

TDI GRADING CRITERIA

Guidance Criteria for students / website. **KS4**

- **Research** – explain what inspired your project and describe your approach. Apply research methods to examine a problem, investigate comparable products or concepts, and analyse them. Also, identify your intended audience.
- **Innovation** – What original concepts or modifications have you incorporated into your project, and what were your reasons for doing so? Reflect on both the appearance and functionality of your idea, demonstrating strong problem-solving abilities. What distinguishes your product from others?
- **Development** – Describe how your design evolved, including successful and unsuccessful changes. Explain the manufacturing process and the materials chosen. Illustrate your development process using models or CAD where possible.
- **Solution** – What is your end product, and what are your plans for it moving forward? Have you interacted with your intended audience? What areas could be enhanced? Have you evaluated risks throughout the project?

Guidance Criteria for students / website. **KS5**

- **Research** – Explain what inspired you to start your project and describe your research process. Use research methods to analyze the problem. Investigate similar products or ideas and conduct an analysis. Identify your target audience. Have you considered ergonomics and anthropometrics?
- **Innovation** – Please describe any novel concepts or modifications to existing designs implemented in your project, along with the rationale behind these changes. Address considerations of both form and function, demonstrating effective problem-solving skills. Specify the measures taken regarding form and function, and indicate whether aspects such as Quality Assurance or Intellectual Property have been addressed. Additionally, discuss any entrepreneurial initiatives associated with your approach.
- **Development** – Describe how your design evolved, including any modifications that succeeded or failed. Explain the intended manufacturing process, specifying what materials will be used. Demonstrate your idea's progression with modelling or CAD if possible. Discuss the technologies and materials considered and incorporated into your design or solution. Evaluate various manufacturing methods to make an informed recommendation for the most suitable approach for your concept or solution.
- **Solution** – What is your final product, and what are your next steps? Have you reached out to your target audience? What can be improved, and have you considered project risks? What is your manufacturing or selling costs? What would be future developments

Detail for Judges and the schools to prepare students for the regional events.

Research – KS4

- Analysis of the problem or design request shown
- 2 different researching techniques analysing the problem – surveys, mood boards etc.
- Target audience of their product identified
- Evaluate research undertaken

Research – KS5

- Analysis of the problem
- 2 different researching techniques analysing the problem
- Target audience of their product identified.
- Ergonomics and anthropometrics considerations
- Existing Product analysis consideration
- Evaluate research undertaken

Innovation – KS4

- The uniqueness of their product – what makes it different is clear.
- Clear it fills a gap in the market.
- Entrepreneurial skills identified.
- Problem solving skills clear.

Innovation – KS5

- The uniqueness of their product – what makes it different is clear.
- Clear it fills a gap in the market.
- Entrepreneurial skills identified.
- Problem solving skills clear
- Form & function considerations
- Intellectual Property & Standards considerations

Development – KS4

- Design process is clear using modelling or CAD to support design thinking
- Good use any tools to manage their project, deadlines.
- What technology was / could be used in the design and build?
- What materials were / could be used in the manufacture?

Development – KS4

- Design process is clear.
- Good use any tools to manage their project, deadlines.
- What technology was / could be used in the design and build?
- What materials were / could be used in the manufacture?
- Industrial and manufacturing considerations shown
- Evaluation / market research apparent. Any evidence on acting on this?

Solution – **KS4**

- Cost analysis / commercial opportunities considered.
- Risk assessment procedures or consideration
- Where would this be sold?
- Any further developments and amendments described?

Solution – **KS5**

- Cost analysis / commercial opportunities considered.
- Risk assessment procedures or consideration
- Where would this be sold?
- Any further developments and amendments described?
- Feed back from target audience on final solution or product
- Detailed evaluation of the product/solution with intended amendments

Judging ideas for the final. Can be used by schools to prepare students for regional events:

- Each team will deliver a five-minute presentation, structured according to the four-point guidance criteria.
- Judges will then have five minutes allocated for questions and answers.

For the final round, with 24 teams participating:

- Three judging panels will each evaluate eight teams.
- Each team will have a ten-minute session, resulting in a total judging period of 80 minutes. It is advisable to allow up to 120 minutes to provide additional flexibility. This extended timeframe also offers all judges the opportunity to visit the project stands informally (not for evaluation purposes).
- Dedicated time will be scheduled for judging panels to confer when a potential prize contender is identified.
- Additional convening time will be provided for Chief Judges to deliberate and select the winners.

Scoring KS4 & 5 – Use this scale for **Research**, **Innovation**, **Development** & **Solution** sections:

0-5

- **5 – Excellent:** All criteria fully met with strong evidence.
- **4 – Very Good:** Most criteria met with solid evidence.
- **3 – Good:** Some criteria met; key points missing.
- **2 – Weak:** Basic understanding; many key points missing.
- **1 – Poor:** Lacks understanding and evidence.
- **0** – No evidence.