

Growing Salad Greens

Overview: This is a four-week lesson series that involves students growing, observing, and harvesting trays of salad greens inside their classrooms. The greens can be grown in the window or under grow lights. Additional activities include topics such as how seeds grow, edible parts of a plant, and edible seeds. There is an additional experiment where students grow beans, following the scientific process (following the curricular competencies).

Week 1	Weeks 2-3	Week 4
✓ Seed Exploration ✓ Salad Mix Planting Optional: ✓ Bean Experiment	✓ Observe Salad Greens Optional: ✓ Plant Cycle Activity ✓ Edible Plant Parts Activity ✓ Edible Seeds Activity	✓ Harvest Salad Greens ✓ Eat Salad Greens Optional: ✓ Salad Bar

Curricular Connections

Growing food can be connected to many Big Ideas in the Science curriculum; these activities could be integrated into larger conversations about environmental responses, natural resources, internal systems, and natural selection.

Big Ideas	
Science	All living things sense and respond to their environment. (gr. 4) Earth materials change as they move through the rock cycle and can be used as natural resources. (gr. 5) Multicellular organisms rely on internal systems to survive, reproduce, and interact with their environment. (gr. 6) Evolution by natural selection provides an explanation for the diversity and survival of living things. (gr. 7)
PHE	Food choices to support active lifestyles and overall health (gr. 4-7)
ADST	Food studies (gr. 6-7)

Indigenous Connections

Students will be reminded that “learning involves patience and time” as they grow their own plants. Observing and recording their growth each week will practice patience. Another principle is practiced in this unit, “Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place).” This hands-on lesson can invite walks outside into natural spaces and discussions about native plants, traditional uses of them, and discuss First Peoples concepts of [interconnectedness](#) in the environment (gr. 5).

Lesson Design: Growing Salad Greens

Student Learning Outcomes:

1. Learn how to make an environment for seeds to grow.
2. Learn how to care for plants.
3. Harvest and prepare greens for eating.



Driving Questions:

1. What do seeds need to grow?
2. What do plants look like as they grow?
3. How do different types of salad greens taste?



Materials (for 25 students)

Costs

Week 1 - What do seeds need to grow?

Seed Exploration:

- Seed packets
- 25 copies of "[How do seeds grow?](#)" handout
- 25 pencils
- Video access

Extension: Bean Experiment (optional):

- 6-8 copies of "[Growing Variable](#)" handouts
- 6-8 pencils
- 2-3 plastic bags with ziplock
- Soil
- 4-6 pole bean seeds
- Long length of masking tape
- Permanent markers
- Watering can or small jar

\$30 (depending on containers purchased, soil quantity, and amount of seeds)

Soil: \$10 for 1L bag

Containers: \$4 for growing tray

Seed packet: \$4 each

Note: Containers would be free if using recycled containers

Planting Salad Mix:

- 2 six-muffin trays, labelled with the plant names



- 4-6 Packets of seeds (peas, radish, kale, lettuce, spinach, arugula, beets, sunflowers, broccoli, basil, parsley, or cilantro)
- Masking tape
- Permanent markers
- Watering can or spray bottle
- Soil (use organic seed starting soil mix), small trowel or yogurt container to scoop
- 2-4 Growing trays (perforated inside non-perforated) OR repurposed containers (e.g. yogurt or plastic clamshells with holes cut into the bottom)



- Shelves/lights or a sunny windowsill
- 1-4 packets of seeds (lettuce, kale, mustards, radish, peas, or arugula) - 1 packet per growing tray

Weeks 2-3 - What do plants look like as they grow?

- 6-8 copies of "[Greens Observation Table](#)" handout
- More planting supplies if desired (trays, soil, seeds)

Week 4 - Harvesting and Tasting

- 25 copies of "[Tasting Salad Greens](#)" handout
- 25 pencils
- Trays/containers of salad greens
- 25 bowls or paper towels

Lesson Design:		Classroom Set-Up:
Week 1	Weeks 2-3	Week 4
✓ Seed Exploration ✓ Salad Mix Planting Optional: ✓ Bean Experiment	✓ Observe Salad Greens Optional: ✓ Plant Cycle Activity ✓ Edible Plant Parts Activity ✓ Edible Seeds Activity	✓ Harvest Salad Greens ✓ Eat Salad Greens Optional: ✓ Salad Bar
Week 1: What do seeds need to grow? QUESTIONING AND PREDICTING		
Seed Exploration (15 minutes) What can we grow in 4 weeks? (Hook): Looking at all of the supplies we have here, what do you think we will be doing today? Once students guess that you will be growing plants, ask, what do you think we might be able to grow and harvest in 4 weeks? When students suggest fruits, remind them that to make a fruit, we have to wait for the plant to grow, flower, be pollinated, and grow a fruit (e.g. tomatoes or peaches). End on plants that you can eat the leaves from, like salad greens and herbs. Seed Packet Exploration: Introduce the seeds that are being grown. Pass out the seed packages to small groups, have students look at them. After a few minutes, ask groups to share one piece of information that is on the seed packet. Explain how the information relates to planting today. <i>Seed depth:</i> 1-3mm is very small, remember this when you plant them. <i>Seed spacing:</i> Give your seeds some space when you plant them. <i>Light levels:</i> Consider this when you decide where to put the containers of plants. <i>Days to sprout:</i> Refer to this when watching your plants sprout. - For this activity, <i>row spacing</i> and <i>days to maturity</i> (how long it takes for the plant to reach full size) is not relevant. How do you think seeds grow? Hand out one sheet, "How does a seed grow?" and a pencil to each student. Ask them		Hook: Lay out all of the supplies on a table at the front. Seed Exploration: Hand out the seed packets or show in a slideshow. Watch "How to grow lettuce at home" video (https://www.youtube.com/watch?v=ng9mXNsnb_0) Watch: "How Does A Seed Become A Plant?" video (https://www.youtube.com/watch?v=tkFPyue5X3Q) Growing Environment: Whiteboard writing.

to draw in how they think a lettuce plant grows in stages 1, 2, and 3, to end up looking like a head of lettuce in stage 4. What is happening above the soil? What is happening below the soil?

4. **Watch [Lettuce Growth Time Lapse](#).** Ask students to make any changes on their How Does a Seed Grow? sheet.
5. **Watch ["How Does A Seed Become A Plant?"](#):** After the video, review what a seed needs to grow into a plant. Some elements are water, soil, light, air/oxygen, temperature.

Prediction Activity:
Small group work.

Share: write variables brainstormed on whiteboard.

(Optional) [Bean Experiment](#) - Test these variables with growing beans.

Planting Salad Mix (10 minutes)

1. **Introduce:** Now we are ready to plant our salad mix! We will be growing them in ideal growing conditions, good air flow, warm, sunlight, and with a regular watering schedule.
2. **Demonstrate** what to do, or watch "[Planting Slideshow](#)."
3. **Planting Stations:** Organise students into groups of 3-4 people, proceed in order through the stations. While students are waiting, they can do the word search on the back of their papers.
Students will...
 - a. Fill growing containers with soil (likely outside).
 - b. Plant seeds, spaced out evenly, and not very deep.



- c. Water seeds.
- d. Write names on popsicle stick/masking tape that will label each container, and the crops growing in them.
- e. Put trays on the growing shelf/windowsill.

Planting Salad Mix

Before class: prepare materials for the groups (bag of soil, seeds in the 6-muffin trays, growing containers, masking tape, markers, watering can).

Stations' Supplies:

A: Containers and soil
B: 2 six-muffin trays with seeds in them



C: Watering can

D: Popsicle stick/masking tape and pencils or permanent markers.

Weeks 2-3: What do plants look like as they grow?
PROCESSING AND ANALYZING
Observe Salad Greens

1. **Salad Greens** - Make observations about growth on this Greens Observation Table. Students can measure growth with a ruler, and draw a picture of the seedlings. Continue until week 3.
2. **Watering:** Ensure that soil is kept moist (water likely daily or every other day), and do not let the soil dry out. A spray bottle is a good way to water the trays at the beginning.
3. Seed another 1-2 trays of salad greens if desired.

Extension:

- [What seeds do we eat? Lesson](#) from Edible Schoolyard Project

Week 4 - Harvest; How do different types of salad greens taste?
Salad Green Harvesting

1. **Introduce:** "Now that our salad greens are ready, it is time to pick them! Let's use our senses to observe the greens. You can touch, smell, and taste them."
2. **Food safety and tasting considerations:** Remind students to wash their hands first. They do not need to eat anything they don't want to, and can notice the colours and shapes.
3. **Harvest:** With their own containers, students can pinch off the salad green at the base of the plant to harvest it. What do you notice? Shape, taste, smell, use your senses. Fill out the "Tasting Salad Greens" chart about salad greens.

Salad Bar (Optional): Host a salad bar in your class, see the Module 1 on preparing a salad and making the salad dressing.

Planting: Seed another 1-2 trays of salad greens if desired.

Reflection:

- What would you need to grow salad at home? Where and how would you grow it?
- Which plants grew better than others? What could we do differently next time?
- Do bigger plants have bigger roots?
- What would happen if we let the plants keep growing in a bigger pot?

