

\*Mandatory for prize winners

Level	Description
5	<p>The student has provided <b>clear and convincing evidence</b> that they:</p> <ul style="list-style-type: none"> <li>• completed a <b>thoroughly planned</b> scientific investigation*</li> <li>• had <b>quantifiable</b> aims and <b>well-described</b> the subject of the investigation*</li> <li>• included <b>relevant</b> background research and checked its <b>reliability</b></li> <li>• proposed a <b>testable hypothesis</b> based on prior research or previous observations*</li> <li>• had a <b>detailed understanding</b> of the science concepts used in the investigation*</li> <li>• used <b>critical thinking</b> to explain anomalies or errors*</li> <li>• addressed an issue of <b>scientific significance</b>*</li> <li>• <b>accurately</b> gathered experimental or secondary data in an <b>appropriate number of trials</b> using appropriate technologies*</li> <li>• had been <b>innovative</b> or <b>creative</b> in content or methodology</li> <li>• recorded data in an <b>organised</b> and <b>logical</b> manner using <b>correct units</b></li> <li>• identified <b>independent</b> and <b>dependent variables</b> (or two variables for correlation) and regulated the <b>control</b> of the appropriate variables*</li> <li>• <b>analysed</b> and <b>explained</b> trends, patterns and relationships in the data collected</li> <li>• conducted a carefully <b>considered</b> risk assessment prior to experimentation</li> <li>• suggested purposeful <b>modifications</b> to procedures or creative ideas put forward for further investigation</li> <li>• included a <b>comprehensive</b> logbook, detailing the investigative process, from brainstorming, through data collection, to the final conclusion</li> <li>• <b>acknowledged</b> and provided details of all assistance given</li> <li>• used <b>clear, concise</b> and <b>meaningful</b> language, visuals and sequencing to <b>effectively</b> communicate to the intended audience</li> </ul>
4	<p>The student has provided <b>substantial evidence</b> that they:</p> <ul style="list-style-type: none"> <li>• completed a <b>well-planned</b> scientific investigation</li> <li>• had <b>realistic</b> aims and <b>well-described</b> the subject of the scientific investigation</li> <li>• performed <b>relevant</b> background research</li> <li>• suggested a <b>hypothesis</b> based on prior research or previous observations</li> <li>• <b>identified</b> and <b>understood</b> science concepts used in the investigation</li> <li>• conducted a <b>risk assessment</b> prior to experimentation</li> <li>• demonstrated <b>some</b> innovative or creative aspects</li> <li>• gathered experimental data over a <b>number of trials</b> using suitable technology</li> <li>• recorded data in a logical manner using <b>correct units</b></li> <li>• used appropriate scientific methodology including the <b>control</b> of <b>variables</b></li> <li>• explained <b>most</b> trends, patterns and relationships in the data collected</li> <li>• used <b>rational thinking</b> to suggest modifications to procedures for further investigation</li> <li>• included a logbook <b>detailing</b> the different stages of the investigative process</li> <li>• <b>acknowledged</b> all assistance given</li> <li>• communicated the report with <b>effective</b> use of language, visuals and sequencing</li> </ul>

Level	Description
3	<p>The student has provided <b>evidence</b> that they:</p> <ul style="list-style-type: none"> <li>• completed a <b>planned</b> scientific investigation</li> <li>• had some <b>measurable</b> aims and the subject of the investigation was <b>clearly</b> described</li> <li>• collected background research with <b>some relevance</b> to the subject of investigation</li> <li>• proposed a <b>relevant hypothesis</b></li> <li>• demonstrated an <b>understanding</b> of the science concepts used in the investigation</li> <li>• conducted some form of <b>risk assessment</b></li> <li>• had shown <b>glimpses</b> of innovation or creativity</li> <li>• gathered first-hand data with <b>some repetition</b></li> <li>• took steps to <b>control variables</b></li> <li>• identified <b>obvious</b> trends, patterns and relationships in the data</li> <li>• formulated conclusions that were <b>supported</b> by the results</li> <li>• provided <b>supporting</b> documentation in the accompanying logbook</li> <li>• put forward ideas for <b>future improvements</b></li> <li>• <b>acknowledged</b> any assistance given</li> <li>• displayed <b>good</b> use of language and formatting in the report to communicate with the intended audience</li> </ul>
2	<p>The student has provided <b>evidence</b> that they:</p> <ul style="list-style-type: none"> <li>• completed a scientific investigation with <b>limited</b> planning</li> <li>• had some <b>tentative</b> aims and the subject of the investigation was <b>adequately</b> described</li> <li>• collected <b>fragments</b> of background research</li> <li>• had <b>minimal</b> understanding of the science concepts used in the investigation</li> <li>• exhibited no <b>innovative</b> or <b>creative</b> ideas</li> <li>• gathered <b>insufficient</b> amounts of data</li> <li>• <b>controlled</b> some <b>variables</b></li> <li>• <b>poorly</b> explained trends, patterns and relationships in the data</li> <li>• formulated conclusions that were <b>not supported</b> by the results</li> <li>• provided <b>limited</b> documentation in the accompanying logbook</li> <li>• put forward <b>insufficient</b> ideas for future improvements</li> <li>• <b>casually</b> mentioned people who have helped without <b>formally</b> acknowledging assistance given</li> <li>• used <b>simple</b> language and formatting in the report to communicate with the intended audience</li> </ul>
1	<p>The student has provided <b>evidence</b> that they:</p> <ul style="list-style-type: none"> <li>• submitted a project with <b>limited</b> data collection</li> <li>• had no <b>clear</b> aim and the subject of the investigation was <b>vaguely</b> described</li> <li>• included background research that was <b>irrelevant</b> to the investigation</li> <li>• had an <b>inadequate</b> understanding of the related science concepts</li> <li>• <b>failed</b> to recognise or control variables</li> <li>• <b>neglected</b> to identify trends, patterns and relationships in the data</li> <li>• formulated conclusions <b>lacking</b> supporting information and scientific accuracy</li> <li>• provided <b>limited</b> or <b>disorganised</b> documentation</li> <li>• <b>neglected</b> to acknowledge assistance given</li> <li>• used language and formatting that <b>did not connect</b> with the intended audience</li> </ul>



**Young Scientist Awards**  
Scientific Investigations 7-8