

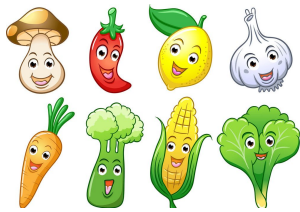


### **Background Information:**

There's no question about it — plants are really important to human. They provide us with food, clean air, and shelter. But have you ever stopped to think about how we would need plants if we left our planet?

### ***Plants provide:***

#### **Food**



Currently NASA compares meals for astronauts to a picnic because space travelers must pack everything they eat. Their meals include few if any fresh fruits and vegetables because they have no room and they will go bad quickly. As we use the International Space Station, and someday have a trip to Mars, we will need a food supply.

#### **Air**

Plants use carbon dioxide (the stuff you breathe out) and produce oxygen (the stuff you breathe in) while they make their food. They also clean the air. Plants would be really good for the air inside a spacecraft.







#### **Water Purification**



If you have ever picked up a pail of water, you will notice how heavy it is. It would cost astronauts a lot of money to bring something like that on a trip to space. Just ask your parents about bringing bags on an airplane! It turns out plants do a pretty good job at helping astronauts recycle the water they can bring.



## Let's Think...Why might growing plants in space be tough?

Plant Need	Importance to Plants	Difficulty in Space
 Water		
 Air		
 Light		
 Soil		

Can you think of any places here on Earth that might have the same problems when trying to grow plants?

**ANSWERS:**

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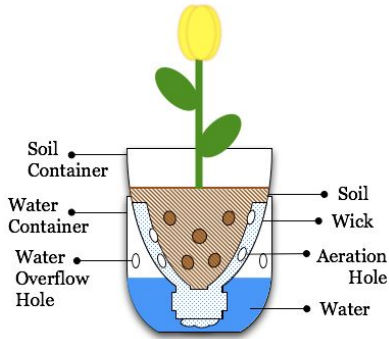
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**Your Mission:**

Build a lightweight, soilless system that can support 1 plant indoors.

**Basic Wick System Parts:**



**Your Materials:**

- 2 Liter PLastic Bottle with Cap
- Nylon String
- Lightweight Soil Replacement
- Masking Tape
- Paper Clips
- Scissors
- Aluminum Foil / Spray Paint

**Choose Your Design:**

Which system will you build?

- Simple Wick System
- Drip System
- PVC Wick System (w/teacher)

Which soil substitute will you use?

- Coconut Coir
- Hydroton
- Perlite

How will you cover your water container?

- Aluminum foil
- Spray Paint....Color? \_\_\_\_\_
- No Cover

Why did you make your decisions?

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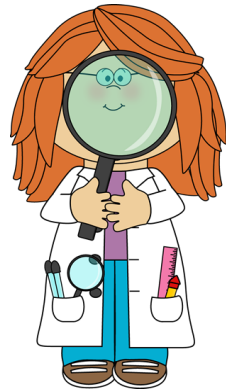
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**Observe and Record:**

Over the next few weeks you and your lab partners will make observations about your plants. This will help you compare them to one another. Your teacher will help you record how tall they get and you will count how many leaves they grow. You can also write down anything else that helps you to describe them.



**Today's Date** \_\_\_\_\_

<b>Your System</b>	<b>Soil</b>
<b>Height:</b> _____  <b># of Leaves</b> _____	<b>Height:</b> _____  <b># of Leaves</b> _____
<b>Other observations:</b>          	

**Today's Date** \_\_\_\_\_

<b>Your System</b>	<b>Soil</b>
<b>Height:</b> _____  <b># of Leaves</b> _____	<b>Height:</b> _____  <b># of Leaves</b> _____
<b>Other observations:</b>     	

**Today's Date** \_\_\_\_\_

<b>Your System</b>	<b>Soil</b>
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<b>Other observations:</b>     	

