



LEVEL:	Middle School/High School
NUMBER OF TEAMS:	One (1) team per school can participate at the MESA Day state competition. Up to three (3) teams can participate at MESA regional events.
TEAM MEMBERS:	Two (2) to Six (6) Students per Team
OBJECTIVE:	<p>Students will design and label a model and academic poster depicting a proposed Sustainability project for a student selected site in their community. The model and academic poster will be used to conduct a short presentation to judges about the need for the project, how the project works, the expected impact, and relevant data analysis.</p> <p>The model and display will be designed and constructed prior to the event.</p>

MATERIALS:	Model - All materials are allowed. Students are heavily encouraged to use recycled materials for physical models. Digital models are allowed.
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Academic Posters— 36” x 48” digital poster (PDF)

DESIGN PARAMETERS:

1. Teams must design a project that improves sustainability in their community.
 - a. In 1987, the United Nations Brundtland Commission defined sustainability as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” This project should focus on identifying situations, systems, or processes in their community that are unsustainable and finding ways to change them to be more sustainable.
 - b. Teams should refer to the UN Sustainability Goals, especially goal 11, as a resource while creating their design. Students must reference how the goals influenced their project in their poster and in their presentation. More info about the goals can be found at <https://sdgs.un.org/goals>.
2. Projects must be planned for a physical site located in their community. Students should define how they defined community and selected their site on their poster and in their presentation.
3. Designs should be constructed sturdy and durable enough to withstand a minimal amount of movement (i.e. transportation to competition, table movement, judges handling).
4. Every effort should be made to construct the model from recycled/re-used materials.
5. Model Requirements:
 - a. Site dimensions – labels should define the physical dimensions of the site. Models should be to scale and the scale used should be included.
 - b. Key sustainability features



- c. Labels for sustainability features. Examples include physical changes made, changes made to improve processes (e.g. water flow), and expected sustainability improvements
 - d. Project Title
 - e. School and Team Members Names
 - f. MESA and School Logo
6. Academic Poster Requirements
- a. Must be designed as a 36" tall by 48" wide digital slide.
 - b. Project Overview – in a 100 words or less, team explains the project's purpose, who it serves, and how it improves sustainability in their community. Includes a discussion of the team's successes, challenges, and next steps.
 - c. Design Graphics – digital representations of your project with key features identified and labeled.
 - d. Project Data – teams should have two (2) charts or graphs that shares essential data from the project. Data should help the reader understand how the project improves sustainability.
 - e. Project Title
 - f. School and Team Members Names
 - g. MESA and School Logo
7. Presentation Requirements
- a. Introduction of Team Members - should at least include first names, school, and MESA Center/State.
 - b. Discuss how the team:
 - i. Used the UN Sustainability Goals to influence project
 - ii. Identified a need for sustainability in their community
 - iii. Selected Project Goals
 - c. An overview of how the project improves sustainability in their community, including a description of the project's key features.

TESTING PARAMETERS:

- 1. Two (2) team members are required to be present during testing
- 2. Team will conduct the presentation using the poster and model as visual aids.
- 3. The judges will ask questions about the project.

SPECIFICATION CHECK:

- 1. Teams will submit their design poster a minimum of two (2) weeks before competition for judging. MESA will notify schools when a deadline is set.
- 2. Teams must arrive during the designated specification check time. Teams not arriving during spec check will receive a performance score of zero. See event agenda for exact times.
- 3. During specification check, teams will check in to the competition area and submit their physical models for inspection to ensure the design conforms to dimensions, materials, and construction rules, and to confirm their presentation time.



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4. After clearing specification check, all physical models will be impounded until the time for presentation.

JUDGING:

1. Team will arrive at testing site ten (10) minutes prior to testing time
2. Team will have, at maximum, seven (7) minutes to present their sustainability project
3. Teams that go the seven minutes will be assessed a penalty. The penalty will be 5 points.
4. Judges will have, at maximum, three (3) minutes to ask questions about the project

SCORING CRITERIA:

Teams will be judged on:

1. Presentation (31 points)
2. Model (19 points)
3. Poster (22 points)



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School: _____

Student Names: _____

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Specification Check	Pass	Fail
1. Team arrived on time for specification check	Yes	No
2. Team has a model for presentation	Yes	No

If the answer is No for any of the above checks, the team is disqualified.

Poster	
Model	
Presentation	
Total Score	

Judge's signature: _____

Student signature: _____

Comments:



Poster Rubric

Category	Excellent (3 points)	Met Criteria (2 points)	Poor (1 point)	Not Present (0 points)
Project Overview - Using 100 words or less, the team summarizes the project, including the project's purpose, who it serves, and how it improves sustainability in their community. Includes a discussion of the team's successes, challenges, and next steps.				
Design Graphic 1 – graphic presents the design and helps the reader understand how the project addresses sustainability				
Design Graphic 2 – graphic presents the design and helps the reader understand how the project addresses sustainability.				
Design Features – Team describes their design with callouts to key features on graphics				
Data 1 – Team has a graphic of data that helps the reader understand how the project improves sustainability				
Data 2 – Team has a 2 nd graphic of data that helps the reader understand how the project improves sustainability				
Project Title			Yes	No
School & Team Member Names			Yes	No
School Logo			Yes	No
MESA Logo			Yes	No
Column Totals				
Total Score:				



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Model Rubric

Category	Excellent (3 points)	Met Criteria (2 points)	Poor (1 point)	Not Present (0 points)
Dimensions – Dimensions are listed and to scale				
Sustainability Features – Sustainability features on the model are clear and obvious.				
Labels – sustainability features are clearly labeled and easy to understand.				
Working Model – the model demonstrates how the project improves sustainability in a non-static way				
Aesthetics & Resemblance – the model appears to be an accurate representation of the site and shows careful attention to detail				
Project Title			Yes	No
School & Team Member Names			Yes	No
School Logo			Yes	No
MESA Logo			Yes	No
Column Totals				
Total Score:				



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Presentation Rubric

Category	Excellent (3 points)	Met Criteria (2 points)	Poor (1 point)	Not Present (0 points)
Introduction			Yes	No
UN Sustainability Goals – includes a clear explanation of how the UN goals influenced their project.				
Sustainability Need – includes information on the need for sustainability in their community				
Project Goals – team shared their goals for the project				
Project Impact – includes a clear explanation of how the project will improve sustainability				
Project Features – includes detailed descriptions of the key features of their project				
Flow: The ideas/concepts flowed well together				
Organization: The information presented was well organized and easy to follow				
Transitions: All transitions are smooth				
Teamwork: The team worked well together				
Model & Poster Usage: Model and poster were used effectively to highlight important points or features				
Column Totals				
Time Penalty: Team was over the 7 minute maximum (-5 points)				
Total Score:				