

Irish Context

Rich Task 4 Activity 3

Introduction:

Space related industry in Ireland is growing but there is a lack of awareness among the general public. This activity has a focus on the Irish context and allows students to see the opportunities in Ireland to work in this sector. There is also a connection to the recent launch of the James Webb Space Telescope (JWST), a massive event for space scientists. A lot of time and money was put into launching this high tech telescope into space so we can see further and clearer than its predecessor the Hubble Telescope.

This activity asks students to research an Irish company and reflect on their own opinions of how scientific information is spread to the general public. This activity scaffolds the next ([Rich Task 4 Activity 4](#)), which explores the ethics of different topics centred around space exploration.

Preparation Required:

- Printing
- Computer access for students

Downloadable Materials:

- [Worksheet 4.3](#)
- [Expected Student Responses Worksheet 4.3](#)
- [JWST vs Hubble prompt images](#)

Relevant Junior Cycle Learning Outcomes:

Students should be able to...

NOS 8: Evaluate media-based arguments concerning science and technology.

NOS 9: Research and present information on the contribution that scientists make to scientific discovery and invention, and its impact on society.

NOS 10: Appreciate the role of science in society; and its personal, social and global importance; and how society influences scientific research.

E & S 8: Examine some of the current hazards and benefits of space exploration and discuss the future role and implications of space exploration in society.

Learning Intentions:

Students will be able to...

- Investigate the work an Irish company does in space exploration
- Compare the use of two different space telescopes
- Suggest why a new telescope was launched into space
- Reflect on what they have learnt so far
- Reflect on how the media tells the general public about Irish science

Prior Knowledge/Horizon Content Knowledge:

- Media portrayals of science
- Current Irish science
- Space industry
- Space Telescopes

Differentiation and Accessibility Suggestions:

This activity is accessible for all students and does not require prior knowledge. Students can decide the depth of research and discussion. Work can be done in pairs or alone.

Images produced by the JWST and Hubble Telescope can be shown side by side on the projector using the prompt images. A discussion around the requirement not to use the absolute latest technology on space telescopes can be had. On a telescope going to space there must be tried and tested, well trusted technology so it is actually not the newest and possibly best. We can however test the new technology on ground based telescopes.

Q3 could be further developed into a lesson on different sources of information and students could look at different articles from different countries and different sources.

As an extension activity students can begin research for the next activity worksheet.

Activity Outline:

Activity Name	Irish Context
Alignment to ISLE investigation	Analysing data to form an argument in agreement or disagreement with the original hypothesis
Rationale	Analysing Irish involvement in space exploration and its connection to the wider

	scientific community.
<p>Activity Description</p>	<p><i>(please see downloadable materials for the resources for this activity)</i></p> <p><i>(Q1 worksheet 4.3)</i> Students research one of the Irish companies involved in space exploration using the questions in the worksheet. Relevant companies have been compiled here by Enterprise Ireland.</p> <p><i>(Q2. worksheet 4.3)</i> Students analyse the difference between the JWST and Hubble telescope and suggest why a new telescope was built</p> <p><i>(Q3. worksheet 4.3)</i> Students reflect on what they have learned so far and reflect on their opinion of how the media tell scientific information to the general public.</p>
<p>Link to other activities</p>	Scaffold for Rich Task 4 Activity 4
<p>Link to current research in DIAS Dunsink Observatory</p>	<p>The Solar and Space Weather group at DIAS Dunsink consists of PhD students, postdocs and professors who study different aspects of the Sun and Space Weather.</p> <p>Through their research, scientists can get daily updates on the activity of the Sun (https://solarmonitor.org) along with information about the Earths’ magnetic field and space storms.</p> <p>More information on space weather and why we predict it can be found here: https://www.magie.ie/education/</p>