| 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
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| 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
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| 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
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| 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
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| 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
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