

Judges' 2020 Engineering Notebook Score Sheet

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

Research Paper (4 pts.)				Possible Points	Points Awarded
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					
7-10	In-depth discussion of how this year's game theme relates to industry in this region.				
3-6	General discussion of how this year's game theme relates to industry in this region.				
1-2	General discussion of this year's game theme, but no ties to the region	0	No discussion of game theme.		
<i>Comments:</i>				10	
Any related information of the game theme such as history, famous inventor(s), major milestones, etc.					
4-5	In-depth discussion of history and people related to this year's game theme.				
2-3	General discussion of history and people related to this year's game theme.				
1	Some mention of history or people.	0	No discussion of related info		
<i>Comments:</i>				5	
Analysis of the game theme/problem & related technology's impact on the human experience, our needs, adaptations, and progress with solutions.					
4-5	In-depth historical account of the effects to human experience, needs, adaptation and progress toward solutions.				
2-3	Some discussion about the effects of the theme/problem/technology on human experiences, needs, adaptations or progress.				
1	Mentioned the effects to human experience, needs, adaptation or progress.	0	No mention of history/effects to humanity.		
<i>Comments:</i>				5	
Creativity in linking the game to appropriately related science content					
7-10	Very creative in linking this year's game theme to other science/technology.				
3-6	Attempted to link this year's game theme to other science/technology.				
1-2	Mentioned other science/technology.	0	No discussion of other science/technology.		
<i>Comments:</i>				10	
Proper formal writing - Proper use of grammar & composition throughout ; source citations used to gather information; within 2-5 page limit					
7-10	Very few grammar mistakes/misspellings, included citations, 2-5 pages.				
3-6	Noticeable grammar mistakes/misspellings or did not include citations, 2-5 pages.				
1-2	Many grammar mistakes/misspellings, no citations, or not within 2-5 pages.	0	Incomprehensible or missing.		
<i>Comments:</i>				10	
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.		
<i>Comments:</i>				25	
Brainstorming Approaches - How well organized and productive was the brainstorming approach? How well was it documented?					
21-25	Approach is explicitly identified, organization & 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>				25	
Analytical evaluation of design alternatives - 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 discernible evaluation.		
<i>Comments:</i>				25	

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Offensive and defensive evaluation - 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>				25
Software Development Process (Evidence that a software development process was effectively used)				
21-25	Process is explicitly identified; steps are obvious and explanation is thorough. Design methods utilized are identified and explained.			
16-20	Process is identified; steps are discernible and there is some explanation. Some design methods are discussed.			
11-15	There is some discussion of a development process or design methods.	6-10	Process is mentioned but minimal detail.	
1-5	You can tell there were some software design methods used.	0	No discernible software development process.	
<i>Comments:</i>				25
Safety - 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 of safety training, some evidence procedures were verified.			
9-12	Some evidence of safety training, some procedures were verified.	5-8	Some evidence safety training, no verifying procedure	
1-4	Safety was mentioned; unsafe methods might be visible in photos.	0	No mention of safety.	
<i>Comments:</i>				20
Support Documentation - Team organization, meeting minutes, CAD/other drawings, photos, test results, etc. that support the main document (max 20 double -sided pages)				
21-25	Items from ALL categories mentioned are included.	6-10	Includes items from at least 2 categories; not identified.	
16-20	Identifies items from the list but missing 1 or 2 categories.	1-5	Includes items from at least 1 categories mentioned.	
11-15	Items from at least 3 categories above are included.	0	No items from listed categories are included.	
<i>Comments:</i>				25
Overall Quality and completeness of Notebook (9 pts.)				
Organization and appearance - Table of contents, summary, page numbers, discussion of evaluation points, linkage to appendices				
22-30	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.			
13-21	Reasonably organized, looks good, missing one or two items from list above.			
4-12	Poorly organized, no attention to looks, missing multiple items from list above.	0-3	Disorganized, missing most items.	
<i>Comments:</i>				30
Adherence to specifications				
Cover sheet and/or title page that identifies the school team name, teacher contact information, and team number 1" margins, Business font no smaller than 12 pt., double-spaced (single spaced ok in tables and outlines) ; <i>per Hub option, Softcopy Format = PDF or Hardcopy in Standard Binder, 35 one-sided page max for main section, 20 double-sided page max for appendices</i>				
22-30	Adheres to the specifications listed above.			
13-21	Violates one of the specifications listed above.			
4-12	Violates two or three of the specifications listed above.	0-3	Violates four or more specifications	
<i>Comments:</i>				30
Quality of content - Well written, clear photo labels, lack of extraneous material such as community or promotional efforts, spirit development, team building				
22-30	Everything is well written/clear/logical, everything is clearly labeled, no excess material.			
13-21	You can follow everything with some effort, one or two things that are unnecessary.			
4-12	Hard to understand in places, labels missing in places, unnecessary material.	0-3	Difficult to follow, unnecessary material.	
<i>Comments:</i>				30
SCORE CALCULATION and Additional Comments:		Total		300
				÷10 ÷10
		Final Score		30 max

Judge name/number (print): _____

Team Number: _____ **School:** _____