



# Young Scientist Awards



## JUDGING RUBRIC: IIATE Innovations and Engineering Design, Years 7-8

Level	Description
5	<p>The student has provided clear and convincing evidence that he/she:</p> <ul style="list-style-type: none"><li>• <b>actively</b> designed and built a prototype of an innovative device or application over an <b>appropriate period of time</b></li><li>• <b>identified</b> a need or problem and developed a solution that is an <b>improvement</b> over current alternatives</li><li>• addressed an issue of <b>technological significance</b></li><li>• had a <b>good understanding</b> of the technological concepts used in the device</li><li>• included <b>relevant</b> background research and <b>evaluated</b> the <b>originality</b> of their design by exploring similar related devices</li><li>• had been <b>creative</b> in the design of the device and its production</li><li>• employed <b>safe</b> and <b>competent</b> construction and design skills</li><li>• exhibited <b>resourcefulness</b> in the use of materials</li><li>• produced a <b>reliable</b> innovative device that is <b>easy to use</b> and <b>performs as intended</b></li><li>• included a <b>comprehensive</b> log book or portfolio, detailing the design process from brainstorming through construction, to final product and evaluation</li><li>• <b>used critical thinking</b> in the evaluation and testing of the innovative device, discussing modifications or improvements</li><li>• suggested directions for <b>future development</b> in a succinct manner</li><li>• <b>formally acknowledged</b> those who contributed to the project</li><li>• used <b>clear, concise</b> and <b>meaningful</b> language to communicate the operational details of the innovative device to the intended audience</li></ul>
4	<p>The student has provided substantial evidence that he/she:</p> <ul style="list-style-type: none"><li>• designed and built a prototype of an innovative device with <b>considerable planning</b></li><li>• developed an innovative device which is a <b>solution</b> to a need or problem, different from existing devices</li><li>• <b>identified</b> and <b>understood</b> technological concepts used in the innovative device</li><li>• performed background research and <b>searched</b> for similar products on the market</li><li>• demonstrated <b>some creative</b> aspects</li><li>• had shown <b>skill</b> in the design and construction of the innovative device and <b>safe procedures</b> were adopted in the device's production</li><li>• made <b>considered</b> choices in the selection of materials</li><li>• had constructed a prototype of an innovative device that <b>works well</b></li><li>• included a log book or portfolio <b>detailing</b> the different stages of the design process</li><li>• exhibited <b>rational thinking</b> in the testing of the innovative device and <b>alternative procedures</b> for improvements have been suggested</li><li>• <b>acknowledged</b> and provided details of any assistance given</li><li>• <b>effectively</b> communicated the innovative device's operational details and the language and visuals <b>take account</b> of the audience</li></ul>

## JUDGING RUBRIC: IATE Innovations and Engineering Design, Years 7–8

3	<p>The student has provided evidence that he/she:</p> <ul style="list-style-type: none"> <li>• designed and built a prototype of an innovative device over a <b>period of time</b></li> <li>• developed an innovative device which is a <b>solution</b> to a need or problem</li> <li>• demonstrated an <b>understanding</b> of technological concepts used in the device</li> <li>• performed <b>relevant</b> background research</li> <li>• had an innovative device which has some <b>creative</b> features</li> <li>• displayed <b>reasonable</b> workmanship in the design and construction of the innovative device</li> <li>• used <b>suitable</b> materials in the prototype’s construction</li> <li>• had a prototype of an innovative device that <b>works</b> most of the time</li> <li>• provided <b>supporting</b> documentation in the accompanying log book or portfolio</li> <li>• <b>tested</b> the device and put forward some <b>good</b> ideas for future improvements</li> <li>• <b>acknowledged</b> any assistance given</li> <li>• included an <b>adequate</b> set of operational instructions to <b>assist</b> the audience</li> </ul>
2	<p>The student has provided evidence that he/she:</p> <ul style="list-style-type: none"> <li>• built a prototype of an innovative device with <b>little</b> planning or design</li> <li>• had an innovative device which <b>lacks</b> originality</li> <li>• had placed the innovative device in a <b>technological context</b></li> <li>• performed <b>little</b> background research</li> <li>• had shown <b>glimpses</b> of creativity</li> <li>• displayed <b>satisfactory</b> workmanship in the design and construction of the innovative device</li> <li>• used some materials in the working model’s construction that were <b>not suitable</b></li> <li>• had a prototype that works <b>irregularly</b></li> <li>• provided <b>limited</b> documentation in the accompanying log book or portfolio</li> <li>• <b>briefly</b> tested the prototype and <b>insufficient</b> ideas have been put forward for future improvements</li> <li>• <b>casually</b> mentioned people who have helped without <b>formally</b> acknowledging assistance given</li> <li>• included an <b>inadequate</b> set of operational instructions for the audience</li> </ul>
1	<p>The student has provided evidence that he/she:</p> <ul style="list-style-type: none"> <li>• entered an innovative device that <b>does not fully work</b></li> <li>• had an <b>inadequate</b> understanding of the related technological concepts</li> <li>• provided designs and sketches that were <b>haphazard</b></li> <li>• made a prototype with <b>poor</b> workmanship</li> <li>• <b>failed</b> to test the prototype and ideas for future improvements are <b>vague</b> and <b>impractical</b></li> <li>• provided <b>limited</b> or <b>disorganised</b> documentation</li> <li>• <b>neglected</b> to acknowledge assistance given</li> <li>• did <b>not</b> include instructions on how to operate the innovative device</li> </ul>