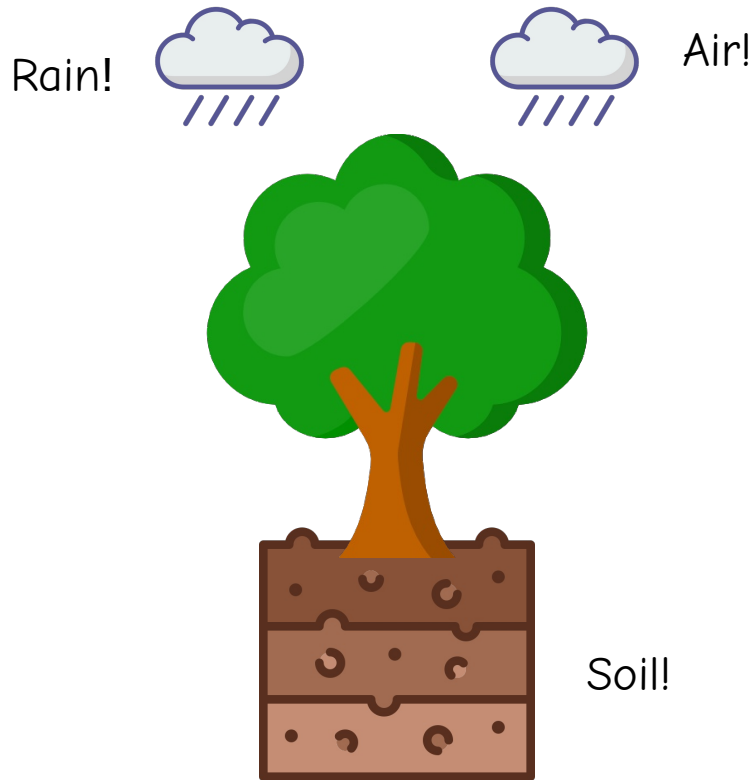
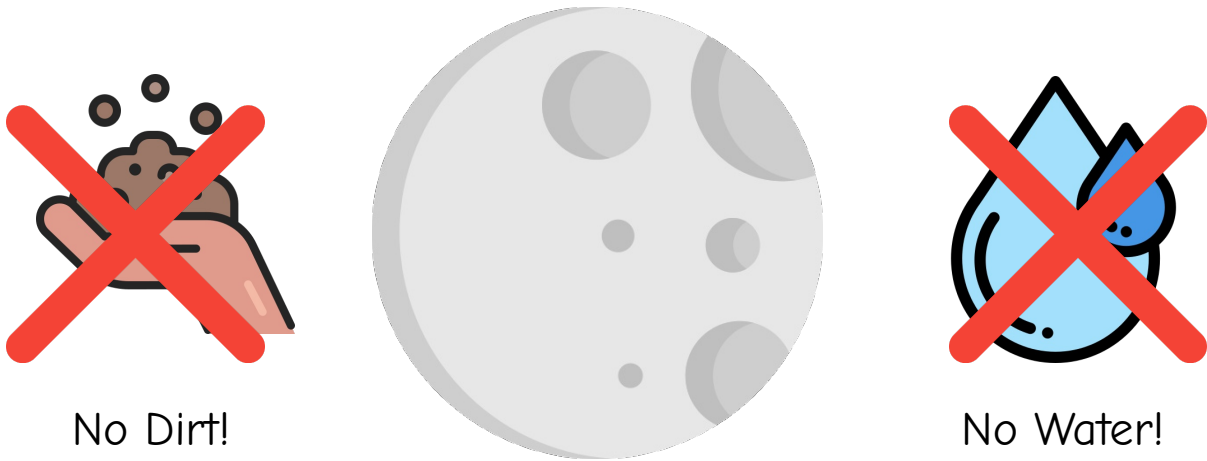


What do trees need to grow?



What's different on the moon?



Activity: Help trees grow on the moon! Place the things the trees need to live on the moon.

Trees on the Moon – Can you help?

What do trees need to grow?

- **Sunlight** 🌞 – Trees need light to make their own food through photosynthesis.
- **Water** 💧 – Water helps trees drink and grow.
- **Air** 🌬️ – Trees breathe air (specifically carbon dioxide).
- **Soil** 🌱 – Trees need soil to hold their roots and get nutrients.

What is different on the Moon?

- **No Air:** There is no air for trees to breathe!
- **No Water:** There is little water on the Moon.
- **Different Soil:** The Moon is made of *regolith*. Regolith is dusty, and doesn't have the same nutrients as Earth's soil.

So how do we make the moon a happy home for trees?

Make a design that addresses the following issues:

1. Air – How will the tree get air?
2. Water – How do we keep the tree from getting thirsty?
3. Soil – How do we keep the tree well fed?

Design a Tree Habitat on the Moon

Our Problem

Trees Requirement:	Moon Issue:
Air 🌬️	The Moon is a vacuum! The trees can't breathe on the moon as it is today.
Water 💧	There is little water on the Moon. How can keep the trees well hydrated?
Sunlight ☀️	The sun is too strong with no air! The Earth's atmosphere limits damaging light from the sun called UV rays. These are what give you sunburn! With no atmosphere on the Moon, we must protect the trees from these UV rays!
Soil 🌱	The moon's soil is called <i>regolith</i> . Regolith is not like Earth's soil. It is rocky, dusty, and sharp!

Your Mission:

You are an engineer! Your job is to design a system to help trees grow in these conditions.

Requirements and Constraints:

What **must** trees to have to live on the moon?

- The tree must have enough air to breathe

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What **limits** your design?

- Astronauts have to be able to build this design on the moon.

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Now, create a prototype of your design!