MESA DAY CONTEST RULES 2021-2022

(FINAL / OFFICIAL)

Think Tank:
Environmental Sustainability ~ Zero Emission (Virtual)

LEVEL: Middle School (MS) & High School (HS)

DIVISION(S): Grade 6 and Grades 7/8 (MS); Grades 9/10 and Grades 11/12 (HS)

COMPOSITION OF TEAM: 2-3 students per team

NUMBER OF TEAMS: Preliminary – Determined by your local MESA center
Regional – # of teams per division at the discretion of each region (Northern, Central, LA Metro and Southern)

SPONSORS: UC Irvine MESA College Prep
Global Institute for Futures Teaching (GiFT)

OVERVIEW: The United Nations defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". https://www.youtube.com/watch?v=zx04Kl8y4dE
Imagine a world where all vehicles are powered by wind power, solar energy, or the electrical grid. Imagine a world without harmful emissions or pollution. Imagine a future where all vehicles are ZERO Emission. Teams will research and explore how vehicle exhaust causes harmful pollution, reflect on current technology, and explore designs to improve future technology, charging, or infrastructure. **Participation logistics and limits may vary by host site. Advisors and students are responsible for verifying this information with their local MESA center.** This competition will be virtual for 2021-2022.

MATERIALS:
- Video Presentation
- Design Concept (featured in the video presentation)

GENERAL RULES:
1) Teams will submit a video presentation exploring the need for zero emission vehicles. Please check with your local MESA center for the deadline and submission platform for local and regional events.
2) The students' full name, grade level, school name, and MESA center should be clearly identified and/or spoken at the beginning of the video. A 10% penalty will be assessed for failing to properly identify.

3) All members of the team should actively participate in the video.
4) Video should address the following:
    a. The Problem
        i) How does vehicle exhaust cause harmful pollution? How do these pollutants affect the environment and human body?
    b. Technology
        i) What are zero emission vehicles and how do they function? How do zero emission vehicles help support the planet? Identify current technologies and issues.
    c. Opportunity
        i) Imagine a world where all vehicles are zero emissions. What would they look like? How would the general population charge them? What infrastructure changes would be needed? Imagine these changes in your community.
        ii) If all vehicles are zero emissions, what effect would it have on the environment?
    d. Design Concept
        i) What should the future of zero emissions look like? Think vehicles and infrastructure. Create a design concept that realizes this future within your community. This may be a physical model, plan rendering by hand or utilizing CAD, sketch, storyboard, Minecraft world, or medium of your choice.
        ii) Design concept to be presented in the video with no physical submissions.
5) Teams are encouraged to think outside of the box. Examine all modes of transportation that utilize fossil fuels and release pollutants. What inequities may be created with the need for an electric charging station in every household? How will communities and small business owners be affected when gas stations become obsolete?
6) Videos should utilize visual aids (e.g., Google Slides, Powerpoint).
7) Length of video may not exceed 5 minutes. A 10% penalty will be assessed for presentations over 5 minutes in length. Any portion over 6 minutes in length will **NOT** be judged and scored.
8) Teams may choose their method of recording their video presentation. Submission guidelines and deadlines determined by the host MESA center.

JUDGING:

1) Video must be submitted by the date indicated by the host MESA center. Late videos will not be scored.
2) Videos unable to be opened and viewed will not be scored. Please ensure all submission guidelines indicated by the host MESA center are followed.
3) Videos will be judged by a panel of 2-3 judges according to the scoring rubric (see Attachment A). Judges' scores will be averaged to determine final scores.

AWARDS:

- Awards will be given per division: Grade 6 and Grades 7/8 (MS); Grades 9/10 and Grades 11/12 (HS)
- Medals will be awarded for 1st, 2nd, and 3rd place.
- Please check with your center to determine the number of teams that advance to Regional MESA Day.

ATTACHMENTS/APPENDIX:

- Scoring Rubric for Think Tank

SCORING RUBRIC FOR THINK TANK

Copies of this inspection and score sheet will be provided by the MESA Day Host Center.

Student Names: _____ MESA Center:_____

School: _____ Level: ***MS*** Grade 6 or 7/8; ***HS*** Grade 9/10 or 11/12 (circle one)

Think Tank Rubric	Exceptional (4 points)	Excellent (3 points)	Met Criteria (2 points)	Poor (1 points)	Not present (0 points)
Problem: Identify how vehicles emit harmful pollutants.					
Problem: Describe the effect of pollutants on the environment.					
Technology: Define zero emission vehicles and detail their function.					
Technology: Characterize how zero emission vehicles support the planet.					
Opportunity: Assess the changes needed in a community with all zero emission vehicles.					
Opportunity: Analyze the environmental impact of a world where all vehicles are zero emission.					
Design Concept: Adequately depicts an original design solution.					
Design Concept: Details community impact.					
Design Concept: Clear, concise, creative use of medium to depict design concept.					
Visual Aid: Enhances the viewers' understanding.					
Team Participation: All members of the team participate equally.			Yes		No
Presentation: Captures the attention of the viewer. Ideas delivered effectively.					
Presentation: All voices clear, speech/language effective in communicating information.					
COLUMN TOTALS:					
				SUBTOTAL	**/50**

Subtotal	
Labeling Penalty (10% of Subtotal)	-
Video Length Penalty (10% of Subtotal)	-
TOTAL SCORE	