE) short course. Its learning outcomes are organised into three strands: Rights and responsibilities, Global citizenship, and Exploring democracy, with an emphasis on sustainable development, climate change and climate action.

Beyond Senior Cycle

Climate Action & Sustainable Development holds an immediate and significant relevance for our daily lives. Students develop an appreciation of the social and cultural perspectives informing our progress as a species and a planet, and our collective roles in striving towards a just and sustainable world. The issues and concepts students explore in this subject help develop their values and dispositions, informing how they, as responsible global citizens, will act in the world. By studying Climate Action & Sustainable Development, students gain an appreciation of the role of community and society in the complex ecology of the planet and of its sustainable development. They experience the powerful impact of collective action, and develop their capacity to positively influence change in their communities and beyond. As the spread of disinformation, unsustainable behaviours and prejudice threatens democracies worldwide, students learn the importance of evidence-informed decision making, and using

knowledge and the power of the collective to hold individuals, groups, and systems to account. In the face of environmental uncertainty and related challenges that lack a straightforward solution, they are well poised to make a contribution to meeting and addressing these challenges.

Climate Action & Sustainable Development builds a solid foundation for students to progress to diverse futures, including participation in society, the worlds of work, further education and training, and higher education. The learning experienced while studying Climate Action & Sustainable Development can lead to many exciting and rewarding careers and provides a foundation for a diverse range of opportunities in related fields, such as environmental studies, education, business, political, and social studies. In addition, Climate Action & Sustainable Development incorporates a broad range of competencies including critical thinking, managing complexity, thinking systematically, creative design, research, synthesis, and evaluation. The experience of the subject develops students' communication, time management, facilitation, organisation, and teamwork, which are relevant to further study, and indeed all learning beyond formal education.

Key competencies

*Key competencies*² is an umbrella term which refers to the knowledge, skills, values and dispositions students develop in an integrated way during senior cycle.

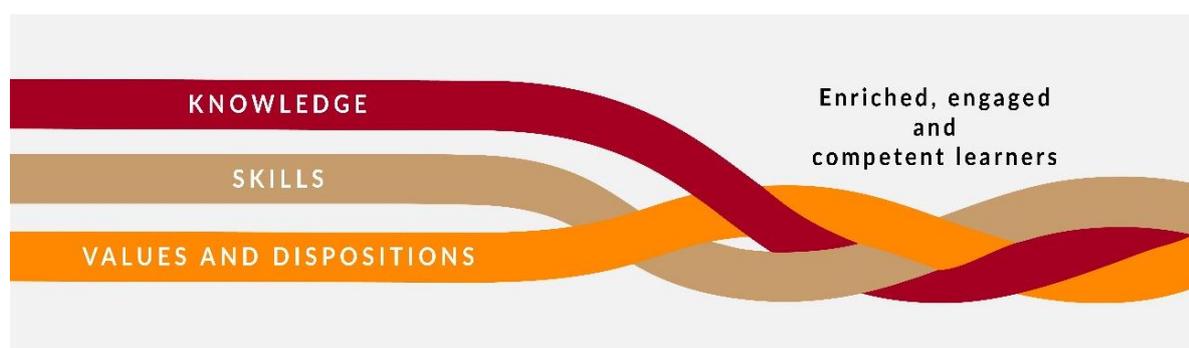


Figure 1 The components of key competencies and their desired impact

These competencies are linked and blend together; can improve students' overall learning; can help students and teachers to make meaningful connections between and across different areas of learning; and are important across the curriculum.

² These are sometimes also referred to as capacities, or capabilities.

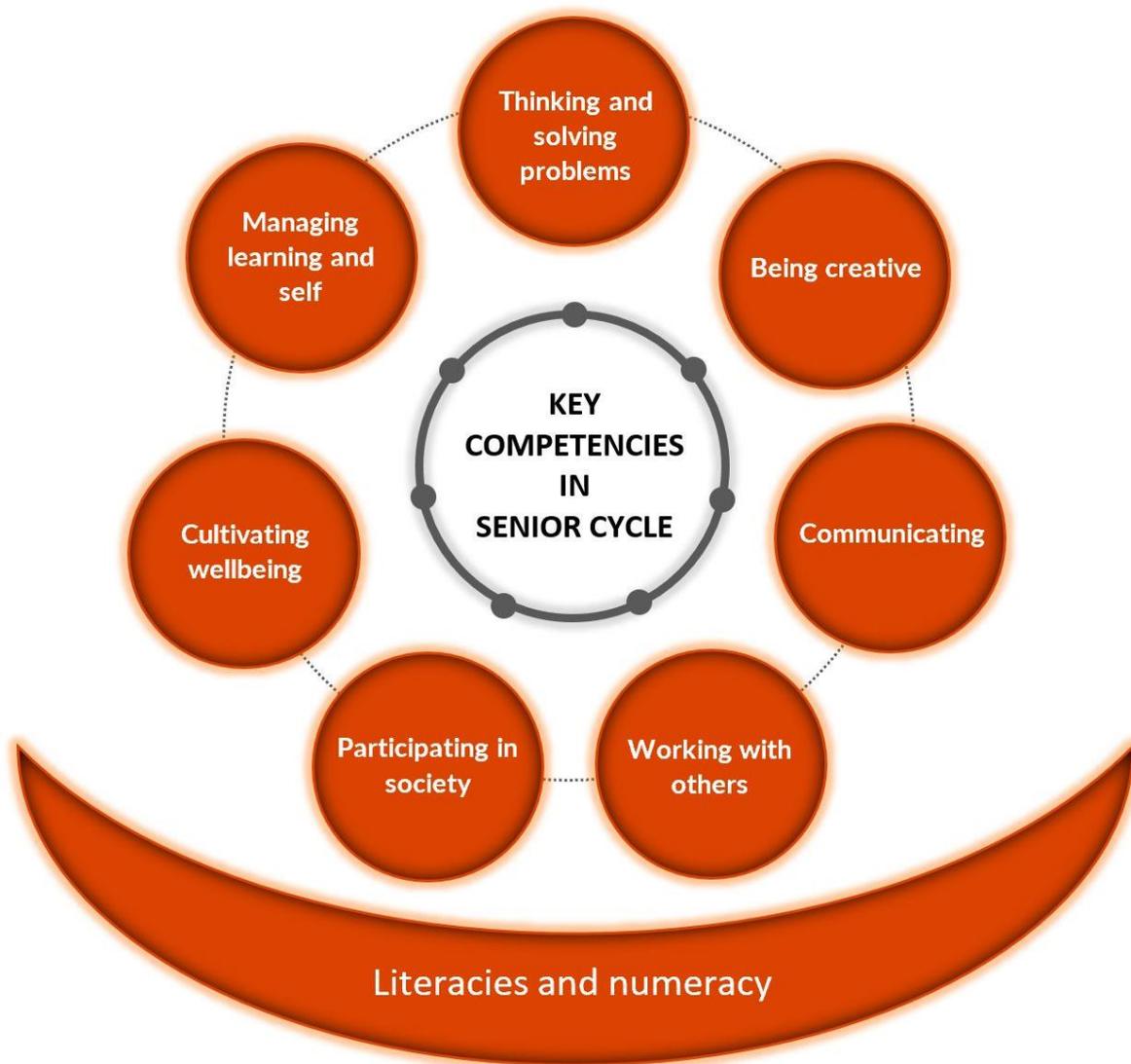


Figure 2 Key Competencies in Senior Cycle, supported by literacies and numeracy.

The development of students' literacies and numeracy contributes to the development of competencies and vice-versa. Key competencies are supported when students' literacies and numeracies are well developed and they can make good use of various tools, including technologies, to support their learning.

The key competencies come to life through the learning experiences and pedagogies teachers choose and through students' responses to them. Students can and should be helped to develop their key competencies irrespective of their past or present background, circumstances or experiences and should have many opportunities to make their key competencies visible. Further detail in relation to key competencies is available at <https://ncca.ie/en/senior-cycle/senior-cycle-redevelopment/student-key-competencies/>

The key competencies can be developed in Leaving Certificate Climate Action & Sustainable Development in a range of ways. For example, having choice, voice and influence both in learning and in society are central to **Participating in Society** and to the student experience in the subject. Students see humanity's role in the problems, but also in the solutions. They reflect on their values, perceptions and actions and learn to compromise or take a stand, as appropriate. When they encounter inequity and injustice, they learn to show solidarity as they seek solutions to situations undermining human dignity and rights. They appreciate that our actions have a collective impact locally and beyond, showing respect for the needs and rights of current and future generations and for nature. As they experience taking actions which are democratically decided, they foster and contribute to democratic values in their schools and communities. They develop self-efficacy and a positive belief in their ability to critique, challenge, protect and transform systems.

This subject helps students recognise that the future of the planet and its species, including humans, remains uncertain in the face of environmental degradation. Through **Being Creative**, they come up with and explore questions, identify problems and speculate about possible answers and solutions. As they develop their capacities to respond to the complexity of challenges, they learn how their emotions interact with their motivations for action. By working with and respecting their classmates, students are **Cultivating Wellbeing** by making their class and school an inclusive, supportive space. Through their collective actions they harness their emotional responses to cultivate a spirit of resilience, solidarity and empowerment in their classes and communities. When they identify injustice, they feel empowered to act as an ally to others, in line with their developing and expressed identity, values and beliefs. As they engage with different people and groups across Ireland and around the world, students learn to appreciate, celebrate and understand diverse identities and cultures.

Youth-led and collective action are central to the experience of this subject. Through initial scaffolding in organising and taking action and progressing to more student-led action, students learn about **Working with Others**. They learn to decide things in groups, carry out different roles, and work together to achieve shared goals. In **Communicating** their views to others, they frequently express opinions about matters of importance to them, and develop their abilities to discuss, argue, persuade and inform. They appreciate and remain open to the diversity of perspectives and worldviews held by different groups and individuals, and how these influence decision making around environmental matters. They connect with their local community and with nature, gathering information from all of their senses. As part of their

actions they create, design and compose a variety of texts, such as physical artefacts, performances, written and spoken word.

Literacies and numeracy supports the development of key competencies in the Climate Action & Sustainable Development classroom, and vice-versa. This is particularly relevant where students gather and interpret primary data, using a variety of analogue and digital means. Through their critical evaluation of secondary data from reliable sources, students' literacy is further enhanced. As they consider the mounting evidence for human influenced climate change, for example, they explore data, information, patterns and trends. They recognise the complexity of the problem, and make connections between political, economic, sociocultural and environmental factors. The subject requires a high degree of **Thinking and Solving Problems**, as students use a range of thinking strategies and develop potential solutions to problems. They approach their learning with an open mind, actively seeking out different points of view.

Teaching and learning

Leaving Certificate Climate Action & Sustainable Development supports the use of a wide range of teaching and learning approaches. The aims and nature of this subject and the areas explored present an opportunity for teachers and students of Leaving Certificate Climate Action & Sustainable Development to build on existing good classroom practices. This opportunity can be realised through attention to the nature of action, the nature of the learning space, and the affective dimension of learning in this subject.

The nature of action

Leaving Certificate Climate Action & Sustainable Development enables students to recognise their own agency, grow in confidence to influence change and increase their capacity to act. The experience of the subject allows students to build on positive individual or collective actions they may have taken in earlier stages of their education (e.g. conserving energy, recycling) as they expand their perspective on the role of collective action in affecting change, and their potential as individuals to influence what collective actions are taken. Teachers support students to develop knowledge, skills, values and dispositions for taking effective action which:

- Is collective in nature.
- Is youth-led and democratically decided by students.

- Aims to address root causes of climate and sustainability issues (rather than just addressing symptoms).
- Considers power, and who has power, in a given context.
- Is based on solidarity with people affected by climate and sustainability issues.
- Is effective and empowering, inviting participation by other people and communities beyond the classroom in wider society.
- Contributes to and addresses transformation of global inequalities.

Effective action requires collaboration amongst peers and a recognition of the fundamental role played by communities and society as a whole in bringing about change. As students engage in real-world and applied learning in classroom and other settings (e.g. local ecosystem projects, campaigning on sustainability matters, community outreach), they develop a realistic and hopeful perspective on the nature of action, which encompasses but moves beyond individual initiative. Teachers are best positioned to make professional judgements on learning experiences that will empower their students to take more effective action as they progress through the subject. They support students individually and in small groups to develop knowledge, skills, values, and dispositions along a continuum of action, building from teacher-led to youth-led action that is democratically decided by students.

The learning space

Students can be supported in realising the learning outcomes of this specification through appropriate classroom and place-based experiences where they have opportunities to:

- Take action both as individuals and in small groups, maximising the development of competencies necessary for effective action.
- Experience a holistic approach which considers students' emotions, thinking, and life experiences.
- Engage in democratic citizenship, involving critical reflection, democratic participation and informed action.
- Build a sense of belonging and connection to place, nature, and community.
- Build resilience in themselves and encourage resilience amongst their peers.

The variety of activities that students engage in will enable them to take charge of their own learning by setting goals, developing action plans, and receiving and responding to assessment feedback. Students vary in the amount and type of support they need to be successful. Levels

of demand in any learning activity will differ as students bring different ideas and levels of understanding to it. The use of strategies such as adjusting the degree of competency required, varying the amount and the nature of teacher intervention, and varying the pace and sequence of learning promotes inclusivity. As well as varied teaching strategies, varied assessment strategies will support learning and provide information that can be used as feedback so that teaching and learning activities can be modified in ways that best suit individual students. By setting appropriate and engaging tasks, asking questions of varying cognitive demand and giving feedback that promotes learner autonomy, assessment will support learning as well as summarising achievement.

The affective dimension of teaching and learning in Climate Action & Sustainable Development

Leaving Certificate Climate Action & Sustainable Development will provide opportunities for students to constructively manage emotions as they live with uncertainty. It is important for students to appreciate that emotional responses to the climate and environmental crisis are valid, and space should be created for students to express emotions and analyse how their emotions inform their behaviours and interact with the learning.

Teachers should be aware of the complex integration of emotions with climate action and sustainable development issues in all aspects of the learning. As students learn about the scale of the challenges involved and the requirements for effective action, it is important to strike a balance between optimism and realism, as it can be difficult to keep hope about the potential to respond to the climate crisis when faced with the very real and pressing challenges facing the world. The experience of the subject enables students to develop skills in supportive settings, to build resilience and hope for negotiating the various issues they encounter in their subject learning and in wider society. They learn that whilst individual efforts alone will not mitigate against the climate and environmental crisis, they have the capacity and agency to influence and take collective action for change.

Strands of study and learning outcomes

The Leaving Certificate Climate Action & Sustainable Development specification sets out the knowledge, skills, values and dispositions for students in four strands - Earth & Planet; People, Power & Place; Global Connections; and the Applied Learning Tasks strand.

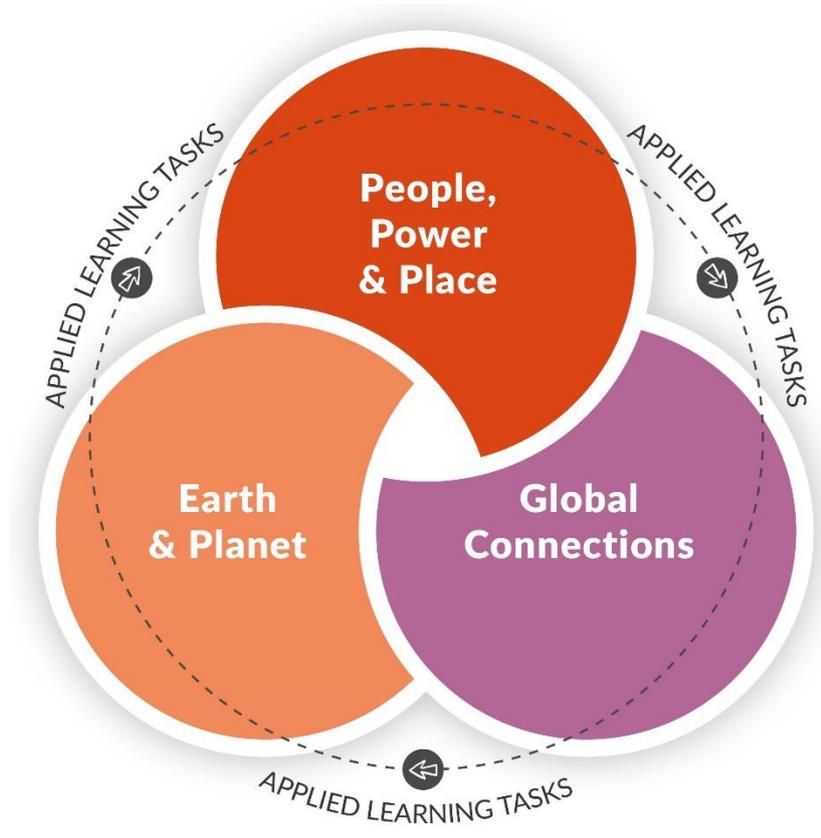


Figure 3 Overview of strands

The specification emphasises a non-linear, integrated approach to learning across the strands. The learning outcomes in the strands Earth & Planet; People, Power & Place; and Global Connections identify the core concepts, principles and theories through which students learn about and experience meaningful action.

The Applied Learning Tasks strand identifies four tasks through which students engage with contemporary issues as they learn about and through action, integrating and applying their learning across the specification. These tasks act as lenses through which students experience some of the learning in the first three strands. This Leaving Certificate Climate Action & Sustainable Development specification is designed for a minimum of 180 hours of class contact time.

Learning outcomes should be achievable relative to each student’s individual aptitudes and abilities. Learning outcomes promote teaching and learning processes that develop students’ knowledge, skills, values and dispositions incrementally, enabling them to apply their key competencies to different situations as they progress. Students studying at both Ordinary level and Higher level will critically engage with Climate Action & Sustainable Development, but the context, information and results arising from that engagement will be different.

Ordinary level	Higher level
Students engage with a broad range of knowledge, mainly concrete in nature, but with some elements of abstraction or theory.	Students engage with a broad range of knowledge, including theoretical concepts and abstract thinking with significant depth in some areas.
Students demonstrate use of a moderate range of skills and tools and select from a range of procedures and apply known solutions to a variety of problems in both familiar and unfamiliar contexts.	Students demonstrate and use a broad range of specialised skills to evaluate, and use information, to plan and develop investigative strategies, and to determine solutions to varied, unfamiliar problems. They identify and apply skills and knowledge in a wide variety of both familiar and unfamiliar contexts.
Students develop literacy skills and use evidence and data to communicate findings and draw conclusions to questions posed by themselves and others.	Students develop literacy skills and use appropriate evidence and data to effectively communicate findings and draw valid conclusions to questions posed by themselves and others.

Table 1: Design of learning outcomes for ordinary and higher level

An overview of each strand is provided below, followed by a table. The right-hand column contains learning outcomes which describe the knowledge, skills, values and dispositions students should be able to demonstrate after a period of learning. The left-hand column outlines specific areas that students learn about. Taken together, these provide clarity and coherence with the other sections of the specification.

Strand 1: Earth & Planet

In this strand, students learn that a healthy environment is vital to sustainability, and interrogate the evidence of environmental damage and loss caused by human influence on natural systems. In emphasising the complexity of sustainability challenges, this strand builds students' knowledge of climate science and environmental systems. Through considering up to date scientific evidence and models, students explore the causes and effects of environmental change and develop understanding of ways in which those changes can be measured. This will provide students with a scientific basis to justify and evaluate their actions. As they learn about the Earth system, students recognise that the environment has limits and appreciate the risk of damage once pushed beyond certain thresholds. Through their learning across this and all strands, they develop an understanding that environmental balance is interconnected with everything - from our history to our futures, our locality, and at all levels of decision making.

Strand 1 Learning outcomes

Students learn about	Students should be able to
<p>earth systems (geosphere, biosphere, cryosphere, hydrosphere, atmosphere), global ecosystems (terrestrial, marine, freshwater, subterranean); various interconnections including carbon cycle, water cycle, etc.</p> <p>main measurements used to quantify climate change - Temperature change over time (air, land, ocean), precipitation levels (rainfall, snowfall), atmospheric CO₂ levels, rising sea levels, ocean acidification, extreme weather events frequency, glacial retreat, habitat and biomass changes, evidence from ice cores, tree rings, ocean sediments, coral reefs, rock layers, historical testimony, etc.</p> <p>main measurements used to quantify climate change; uncertainties due to variations in models, assumptions in predicting Greenhouse gas levels, climatic variability due to natural phenomena (volcanic activity, solar energy,</p>	<ol style="list-style-type: none"> a. outline the Earth systems and the interconnections between global ecosystems b. explain the Greenhouse Effect; explore factors driving changes in climate and environmental systems c. demonstrate, using evidence from satellite and instrumental data, and historical environmental records, how humans contribute to climate change d. examine how past and future climate change is quantified and measured; appreciate the uncertainties associated with future climate modelling

Students learn about	Students should be able to
<p>ocean atmosphere interactions, Earth's orbit around the Sun)</p> <p>nine planetary boundaries – climate change, novel entities, stratospheric ozone depletion, atmospheric aerosol loading, ocean acidification, biogeochemical flows, freshwater change, land-system change, biosphere integrity</p> <p>a chosen local ecosystem</p> <p>the value of healthy ecosystems supporting areas including climate protection, livelihood, health, leisure, medicine, spirituality, aesthetic value, food production, materials production, heritage, culture, etc.</p> <p>environmental change in a local ecosystem - any combination of air, soil, water, and biodiversity; ecological surveys gathering qualitative and quantitative data including organisms that are found or not found in areas where there is high pollution (air or water pollution), humus content in soil, water quality, etc.</p> <p>how the chosen local ecosystem can contribute to staying within or exceeding relevant planetary boundaries</p> <p>campaigns for the rights of nature, arguments including scientific, socio-cultural and political, moral, economic, etc.</p> <p>aspects of living that are or are not monetised, developing sustainable systems, circular economy, personal practices, regulations</p>	<ul style="list-style-type: none"> e. outline the concept of planetary boundaries; appreciate the significance of exceeding planetary boundaries f. describe how the local ecosystem supports human wellbeing g. investigate causes and effects of environmental change in the local ecosystem, use primary data gathered in the ecosystem to support conclusions h. consider how the local ecosystem interacts with planetary boundaries i. outline actions to protect or improve the local ecosystem j. discuss arguments for the rights of nature k. conduct a life cycle assessment of the environmental impacts of a product; illustrate how a practice, process, or service could offer sustainable alternatives

Strand 2: People, Power, & Place

In this strand, students have an opportunity to explore our place in climate action and sustainable development and the constantly evolving relationship between people and place. Place, in this instance, refers to students' school, local community and country. It also reflects the identity and values of individuals and groups both locally and nationally, including political values. As students explore concepts such as community, decision making, energy usage and root causes of environmental change, they take time to reflect upon their own identity and values. They consider values demonstrated through the actions of individuals and groups in their school, their locality and across Ireland, and appreciate the power of community in instilling a spirit of sustainability through collective endeavour.

Strand 2 Learning outcomes

Students learn about	Students should be able to
sources of evidence such as news articles, social media, testimony from individuals/groups, place-based visit, current or previous actions and initiatives (such as Tidy Towns, beach clean groups, school initiatives across different years). Actions deemed effective if there was meaningful change as a result	a. investigate the effectiveness of a climate or sustainability action in a school-based or local setting ranging from school to community, county, or province
the difference between personal behaviours and wider systemic changes that need to happen	b. reflect on the impact and effectiveness of a personal behaviour in reducing negative consequences on the environment; compare to actions that aim to achieve wider systemic transformation
innovative communities engaged in participatory problem-solving	c. explain how people are adapting to the effects of climate change in Ireland
community development / development of 'people power' using case studies; including energy democracy, sustainable energy communities and cooperatives, community education, empowerment, barriers and obstacles to participation	
the interplay of socio-economic, institutional and technological activities, e.g. economic growth, agricultural intensification,	d. explore what is meant by root causes of environmental change

Students learn about	Students should be able to
<p>urbanisation, transportation, information transfer, rising energy use, etc.</p> <p>reasons why policy decisions are or are not implemented</p> <p>decision making that includes positive or negative change, and involves political ideology, legislative processes, lobbying, cultural values, campaigning, etc.</p> <p>how a sector impacts on the environment and ways to reduce its impact; importance of just transitions</p> <p>transport – aviation, shipping, public, private residential – construction, energy rating of homes digital services – digital multinational companies, data centres</p>	<ul style="list-style-type: none"> e. evaluate the implementation of a national policy decision in Ireland that has an impact on the environment, taking into account the influence of economic, political, cultural, and ethical factors on the policy decision f. explain how energy usage in one of the following sectors in Ireland impacts the environment; describe how that sector can take steps to reduce potential negative impacts: <ul style="list-style-type: none"> a. Transport b. Residential c. Digital services d. Manufacturing g. explore the role of Irish agriculture in conservation of biodiversity, climate regeneration and climate breakdown.

Strand 3: Global Connections

In this strand, students explore global thinking and actions. They situate their experiences of climate action and sustainable development in broader issues of decision making and power as evidenced through governance, economic forces and global inequality. They explore climate justice in the context of transnational efforts to address climate loss, damage, and ecological debt. Through engaging with real world examples, they build knowledge of the role of technology and innovation in imagining alternative futures.

Strand 3 Learning outcomes

Students learn about	Students should be able to
<p>climate justice movements, including one specific example from each of the Global North and Global South</p> <p>authenticity and trustworthiness of media – print, broadcast and digital (including social media) communications on climate change, influence and control of media in what and how they report on climate change</p>	<ol style="list-style-type: none"> a. outline the following economic approaches to sustainable development, including at least one positive and one negative aspect: <ol style="list-style-type: none"> a. Circular economy b. Bioeconomy c. Degrowth d. Doughnut economics b. explore the demands and achievements of climate justice movements c. explore the origin, implementation, measurement and progress of the Sustainable Development Goals d. evaluate how an issue related to climate change is reported in different media, taking into account political, economic, and cultural worldviews e. explain what is meant by climate change mitigation and adaptation, climate debt, climate loss and damage; consider global responses to each of these concepts f. discuss how different solutions can decarbonise economies, including renewable energy, fuel transitions,

Students learn about	Students should be able to
<p>international commitments made as part of the United Nations Framework Convention on Climate Change (UNFCCC) and the Conference of the Parties (COP)</p> <p>how different countries respond to similar climate change issues, policy intentions versus implementation</p> <p>climate injustice and power inequalities including those relating to human rights, neo-colonialism, gender inequality, class inequality and racism</p>	<p>water efficiency, and carbon sequestration</p> <p>g. research how international commitments to reducing climate change impact on policy development in Ireland and the EU</p> <p>h. compare Ireland's response to climate change mitigation with that of another country</p> <p>i. examine a case study outside of Ireland to draw connections between climate change and inequalities</p>

Strand 4: Applied Learning Tasks

As far as is practicable, students need opportunities to apply their learning in Leaving Certificate Climate Action & Sustainable Development through action for a just and sustainable world.

The Applied Learning Tasks strand emphasises the importance of students developing the competencies to think and act sustainably. Over the two years of study, students engage in four Applied Learning Tasks carried out in small groups. Students plan, design, and carry out tasks which they deem personally relevant to them or their peers, their local community, or to society more broadly.

The four Applied Learning Tasks allow students to collaboratively engage with the core concepts of the subject in authentic situations. They are a lens through which students can experience some of the learning from across the strands. The learning outcomes from the first three strands are interwoven and to complete their Applied Learning Tasks students will

- consider issues from multiple perspectives
- recognise the interconnectedness between local and global
- make informed decisions based on evidence
- consider interdisciplinary approaches to solve problems and generate solutions.

Students document, reflect and share their learning from each Applied Learning Task. The knowledge, skills, values and dispositions students develop through completing the Applied Learning Tasks will help inform their learning throughout the subject.

Teachers will assess and provide feedback on student learning as part of ongoing teaching and learning in the classroom. The Applied Learning Tasks will not be assessed by the State Examinations Commission (SEC). The learning achieved through the Applied Learning Tasks and their associated learning outcomes can be assessed by the additional assessment component and by the end-of-course examination.

Strand 4 Learning outcomes

Applied Learning Task 1: Engaging in dialogue about climate action & sustainable development

Issues related to climate action and sustainable development are complex as they are influenced by a variety of factors, spanning areas of local and global interest. In this task, students will have space to speak about aspects of this subject that are important to them. They will plan and facilitate a dialogue on an issue related to climate action and sustainable development. The format and nature of the dialogue can be decided by the students and examples may include a small group discussion, a classroom debate, a conversation with an elected official or with students from another school or country. Through planning and facilitating the dialogue, students will inform themselves on the multiple perspectives and values informing the issue for consideration. They will develop and apply facilitation skills, which will have use in other areas within and beyond the subject. Through the experience of preparing for, facilitating, and reflecting on the dialogue, they will explore the role of values, including their own, and their influence on decision making.

Students learn about	Students should be able to
how values drive individuals' attitudes and dispositions either in support of or against a sustainable present and future	a. compare how different people's values, including their own, underpin their attitudes and dispositions to climate action and sustainable development
how different groups and individuals hold different values	b. discuss how values relating to nature can vary between people and across time
how value systems impact the way different people, communities, societies (including Indigenous or First Nation peoples), relate to nature now and in the past	
facilitation skills - active listening, awareness of the behaviour of others, self-awareness, questioning, managing conflict, etc.; encouraging participation and voice of all involved in dialogue, removing possible barriers to participation	c. facilitate inclusive dialogue around climate action and sustainable development

Applied Learning Task 2: Researching a movement

In this Applied Learning Task, students will learn about the actions of others. They will research a social movement through which action has been taken to address a root cause of climate change and unsustainable development. As they carry out their research, they learn to access and evaluate information from a variety of reliable sources. They consider the responsibilities and accountability of those in power who make decisions. They identify the root causes of injustice that prompted action to be taken, and the changes realised by taking action. Through their research they deepen their understanding of the qualities of effective action and where they might apply those qualities in their own future actions. Through reflecting upon the action taken, they consider how climate justice relates to equality and human rights as well as the climate.

Students learn about	Students should be able to
<p>multiple definitions of climate justice; how climate justice can inform personal and group actions, root causes of climate injustice; how climate change impacts people differently depending on factors such as age, citizenship, ethnicity, perceived social status, social class, geography, gender, etc.</p> <p>movements from local to (inter)national; connections between modern movements and historical root causes; a variety and range of sources, how sources may lack detail or show bias</p> <p>levels of government and governance appropriate to chosen movement; examining power relationships; peoples' political agency to hold systems to account, demand changes, and act in sustainable or unsustainable ways themselves</p>	<ol style="list-style-type: none">a. explore meanings and principles of climate justice b. conduct research on a movement that addresses an issue(s) related to climate change and unsustainable development; evaluate different sources of information including secondary data c. explain the role political and economic systems have on sustainable behaviour and actions

Applied Learning Task 3: Designing a nature based experience

Through Climate Action & Sustainable Development, students come to appreciate the interconnections between nature and people. Nature, in this subject, is considered as commons (land/space, soil, water, air) and, where relevant, natural resources (fossil fuels, minerals). In this Applied Learning Task students create an experience for others to connect with nature in their surroundings. In designing the task, students use their creativity and are informed by their own experiences of nature as well as primary data gathered through investigation. Through engaging in this task, students develop an appreciation of the relationships between the physical and living environment, and their interconnections with political, economic and socio-cultural systems, and human wellbeing.

Students learn about	Students should be able to
<p>local issues of people, power and place that are relevant or of interest; case studies, including researching governments, powerful groups or companies that are blocking/delaying or enabling climate action and looking at alternatives</p>	<p>a. analyse contemporary dilemmas related to the use of land or nature in Ireland, considering the power different groups have in determining the outcome</p>
<p>gathering and analysing data (both primary and secondary) and drawing conclusions on factors impacting climate change and the environment locally</p>	<p>b. produce and select data (qualitative/quantitative), analyse data to identify patterns and relationships</p>
<p>using evidence to inform audiences on the interconnections between nature and political, economic and sociocultural systems</p>	<p>c. organise and communicate their research and investigative findings in appropriate ways fit for purpose and audience, using relevant terminology and representations</p>
<p>preparing an experience to allow people to connect with nature in their surroundings</p>	<p>d. design a participatory experience, informed by their research and investigative findings, which enhances peoples' relationships with nature</p>

Applied Learning Task 4: Organising action

Through this Applied Learning Task, students learn how to effectively organise themselves to take action. They work in groups to organise an action on a matter related to climate action and sustainable development which they have democratically decided. This action could take place in a variety of settings from the classroom to the school, community, or beyond.

Through engaging with this task, students develop competencies to research, plan, and design an effective action.

Students learn about	Students should be able to
<p>lobbying, community organising, trade union organizing, popular education, direct action, civil disobedience, boycott, setting up alternatives, creative arts; personal transformation, social movement history, tactics employed by Indigenous activists or groups, intergenerational learning, etc.</p> <p>power in groups - skills and techniques for equal, inclusive and empowering decision-making, power and privilege working in groups and organisations/communities; solidarity approach, in the interest of a common good; hierarchical decision making, consensus building, voting</p> <p>personal perspectives, life experiences, how values-informed decision making in the area of the environment has led to positive and negative impacts</p> <p>a given issue they wish to address related to climate action and sustainable development</p>	<ol style="list-style-type: none"> a. identify tactics used by groups and social movements to achieve change, taking into account local knowledge gathered from their community b. examine how different groups make decisions; appreciate the different factors that influence decision making c. research and define a problem related to the issue d. plan and design a potential action to address the problem e. identify the tactics and resources needed to address the problem f. consider the potential impact of the action

Assessment

Assessment in senior cycle involves gathering, interpreting, using and reporting information about the processes and outcomes of learning. It takes different forms and is used for a variety of purposes. It is used to determine the appropriate route for students through a differentiated curriculum, to identify specific areas of strength or difficulty for a given student and to test and certify achievement. Assessment supports and improves learning by helping students and teachers to identify next steps in the teaching and learning process.

As well as varied teaching strategies, varied assessment strategies will support student learning and provide information to teachers and students that can be used as feedback so that teaching and learning activities can be modified in ways that best suit individual learners. By setting appropriate and engaging tasks, asking questions and giving feedback that promotes learner autonomy, assessment will support learning and promote progression, support the development of student key competencies and summarise achievement.

Assessment for Certification

Assessment for certification is based on the rationale, aim, and learning outcomes of this specification. There are two assessment components: a written examination and an additional assessment component comprising an Action Project. The written examination will be at higher and ordinary level. The Action Project will be based on a common brief. Each component will be set and examined by the State Examinations Commission (SEC).

In the written examination, Leaving Certificate Climate Action & Sustainable Development will be assessed at two levels, Higher and Ordinary (Table 2). Examination questions will require students to demonstrate learning appropriate to each level. Differentiation at the point of assessment will also be achieved through the stimulus material used, and the extent of the structured support provided for students at different levels.

Assessment Component	Weighting	Level
Action Project	40%	Higher and Ordinary
Written examination	60%	Higher and Ordinary

Table 2 Overview of Assessment for Certification

Additional assessment component: Action Project

The Action Project provides students with an opportunity to develop a deeper understanding of the concepts and principles of Climate Action & Sustainable Development, while also employing the practical strategies and thinking they have developed through the course to take effective action. The senior cycle key competencies, developed through all the learning in this course, will be applied through the student's engagement in the Action Project. The Action Project provides opportunities for students to pursue their interests in Climate Action & Sustainable Development, make their own decisions, acquire conceptual understanding and self-regulate their learning. The Action Project allows students to build on their experiences to date and demonstrate learning related to the learning outcomes of the Applied Learning Tasks strand, as well as learning outcomes from the other strands as appropriate to the brief.

Students will engage in an action of their choosing that relates to a topic within the common brief, which will be issued annually by the SEC. Whilst students will utilise and work with others in carrying out their Action Project, their evidence of learning is submitted and assessed individually. They will research and define an issue they wish to address, and identify ways others have engaged with similar issues. They will use this learning to plan, design and carry out an action to address the issue. Throughout the process they will use and apply the strategies, tactics and thinking they have learned throughout the course to organise and take effective action. They will be expected to evaluate work done on their action project and reflect upon the experience.

The time allocation for completion of the Action Project is up to 20 hours of class time, and schools will have a level of autonomy over how these hours are allocated. Upon completion, students produce an individual submission on their Action Project in a format prescribed by the SEC.

Descriptors of quality for the Action Project

The descriptors below relate to the learning achieved by students at Ordinary and Higher level in the Action Project. In particular, the Action Project requires students to engage with:

- Planning and conducting the action
- Communication
- Reflection

	<i>The students demonstrating a high level of achievement</i>	<i>The students demonstrating a moderate level of achievement</i>	<i>The students demonstrating a low level achievement</i>
Planning and conducting the action	engage thoroughly with the concepts within their chosen action, consider multiple interconnected systems and evaluate a wide range of reliable sources to inform how they plan for, design and carry out the action. The tactics for taking effective action are appropriate, justified, chosen and employed.	have a good engagement with the concepts within their chosen action, consider a variety of perspectives and use a range of reliable sources to inform how they plan for, design and carry out the action. Tactics for taking action are chosen and employed.	have a limited engagement with the concepts within their chosen action, consider few perspectives as they plan for, design and carry out the action. Tactics for taking action are not chosen.
Communication	communicate throughout the process in the most clear and appropriate forms, demonstrating an awareness of and responsiveness to the audience(s) they wish to impact and engage. Consistent and coherent language and terminology is used in high quality presentation of information.	communicate the outcomes of their project clearly and in a variety of forms, taking into account the impact of their communications on audience(s). Moderately consistent and coherent language and terminology is used in good presentation of information.	use unclear forms of communication of the outcomes of their project. Inconsistent and incoherent language and terminology is used in limited presentation of information.

Reflection	engage in considered reflection throughout the project, locating the process and experience of completing the project within broader issues relating to climate action and sustainable development.	reflect on how the process and experience of completing the project relates to climate action and sustainable development.	make limited links between how the process and experience of completing the action project relates to climate action and sustainable development.
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Table 3 Descriptors of Quality: Action Project

Written examination

The written examination will consist of a range of question types. The senior cycle key competencies (Figure 2) are embedded in the learning outcomes and will be assessed in the context of the learning outcomes. The written examination paper will include a selection of questions that will assess, appropriate to each level:

- the learning described in the four strands
- the application of student learning to authentic real-world issues related to climate action and sustainable development.

Reasonable accommodations

This Leaving Certificate Climate Action & Sustainable Development specification requires that students engage with the nature of the subject on an ongoing basis throughout the course. In addition, the assessment involves an additional component, which accounts for 40% of the total marks awarded. In this context, the scheme of *Reasonable Accommodations*, operated by the State Examinations Commission (SEC), is designed to assist candidates in the Leaving Certificate who have physical/medical/sensory and/or specific learning difficulties.

Reasonable accommodations are designed to remove as far as possible the impact of a disability on a student's performance, so that he or she can demonstrate in an examination his or her level of achievement—they are not designed to compensate for a possible lack of achievement arising from a disability.

Leaving Certificate Grading

Leaving Certificate Climate Action & Sustainable Development will be graded using an 8-point grading scale. The highest grade is a Grade 1; the lowest grade is a Grade 8. The highest seven grades (1-7) divide the marks range 100% to 30% into seven equal grade bands 10% wide, with a grade 8 being awarded for percentage marks of less than 30%. The grades at Higher level and Ordinary level are distinguished by prefixing the grade with H or O respectively, giving H1-H8 at Higher level, and O1-O8 at Ordinary level.

Grade	% marks
H1/O1	90 - 100
H2/O2	80 < 90
H3/O3	70 < 80
H4/O4	60 < 70
H5/O5	50 < 60
H6/O6	40 < 50
H7/O7	30 < 40
H8/O8	< 30

Table 4: Leaving Certificate grading

Appendix 1: Glossary of action verbs

Action verb	Students should be able to
Analyse	study or examine something in detail, break down in order to bring out the essential elements or structure; identify parts and relationships, and to interpret information to reach conclusions
Apply	select and use information and/or knowledge and understanding to explain a given situation or real circumstances
Appreciate	recognise the meaning of, have a practical understanding of
Compare	give an account of the similarities and (or) differences between two (or more) items or situations, referring to both (all) of them throughout
Consider	describe patterns in data; use knowledge and understanding to interpret patterns; make predictions and check reliability
Conduct	perform an activity
Define	give the precise meaning of a word, phrase, concept or physical quantity
Demonstrate	prove or make clear by reasoning or evidence, illustrating with examples or practical application
Describe	develop a detailed picture or image of, for example a structure or a process, using words or diagrams where appropriate; produce a plan, simulation or model
Design	conceive, create and execute according to plan
Determine	obtain the only possible answer by calculation, substituting measured or known values of other quantities into a standard formula

Action verb	Students should be able to
Discuss	offer a considered, balanced review that includes a range of arguments, factors or hypotheses; opinions or conclusions should be presented clearly and supported by appropriate evidence
Evaluate (data)	collect and examine data to make judgments and appraisals; describe how evidence supports or does not support a conclusion in an inquiry or investigation; identify the limitations of data in conclusions; make judgments about the ideas, solutions or methods
Evaluate (ethical judgement)	collect and examine evidence to make judgments and appraisals; describe how evidence supports or does not support a judgement; identify the limitations of evidence in conclusions; make judgments about the ideas, solutions or methods
Explain	give a detailed account including reasons or causes
Explore	observe, study, in order to establish facts
Examine	consider an argument or concept in a way that uncovers the assumptions and relationships of the issue
Facilitate	make an action or process easier; consciously guide a dialogue so that it stays on course and reaches the agreed-upon goals
Identify	recognise patterns, facts, or details; provide an answer from a number of possibilities; recognize and state briefly a distinguishing fact or feature
Investigate	observe, study, or make a detailed and systematic examination, in order to establish facts and reach new conclusions
Justify	give valid reasons or evidence to support an answer or conclusion
Measure	quantify changes in systems by reading a measuring tool
Outline	give the main points; restrict to essentials

Action verb	Students should be able to
Plan	devise or project a method or a course of action
Produce	bring into existence by intellectual or creative ability
Recognise	identify facts, characteristics or concepts that are critical (relevant/appropriate) to the understanding of a situation, event, process or phenomenon
Reflect	consider in order to correct or improve
Research	inquire specifically, using involved and critical investigation
Use	apply knowledge or rules to put theory into practice

