Logbook ID Reviewer

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Organization** |  | Content is in no logical order. Pages are not numbered or dated. |  | Information is in a logical order but no table of contents |  | Information is in a logical order. All space is used or neatly crossed out. All pages are numbered, dated and signed. Table of contents provided. |  |
|  |  | 1 | 2 | 3 | 4 | 5 | Score |
| **Ask** | *What is the problem?* | Shows little understanding of the big picture |  | Recognizes a problem but doesn't record objectives |  | Identifies problem and project objectives |  |
|  | *What have others done?* | No references to research findings |  | Research limited to hearsay and common knowledge |  | Authoritative sources consulted and documented |  |
|  | *What are the constraints?* | No limitations identified. Scope is undefined. |  | Limitations identified but scope not considered |  | Limitations identified and scope of project defined within the constraints |  |
| **Imagine** | *What are some solutions* | Only one solution considered |  | Alternatives are not practical |  | Several practical solutions considered |  |
|  | *Brainstorm ideas* | No ideas list |  | Some listing of ideas, but not significant |  | Ideas list is extensive, some impractical, some crazy, but there is evidence of creative thought |  |
|  | *Choose the best idea* | No evaluation of alternatives |  | Two alternatives compared but superiority of selection not demonstrated |  | Evidence presented of selected solution superiority |  |
| **Plan** | *Draw a diagram* | No diagrams entered. |  | Drawings do not connect with ideas or are incorrect. |  | Drawing(s) illustrates the point very well; there is evidence of use of drawings to improve the final product. |  |
|  | *Make list of materials and schedule* | No listing of required materials |  | Materials listed but no schedule |  | All materials itemized and schedule documented |  |
| **Create** | *Follow the plan* | No record of schedule |  | Schedule followed but no revisions documented |  | Schedule monitored and maintained. All revisions entered and justified |  |
|  | *Test it* | No testing of product documented. |  | Some testing. Not a great presentation. |  | Well tested. Project requirements met. |  |
| **Improve** | *What could be better?* | No consideration of improvement |  | Improvements considered but dismissed |  | Revision undertaken |  |
|  | *Modify design for improvement* | No consideration of improvement |  | No improvement of prototype |  | Prototype modifications made |  |
|  | *Test it* | No consideration of improvement |  | Revisions considered but not implemented and tested. |  | Well tested. All kinks were fixed. Well put together, cohesive project. |  |
| **Total**  **Score** |  | | | | | |  |

Project/Presentation Identifier:

Presentation Time:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Criteria | 7 | 6 | 5 | 4 | 3 | 2 | 1 | Score |
| ***Organization*** | Information presented in logical, interesting sequence which the audience can follow |  |  | Most information presented in logical sequence; A few minor points may be confusing |  |  | Presentation is choppy and disjointed; no apparent logical order of presentation |  |
| ***Content*** | Level of presentation is appropriate for the audience. |  |  | Level of presentation is generally appropriate. |  |  | Presentation consistently is too elementary or too sophisticated for the audience. |  |
| ***Research Effort*** | Went above and beyond to research information |  |  | Did a very good job of researching; utilized materials |  |  | Did not utilize resources effectively; did little or no fact gathering on the topic. |  |
| ***Creativity*** | Uses the unexpected to full advantage; very original, clever, and creative approach that captures audience's attention. |  |  | Some originality apparent; clever at times; good variety and blending of materials/media. |  |  | Bland, predictable, and lacked "zip". Repetitive with little or no variety; little creative energy used. |  |
| ***Use of Communication Aids*** | Media are prepared in a professional manner. Details are minimized so that main points stand out. |  |  | Appropriate information is prepared. Some material is not supported by visual aids. |  |  | Communication aids are poorly prepared or used inappropriately. Too much information is included. Unimportant material is highlighted |  |
| **Total Score** |  | | | | | | |  |

Submitted by:

**DOCUMENTATION**

Documentation is an open-ended event, which means that your team can “step outside the box” and choose your own scenario as long as the problem definition is CLEARLY STATED. Each student may keep and maintain their own notebook but only the single TEAM ENGINEERING NOTEBOOK will be submitted to the judges.

The first page of the engineering notebook should be a Table of Contents (TOC). Leave the first two pages of the log blank to be used for the TOC and filled with page references as the project progresses. Following the TOC, the first page will contain a clear statement of the problem definition. Below, you will find a couple of scenarios we have. Feel free to use any one of these or your own.

If your team is doing experiments with one of the robotic platforms, please note this on the problem definition page (i.e. experiments the students would like to conduct and their initial thoughts on what the expected outcome(s) should be).

For teachers of students in Elementary school, this website might aid in allowing your students to understand a simple version of the Engineering Design Process: <http://www.mos.org/eie/engineering> design.php

We do not expect hands-on implementation. We are interested in the documented thought process of problem definition, brainstorming ideas, and research for alternative solution evaluation. The students will draw diagrams, include some of their research findings, list assumptions, etc. The students will also include a summary of what was accomplished every time they met. The judges will be able to open these notebooks and feel that they were right there with the students throughout their problem solving and design process. The judges must be able to clearly understand WHY the students chose one idea over the others. Ask the students to keep in mind things like cost and degree of difficulty in design.

**SCENARIO I: CEENBoT Inventory**

Ben and Dan have been working hard at the CEENBoT Shop putting together the robotic kits to go out to area schools. They are so busy that they are only able to order parts when they see that they run out of something. Some of these parts take up to a week to get shipped, so production has to stop until new parts come in. So, schools have to often wait to get their robotic kits. Ben and Dan are not sure what they have in stock on any given day because there are too many parts to count and they are too busy to keep track of it themselves.

**SCENARIO II: Bus Driver Blues**

Tom drives a school bus in Omaha, and is responsible for picking up and dropping the same kids off at school each day. There are several neighborhoods that Tom drives through to get all of the students home safely. The students are in elementary school, and sometimes have a hard time remembering exactly when they need to get off of the bus. With several students to keep track of, Tom also has a hard time remembering. One time, a student got off the bus at the wrong stop. Thankfully, Tom realized this when he started to drive off and was able to bring the child back on the bus.

**SCENARIO III: Firefighters’ Dilemma**

Firefighters are heroes! Every day, they risk their own lives in order to save others. They train all the time for different dangerous situations that they might encounter. The equipment they carry, however, is extremely heavy, which makes it difficult to go up several flights of stairs in an apartment complex. They also work in smoke-filled environments where visibility is extremely poor. Sometimes, it is hard to see the other firefighters in the same room, so they have to rely on their hearing many times to locate other firefighters. But, what if a firefighter is hurt and cannot respond?