

WEEK 1

It All Starts with a Seed!

Seeds, Science & Planting

~45 min total · 7 activities

Pre-Program Survey PROGRAM

□ 2 min

A baseline we'll return to to see how we've grown.

STEPS

1. Read the following welcome message out loud to students:

"Welcome, everyone. Over the next four weeks, you are going to do something that most people never get to do in school: grow your own food, right here in this classroom. You will plant seeds, watch them sprout, learn about where food comes from, and on our last day together you will harvest what you grew and taste it. The plants you grow belong to you. Let's begin."

1. Pre-program survey: Explain that you are going to ask four questions. Students raise their hand if the answer is yes. Count hands and record results — it helps us understand our impact. The BYFP team will reach out for these numbers.

"Have you ever grown your own food before?"

___ out of ___ students raised their hand.

"Do you know where most of your food comes from before it reaches your plate?"

___ out of ___ students raised their hand.

"When you eat, do you think about what's in your food and what it does for your body?"

___ out of ___ students raised their hand.

"Do you feel connected to nature?"

___ out of ___ students raised their hand.

Teacher tip › Please record these results and share them with the BYFP team — this data helps us measure program impact. The survey is anonymous; no need for students to write anything down.

Anatomy of a Seed SCIENCE

□ 6 min

All of this mass exists just so that the embryo can turn into a plant. Just like a rocket ship, the outer shell and food supply are discarded after use. The seed can wait years for the right moment to germinate. Isn't it amazing?

MATERIALS

- Slide 4 (seed anatomy diagram)
- Whiteboard or chart paper
- Optional: cross-section diagram of a seed
- Student journals

STEPS

1. Hold up a single kale seed. Ask: "Everything this plant will ever be is inside here. How?"

2. Briefly explain seed anatomy: embryo (the baby plant), endosperm (the food supply), seed coat (the protector).

3. Show a cross-section diagram or draw on the board.

4. Ask: "What's the seed's one job?" → Survival and reproduction.

5. Discuss: "If a seed's job is to survive and grow, what's our job as growers?"

6. Students record the 3 seed parts in their journals and explain each in their own words.

Teacher tip › The hook ("everything it will ever be is inside here") generates genuine wonder. Pause after saying it.

How Seeds Travel **SCIENCE**

□6 min

Seeds have evolved ingenious ways to move through the world — wind, water, animals, and more.

MATERIALS

- Slides 5 and 6 (seed dispersal method images)
- Student journals (optional)

STEPS

1. Ask: "Has anyone ever had a seed stuck to their clothes, or watched a dandelion fluff blow away?" 2-3 quick shares. Then: "Seeds can't walk. They can't fly on their own. And yet they spread all over the earth. How?"
2. Introduce the four main methods: wind (dandelion, maple helicopters), animals/birds (berries; burrs on fur), water (coconuts; mangrove seeds), and explosion (seed pods that catapult seeds when ripe).
3. Ask: "If you were a seed, which method would you choose? Why?"
4. Journal: Students draw and label their favorite dispersal method.

Teacher tip › Burdock burrs are especially memorable — they're the inspiration for Velcro!

Plants & People **NUTRITION**

□8 min

Plants need light, water, air, nutrients, and space. So do we. Food is our fuel.

MATERIALS

- Slide 7 (plants vs. people comparison chart)
- Whiteboard or chart paper
- Markers (two colors)

STEPS

1. Ask: "What does a plant need to grow?" Students brainstorm individually (~1 min), then share with a partner (~1 min).
2. Class shares out; teacher captures on board: light, water, air (CO₂), nutrients, space.
3. Connect each to the rack: "How does our rack provide each of these?"
4. Draw two columns on the board: PLANTS | PEOPLE.
5. Ask: "What do people need to survive and grow?" Guide students to match:
6. • Light → Sleep (energy to recharge)
7. • Water → Water (same!)
8. • Air → Air / movement / breath
9. • Nutrients → Food (vitamins, protein, minerals)
10. • Space → Space to grow mentally and emotionally
11. Ask: "So what is food, really, for our bodies?" → Fuel. "The same way light powers a plant, food powers us."
12. Ask: "What happens to a plant that doesn't get what it needs?" Connect: "What happens to us?"

Teacher tip › Don't rush through the matching — let students make the connections themselves before you confirm them. The moment they realize water is just water is usually a laugh.

TIMELAPSE: Photosynthesis in Action SCIENCE

□6 min

Plants make their own food from sunlight, water, and air — a process we can actually watch.

MATERIALS

- Slides 8 and 9 (plant growth timelapse videos)
- Projector or screen

STEPS

1. Tell students: "Let's watch what we're about to make happen."
2. Play the seed germination timelapse. Watch in silence for the first 30 seconds, then ask: "What are you noticing?"
3. Play the photosynthesis timelapse. Ask: "What is the plant doing with the light from our rack?" → Making sugar. Making food for itself.
4. Ask: "And what does it release as a byproduct?" → Oxygen. "That's the air we breathe."
5. Close: "In a few weeks, you'll see this happen with your own seeds. What you just watched — that's what's coming."

Teacher tip • Video links: • Seed germination: youtube.com/watch?v=c7Ya5xoy2nw • Photosynthesis: youtube.com/watch?v=w77zPAtVTul Pre-load both tabs before class. Aim for 2–3 minutes of video total.

Box Breathing Break MINDFULNESS

□2 min

We can use our breath to calm our bodies anywhere, anytime.

MATERIALS

- No materials needed

STEPS

1. Ask students to sit up tall, feet flat on the floor.
2. Say: "We're going to do four rounds of box breathing — the same technique used by athletes and astronauts to calm their nervous system."
3. Guide:
 4. • Breathe IN for 4 counts
 5. • HOLD for 4 counts
 6. • Breathe OUT for 4 counts
 7. • HOLD for 4 counts
8. Repeat 3–4 times.
9. After: "Notice anything different? Your body just shifted."
10. Say: "You can do this anytime — before a test, when you're upset, before you eat. Your breath is always with you."

Teacher tip • Do it with them — close your own eyes. It models that this is for everyone, not just kids. The hold is where the calm happens — don't rush past it.

Kale Planting SCIENCE

□15 min

MATERIALS

- Dixie cup with kale seeds (1 per student)
- Filled pot of soil (1 per student)
- 1 extra container of soil (1 per 5 students)
- Filled water bottles (1–2 per 5 students)
- See video tutorials for visual instructions

STEPS

Have the materials prepared before the class. All the pots filled and a tray with each table's supplies ready to hand out.

1. Explain the process of planting the seeds in the soil:
 - a. Make your soil flat, don't push too hard, just flatten. Demonstrate!
 - b. Seeds evenly spread, pat them down a little
 - c. Put a little extra soil on top so that you can't see the seeds
 - d. Water until it starts dripping out of the bottom (over the tray!!)
1. Go one step at a time with the students.
2. Once they are planted and watering, start cleaning up while they're finishing. Walk around and make sure they are doing it correctly.
3. Put all of the planted pots in one black tray on the rack. Make sure they wipe the desks clean.
4. Restock your table material sets with seeds and pots with soil for the next class (after class).

Teacher tip › Go slowly on seed distribution — students tend to dump. Show them the "pinch and scatter" motion.