

2016 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
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
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
Proper formal writing		
	<ul style="list-style-type: none"> • <i>Proper use of grammar and composition throughout paper</i> • <i>Citations of sources used to gather information for paper</i> • <i>Stayed within 2-5 page limit</i> 	
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
Design Process (17 pts.)		
Implementation of the Engineering Design Process		
	<ul style="list-style-type: none"> • <i>Evidence that the engineering design process was effectively used</i> 	
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

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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 vs. default robot program • Evidence of a software design process • Evidence of advanced test and debugging techniques used in the verification of robot program (e.g., simulation, 3D world, etc.) • Consideration of good software design practices (e.g., comments, naming conventions, design simplicity, modularity, portability, etc.) 	
<i>Comments:</i>		Possible Points 25
(Scored on the Software Design and Simulation Score Sheet)		Enter Points Awarded Here >>

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:		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		

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Quality of content						
	<ul style="list-style-type: none"> Well written descriptions, clear photo labels, lack of extraneous material such as community or promotional efforts, spirit development, team building, etc. 					
21-30	Everything is well written/clear/logical, everything is clearly labeled, no excess material.					
11-20	You can follow everything with some effort, one or two things that are unnecessary.					
1-10	Hard to understand in places, labels are missing in places, there is unnecessary material.					
0	Very difficult to follow, lots of unnecessary material.					
Comments:		<table border="1"> <tr> <td>Possible Points</td> <td>Points Awarded</td> </tr> <tr> <td>30</td> <td></td> </tr> </table>	Possible Points	Points Awarded	30	
Possible Points	Points Awarded					
30						

SCORE CALCULATION

Additional Comments:	Total	300	
		÷10	÷10
	Final Score	30 max	

Judge name/number (print): _____

Team Number: _____ School: _____