



MESA DAY CONTEST RULES 2022-2023 (FINAL)

Think Tank:

Environmental Sustainability ~ Mission Zero Emission (Online)

LEVEL:	Middle School (MS) & High School (HS)
DIVISION(S):	Grade 6 and 7/8 (MS) or Grade 9/10 and 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/UC Santa Barbara, 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 without harmful emissions and pollutants where all vehicles are Zero Emission. Students will research zero emission technology and create a design concept which conceptualizes this future. Knowledge of this technology and design concept shall be displayed in a Video Pitch Deck and Question and Answer session.

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 online for 2022-2023.

MATERIALS:

- GIFT Mission Z: MESA Competition Course
- Design Concept Video Pitch Deck
- Mission Z Course Question & Answer

GENERAL RULES:

- 1) Students will explore how vehicle exhaust causes harmful pollution, research current zero emission technology, and create a design to conceptualize the future of zero emission vehicle technology, charging, or infrastructure. Design concepts may be a physical model, plan rendering by hand or utilizing CAD, sketch, storyboard, Minecraft world, or other medium of choice.
- 2) Students will create a GIFT California account and complete the online Mission Z: MESA Competition Course. Students should consult with their MESA advisor before using school based email accounts to access the course. Use of Gmail, Yahoo!, or other free email hosting sites are encouraged.

Mission Z Course: <http://www.giftcalifornia.org/pages/mission-zero-mystery-mesa>



- 3) Students are encouraged to explore additional research on zero emission technology.

Design Concept Video Pitch Deck

- 4) Students will create a Video Pitch Deck to introduce their design concept. The Video Pitch Deck should,
 - a. Be creative and engaging. This is a pitch, not a rote presentation. Utilize graphics, editing, voice overs, music, sound effects, etc.
 - b. Include the official MESA Logo.
 - c. Give a brief overview of the current problem and need for zero emission technology. Include the following:
 - i) How does vehicle exhaust cause harmful pollution? How do these pollutants affect the environment and human body?
 - ii) What are zero emission vehicles?
 - iii) What changes are needed if we are to attain a world where all vehicles are zero emission? What effect would it have on the environment?
 - d. Pitch your design concept
 - i) Introduce and highlight key features of the design.
 - ii) Explain how the design is innovative and uniquely suited to meet consumer need.
 - iii) Explore how the design will specifically benefit your community.
 - iv) Explore how the design will benefit the environment and society as a whole.
 - v) Include a “What’s next?” for your design. End with a call to action.
- 5) Video Pitch Deck submission guidelines:
 - a. All members of the team should actively participate in the video.
 - b. 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 participants.
 - c. Video length may not exceed 5 minutes. Any portion exceeding 5 minutes will **NOT** be viewed or scored.
 - d. Please check with your local MESA center for the deadline and submission platform for local and regional events.
 - e. Videos unable to be opened and viewed will not be scored. Please ensure all submission guidelines indicated by the host MESA center are followed.

6) Videos will be judged by a panel of 2-3 judges according to the scoring rubric (see Attachment).

Mission Z Course Q&A

7) In addition to the Video Pitch, students will participate in a live Question & Answer session in front of a panel of judges.

8) The Q&A will evaluate students' understanding of the Mission Z curriculum. Students will be asked 3 questions derived from the Mission Z Course. Questions will be chosen at random from the list below.

- a. Why were the electric vehicles "killed" or taken off the market in 1920? (Episode 1)
- b. How can zero emission vehicles help support the planet? (Episode 1)
- c. What is the main message Will Ferrell is trying to convey with his commercial? (Episode 2)
- d. How does the electrical grid system work? (Episode 2)
- e. What are the three types of electric vehicles? (Episode 2)
- f. Name 3 of the 5 listed disadvantages of electric vehicles? (Episode 2)
- g. Why are gas stations hard to repurpose? (Episode 3)
- h. Name 3 major pollutants from conventional vehicles? ("Other Stuff")

9) Students will be asked 1 additional unpublished tie breaker question taken from the Mission Z course. The score for this response will be used only in the event of a tie.

10) Students will have 5 minutes to answer all three questions and the 1 additional unpublished tie breaker question. Once time is called, additional responses will not be scored.

11) All members of the team should actively participate in the Q&A.

12) The Q&A session will take place via Zoom or other video conferencing platform. Please check with your local MESA center for local and regional event logistics.

13) Team order shall be chosen at random by the host center and may not be altered.

14) The Q&A will be scored by a panel of 2-3 judges according to the scoring rubric (see Attachment).

SCORING:

- 1) Final Scores will be determined by the total Video Pitch Deck Score + Mission Z Course Q&A Score.
- 2) Tie Breaker: In the event of a tie, the Mission Z Course Q&A Tie Breaker Question score will be used and the highest score shall be the winner.

AWARDS:

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

ATTACHMENTS/APPENDIX:

- Scoring Rubric for Video Pitch Deck and Mission Z Q&A

**THINK TANK
SCORING RUBRIC**

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

Student Names: _____ MESA Center: _____

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

Video Pitch Rubric	Exceptional (4 points)	Excellent (3 points)	Met Criteria (2 points)	Poor (1 points)	Not present (0 points)
Zero Emission Overview					
Describe how gas fueled vehicles emit harmful pollutants and their effect on humans and the environment.	4	3	2	1	0
Define zero emission vehicles.	4	3	2	1	0
Assess the changes needed in a world with all zero emission vehicles and analyze the environmental effects.	4	3	2	1	0
Design Concept					
Introduce and highlight key features of the design including how research drove design choices.	4	3	2	1	0
Explain how the design is innovative, uniquely suited to meet the problem, and may be implemented to meet consumer need.	4	3	2	1	0
Explore how the design will benefit the environment and society.	4	3	2	1	0
Explore how the design will be implemented in, and its impact on the team's community.	4	3	2	1	0
Discuss next steps to take design from concept to marketable product.	4	3	2	1	0
Video Production					
Flow/Style/Organization: Content organized with clear beginning and end; transitions logical and effective.	4	3	2	1	0
Visual/Graphics: Video is clear and focused; added graphics assist in conveying message.	4	3	2	1	0
Quality/Production/Editing: Video quality and resolution are high; still images in focus; camera movements and transitions smooth; editing and special effects increase marketability of design concept.	4	3	2	1	0
Audio: Sound clear and consistent throughout; added effects compliment the message.	4	3	2	1	0
Creativity and Engagement: Video is innovative and creative; engages and compels the viewer to action.	4	3	2	1	0
Official MESA Logo included.	Yes (4)				No (0)
All members of the team participate equally.	Yes (4)				No (0)
COLUMN TOTALS:					
Video Pitch Subtotal					/60
Labeling Penalty (10% of Subtotal)					-
VIDEO PITCH SCORE					/60

**THINK TANK
SCORING RUBRIC**

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

Student Names: _____ MESA Center: _____

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

Mission Z Q&A Rubric	<u>Exceptional</u> (4 points)	<u>Excellent</u> (3 points)	<u>Met Criteria</u> (2 points)	<u>Poor</u> (1 points)	<u>Not present</u> (0 points)
Response to Question # (Judge: Please insert question #) x2	8	6	4	2	0
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Response to Question # (Judge: Please insert question #) x2	8	6	4	2	0
All members of the team participate equally.	Yes (4)				No (0)
COLUMN TOTALS:					
MISSION Z Q&A SCORE					/28

THINK TANK FINAL SCORE

Video Pitch Score	
Mission Z Q&A Score	+
FINAL SCORE	

TIE BREAKER QUESTION

Answers to the following question **ONLY** to be used in the event of a tie.

Tie Breaker Question	<u>Exceptional</u> (4 points)	<u>Excellent</u> (3 points)	<u>Met Criteria</u> (2 points)	<u>Poor</u> (1 points)	<u>Not present</u> (0 points)
Response to Tie Breaker Question # (Judge: Please insert question #) x2	8	6	4	2	0
TIE BREAKER SCORE					/8
FINAL SCORE INCLUDING TIE BREAKER					