



ACTIVITY SHEET

ENTERPRISE + STEM

ACTIVITY: INNOVATING A PRODUCT

Objectives

- Exploring potential issues to get product improvements
- Developing opportunities for innovation and improvement
- Developing communication skills: practice pitching your idea

This Activity Sheet is part of the ENTERPRISE + STEM suite of resources, authored by:

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Activity

Task

Think about some existing products that have not been changed for a while or that could be changed for the better.

Come up with an innovation that will make the product better. Your innovation could include:

- Combining two existing ideas (e.g. a pencil with an eraser on the end)
- Changing the shape or design of something (cooking utensils with big thick handles for people with arthritis)
- Changing what it is made from (paper banknotes replaced with polymer banknotes)

Create a 2-minute presentation describing the old product vs the new innovative product. Your presentation should address:

- What were the shortcomings of the original product?
- Which of the shortcomings will your innovation solve?
- Who will benefit from this innovation?
- What are the negative aspects of the innovation?

INSTRUCTIONS FOR TEACHERS

Instructions for teachers

- Give students homework to explore products that have a potential to be innovated.
- The task can be individual or completed in groups.

Suggested discussion

- What expertise is needed to innovate the product?
- Which of the proposed changes could be difficult to implement for the manufacturer?
- Do you think these changes will cost more or less to the manufacturer? Justify your answer.
- Will the improved product result in expansion of the market?
- Is your idea feasible in the real world?



CURRICULUM MAPPING

Science	
Years 7-8	Years 9-10
Science Understanding (strand)	
Science as a human endeavour (sub-strand)	
<p>Scientific knowledge and understanding of the world changes as new evidence becomes available; science knowledge can develop through collaboration and connecting ideas across the disciplines and practice of science (VCSSU089)</p> <p>Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090)</p>	<p>The values and needs of contemporary society can influence the focus of scientific research (VCSSU116)</p>

General Capabilities: Critical and Creative Thinking	
Years 7-8	Years 9-10
Questions and Possibilities	
<p>Suspend judgements temporarily and consider how preconceptions may limit ideas and alternatives (VCCCTQ033)</p> <p>Synthesise information from multiple sources and use lateral thinking techniques to draw parallels between known and new solutions and ideas when creating original proposals and artefacts (VCCCTQ034)</p>	<p>Suspend judgements to allow new possibilities to emerge and investigate how this can broaden ideas and solutions (VCCCTQ044)</p> <p>Challenge previously held assumptions and create new links, proposals and artefacts by investigating ideas that provoke shifts in perspectives and cross boundaries to generate ideas and solutions (VCCCTQ045)</p>

Reasoning

Examine how to select appropriate criteria and how criteria are used in clarifying and challenging arguments and ideas (VCCCTR039)

Investigate use of additional or refined criteria when application of original criteria does not produce a clear conclusion (VCCCTR050)

Metacognition

Consider a range of strategies to represent ideas and explain and justify thinking processes to others (VCCCTM040)

Critically examine their own and others thinking processes and discuss factors that influence thinking, including cognitive biases (VCCCTM051)

Consider how problems can be segmented into discrete stages, new knowledge synthesised during problem-solving and criteria used to assess emerging ideas and proposals (VCCCTM042)

Investigate the kind of criteria that can be used to rationally evaluate the quality of ideas and proposals, including the qualities of viability and workability (VCCCTM053)

General Capabilities: Personal and Social

Years 7-8

Years 9-10

Self-Awareness and Management

Recognition and expression of emotions

Evaluate emotional responses and the management of emotions in a range of contexts (VCPSCSE043)

Self-Awareness and Management

Development of resilience

Develop specific skills and a variety of strategies to prevent or resolve conflict, and explore the nature of conflict resolution in a range of contexts (VCPSCSO051)