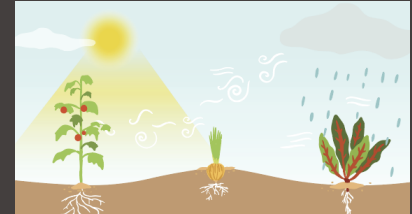


## Lesson #2: We All Have Needs!

### Movie Moment!



All living things have needs that must be met in order to live and grow. This video explores five important needs that all plants have to grow. The acronym **LAWNS** represents these important needs of: (**L**)ight, (**A**)ir temperature and movement, (**W**)ater, (**N**)utrients, and (**S**)pace to grow, such as in the soil. Almost all plants have these needs, but the amount of each need can vary depending on a plant's habitat. For example, plants in the desert need less water, while plants in the rainforest have adapted to survive with lots of water available. Students will discover how plant's needs can be met--both in nature and indoors--and explore how they can help care for plants and meet their needs too!

# LAWNS

### Science Review

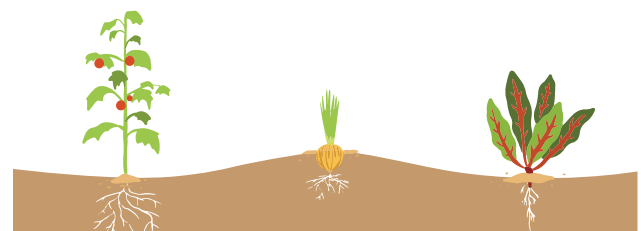
You may explore these science concepts further with students.

While all plants may have the same basic needs, each plant varies in how much of a particular need they require. For example, some plants need a lot of water, like a fern, but others need very little, like a cactus. Not all plants require lots of light--some like shade or diffused (filtered) light over full sunlight. Some plants, like

those in the desert, prefer dry air, while those in a rainforest prefer humid air. Some plants require a lot of nutrients, while other plants require very few nutrients.

When we take plants out of their natural habitat, humans must act as nature and help a plant to meet its needs. We see this in our gardens and on farms. Humans must help plants meet all of their needs in order to grow.

One way that we help support plants is by ensuring that they have enough nutrients to grow. As humans, we get our nutrients from the food we eat. Many plants absorb nutrients naturally from the soil, through their roots. At times, farmers must add additional nutrients through the use of fertilizers. Printed on the fertilizer packages you buy for your home garden, you might see three numbers listed, separated by a dash (ie. 10-7-3). These numbers represent the concentration of 3 very important plant nutrients, known as macronutrients. These numbers are commonly referred to as the "N-P-K" number, which stands for Nitrogen-Phosphorus-Potassium. These nutrients play very important roles for helping maintain plant health.



## Movie Moment!

- **Nitrogen (N)** is responsible for leafy green foliage or lushness
- **Phosphorous (P)** to support plant roots and blooms
- **Potassium (K)** an overall helpful nutrient and used especially for supporting plants during dormant winters.

Explore plant nutrients further with the Little Green Thumbs Plant Nutrients Poster, available online.



### Stop & Check!

Pause the video at this timestamp to check for your students' understanding.

- What does a plant need to grow? [00:26]
- How can you tell a plant is meeting its needs? [02:50]
- After the video check for understanding: What does LAWNS stand for?

### Indigenous Connections:

Gardeners can thank generations of Indigenous people across North America who discovered the perfect gardening combination found in the "Three Sisters". Corn, beans and squash are grown together for a perfect harmony of plant needs coming together. The tall corn stalks provide a space for the bean plants to grow up, and the beans in turn provide more stability for the corn stalk in windy conditions. As a legume, beans fix nitrogen in the soil, providing fertilizer for the other plants. The ground coverage from



### Sight Words to look out for:

- Light
- Air
- Water
- Nutrients
- Space
- Absorbed
- Temperature
- Fertilizer
- Crowded
- Carbon Dioxide

the squash leaves keeps out weeds and prevents the soil from drying out.

This kind of complementary planting and harmony between different needs was improved with a legacy of seed collecting and saving of southern First Nations communities including Ojibwe, Anishinaabe, Algonquin, and Mi'kmaq. Many of the specific heritage varieties of vegetables they saved are still grown today.



The Three Sisters Teacher's Manual from LGT  
Explore the story of the Three Sisters with your students.

#### The Three Sisters, Strong Nations

Look for the online story about the three sisters starting as sisters.

