



**Young Scientist Awards**

**JUDGING RUBRIC: STANSW Scientific Investigation, Years 7-9**

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| Level | Description |
| 5 | The student has provided clear and convincing evidence that he/she:   * completed a **thoroughly-planned** scientific investigation over a **period of time** * had **quantifiable** aims and **well-described** the subject of the investigation * included **relevant** background research and checked its **reliability** * proposed a **testable hypothesis** based on prior research or previous observations * had a **detailed understanding** of the science concepts used in the investigation * conducted a carefully **considered** risk assessment prior to experimentation * addressed an issue of **scientific significance** * had been **innovative** or **creative** in content or methodology * **accurately** gathered experimental data in an **appropriate number of trials** using appropriate technologies * recorded data in an **organised** and **logical** manner using **correct units** * identified **independent** and **dependent** **variables** and regulated the **control** of the appropriate variables * **analysed** and **explained** trends, patterns and relationships in the data collected * used **critical thinking** to explain anomalies or errors * suggested purposeful **modifications** to procedures or creative ideas put forward for further investigation * included a **comprehensive** log book, detailing the investigative process, from brainstorming, through data collection, to the final conclusion * **acknowledged** and provided details of all assistance given * used **clear, concise** and **meaningful** language, visuals and sequencing to **effectively** communicate to the intended audience |
| 4 | The student has provided substantial evidence that he/she:   * completed a **well-planned** scientific investigation over a **period of time** * had **realistic** aims and **well-described** the subject of the scientific investigation * performed **relevant** background research * suggested a **hypothesis** based on prior research or previous observations * **identified** and **understood** science concepts used in the investigation * conducted a **risk assessment** prior to experimentation * demonstrated **some** innovative or creative aspects * gathered experimental data over a **number of trials** using suitable technology * recorded data in a logical manner using **correct units** * used appropriate scientific methodology including the **control** of **variables** * explained **most** trends, patterns and relationships in the data collected * used **rational thinking** to suggest modifications to procedures for further investigation * included a log book **detailing** the different stages of the investigative process * **acknowledged** all assistance given * communicated the report with **effective** use of language, visuals and sequencing |

**JUDGING RUBRIC: STANSW Scientific Investigation, Years 7-9**

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| 3 | The student has provided evidence that he/she:   * completed a **planned** scientific investigation over a **period of time** * had some **measurable** aims and the subject of the investigation was **clearly** described * collectedbackground research with **some relevance** to the subject of investigation * proposed a **relevant** **hypothesis** * demonstrated an **understanding** of the science concepts used in the investigation * conducted some form of **risk assessment** * had shown **glimpses** of innovation or creativity * gathered first-hand data with **some repetition** * took steps to **control** **variables** * identified **obvious** trends, patterns and relationships in the data * formulated conclusions that were **supported** by the results * provided **supporting** documentation in the accompanying log book * put forward ideas for **future improvements** * **acknowledged** any assistance given * displayed **good** use of language and formatting in the report to communicate with the intended audience |
| 2 | The student has provided evidence that he/she:   * completed a scientific investigation with **limited** planning * had some **tentative** aims and the subject of the investigation was **adequately** described * collected **fragments** of background research * had **minimal** understanding of the science concepts used in the investigation * exhibited no **innovative** or **creative** ideas * gathered **insufficient** amounts of data * **controlled** some **variables** * **poorly** explained trends, patterns and relationships in the data * formulated conclusions that were **not supported** by the results * provided **limited** documentation in the accompanying log book * put forward **insufficient** ideas for future improvements * **casually** mentioned people who have helped without **formally** acknowledging assistance given * used **simple** language and formatting in the report to communicate with the intended audience |
| 1 | The student has provided evidence that he/she:   * submitted a project with **limited** first-hand data collection * had no **clear** aim and the subject of the investigation was **vaguely** described * included background research that was **irrelevant** to the investigation * had an **inadequate** understanding of the related science concepts * **failed** to recognise or control variables * **neglected** to identifyr control variablesction data collection trends, patterns and relationships in the data * formulated conclusions **lacking** supporting information and scientific accuracy * provided **limited** or **disorganised** documentation * **neglected** to acknowledge assistance given * used language and formatting that **did not connect** with the intended audience |