

Expectations

By the Teachers and Students of Ireland, for the Teachers and Students of Ireland

Teacher
Developed

Teachers were an integral part of the subject development group for JC Science and the various consultation processes. They helped to shape, in a direct way, the learning outcomes of JC Science, which informed the Features of Quality for the Classroom Based Assessments (CBAs).

Junior Cycle Science Learning Outcomes

	Nature of Science	Earth and Space	Chemical World	Physical World	Biological World
Investigating	Students should be able to: identify the nature of science; describe the scientific process; evaluate the reliability of scientific information; and communicate scientific information.	Students should be able to: describe the Earth and its place in the universe; describe the Earth's internal and external structure; and describe the Earth's climate system.	Students should be able to: describe the chemical world; describe the chemical world; and describe the chemical world.	Students should be able to: describe the physical world; describe the physical world; and describe the physical world.	Students should be able to: describe the biological world; describe the biological world; and describe the biological world.
Communicating	Students should be able to: communicate scientific information; communicate scientific information; and communicate scientific information.	Students should be able to: communicate scientific information; communicate scientific information; and communicate scientific information.	Students should be able to: communicate scientific information; communicate scientific information; and communicate scientific information.	Students should be able to: communicate scientific information; communicate scientific information; and communicate scientific information.	Students should be able to: communicate scientific information; communicate scientific information; and communicate scientific information.
Understanding	Students should be able to: understand the nature of science; understand the nature of science; and understand the nature of science.	Students should be able to: understand the Earth and its place in the universe; understand the Earth and its place in the universe; and understand the Earth and its place in the universe.	Students should be able to: understand the chemical world; understand the chemical world; and understand the chemical world.	Students should be able to: understand the physical world; understand the physical world; and understand the physical world.	Students should be able to: understand the biological world; understand the biological world; and understand the biological world.
Applying	Students should be able to: apply scientific information; apply scientific information; and apply scientific information.	Students should be able to: apply scientific information; apply scientific information; and apply scientific information.	Students should be able to: apply scientific information; apply scientific information; and apply scientific information.	Students should be able to: apply scientific information; apply scientific information; and apply scientific information.	Students should be able to: apply scientific information; apply scientific information; and apply scientific information.

Teachers draw on their craft knowledge and professional judgement to realise expectations **every day in the classroom**. These expectations are developmental, and are part of the formative process of JC Science teaching, learning and assessment. The CBA moments are opportunities for students to celebrate their science learning journey. The moments of Subject Learning and Assessment Review meetings are opportunities for teachers to celebrate professional learning, ensure coherence of expectations, collaboratively assure our professional judgements and enhance our craft as science teachers.

Teacher
Realised

To support coherence of our expectations of the students, there is a quality assured process of exemplifying the curriculum, facilitated by the NCCA. **Teachers lead this process.**

- ✓ Teachers develop examples of classroom work in Irish classrooms
- ✓ These examples are brought to the NCCA for consideration to enter a quality assurance process.
- ✓ At the quality assurance process, these examples of classroom work are presented for review by a group of independent teachers, NCCA, DES, SEC and JCT. Final examples are then published on www.curriculumonline.ie. These paint a national picture of our expectations of student learning and learner progression throughout JC Science.

Teacher
Assured

Junior Cycle Science - First Year NCCA

Investigating | Communicating | Knowledge and understanding

Meeting Current and Future Energy Needs

Learning outcomes in focus
 Students should be able to:
 - identify research different energy sources;
 - formulate and communicate an informed view of ways that current and future energy needs on Earth can be met;
 - use research relevant to a scientific issue, evaluate different sources of information including secondary data, understanding that a source may lack detail or show bias

Teaching and Learning Context
 This task was undertaken by two mixed-ability classes of First Year students. Prior to the task, students had been introduced to energy types and energy conversion. They had also worked collaboratively in small groups to complete and present for peer review a STEM activity called Maps Island. <http://geneticsaction.org/energyisland/>
 Students all have laptops and were given a single class and the weekend to complete the task.

Learning intentions
 We are learning to:
 - conduct independent research
 - synthesise information from a variety of sources
 - present findings in manner appropriate for the chosen audience
 - evaluate different energy sources in terms of suitability, sustainability and reliability
 - understand that a reliance on non-renewable resources is unsustainable into the future

Task
 Project title - How to meet current and future energy needs.
 Students were given the following instructions:
 1. Research the topic using your iPad and/or other sources. Present your findings either as a poster, pamphlet, keynote/presentation/PowerPoint, drama, song or any other means.
 2. Discuss your choice(s) of energy source and explain how it meets the project title: How to meet current and future energy needs.

Success criteria:

Task
 - SC1: search for and find relevant information about the topic
 - SC2: arrange and report my findings
 - SC3: use data in an informed manner to argue my position
 - SC4: acknowledge sources