

Judges' 2017 Engineering Notebook Score Sheet

Purpose: To document the process used to design, build, and test the robot. (30 pts.)

Research Paper (4 pts.)

Correlation between the game and how the science/technology is being used at a company/industry/ research lab in the team's state or region

8-10 In-depth discussion of how this year's game theme relates to industry in this region.

4-7 General discussion of how this year's game theme relates to industry in this region.

1-3 General discussion of this year's game theme, but no ties to the region.

0 No discussion of this year's game theme.

Comments:

Possible Points
10

Points Awarded

Any related information of the game theme such as history, famous inventor(s), major milestones, etc.

8-10 In-depth discussion of history and people related to this year's game theme.

4-7 General discussion of history and people related to this year's game theme.

1-3 Some mention of history or people.

0 No discussion of this year's game theme.

Comments:

Possible Points
10

Points Awarded

Creativity in linking the game to appropriately related science content

8-10 Very creative in linking this year's game theme to other science/technology.

4-7 Attempted to link this year's game theme to other science/technology.

1-3 Mentioned other science/technology.

0 No discussion of other science/technology.

Comments:

Possible Points
10

Points Awarded

Proper formal writing

- *Proper use of grammar and composition throughout paper*
- *Citations of sources used to gather information for paper*
- *Stayed within 2-5 page limit*

8-10 Very few grammar mistakes/misspellings, included citations, 2-5 pages.

4-7 Noticeable grammar mistakes/misspellings or did not include citations, 2-5 pages.

1-3 Many grammar mistakes/misspellings, no citations, or not within 2-5 pages.

0 Incomprehensible or missing.

Comments:

Possible Points
10

Points Awarded

Design Process (17 pts.)

Implementation of the Engineering Design Process

- *Evidence that the engineering design process was effectively used*

21-25 Process is explicitly identified; steps are obvious and explanation is thorough.

16-20 Process is identified; steps are discernible and there is some explanation.

11-15 Process is not identified; there is some discussion of a design process.

6-10 Discussion of process is minimal.

1-5 You can tell there was a design process of some sort.

0 No discernible design process.

Comments:

Possible Points
25

Points Awarded

Team Number: _____

School: _____

Brainstorming Approaches		
	<ul style="list-style-type: none"> • How well organized and productive was the brainstorming approach? • How well was the brainstorming approach documented? 	
21-25	Approach is explicitly identified, organization and productivity are obvious, explanation is thorough, discussion of how decisions made.	
16-20	Approach is identified, organization and productivity are discernible, there is some explanation.	
11-15	Approach is not identified, there is some discussion of brainstorming.	
6-10	Discussion of approach is minimal.	
1-5	You can tell there were ideas generated.	
0	No discernible brainstorming.	
<i>Comments:</i>		Possible Points 25
Analytical evaluation of design alternatives		
	<ul style="list-style-type: none"> • Use of analytical and mathematical skills in deciding upon and implementing design alternatives 	
21-25	Evaluation is explicitly identified, analytic/mathematical approach is obvious, alternative designs are explained.	
16-20	Evaluation is identified, analytic/mathematical approach is discernible, alternative designs are identified.	
11-15	Evaluation is not identifiable, alternative designs are identified.	
6-10	Discussion of alternative designs is minimal.	
1-5	You can tell there were alternatives.	
0	No discernable evaluation.	
<i>Comments:</i>		Possible Points 25
Offensive and defensive evaluation		
	<ul style="list-style-type: none"> • Analysis of gaming strategies and design elements used to achieve team goals 	
21-25	Evaluation of offensive/defensive strategies is explicitly identified, goals of this team are clearly identified, discussion shows a deep knowledge of the game.	
16-20	Evaluation is identified, goals are discernible, discussion shows a knowledge of the game.	
11-15	Evaluation is not identified, there is some notion of goals and game knowledge.	
6-10	Discussion of goals and game knowledge are minimal.	
1-5	There is some slight mention of strategy.	
0	No discernible evaluation.	
<i>Comments:</i>		Possible Points 25
Software Design and Simulation (from additional scoresheet)		
	<ul style="list-style-type: none"> • Evidence of custom software design; • Demonstration of a software design process including identifying requirements, design/coding, test/debug, and release; • Evidence of design/verification methods and tools utilized in the design process. • Consideration of good software design practices such as comments, naming conventions, design simplicity, modularity, portability, etc. 	
<i>Comments:</i>		Possible Points 25
<i>(Scored on the Software Design and Simulation Score Sheet)</i>		<i>Enter Points Awarded Here >></i>

Safety			
	<ul style="list-style-type: none"> Evidence that safety training occurred and safe practices were followed to prevent students' misuse of tools and other devices/equipment that may result in personal injury or damage to property 		
17-20	Clear evidence that safety training occurred, clear evidence that the team verified safety procedures were followed.		
13-16	Clear evidence that safety training occurred, some evidence that procedures were verified.		
9-12	Some evidence that safety training occurred, some evidence procedures were verified.		
5-8	Some evidence that safety training occurred, no evidence on verifying procedure.		
1-4	It seems like safety was mentioned; unsafe methods might be visible in photos.		
0	No mention of safety.		
Comments:		PLEASE USE DECIMAL POINTS	Possible Points 20
Points Awarded			

Support Documentation			
	<ul style="list-style-type: none"> CAD/other drawings, photos, team organization, meeting minutes, test results, etc. that support the main document (max 20 double-sided pages) 		
21-25	Clearly identifies and includes design drawings, photos, team organization chart, meeting minutes and test results; references made from primary document.		
16-20	Identifies items from the list above but is missing one or two categories.		
11-15	Identifies items from the list above but is missing three categories.		
6-10	Includes items from several categories but they are not identified.		
1-5	Items from at least one category above are included.		
0	None of the listed items are included.		
Comments:		Possible Points 25	Points Awarded

Overall Quality and completeness of Notebook (9 pts.)			
Organization and appearance			
	<ul style="list-style-type: none"> Table of contents, summary, page numbers, discussion of evaluation points, linkage to appendices 		
21-30	Well organized, looks good, includes Table of Contents, summary, page numbers, discussion of evaluation points (e.g. Items on the score sheet), linkage to appendices.		
11-20	Reasonably organized, looks good, missing one or two items from list above.		
1-10	Poorly organized, no attention to looks, missing multiple items from list above.		
0	No discernible organization, missing all/most of the items from the list.		
Comments:		Possible Points 30	Points Awarded

Adherence to specifications			
	<ul style="list-style-type: none"> Standard binder Business font no smaller than 12 pt., double-spaced (single spaced ok in tables and outlines) 1" margins 32 one-sided page limit for main section, 20 double-sided page limit for appendices Cover sheet and/or title page that identifies the school team name, teacher contact information, and team number 		
21-30	Adheres to the specifications listed above.		
11-20	Violates one of the specifications listed above.		
1-10	Violates two or three of the specifications listed above.		
0	Violates four or more of the specifications listed above.		
Comments:		Possible Points 30	Points Awarded

Team Number: _____

School: _____

