



## Homeschool Learning Network

### Week 36 Science: Design a Spacecraft (Grades 6-8)

Name \_\_\_\_\_

Date \_\_\_\_\_

#### Introduction:

What will space travel be like in the future? We may be able to go places that we have only dreamed about today! We have been assigned to design a spacecraft for moon, and another for the planet Mars.

Consider the following: there are many different types of fuels that may be used in the future to make space travel more efficient – solar wind blows from the sun; nuclear energy and rocket fuel are two sources that are being used now. Explore the types of fuel that could be used for space travel, or find some of your own:

- Space Travel <http://www.amsat-dl.org/space.htm>
- Solar Travel <http://www.astronomytoday.com/exploration/solartravel.html>
- Will Nuclear Energy Put Humans on Mars?  
[http://www.space.com/scienceastronomy/solarsystem/nuclearmars\\_000521.html](http://www.space.com/scienceastronomy/solarsystem/nuclearmars_000521.html)

After your research, begin your design of two spacecraft using the table below and the worksheet on the next page. Complete the worksheet, then draw an illustration of your two crafts. Write a synopsis of your design, and why you chose it.

Comparing Moon & Mars	Moon	Mars
Distance from Earth	239,000 miles	48,600,000 miles
Diameter	$\frac{1}{4}$ of the Earth's diameter	$\frac{1}{2}$ of the Earth's diameter
Gravity	$\frac{1}{6}$ of the Earth's gravity	$\frac{1}{3}$ of the Earth's gravity
Temperature	-9 degrees F	-76 degrees F
Atmosphere	None	1% air pressure of Earth
Day Length	28 Earth days	24 hours, 37 minutes
Potential Trip Time	3 days	Approx. 690 days
Communication Delay	2 seconds round trip	10-45 minutes round trip



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**Answer the following questions about your spacecraft to the Moon, then draw an illustration of the interior and exterior of the spacecraft. Complete the activity by writing a synopsis of the design, and comparing it to the other spacecraft:**

Fuel used:

Shape and Size:

Protective Materials:

Crew size:

Supplies:

**Answer the following questions about your spacecraft to the Mars, then draw an illustration of the interior and exterior of the spacecraft. Complete the activity by writing a synopsis of the design, and comparing it to the other spacecraft:**

Fuel used:

Shape and Size:

Protective Materials:

Crew size:

Supplies: