

## Amazing Supersonic Decelerator: Parachuting on to Mars

### Video Criteria

The NASA *Amazing Supersonic Decelerator Device Design Challenge Video Rubric* will be used by evaluators to review and score each submitted video. Videos should showcase your deceleration device prototype and include the following information.

- 1) Teams **MUST** use the following script to introduce their video:
  - a. “This is team (unique identifier) and we chose the NASA Parachuting on to Mars Challenge. The title of our video is \_\_\_\_\_.”
  - b. Submissions that do not follow this exact script will be disqualified. Do not identify the name of any student, teacher, school, group or city/region in your video.
- 2) Introduce special features and unique qualities of your drag device.
- 3) Discuss the variations made in features to improve the device, and results of tests for each.
- 4) Based on your tests, explain your best design for the deceleration device. Be sure to give reasons for your choice.
- 5) Include photos or video of a summary of your work including drawings of your design, surface area calculations, mass, and building and testing the deceleration device.
- 6) Identify any information provided by the NASA engineer or scientist that helped you in your design or testing.
- 7) Explain which drag device characteristics provided the most reliable results and why?
- 8) Explain what was discovered about the relationship between surface area and drop time (or speed).
- 9) Based on your results, include advice for the engineers working on this project.
- 10) Total length of video should be 3 – 5 minutes.

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### Video Rubric

This rubric will be used by evaluators to review and score each video. Each category will be scored 0-3 points. Totals for each column will be added for a final score.

Rubric Category	Best 3 points	Better 2 points	Good 1 point	Missing 0 points
<b>Introduction Statement</b>	Special features are stated clearly with additional words and/or images.	Special features are stated but no additional images are included.	Special feature statement is incomplete.	No statement is included.
<b>Angled Edges</b>	Includes more than 8 angled edges.	Includes 6-7 angled edges.	Includes 5 angled edges.	Less than 5 angled edges are included.
<b>Surface Area Calculations</b>	Correct surface area calculations are included for each design attempt.	Correct surface area calculations are included for final design.	Surface area calculations are included for some attempts, but not for final, or are incorrect.	No surface area calculations were provided.
<b>Drawings</b>	A detailed drawing of the final design, as well as detailed drawings of each attempt are included.	A detailed drawing of the final design is included, but no others.	Rough drawings of the final designs or other designs are included.	No drawings are included.
<b>Engineering Design Process</b>	All of the phases of the Engineering Design Process are mentioned in the video.	More than three elements of the Engineering Design Process are mentioned in the video.	At least two elements of the Engineering design process are mentioned in discussion of project video.	No mention of the engineering design process is included.
<b>NASA Engineer Comments</b>	Chat with NASA Engineer is discussed and demonstrates how the feedback was incorporated into design or testing.	Chat with NASA Engineer is discussed and gives details about the feedback they provided.	Chat with NASA engineer is discussed in only general terms.	No mention of NASA engineer interaction is included.
<b>Conclusion Questions</b>	All questions are answered thoroughly and thoughtfully.	Questions are answered.	Some questions are answered.	No questions are answered.
<b>Photos or Video</b>	The build and test phase are included in the video with additional still shots added.	The build and test phase are included in the photos/ video.	Only the build or only the test phase is included in the photos/ video.	No photos or video showing the build or test phase are included.
<b>COLUMN SCORE</b>				

**TOTAL SCORE** \_\_\_\_\_