Source Relay

What is agricultural literacy?
What is environmental literacy?
Why teach agriculture and environmental sciences?

- Everyone eats, so everyone is involved in agriculture and the environment
- Today’s students are far-removed from production agriculture - 1% of Oregonians are farmers
- Everyone’s responsibility to protect and preserve natural resources
- Agriculture and environmental sciences provide an arena for real-world discovery and problem-solving
Essential Question:
Where does agriculture and environmental sciences fit into content standards?
“Grown in Oregon” map

“Grown in Oregon” Interactive Map: https://oregonaitc.org/oregon-map/

Social Science Standards
Social Science Standards

Get Oregonized

Gyotaku - Fish Prints

Description:
Gyotaku (pronounced GEE-oh-7A1-ROO) is the traditional Japanese art of fish printing on rice paper. The word gyotaku comes from gyó = fish and taku = stone monument rubbing. Gyotaku dates back to the mid-1800s. The fish prints were a way fishermen could record the size and type of their catches. In this lesson students make their own fish prints.

Directions:
1. Cover the surface of your work area with newspaper.
2. Coat the brush or foam brayer with paint and evenly cover the top of the fish with ink/paint.
3. Cover any ink/paint which has gotten on the work area around the fish with clear newspaper. This will prevent unwanted blots from getting on the printing paper or fabric.
4. Holding onto the edge of your printing paper or fabric, carefully place it on top of the inked fish. Do not move the paper once it’s placed on the fish, as it will smudge.
5. Place the palm of one hand over the paper or fabric that is covering the fish. Try not to move this hand. Use the fingers and palm of your other hand to gently press down on the paper or fabric covering the rest of the fish. Press as much of the fish as possible, making sure to press the fins and tail. Do not press on the same area twice or the print will be smudged.
6. After you have pressed the entire fish, carefully peel off your paper or fabric from one end to the other. If you are using the same color paint for your next print you can apply another coat and repeat the process. If you want to use a new color simply wash the fish in warm, soapy water and pat dry. You will then be ready for a new color.

7. Complete the poetry activity and/or the fish anatomy worksheet on page 2.

Extension Activities:
Haiku poetry is another Japanese art form. These are short poems, often inspired by nature, and use sensory language to capture a feeling or image. Haiku poems have a specific format. They are divided into three phrases. The first phrase is five syllables long, the second is seven syllables and the third is five syllables. Have students write a Haiku about fish, the ocean or Oregon’s amazing coast. See the sample above, written by an elementary student.
Gyotaku Fish “Printing”

Lesson to Grow

Gyotaku - Fish Prints

Description:
Gyotaku (pronounced: gye-oh-take) is the traditional Japanese art of fish printing on rice paper. The word gyotaku comes from gyo = fish and taku = stone monument rubbing. Gyotaku dates back to the mid-1800s. The fish prints were a way fishermen could record the size and type of their catches. In this lesson, students make their own fish prints.

Directions:
1. Cover the surface of your work area with newspaper.
2. Coat the brush or foam brayer with paint and evenly cover the top of the fish with ink/ paint.
3. Cover any ink/paint which has gotten on the work area around the fish with clean newspaper. This will prevent unwanted blots/halos from getting on the printing paper or fabric.
4. Holding onto the edges of your printing paper or fabric, carefully place it on top of the inked fish. Do not move the paper once it is placed on the fish, as it will smudge.
5. Place the palm of one hand over the paper or fabric that is covering the fish. Try not to move this hand. Use the fingers and palm of your other hand to gently press down on the paper or fabric covering the rest of the fish. Press as much of the fish as possible, making sure to press the fins and tail. Do not press on the same areas twice or the print will be smudged.
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7. Complete the project activity and the fish anatomy worksheet on page 2.

Extension Activities: Haiku poetry is another Japanese art form. These are short poems, often inspired by nature, and use sensory language to capture a feeling or image. Haiku poems have a specific format. They are divided into three phrases. The first phrase is five syllables long, the second is seven syllables and the third is five syllables. Have students write a haiku about fish, the ocean or Oregon’s amazing coast. See the sample above, written by an elementary student.
Common Core State Standards

Lending Library:
https://oregonaitc.org/library/

*These items need returned
Lending Library: https://oregonaitc.org/library/
The Gift of Trees Lesson: [https://oregonaitc.org/lessonplan/the-gift-of-trees/](https://oregonaitc.org/lessonplan/the-gift-of-trees/)
Kits:

https://oregonaitc.org/library/oregon/?fwp_resource_type=kits

Common Core Standards

Kits

Busy Bees

Description:
Plants, including most crops needed for food, reproduce using pollination. Bees are some of the most important pollinators. Some bees are native and live in our yards, in leaf axils and nectariferous plants. These bees don’t have pollinators, so we shouldn’t be able to enjoy apples, oranges, carrots, and broccoli or other crops that depend on pollination.

Setting the Stage: Read a book
An age-appropriate book from the list at right is a perfect way to begin this lesson. The Beekeeper is a sweet story of a boy and his grandfather who is a beekeeper. Bees are essential to almost all types of agriculture, as they will drive the bees to the honey stores, where the beekeeper will pollinate all of our favorite foods. At the end of the book, there is a more in-depth look at beekeeping processes. There is also a section on pollination and bee-dancing on the last page that will help to explain the activities that will come next.

Part 1: Bee Dance
Have students stand up. Lead them in a movement activity where they pretend they are a bee doing a dance to show other bees where to find nectar. A round dance is performed when the nectar is closely by and have the students make a small circle by walking and buzzing slowly in one direction and then the other. Next, have the students pretend that the nectar is further away, this time they will do a waggle dance. Have the students walk in a figure 8 to show the other bees where to find nectar. For older grades, you can make them more advanced by running sharply or traveling further in their dance. See Extension Activities below and plan your and your exit!

Part 2: Busy Bees Activity
1) Begin by discussing how the beekeeper is a very important person because they ensure that our honeybees stay healthy, warm and alive during the winter months. Honeybees workers need a lot of energy to find favorable food sources.
2) Students have shown that many bees fly up to 6 miles to visit a nectar source.

*Generally, these items do NOT need returned*
Busy Bees

Lesson to Grow

Busy Bees

Description:
Plants, including most crops needed for food, reproduce using pollination. Bees are some of the most important pollinators. Some bees are native and live in our state, while others are imported. Insects are a major part of the ecosystem and play a role in the pollination cycle. Without pollinators, many plants could not reproduce. If there were no pollinators, we would not be able to enjoy apples, oranges, lettuce, and hundreds of other crops that depend on pollination.

Setting the Stage: Read a book
An age-appropriate book from the library can be a perfect way to begin this lesson. The Berman is a sweet story of a boy and his grandfather who is a beekeeper. Beekeepers are careful to protect all types of pollinators, so they will allow their beehives to flourish, whereas the honey bees will pollinate all of our favorite foods. At the end of the book, there is a nice scene of beekeeping processes. There is also a section on Pollination and Bee Dancing on the last page that will help to explain the activities that will come next.

Part 1: Bee Dance
Have students stand up. Lead them in a movement activity where they will pretend they are bee dancing. A simple dance is performed when the worker is hungry and has the students make a small circle by walking in a one direction and then the other. Have students pretend that the worker is a worker bee, and the circle is the hive. Have students pretend that the worker is a worker bee, and the circle is the hive.

Part 2: Busy Bees Activity
1. Begin by discussing how the beekeeper is a very important person because they ensure that honeybees stay healthy, remain and feed during the winter months. Pollen from flowers and petal nectar are the food sources for honeybees. Studies have shown that they fly up to 6 miles to visit a nectar source.

2. This activity allows us how natural bees help to pollinate our plants. Cross-pollination is how the pollen from plants like blueberries, apples, and tangerines is transferred to other plants by bees. Everyone in the class is going to have a specific bee to pollinate. The students will identify their plant and State where the plant is located. The plant is located.

3. This activity allows us to see the importance of bees, pollination, and the ecosystem. The students will identify their plant and State where the plant is located. The plant is located.

Busy Bees Lesson Plan: https://oregonaitc.org/lessonplan/busy-bees/
Lesson Plans

Next Generation Science Standards

Desktop Greenhouses

Grade Level(s)
3-5

Estimated Time
2 hours plus the week of observations

Purpose
Students will investigate the importance of light to plants by creating a desktop greenhouse investigation and exploring the process of photosynthesis.

Materials
- Bag City picture
- Solar power plant model
- Sunlight (as long as possible)
- Light sensor
- Large plastic cups
- Small plastic cups
- Black electrical tape
- Wax paper
- White paper
- Cardboard
- String
- Craft knife
- Tape
- Observation sheets

Activity 1: The Plants Need Light
- Observations: The plants in the large plastic cups grow taller than those in the small plastic cups.
- Conclusion: Light is necessary for growth.

Activity 2: Why is Light Important for Plants?
- Hypothesis: Plants need light for photosynthesis.
- Procedure: Students observe the growth of plants in different conditions.
- Results: Plants in the light grow faster than those in the dark.
- Conclusion: Light is essential for plant growth and photosynthesis.

Desktop Greenhouse Lesson Plan: https://oregonaitc.org/matrix/?lpid=700
Desktop Greenhouses

**Grade Level(s):**
3-5

**Estimated Time:**
2 hours plus one week of observations

**Purpose:**
Students will investigate the importance of light to plants by creating a desktop greenhouse and exploring the process of photosynthesis.

**Materials**
- **Interest Approach — Engagement**
  - Big City picture
  - PC, Greenhouse Card Stack on Vertical Funs for 2 nd Day
  - Activity 1: Do Plants Need Light?
    - Desktop Greenhouses video
    - 16-ounce clear plastic cups with lids, 2 per group
    - 16-ounce black plastic cups*, 2 per group
    - Black electrical tape*
    - Black card stock* (30)
    - 1/4 measuring cup or ruler
    - 1/8 teaspoon
    - 2” (2 peat pellets, 2 per group
    - Seeds* (either alfalfa and lettuce seeds)
    - Labels, 2 per group
    - White 3mm LED lights*, 1 per group
    - 3AAA coal batteries*, 1 per group
    - Craft knife
  - Desktop Greenhouse Observation Sheets, 1 packet per student
* These items are included in the Desktop Greenhouses Kit, which is available for purchase from oregonaitc.org.

- Activity 2: Why is Light Important for Plants?

Desktop Greenhouse Lesson Plan: [https://oregonaitc.org/matrix/?lpid=700](https://oregonaitc.org/matrix/?lpid=700)
What can we do during this time of distance and hybrid learning models to increase students’ agricultural and environmental literacy?
Program Information

Mission
To help students grow in their knowledge of agriculture, the environment and natural resources for the benefit of Oregonians today and in the future.

Overview
• Agriculture is used as a context to teach core subject standards
• Cross-curricular hands on materials and lessons geared towards core standards for all educators
• K-12, public, private, homeschool, afterschool, extracurricular, in all 36 counties of Oregon
• Supported by agricultural community
Programs and Activities

- Annual Calendar art contest
- Annual Literacy Project
- Literature Circle Guide and Suggested Reading
- Spanish translated lessons and resources
- Virtual Field Trips
- Virtual professional development
Thank You!

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