

# Event Overview



# Mars Rover Celebration Video!





## Mars Rover Celebration: WHO?

- Students in Grades 3-8
- Two separate divisions
  - Elementary (Grades 3-5)
  - Middle School (Grades 6-8)
- Teams of 2 - 4 students are ideal
  - Individual projects are discouraged
  - Groups larger than 4 are possible with special permission
- Not only for school groups
  - Scouts, community, home school groups are welcome!



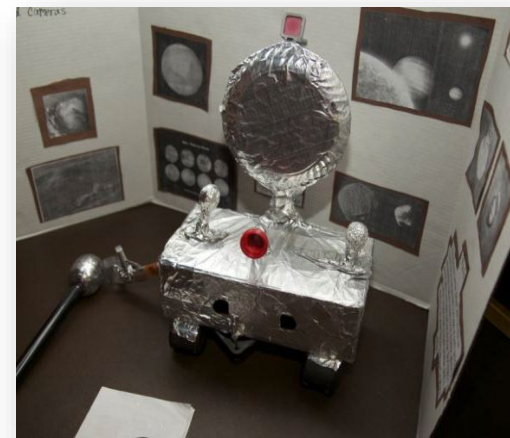
# Mars Rover Celebration: WHAT?

- Four Project Types

- Freeform Rover
- Solar Powered Rover (~\$10 kit)
- RC Rover (~\$25 car)
- Mars Habitation (**NEW!**)

- Project Elements

- Model
- Booklet
- Skit
- Story (Habitation Only)



# Mars Rover Celebration: WHY?

- Open-ended; student-driven
- Excite and motivate students
- Low-cost alternative to robotics
- Utilizes a flexible curriculum
- Promotes Teamwork
- Interdisciplinary project
  - STEM
  - Art
  - Public Speaking



# Mars Rover Celebration Virtual Competition March 2021

- Registration will open via the Mars Rover website in January
  - <http://marsrover.org>



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# Mars Rover Celebration 2022 A Virtual Journey

# Teacher/ Adult Registration

- All teachers must register.
  - This information let's us know how many projects to expect for the competition.
- Up to six projects per teacher.
  - Register [here!](#)
- Cost per teacher is \$25.
  - Pay [here!](#)

# Model Submission

- A physical model is not required.
  - Students may choose to create their models through hand drawn images and or use various 2D/3D imaging software.
- Download the Model Submission template to submit images of your model.
  - Model Submission – [Rover](#)
  - Model Submission - [Habitation](#)

## Model Types - Freeform

### ■ Freeform

- No specific materials required, but a limit of \$25 of materials
- Found objects (junk laying around) do not count against the budget
- Not required to move at all

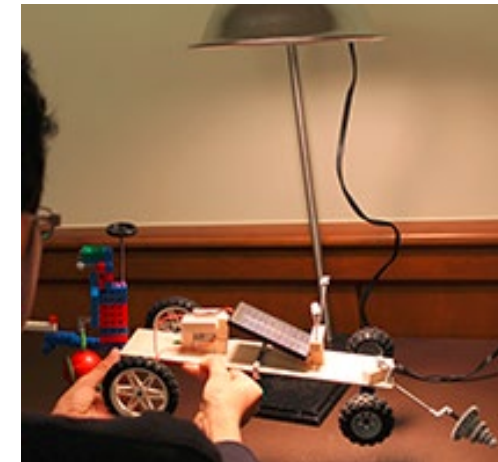




## Model Types - Solar

### ■ Solar

- Use a prepackaged balsa wood kit (~\$10 on amazon, delta, etc.)
- Add extra items to make it a rover (limit \$25 not counting Kit)
- Wheels should spin when lifted off table under high watt lamp



## ■ Radio

- Use the chassis of an RC car valued less than (\$25)
- Add other materials to make it a rover (limit \$25, found object ok)
- Should be operable with remote (no obstacle courses)

### Model Types - Radio Control



# Model Types Habitation

## ■ Habitation

- A model of a Mars community
- A "guide" booklet describing the mission and the model
- A short, illustrated story from EACH team member.
- A presentation skit (less than 5 minutes) to be performed for the Judges during the contest.

Elementary Booklet template here!

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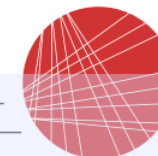
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## Rover Components

Draw and label parts, take a picture of each part, or describe it in writing

**POWER SOURCE**  
Solar Panels, Battery, etc.....

**PROPULSION COMPONENT**  
Gears, propellers, etc.....

**TRACTION COMPONENTS**  
Wheels, worm wheels, robotic feet, hover craft, etc...

**MISSION COMPONENTS**  
Cameras, soil collectors, drill, etc....



# Student Booklet Guides

## Rover Missions

**ROVER TRANSPORT**

**LANDING PROCEDURES  
AND LANDING COORDINATES**

**MISSION**

**LANDING SITE VALIDATION**  
(Why was this site chosen?)

**MISSION PROCEDURES**  
(How will the mission be accomplished?)

[Middle School Booklet template here!](#)

# Habitation Resources

Guide  
Booklet

Short  
Illustrated  
Story

Habitation  
Curriculum

# Mars Rover Sample Skit



# Project Presentation Video



- Make sure the groups are well-rehearsed and have all the parts of their rovers and presentations with them.
- Encourage the children to enhance their presentations any way that might make an impact on the audience.
- Each team will have 5-minutes to explain their rover and its mission to the judge.



- Website:

[www.marsrover.org](http://www.marsrover.org)

Schedule, contest rules, entry form,  
resources

# Resources

For More  
Information

- For questions Contact:
  - [stem@central.uh.edu](mailto:stem@central.uh.edu)
  - 713-743-8282