

# Jay Curriculum: Unit Cover Page

**Unit title:** Ecology

**Grade Level:** 5

**Content Area(s):** Science

**Date Created:**

**Designed By:** Jay Fifth Grade Teachers

## Year 1 Map & Template Development

- Map/Matrix Completed
- Material & Resources Listed
- Draft Design Template Completed
- Initial Draft Template Document

## Year 2 Piloting

- Develop:
- Performance Tasks
- Other Assessments
- Scoring Rubrics
- Piloted

## Year 3 Review & Complete Assessment

- Performance Tasks Development
- Other Assessments Completed
- Scoring Rubrics Completed
- Reviewed/Revised Templates

## Year 4

- Full Implementation
- Benchmarks Established

### Standard(s)/Performance Indicators:

- B2 Analyze how the finite resources in an ecosystem limit the types & population of organisms within it
- B3 Describe succession and other ways that ecosystems can change over time
- B4 Generate examples of the variety of ways that organisms interact (e.g. competition, predator/prey, parasitism/mutualism)
- E2 Describe the evidence that all matter consists of particles called atoms that are made up of certain smaller particles
- F2 Describe how soils are formed and why soils differ from one place to another
- F4 Describe factors that can cause short-term and long-term changes to the earth
- H2 Demonstrate that energy cannot be created or destroyed but only changed from one life form to another
- H5 Categorize energy sources as renewable or non-renewable and compare how these sources are used by humans
- J2 Design and conduct scientific investigations which include controlled experiments and systematic observations
- K4 Analyze means of slanting information
- K8 Construct logical arguments
- L1 Discuss scientific and technological ideas and make conjectures and convincing arguments
- L2 Defend problem-solving strategies and solutions
- L3 Evaluate individual and group communication for clarity, and work to improve communication
- L4 Make and use scale drawings, maps, and three-dimensional models to represent real objects, find locations, and describe relationships.
- M1 Research and evaluate the social and environmental impacts of scientific and technological development
- M4 Describe an individual's biological and other impacts on an environmental system
- M6 Give examples of actions which may have expected or unexpected consequences that may be positive, negative or both
- M7 Explain the connections between industry, natural resources, population, & economic development

**Unit:** Ecology

### **Brief Summary of Unit/Topic**

**Summary:**

Students will learn about ecology through a variety of presentations, class discussions, hands on activities, and collaborative efforts. The concept of community, environmental factors, and issues, and recycling will be studied to help students become responsible and informed thinkers.

### **Stage #1: Identify Desired Results**

**Essential Question/s:**

**General understanding/s (What is worth being familiar with?)**

- The environment is a delicate system that needs to be considered in all of our actions.

**Students will know:**

- What ecology is
- How populations exist in a particular ecosystem
- How certain living things have adapted to different situations
- What the atmosphere is
- What the greenhouse effect is
- There are different relationships between living things
- Everything is made up of atoms
- Some of what makes up our soil
- A variety of things that impact our environment both positively and negatively
- We cannot destroy energy
- There is a possibility of running out of certain resources
- How to develop experiments to test out hypotheses
- Not everything written or said is accurate
- How to justify their position on an issue

**Students will be able to:**

- Name the earth cycles
- Name the main ingredient of air
- Design experiments to test for water pollution
- Assess environmental needs and determine goals
- Prioritize goals and realize that these priorities have consequences
- Create a device that will solve a real world environmental issue
- Defend logically their position on an environmental issue
- Perform a role within a group to try and solve an environmental problem
- Design a project or drawing that represents and explains an ecosystem
- Compare how different types of technology affect our environment

**Enduring Understanding/s:**

**Stage #2: Evidence**

What evidence will students have to provide in order to demonstrate that they have developed the skills, knowledge and understanding to successfully complete this unit?

Performance Tasks/Products/other assessments Performance tasks should have a <u>scoring guide</u> .	<i>Performance Indicators</i> for this task.* Example: <b>ELA: C- 1,2,3</b> <b>Science: B- 3,5,7</b> <b>SS His: H- 2</b>	<u>Modalities</u> <b>K</b> =Kinesthetic <b>O</b> =oral <b>V</b> =visual <b>W</b> =written	Are <u>examples</u> available to students? ? <b>Y, N, or N/A</b>	Component of Local Assessment System?  <b>Y or N</b> (See <u>aligned scoring guide</u> .)

\*Abbreviate: English Language Arts= ELA, Career Preparation=CP, Modern and Classical Languages=MCL, Social Studies=SS, Visual and Performing Arts=VPA

**Stage #3: Plan learning experiences & instruction**

What teaching & learning experiences may equip students to develop & demonstrate the targeted understanding(s)? (activities/plans):

**REFERENCES:**