Little GreenThumbs

Lesson #3: Weather Warriors

Movie Moment!

Plants are found in nearly every ecosystem on Earth. Plants can survive This video introduces students to the different ways that plants have developed adaptations to best survive in different ecosystems. Connecting back to plant needs, we explore desert and rainforest ecosystems as two examples of extreme water and light differences that make leaf shape, size, and water storage all essential for plants in these areas. Students will explore the differences between native plants, introduced - or exotic plants - and when these plants become invasive to the ecosystems around them through introduction into similar climates but different geographical locations. Finally, the video closes with briefly exploring modern plant science and how plant adaptations are developed rapidly for commercial uses such as agriculture.

Science Review

Here are a few science extensions you may want to explore further:

There are a number of great plant adaptation stories from across Canada. For example, many seeds will wait until they have a certain amount of light water, and nutrients to germinate. For example, seeds are released from the cones of Jack pines after a fire. They then rely on the wind to move, and take up root in burned forests where overcrowding is no longer an issue.

Canada's closest version of the popular bug-eating Venus Fly Trap is the pitcher plant, which grows in bogs with high acidity and very little nutrients. They make up for the nutrient-poor conditions around them by taking the nutrients from bugs and insects that fall down their tubes.
Many of the plants we can commonly identify were introduced to our country, with their origins from all over the world and centuries of selective breeding -or artificial selection- to ensure the best traits -and adaptations could be created.

Not every introduced plant has been successful in a new climate without particular care of gardeners or farmers. Others, however, have been far too successful, and now are invasive species that are detrimental to ecosystems and biodiversity of many species, including plants. Some examples across the country include purple loosestrife, giant hogweed, or the Himalayan blackberry in the Pacific Northwest. The success of these plants' spread is through their adaptations, along with their beauty attracting unbeknownst travelling gardeners and importers.

Movie Moment!

03

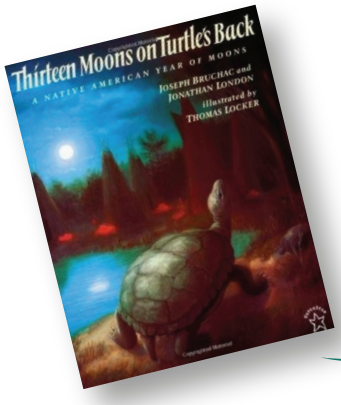
Indigenous Connections:

Plants have adapted to different environmental conditions, and so have local Indigenous communities to that place.

The lunar calendars of different Indigenous communities align with significant changes of the season, many of which involve plants.
13 moons calendar – specific to area depending on the climate – Aniishnabe eg. Has raspberry, corn and harvest. Northern Moon. – blueberry picking up north. Based on the turtle back – there are 13 larger on the turtle's back.

Ontario Native Literacy Coalition has Cree, Ojibwe & Algonquin 13 Moons in this PDF:
https://onlc.ca/resource-post/thirteen-moons-practitioners-guide-lbs-levels-2-3/

Cree 13 moons Soloman Ratt First Nations
https://nativereflections.ca/collections/books/products/nrb-62



Thirteen Moons On the Turtle's Back

Sight Words to look out for:

- Adaptation
- Survive
- Desert
- Evaporate
- Rainforest
- Canopy
- Surface
- Native Plant
- Introduced
- Invasive plant

Stop & Check!

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

- **Have you ever wondered how plants can grow in such different habitats? [00:15]**
- **Look at the plants around you! What special features do the plants around you have to help them survive? [00:00]**
- **What special features do the plants around you have to help them survive?**