

Environment & Ecology Activity Guide

Objectives

In this unit, students will:

1. Explore and identify the factors that are necessary to effectively grow plant matter.
2. Classify the types and uses of energy systems.
3. Determine the impact of polluted water and develop a protocol for clean water availability.
4. Apply media research skills to discover and categorize career paths related to environment and ecology.
5. Identify and list benefits of recycling and how recycling reduces energy usage, landfill impact, and pollution for the local and global community.

Day #	Activity #	Activity Description	Type of Activity
1	1	Hydroponic Growth Grow plants in a hydroponic greenhouse. Lettuce and cabbage seeds seem to work the best. Marigolds, sunflowers, and morning glory seeds also germinate well. Mix up Hydro Green solution in advance. 1 qt will last at least 8 weeks.	Project
1	2	Hydroponics Review how it works, why its beneficial to grow in different environments	Video
2	1	Observing Seed Growth	Project
2	2	Water Science for Schools Learn about the water cycle from clean to dirty and back again; worksheet	Internet
3	1	Checking Seeds/Planting Seeds Plant the germinated seeds if they are ready	Project
3	2	pH Testing Test the sample solutions for pH. Also test for mineral and scale deposits. Prepare at least 3 water samples in advance.	Project
4	2	Going Green Explore how one family reduces waste. Discuss video with instructor.	Video
5	1	Plant Growth Check on seeds. Describe seeds in journal.	Project
5	2	Narrative Writing activity/on-screen multiple-choice test Explain the necessary steps for testing pH levels in water samples and how you can regulate them.	Test
6	1	Observing Seed Growth Check the seeds; you should see the green leaves expanding	Project
6	2	Weighing Packages and Testing Contents PART 1 Learn about packaging and its impact on the amount of trash generated everyday	Project
6	2	Weighing Packages and Testing Contents PART 2 Complete a packaging materials test. You could use a CD with jewel case, VCR tape with case, cassette tape with case, software carton with manual and software. A triple beam scale is best for accurate measurement.	Project

Days 7-10 continued on next page

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Day #	Activity #	Activity Description	Type of Activity
7	1	Observing Seed Growth Check the seeds; leaves should be expanding upward and growing larger	Project
7	2	Recycling Recycling worksheet.	Project
7	3	Recycling Explore how recycling affects our world. Write in journal	Internet
8	2	Biomass Explore energy efficiency as it pertains to biomass. Complete worksheet.	Internet
9	1	Observing Seed Growth Check the seeds; discuss seed growth with instructor. Plants should be growing larger and be ready for transplanting on Day 10	Project
10	1	Transplanting Transplant seedlings so you can take them home	Project
10	2	Design Brief	Project
10	3	Persuasive Writing activity/on-screen multiple-choice test What type of recycling plan can be implemented to reduce the amount of garbage that goes into the landfill?	Test