### Invention Process (45)

**Identifying & Understanding**

The Identifying stage occurs when inventors seek problems they want to solve. This stage involves how inventors uncover problems and who else might experience the same problem and to what end.

Understanding a problem refers to the research inventors have completed to understand what else exists to solve said problem as well as the full impact their problem may have on others.

**Market Potential**

1. How large and/or viable is the potential market?
2. To what extent was the market appropriately researched and scoped?

**Ideating**

Ideating refers to the brainstorming or imagination stage a student goes through to generate original ideas and begin to develop their idea/s into specific requirements to determine the likelihood of success.

**Designing & Building**

Designing an invention or a prototype requires critical thinking skills; students are expected to articulate how they intend the invention to work and why they chose the materials they did for executing their invention.

**Testing & Refining**

The key to this step is iterations, improvements and perseverance. The best inventors know the first build is often not the best and seek feedback through testing and refining their design accordingly.

### Invention Impact (25)

**Market Potential**

Market potential assesses the scope and likelihood of an invention gaining users.

**Value Proposition**

Do inventors clearly summarize why a consumer or user should buy or use their invention? This statement convinces a potential (or future) consumer that one particular product or service will add more value or better solve a problem than other similar offerings.
<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>DIMENSION</th>
<th>DESCRIPTION</th>
<th>POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invention Impact (25)</td>
<td>Social Value</td>
<td>Some inventions may address pressing social issues. The social impacts may not be easily quantifiable in a traditional economic sense but are nevertheless important to consider in the context of overall invention impact. 1. Do inventors consider and address the potential environmental, societal, and other nontraditional impacts of their invention? 2. To what extent does the invention improve environmental/social conditions or have a minimal adverse impact?</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Originality</td>
<td>Is the student’s invention unique, novel, and creative? Is it distinguishable from prior inventions and those of his/her peers?</td>
<td>10</td>
</tr>
<tr>
<td>Inventor Communication (30)</td>
<td>Logbook</td>
<td>1. Does the logbook document a journey, not just a report done after the fact? 2. Does the logbook document all aspects of the Invention Process: Problem Identification, Brainstorming (Ideation), Research, Solution, Test and Redesign.</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Display Board</td>
<td>1. Does the display have strong visual appeal? 2. Is the display eye-catching, with color, pictures, graphs, and variety? 3. Is grammar, spelling, and punctuation correct and if hand-printed, neatly done? 4. Does the display communicate significant aspects of the Invention Process: Problem, Research (why important/statistics of the problem), Solution, Impact? 5. Are there unique aspects to the display, such as shape (display is not a basic cardboard tri-fold)?</td>
<td>5</td>
</tr>
</tbody>
</table>
|                                 | Prototype or Model| Does the prototype clearly communicate the key characteristics that make the invention valuable, usable, and unique?  
\textit{Note: Outside assistance and collaboration is acceptable as long as the student is driving the process and documents outside help. Students should only do what they can do safely. Credit should be given where assistance was received.} | 5      |
|                                 | The Live Pitch & Q&A| The Live Pitch and Q&A takes place during the event and is very similar to the online pitch video but with the addition of a judge question-and-answer portion.                                                                 | 10     |
| **TOTAL**                       |             |                                                                                                                                                    | **100** |