

## Technology at Breens

Students are given the opportunity to become familiar with the new approach to technology.

They will work through given briefs using the technological process to come up with their own designs and solutions.

During this process, students have the chance to develop skills and understanding to work with different materials and specialised equipment.

All students have two Technology lessons per week equating to three hours. They rotate around the three specialist rooms, spending two blocks of eight to nine lessons in each room throughout the year.

Each block of lessons will focus on a different component of practice so students will develop a good understanding of:

- brief development
- planning for practice
- Outcome development & evaluation

Visit [www.techlink.org.nz](http://www.techlink.org.nz) to view a webpage containing information about technology education. There is a student showcase section containing lots of exciting ideas of technological practice.

## Glossary of Technological Terms

**Briefs:** these describe a desired technological product. They consist of a conceptual statement and a set of specifications.

1. **Given Brief:** Teacher written to guide the students through the technological practice.
2. **Initial Brief:** This is derived from the given brief. Students record their findings after undertaking planning for practice
3. **Final Brief:** As the technological process happens, modifications can be or are required to the initial brief due to the stakeholders needs changing, material availability or skill level and access to processes.

**Brief Development:** an on-going process as set out above considering refinements/developments that should be made.

**Conceptual Statement:** a written description of who will be using the product, what the product is to be used for, where it will be used and why it will be used.

**Evaluation:** a judgement of the worth or quality of the product.

**Fitness for Purpose:** best solution to meet the need.

**Key Factors:** the main things that need to be considered when making decisions about how to produce the best outcomes.

**Mock-up:** a model of a structure used for experimental reasons

**Planning for Practice:** identifying the key factors and stages to develop an outcome including possible solutions, existing ideas, materials and equipment available, skills and knowledge needed

**Prototype:** a full scale operational model that includes all components of a final brief. It can be used to see the physical and functional natures of the outcome and fitness for purpose.

**Outcome Development:** the trailing and production part of technological practice. May include plans, sketches, models etc

**Specifications:** a list of key requirements of the outcome to guide the development and to be used as a measure during the final evaluation.

**Stakeholders:** a person or group having a stake or interest in the success or use of a product.

**Technological outcome:** a fully realised product or system to meet a need or opportunity.

# Technology Education at Breens Intermediate



**Technology  
is intervention by design to  
meet an identified need or  
opportunity**

Everyone is a technologist.

We're constantly using all sorts of products and systems everyday.

Sometimes we think "if only this had a ...." "I wish I had something that could....."

"this would work better if.....".

That's what technology is all about - when someone (like you) is involved in the design or modification of a product or system to improve their own or others lives.

The subject of "*technology*" aims to help students to better understand the processes and implications of developing a design that meets a need someone has or creating something to meet an opportunity.

At this stage, students are provided with a "*given brief*" by the teacher that identifies a relevant need or opportunity. The students then work through the process to come up with a possible solution that would meet this brief. Students would also be given the opportunity to develop appropriate skills using available equipment.

## The Technology Process

### Given Brief

The teacher identifies a need or opportunity. The students are guided to consider the physical and social environment as they work through the process.

### Planning for Practice

Students start to do some thinking about the brief. They will need to consider the *key factors* and *key stages* that will be important when developing the outcome. This is done by exploring and analysing the need or opportunity driving the project. It includes investigating things such as why the brief has been established, what needs to be done, how it can be achieved, who the outcome is for (*stakeholder*) and what skills & knowledge will be needed.

### Initial Brief

This is derived from the given brief and includes a *conceptual statement* that explains what the student is developing to meet the brief and why they are developing it. The *specifications* are also written down to describe in detail the *key attributes* and guidelines for the outcome.

### Outcome Development

Students can now start working on developing their outcome. They survey, investigate existing ideas, sketch their model, investigate which materials will be best to use, decide on skills and knowledge they will need, consider budget and timeframes. The stakeholders will also need to be consulted to ensure the outcome being developed is suitable. Students will *model, trial* and *test ideas*. Work is continually evaluated in case evaluation is needed to ensure the best final solution is arrived at.

### Final Brief

This sets out the final description of the desired outcome. It will include the conceptual statement, specifications, and modifications to initial brief due to stakeholders needs changing, material availability, skill level and access to processes.

### Outcome Evaluation

A *prototype* is created and presented to the stakeholder. *Fitness for purpose* is evaluated against the final brief.

### An example.....

**Given Brief:** Ben has qualified to represent Breens at the South Island cross country champs. He needs a bag for the day of the competition.

**Planning for Practice:** To plan the bag, Ben needs to consider the key design factors for his bag such as what his bag would need to carry, if it should be waterproof and easily identifiable etc.

**Initial Brief: Conceptual Statement:** To produce a bag that is suitable for a student to take to running competition. **Specifications:** It will need to carry energy food, clothing and a towel; be easily identified; be a suitable size to be carried around; and be relatively waterproof.

**Outcome Development:** After looking at bags available commercially, Ben sketched some ideas and decided to make 3 compartments to store the different items in a bag he could carry on his back. He then made some more detailed sketches that included measurements. He decided to use blue water resistant material with a fluoro strip down the centre of the flap. From the detailed drawings and measurements Ben made a full-scale mock-up out of calico to test the functionality of his design. After testing, he found he needed bigger domes to close the compartments and the shoulder straps needed further padding.

**Final Brief:** Ben's final required specifications as the stakeholder: To produce a bag that is suitable for a running competitor, could be comfortably carried on his back, is easily identified, relatively waterproof, has closing compartments to carry food, clothing and a towel.

**Outcome Evaluation:** Ben made up the prototype from dark blue water resistant material with a fluoro stripe down the middle of the flap. He evaluated its fitness for purpose against the specifications set out in the final brief. He's looking forward to using his bag.