CLASSROOM ACTIVITY

SPINACH

SOIL SCIENCE

Time:
1 hour, plus 15 minutes a day

Grade Level:
Grades 1-5

Objectives:

1. Students learn that different types of soil affect plant growth differently
2. Students plant spinach and observe plants over time
3. Students taste spinach

Standards:
NGSS Topic Area: Interdependent Relationships in Ecosystems
NGSS Topic Area: Earth's Systems: Processes that Shape the Earth

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Materials Needed:

- Spinach, raw or cooked, prepared for students to taste (with recipe if available). Baby spinach with a vinaigrette is an easy preparation (students could help prepare salad)
- Plain raw spinach for passing around to students
- Spinach seeds
- A pot for each group of students
- A bag of potting soil, a bag of compost, and a collected soil from around the school.
- Trowels and large bags

Instructor Steps:

1. Have students wash their hands and get ready to eat food. Run a taste test of the spinach with your students however you'd like and have them look at the nutrition facts! If the spinach was prepared with a recipe, please distribute to students.
2. Pass around the raw spinach, a bit for each group of students. Have the students think about what it took to grow that spinach. What do plants need to grow? (Soil, sun, air, water).
3. Tell students that soil is important for growing plants, and soil can have different characteristics. Different soils grow plants differently - some better than others.
4. Take a walking tour of outdoor spaces/gardens around your school. Have the students make observations about the soil in each area. What color is it? How hard or soft is it? What's growing in it? Are there different types of soil for different plants?
5. Have students collect soil from the various gardens around the school.
6. In the classroom, have the students make a list of words that could be used to describe soil (or dirt). Examples: soft, moist, cold, hard, gritty, dry, warm, thick, thin, fresh, chunky, etc.
7. Have students go into at least three groups for planting spinach seeds. Have them make a hypothesis about how the soil they choose will impact the growth of their spinach. Try to make sure that one group has a heavy clay soil, one group has a sandy silt soil, and group has a loamy soil. You can mix compost into the collected soil to make it work.
8. Plant the spinach seeds (make sure to water immediately) and either place in a sunny classroom spot, under growing lights, or outside in a sunny area.
9. Every day, have the students water and check on their spinach. Make observations about how the different soils are doing. Is one soil better or worse than the others?