SOLAR HOME JUDGING

TEAM NUMBER:_____

JUDGES ROOM:_____

TEAM NAME:_____

JUDGE NAME:_____

NOTE TO JUDGES:
- This form is for ES and MS in the Solar Home Division. Teams with Microcontrollers should use the Solar Smart Home Judging form.

Remember to be constructive – your comments will be sent directly to the coach and team after the competition.

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| 1. **Overall feedback and comments for team:** |
| **2. What did the team do best?** |
| **3. What should the team work upon improving the most?** |

PRESENTATION (circle one point value for each category - up to 40 points)

Purpose (0-5)

5	4	3	2	1	0
Excellent	Pretty Good	Somewhat	Not Really		None

- How creative & purposeful is design?
- How well do you feel the students understand the inhabitant(s) & environment?
- How successful was the alignment between design, inhabitant(s), and environment?
- How appropriate is solar to the concept?

Resourcefulness/Ingenuity (0-5)

5	4	3	2	1	0
Excellent	Pretty Good	Somewhat	Not Really		None
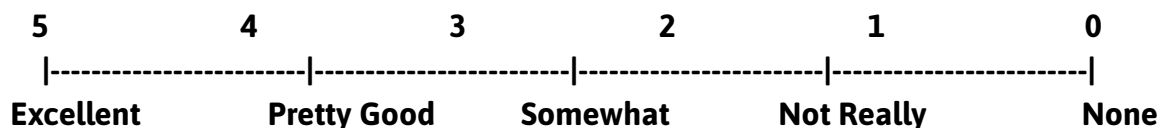
- How creative is the construction and material usage? Purposeful in choices?
- How cost effective are the design choices? Was cost a main consideration in design choices?
- Are any found/reused materials significantly deconstructed and redesigned?

Aesthetics (0-5)

5	4	3	2	1	0
Excellent	Pretty Good	Somewhat	Not Really		None

- How well built is the device? Is craftsmanship evident?
- How are considerations made for the technical components?

World Connections (0-5)

5	4	3	2	1	0
Excellent	Pretty Good	Somewhat	Not Really		None

- How well does the project demonstrate knowledge and understanding of real-world global, environmental, and/or socio-cultural conditions?
- How well does the project design and description respond to real-world conditions and challenges?

PRESENTATION (circle one point value for each category - up to 40 points)

Knowledge (0-5)

5	4	3	2	1	0
Excellent	**Pretty Good**	**Somewhat**	**Not Really**		**None**

- How well did the team demonstrate an understanding of solar energy utilizing appropriate concepts and terminology? Basic, age appropriate vocab and context, sophisticated and appropriate usage?
- To what extent do descriptions and explanations of circuitry include accurate rationales for choices?
- How robust is their understanding of solar energy and the larger clean energy landscape?
- Does the documentation show a thorough and detailed design process including sources, imagery, iterations, variables, and research?

Documentation: Required Materials (0-10)

Documentation	Details	Complete	Somewhat	No
Solar Home Narrative	Describes purpose, design, & real-world connection	2.5	1.25	0
Solar Panel Schematic(s)	Solar panel arrangements, rated voltage & potential current for each panel, total voltage, panel dimensions	2.5	1.25	0
Wiring Diagram(s) *1 per circuit*	Symbols key & clearly label emergency switches, power storage (plus how it is being charged, and powering loads	2.5	1.25	0
Materials List	All item types and associated costs	2.5	1.25	0

Complete = **Narrative** is compelling, engaging, & robust; **Solar Panel Schematic & Wiring Diagram(**s) are clear, thorough, & reproducible; **Materials List** is clear, thorough, & costs are evident
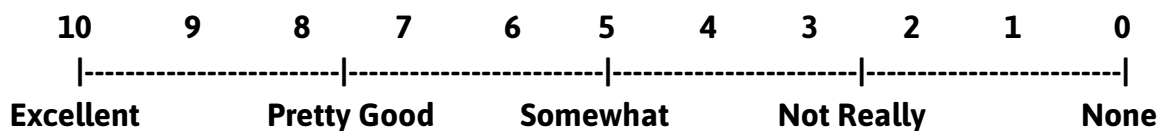
Teamwork & Delivery (0-5)

5	4	3	2	1	0
Excellent	**Pretty Good**	**Somewhat**	**Not Really**		**None**

- Was the presentation clear and succinct? Did they stay within their time limit?
- Do you feel like the students practiced their presentation? Solar home functionality?
- How well does the team work together and collaborate on the project? Did one dominate?
- Do you feel like the students "knew their stuff" or were they just reading or making it up?
- In what ways was the presentation and demonstration engaging and interesting?
- How responsive were the students to questions? Were they confident and elaborative?
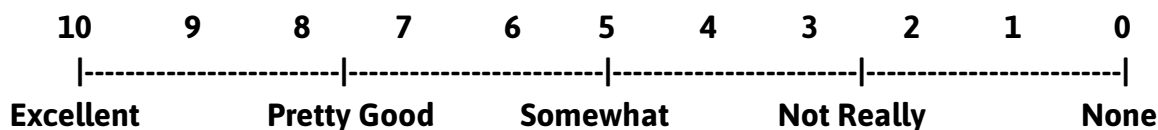
PERFORMANCE (circle one point value for each category - up to 30 points)

Functionality (0-10)

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 10      9      8      7      6      5      4      3      2      1      0
 |-----------------------|-----------------------|-----------------------|-----------------------|
 Excellent        Pretty Good        Somewhat         Not Really          None
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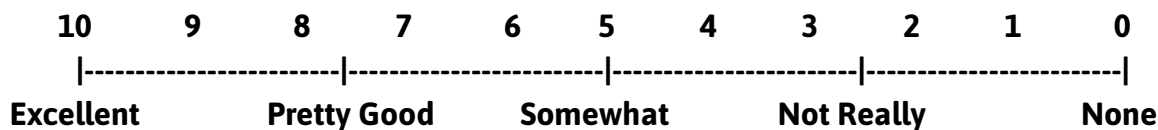
- Did the team point out the emergency switches, activating them and showing how each performs?
- To what extent does the project function as intended?
- Is each circuit essential to the function of the device? Relevant to the purpose?
- How well does the project function in the testing environment?
- Did the project require adjustments outside of the initial setup time?
- Is there a "Wow Factor" to the project directly from what is powered? Are the powered loads interesting?

Loads & Switches (0-10)

```
 10      9      8      7      6      5      4      3      2      1      0
 |-----------------------|-----------------------|-----------------------|-----------------------|
 Excellent        Pretty Good        Somewhat         Not Really          None
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- To what extent do circuits demonstrate consideration for loads, switches, & storage?
- Are the emergency switches easily accessible? Clearly labeled? Functioning?
- How well did the team meet that all loads must be powered by solar panels even indirectly with any power storage additions?
- Do all components fall under the maximum allowable ratings?

Circuitry Complexity & Integration (0-10)

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 10      9      8      7      6      5      4      3      2      1      0
 |-----------------------|-----------------------|-----------------------|-----------------------|
 Excellent        Pretty Good        Somewhat         Not Really          None
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- To what extent are the load(s) and switch(es) accessible, purposeful, functional, and well-integrated?
- Is the circuitry organized in a neat and orderly fashion that lends to the design of the device?
- Are the emergency switches integrated into the design in a way that is aesthetic and purposeful for the build? Thought out and well located?
- Was the level of simplification for each circuit in the design a consideration made? Necessity?