‘Let’s Get Inventin’ is a science and technology show that entertains by exciting the imagination and encouraging the involvement of inquiring minds.

The show’s philosophy is to encourage young inventive minds. Young people are invited to submit their ideas and 24 lucky kids have succeeded in getting their ideas onto TV. They are mentored by Sam Britten, who helps them build their idea from concept to reality. They finish their experience with a prototype, new skills, maybe a contract and for one lucky inventor a free patent.

Let’s Get Inventin’ Study Guide

http://www.younginventors.tv/

Technological Capability

Achievement Objective 5.5
Use a range of appropriate techniques to investigate and determine needs, opportunities and consumer preferences.

Achievement Objective 4.6b
Prepare plans of action, identifying the required resources (time, human, material, financial); produce the selected solution to meet agreed or specified criteria.

Achievement Objective 5.6c
Present and promote designs, plans, strategies and outcomes, using appropriate forms of communication for their audience.

Curriculum area: Technology (levels 4 and 5)
http://www.tki.org.nz/r/technology/curriculum/contents_e.php
Essential Skills

The activities in this study guide will provide opportunities for students to practice the following essential skills.

They will be able to practice self-management and competitive skills by:

• setting and achieving goals;
• managing time and other resources effectively;
• showing initiative, perseverance, commitment and adaptability;
• developing strategies to deal with challenges and resolve conflicts.

They will be able to practice information skills by:

• devising questions, and using a range of inquiry techniques;
• organising, analysing, synthesising, evaluating and using information;
• presenting information clearly, logically, concisely and accurately.

They will be able to practice problem-solving skills by:

• thinking critically, creatively, reflectively and logically;
• exercising imagination, initiative, and flexibility;
• inquiring and researching, and exploring, generating and developing ideas;
• testing ideas and solutions, and making decisions on the basis of experience and supporting evidence.

Learning Outcomes

Students will be able to:

• develop an idea from light bulb to marketable product showing the process they would need to go through if they were doing this for real;
• carry out interviews with students who have taken part in the Young Enterprise scheme to find out how they developed a successful product and perhaps find out what obstacles they needed to overcome to achieve that;
• perform research on other innovators such as Jeremy Moon of Icebreaker, John Britten of motorcycle fame, or other historically famous inventors, to find out the process they went through to get their products out on the market;
• find out about patents and trademarking.
While Viewing

While students are viewing the programme, have them jot down the steps the inventors have to take to get their gizmo from idea to reality. Ask them to note down the answers to these questions while they are watching:

Q: Were your ideas of the process correct?
Q: How did the process on the programme differ from your idea of how it would be?
Q: Do you think the process would change depending on the product or not?

After Viewing

Discuss with your students the process that the inventor went through.

Q: What were the aspects of the process that came easily?
Q: What were the challenges? Were these challenges easily overcome?
Q: What would you have done that was the same/different?
Q: What was the end result?

Before Viewing

Before watching the programme, it is important to make sure that all students understand the process they will be going through.

Explain any subject specific vocabulary or if this is an activity you would like students to do independently, provide them with a glossary.

Discuss with them their ideas of the process they think an inventor would go through from the time they first get that brilliant idea to the time they finally see their invention on the shelf.

Encourage your students to talk about inventors and inventions they know about and have them start a “KWL” chart about inventing and inventions, filling in the “K” (know) column and making a start on the “W” (want to know) column.

Remind them that they may come up with other questions as they view the programme and make sure they record their questions on the chart while they are watching the video, and afterwards, they can fill in the “L” (learned) column.

Have your students discuss how they think people invent things in the first place. What sort of person becomes an inventor?
Now It’s Your Turn!

Tell your students, “Now is your chance! It is your turn to invent something.” Have them identify a need and design a product, which fulfills that need.

They will need to produce:

- a labelled diagram or model of their invention;
- a flowchart of the process they will go through, identifying
  - their market – who will buy their product;
  - people/companies they will need to approach to help them create a prototype;
  - the materials they will need and where and how they can access them;
- a cost analysis of the separate components and how they will manage to make their product cost effective;
- people/companies they may approach to help them distribute their product;
- advertising needs and wants;
- an artist’s impression of the final product as they see it at this stage.

There will be other steps they may need to include, unique to the needs of their product. Please make it clear this is a basic outline.

OR

They may wish to conduct an in-depth research project into a New Zealand inventor/innovator they could interview, finding out what they had to do to become successful.

They will need to develop some interview questions to provide the same sort of information as outlined in the production plan.

Some ideas for interviewees include:

- Jeremy Moon – Icebreaker
- Tanya Thompson – Misery
- the producers of Mother Earth foodstuffs
- Peter Lynn – kitesurfing and kitebuggying
- any of our many wine producers or boutique brewers

Notable New Zealand inventors who sadly are no longer with us include

- John Britten, who developed the Britten V1000 and V1100 motorcycles and
- Bill Hamilton, who developed the modern jet boat.

There is a wealth of information available about their achievements and the products of their innovative thinking.

OR

They may choose to research a ‘historical’ inventor such as Thomas Edison or Leonardo da Vinci. Students could consider the different times in which they lived and speculate on how they would have taken their invention from concept to reality.
Enjoy!

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http://www.screen.org.nz/

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**Interesting Websites**

**Heroes**
http://www.nzedge.com/heroes/

**How It Works**
http://www.howstuffworks.com/

**Famous Inventions or Inventors from around the World**
http://www.bkfk.com/inventions/

**About: Inventors**
www.inventors.about.com

**List of Famous Inventors**
http://www.listoffamousinventors.com/

**Te Ara: The New Zealand Encyclopedia**
http://www.teara.govt.nz/

**Te Kete Ipurangi: The Online Learning Centre**
www.tki.org.nz
search page: http://www.tki.org.nz/e/search
search word English medium: invention
search word Maori medium: hanganga

**Technology online community**
http://www.tki.org.nz/e/community/technology/

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**Great Books**

**Nonfiction**
“Kids Inventing! A Handbook for Young Inventor”, Susan Casey
“Mistakes That Worked”, Charlotte Jones
“Science’s Strangest Inventions”, Tom Quinn
“Invention: Eye Wonder”, Dorling Kindersley
“Invention: Eyewitness Guide”, Dorling Kindersley

**Fiction**
“The Whizzbanger that Emmental Built”, Reuban Schwarz
“Weird! Amazing Inventions and Wacky Science”, Simon Torok
“The Banana Machine”, Alexander McCall-Smith
“Stink Stoppers”, Andrea Perry
“Operation Gadgetman”, Malorie Blackman

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NOW AVAILABLE ON DVD
http://www.younginventors.tv/