| Level | Description |
| --- | --- |
| 5 | The student has provided **clear, consistent and convincing evidence** that they:   * **actively** designed and built a prototype of an innovative product * **identified** an **explored** need or problem and developed a solution that **successfully** **meets** the need and is a **significant** **improvement** over previous alternatives or applications * addressed an issue of **social** or **technological significance** * displayed a **deep understanding** of technological concepts used in the prototype * included a **concise** and **comprehensive** summary of **relevant** market research, exploring the **existence** of similar products and appraising their **aesthetic** and **functional** qualities * implemented **safe** work practices in the prototype’s design and production * demonstrated **quality** design and production skills * had **convincing** arguments for the choice of materials and technologies selected * produced a **well-constructed** and **reliable** prototype that **performs** as intended * included a **comprehensive** portfolio or logbook, detailing the stages of the design process from brainstorming, through prototyping, to final product and evaluation * used **critical thinking** in the **evaluation** and **testing** of the prototype, discussing alternatives and modifications and evaluating the **impact** of the prototype on society and the environment * suggested **worthwhile** directions for future development in a succinct manner * **formally acknowledged** those who contributed to the project * used **clear**, **concise** and **meaningful** language and **visuals** to communicate the operational details and applications of the prototype to the intended audience |
| 4 | The student has provided **substantial evidence** that they:   * designed and built a prototype of an innovative product with considerable planning * developed an innovative product which meets a need or problem, different from previous alternatives or applications * designed the innovative product for the benefit of society * displayed a thorough understanding of technological concepts used in the product * included a summary of current and relevant market research * incorporated a thorough management plan that included action, time and finance * designed an innovative prototype, developed an original solution and demonstrated enterprise skills * had shown skill in the design and production of the prototype and implemented safe work practices in the prototype’s production * included some justification for the selection of materials and use of resources * had constructed a prototype that performs as intended * included a portfolio or logbook detailing the different stages of the design process * exhibited rational thinking in the testing and evaluation of the prototype * put forward directions for future development * acknowledged and provided details of any assistance given * effectively communicated the prototype’s operational details and the language and visuals take account of the audience |
| 3 | The student has provided **evidence** that they:   * designed and built a prototype of an innovative product * developed an innovative product which is a solution to a need or problem * had an innovative product which has some innovative or creative features * demonstrated an understanding of technological concepts used in the product * collected background market research with some relevance to the need or problem * considered a variety of designs with the selected design being chosen with little justification * incorporated a management plan that considered action, time and finance * displayed good workmanship in the design and construction of the prototype * used materials in the prototype model’s construction with little justification * had constructed a prototype that works * had performed preliminary testing of the prototype * provided supporting documentation in the accompanying portfolio or logbook * put forward some good and practical ideas for future improvements * acknowledged any assistance given * communicated the prototype’s operational details with good use of language, visuals and sequencing, appropriate to the intended audience |
| 2 | The student has provided **evidence** that they:   * built a prototype of an innovative product with **little** planning or design * built a product **lacking** any innovative or creative features * demonstrated **some understanding** of technological concepts used in the prototype * performed **limited** or **general** background research * considered **only one** or **two** designs before commencing constructing * incorporated a **basic** management plan with some of the aspects of action, time or finance * displayed **simple** workmanship in the design and construction of the prototype * used some materials in the prototype’s construction that were **not suitable** * had tested the prototype with **irregular performances** * provided **limited** documentation in the accompanying portfolio or logbook * put forward **some** ideas for future improvements * received some assistance but **did not provide details** of the assistance given * included an **adequate** set of operational instructions to **assist** the audience |
| 1 | The student has provided **evidence** that they:   * entered a prototype of an innovative product that **does not fully work** * demonstrated **little understanding** of technological concepts used in the product * performed **nominal** or **irrelevant** background research * provided designs and sketches that were **haphazard** * made a prototype with **poor** workmanship * **poorly selected** materials and technologies * had not **sufficiently** tested the prototype and ideas for future improvements are **vague** and **impractical** * provided **limited** or **disorganised** documentation * **neglected** to acknowledge assistance given * provided **poorly expressed** operational instructions for the innovative product |