

MARS GREENHOUSE

Now it is time to tie all your learning together and build a prototype Mars greenhouse to prove that you can succeed at growing plants on a new planet. We will be sealing the terrarium and watching as your plant either thrives or dies (with no intervention from you). Things you will need to think about as you design your greenhouse are: the water cycle, you cannot add water once it is sealed so whatever water is in there is what the plant will have to survive on, too much and it can never leave, too little and it can never get more. You will need to monitor the pH of your soil using litmus paper to ensure that it isn't too acidic or basic. You will need to ensure that the plant is getting enough light, but not too much direct sunlight since it can heat up the greenhouse to an unhealthy temperature very quickly (you will need to monitor the temperature using the thermometer you will place on the jar).

Greenhouses on Mars and on Earth

Note that greenhouses do not increase the amount of solar energy available for photosynthesis.

Mars	Earth
A warmer environment	A warmer environment
UV protection	UV protection
Protection against wind and dust storms	Protection against wind, rain, hail, and snow
Increased atmospheric pressure	Same atmospheric pressure inside as outside
Different atmospheric composition inside than outside	Same atmospheric composition as outside
Always higher humidity and temperature than outside	Usually higher humidity and temperature than outside

My greenhouse was planted on: _____

The average daily temperature for the week was: _____

After one week here are my observations: _____

