

## Learning STEM Through Gardening

**Learning STEM Through Gardening:** Gardens are a living laboratory! Kids can conduct experiments, view-seasonal and landform changes, study insects and plants, observe the effect of weather and watch life cycles<sup>1</sup>.



*St. Anthony Public School, ON*

Kids can use different technologies such as weather monitoring and science tools<sup>2</sup>. For example, kids can take pictures of gardens to collect data and learn about farm weather equipment.

Gardening takes some intense engineering! Students can decide on the design and location of their garden while considering different factors such as: the budget, size, sun exposure, proper drainage and type of barriers<sup>2</sup>. When designing gardens students will have to use math to calculate the area and mass of the garden, calculate the soil volume for raised beds<sup>1</sup>. Students could learn how to count proportions, fractions and multiplications while gardening<sup>2</sup>.

**Skills Learned While Gardening:** Many different skills can be learned through STEM gardens! Gardening is a multi sensory learning experience that benefits students of all ages<sup>2</sup>. Students can acquire various skills, such as how to care for a garden, different propagation techniques, composting, weather monitoring, nutrition, and science concepts.

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<sup>1</sup> Lane County (2016). School Garden Project. URL: [STEM in the Garden - School Garden Project of Lane County](#)

<sup>2</sup> Kaplan, Use Gardening to Promote STEM. URL: [Using Gardening to Promote STEM | Kaplan Early Learning Company \(kaplanco.com\)](#)



*As part of the WILD Spaces Program, students from Patricia Heights School in Alberta are visiting the Muttart Conservatory.*

**STEM Gardening Activities:** Here are a few STEM activities that really stood out!

-**The Golden Ratio in the Garden:** A Math and Nature Scavenger Hunt! For example, how many birds can you spot in your yard?

-**How Do Plants Breathe?** Experiment: Test how much gas is produced by photosynthesis and respiration by submerging a plant in water for an hour and observing how many air bubbles are produced.

- **Seed Germination Experiment:** Analyze which soil helps plants grow the best!

-**Strawberry STEM Challenge:** Analyze the different parts of any plant!

-**Building a Birdhouse, Insect Hotel, Bird Feeders, or Raised Beds**

-**Planning Irrigation**

**Conclusion:** STEM garden activities teach kids a wide variety of STEM skills including hands on activities that are suitable for all! The amount of STEM activities to incorporate with gardens are endless!