| 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** a need or problem and developed a solution that 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** prior research in the field, exploring the existence of similar products
* had been **creative** in the prototype’s design, **innovative** in the development of an **original** solution and **enterprising** in commercial awareness and decision making
* employed **safe** and **quality** construction and design skills
* had **convincing** arguments for the choice of materials and technologies selected
* produced a **neat** and **reliable** prototype that’s **easy to use** and **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
* suggested **worthwhile** directions for future development in a succinct manner
* **comprehensively acknowledged** the nature of any assistance given
* used **clear**, **concise** and **meaningful** language 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 is a solution to 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 **relevant** information
* designed an **innovative** prototype and developed an **original** solution
* had shown **skill** in the design and construction of the prototype and **safe procedures** were adopted in the prototype’s production
* included some **justification** for the selection of materials
* had constructed a prototype that is **easy to use** and **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** the nature of all 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
* collectedbackground research with **some relevance** to the need or problem
* considered a variety of designs with the selected design being chosen with **little justification**
* 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** all 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
* 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
* **acknowledged** some 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 a 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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