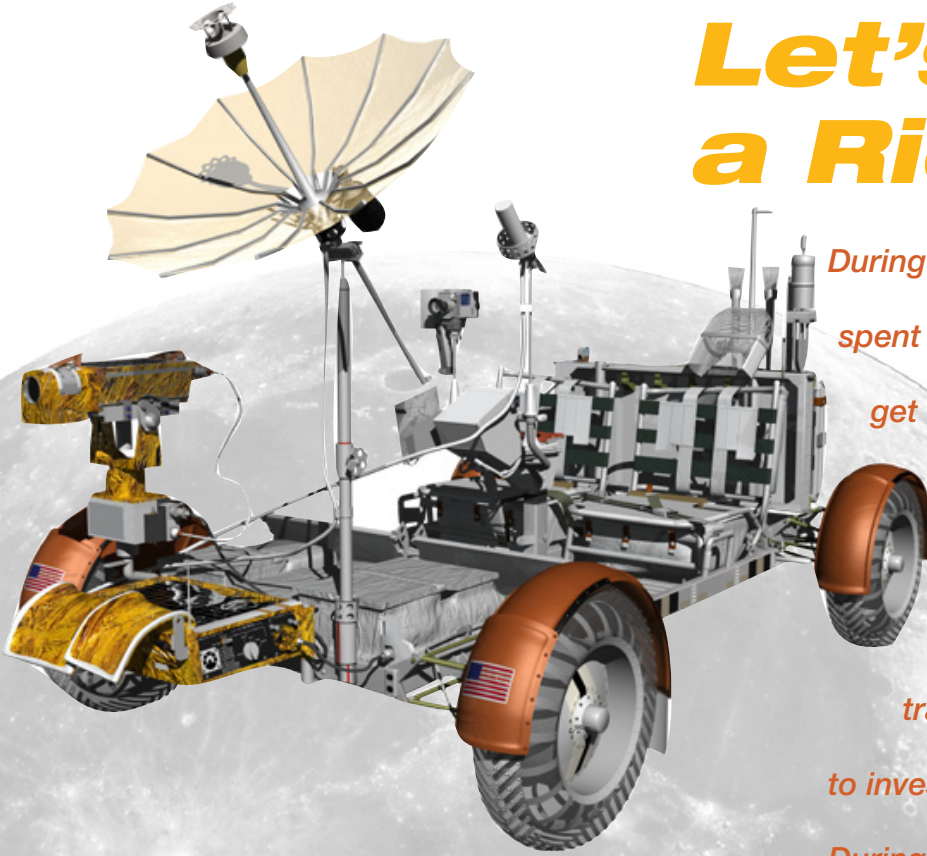
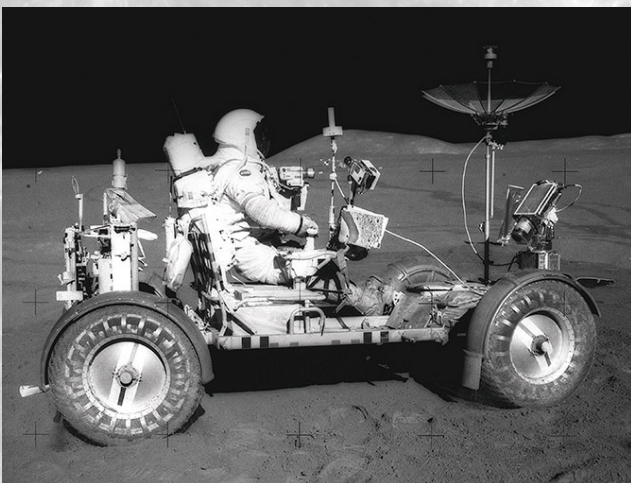


Let's Go for a Ride!



During the first set of activities, we have spent some time thinking about how to get to the Moon. Now you need to think about landing on the Moon, and how to deliver cargo to the Moon. Astronauts will need a mode of transportation in order to get around to investigate different areas of the Moon. During the Apollo missions, astronauts drove a Lunar Buggy several kilometers away from their spacecraft. Today you get to be the engineers designing a new Lunar Buggy that can perform functions the Apollo Lunar Buggy could not. Your challenge is to build a model of a Lunar Buggy that astronauts will eventually use to carry astronauts and cargo on the Moon.



THE CHALLENGE:

Each team must design and build a Lunar Buggy with the following constraints:

- 1. The Lunar Buggy must carry one plastic egg snugly. The egg may not be taped or glued into place. (The egg represents the cargo hold.)**
- 2. The Lunar Buggy must be able to roll with cargo in the cargo hold (pennies, buttons, washers, rocks, etc).**
- 3. The Lunar Buggy must have room for two “astronauts”. You may use plastic people provided to you or make your own. Your astronauts may not be taped or glued into place.**
- 4. The Lunar Buggy must roll on its own down a ramp for a distance of approximately 50 cm in a straight line beyond the ramp.**
- 5. The Lunar Buggy must be able to hold cargo and astronauts in place and in tact as the Buggy rolls down the ramp.**



DESIGN challenge

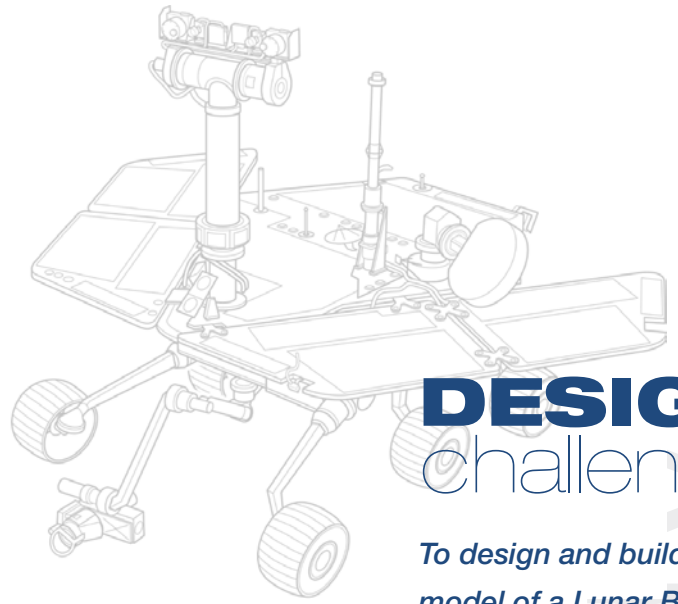
To design and build a model of a Lunar Buggy that will carry equipment and astronauts on the surface of the Moon and to determine the best slope of ramp for the rover to travel the farthest distance.

Design a
Lunar Buggy
Student page

ASK IMAGINE & PLAN

Draw and label your Lunar Buggy:





DESIGN challenge

To design and build a model of a Lunar Buggy that will carry equipment and astronauts on the surface of the Moon and to determine the best slope of ramp for the rover to travel the farthest distance.



Design a Lunar Buggy
Student page

Approved by: _____

Experiment & Record



Measure the mass of your cargo on a digital scale or balance. Record the data in the table under Trial 1. Test your buggy on the ramp. Measure the distance it travels down the ramp. Record the distance in the table under Trial 1.

Lunar Buggy Data Table

	Trial 1	Trial 2
Cargo Mass (grams)		
Distance travelled down ramp (cm):		

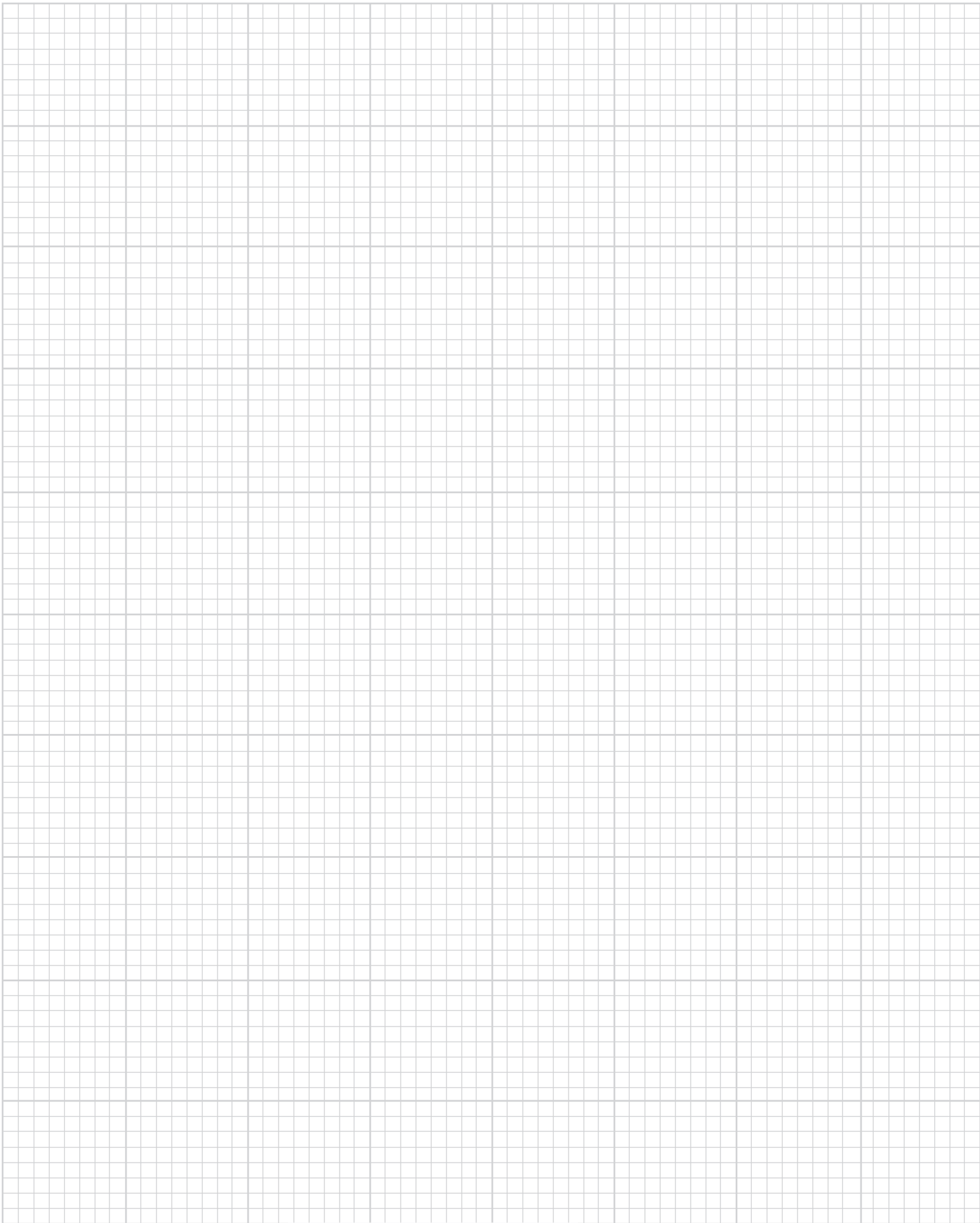
Did your design work well? If not, redesign your Buggy and try a different amount of cargo, then experiment again. Record your data in the table for Trial 2.

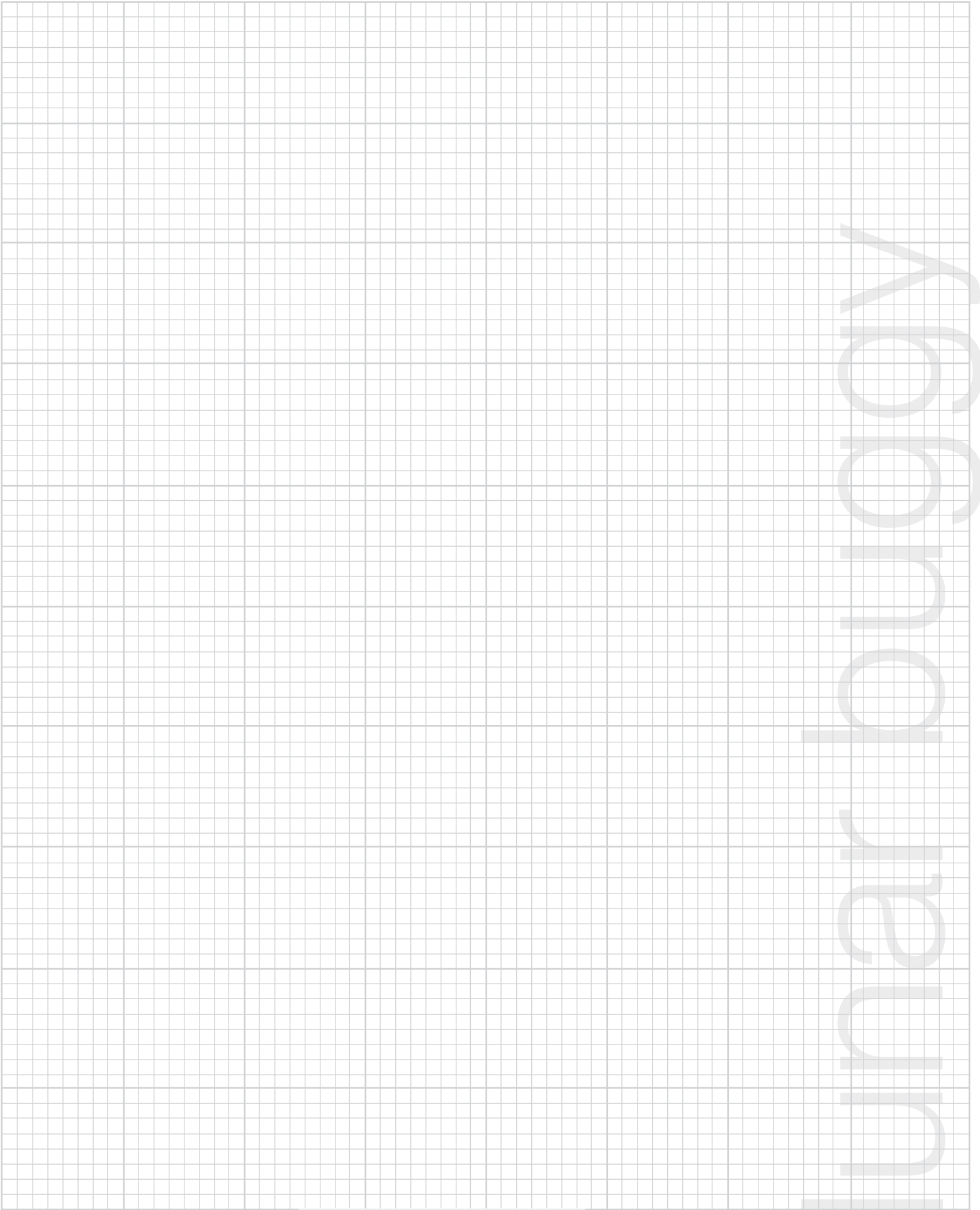
Describe or draw any changes you made to your Buggy:

DESIGN challenge

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Design a
Lunar Buggy
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Junior League

