

## Promoting Authentic Student Work Exploring the SSI Topics

- Choosing the Topic

The SSI requires students to investigate a scientific topic or issue and its impact (positive or negative) on society and/or the environment. The chosen topic may be directly related to specific course content or students may decide to study an issue of personal or local relevance, provided it is related to the following areas:

- ~ A technological application of science
- ~ An application of science that has an effect on human health
- ~ An application of science that has an effect on the environment
- ~ An application of science that has an effect on society.

It is important that the topic chosen can be researched, has a sound base of scientific understanding and ideas, and can be turned into a question.

- Deciding on the Specific Research Question

Research should be focused on a response to a clearly defined research question. The research question may be revised or changed as the student begins researching for information on the chosen topic.

Junior Cycle Science, Guidelines for the Classroom-Based Assessments and Assessment Task, pg. 26.

“An application of science is any use of scientific knowledge for a specific purpose, whether to do more science; to design a product, process, or medical treatment; to develop a new technology; or to predict the impacts of human actions

The applications of science knowledge and practices to areas such as medicine and agriculture, have contributed to the technologies and the systems that support them and that serve people today. Insights gained from scientific discovery have altered the ways in which buildings, bridges, and cities are constructed; changed the operations of factories; led to new methods of generating and distributing energy; and created new modes of travel and communication.

Scientific insights have informed methods of food production, waste disposal, and the diagnosis and treatment of disease. In other words, science-based, or science-improved, designs of technologies and systems affect the ways in which people interact with each other and with the environment, and thus these designs deeply influence society.”

A Framework for Science Education; Practices Concepts and Crosscutting ideas.  
(Available at <https://www.nap.edu/read/13165/chapter/12>)

### Exploring your ideas.

Use the spaces below to list some applications of science that you are aware of.

An application of science that has an effect on the environment

An application of science that has an effect on society

A technological application of science

An application of science that has an effect on human health

Now circle the 2 topics that most interest you.

For each of the 2 topics that most interest you, write down **what** you would like to find out more about and **why** you would like to find this out.

Write your topic here	
What?	Why?

Write your topic here	
What?	Why?

1. In pairs, share each of your topic ideas.
2. Explain what aspect you find most interesting and why you think this is interesting.
3. Ask questions of each other – you might like to use the following prompts:

What do you already know about ....?

Where can you find more information about ....?

What questions does this topic raise for you?

4. When you have had your discussion, complete the box below.

The topic I would like to explore further

Some sub-topics I can see

Some questions I have



## Next Steps?

Appendix 2 of the Assessment Guidelines (pg. 37) includes this template, to assist in the evaluation of the suitability of a topic for investigation.

Sample topic 1:	
Is this topic course-related, an issue of personal interest, or one with local relevance?	
Can the topic be researched?	
Is there a sound base of scientific understanding and ideas?	
Are there two or more sides to the story?	
Can it turn into a specific research question?	
Conclusion:	