

# Jay Curriculum: Unit Cover Page

**Unit title:** Oceans **Grade Level:** 4  
**Content Area(s):** Science **Date Created:**  
**Designed By:** Jay Fourth 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:

- A1 Group the same organisms in different ways using different characteristics
- A2 Design and describe a classification system for organisms
- A3 Describe the different living things within a given habitat
- A4 Compare and contrast the life cycles, behavior, and structure of land by the school
- B1 Describe a food web and the relationships within a given ecosystem
- B2 Explain the difference between producers (e.g. green plants), consumers (e.g. those that eat green plants), and decomposers (e.g. bacteria that break down the “consumers” when they die), and identify examples of each.
- B3 Compare and contrast physical and living components of different biomes – i.e. regions characterized by their climate and plant life – (e.g. tundra, rain forest, ocean, desert)
- B4 Investigate the connection between major living and non-living components of a local ecosystem
- D3 Explain how adaptations, in response to change over time, may increase the species’ chances of survival
- D4 Describe ways in which organisms may be similar to and different from their parents and explore the possible reasons for this.
- F4 Illustrate how water and other substances go through a cyclic process of change in the environment
- L5 Gather and effectively present information using a variety of media including computers (e.g. spreadsheets, word processing, programming, graphics, modeling)

**Unit:** Ocean

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

**Summary:**

The Ocean Unit introduces the students to oceanography through the study of tide pool life, the water cycle, and ocean resources. Students will investigate the importance of protecting the ocean storehouse from over harvesting and pollution.

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

**Essential Question/s:**

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

- The students will study tide pool life, water cycle and ocean resources.

**Students will know:**

- Ocean plants and animals can be grouped in different ways using different characteristics – example: by color, size, gender
- Certain plants and animals can be found within the tide pool habitat
- Food webs are found within the ocean community
- The ocean is the source of most of the Earth's water
- There are many differences between bodies of fresh water and salt water
- The water cycle is the evaporation and condensation of water over and over again
- Adaptations have enabled different species to survive
- The ocean is a rich source of food, oil and as, salt and metals.
- We must use the ocean wisely and protect it from pollution
- The movement of ocean water in a circular path is called a current
- The ocean provides an opportunity for many careers
- The rise and fall of the oceans are caused by the gravitational pull of the moon and are called tides
- All living things change over time.

**Students will be able to:**

- Group the same organisms in different ways using different characteristics
- Design and describe a classification system for organisms
- Describe the different living things within a tide pool
- Compare and contrast the life cycle, behavior and structure of different ocean plants and animals
- Explain and label the members of an ocean food web (producers, consumers, and decomposers)
- Compare and contrast ocean life with desert life
- Explain how adaptations enable different species to survive
- Describe ways in which organisms may be similar to and different from their parents and explore the possible reasons for this
- Illustrate and explain the water cycle
- Gather and present information about an ocean creature

**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 <a href="#">aligned scoring guide</a> .)
Given a collection of shells or other ocean specimens, students will sort according to specific properties	A1			
Create and explain criteria for classifying ocean specimen	A2			
Identify and describe plants and animals found in tide pool and ocean areas	A3			
Using resource materials the student will label diagrams identifying the structure of fish and lobsters	A4			
Study and explain an ocean food chain	B1			
With teammates, create the members of an ocean food chain and role play their relationships	B2			
Create a diorama	B3			
Listen to a speaker explain an ocean ecosystem	B4			
Discuss different adaptation of several ocean creatures and how these adaptations have affected their survival.	D3			
Research, contrast and compare differences between adult lobsters and their young. Draw the life cycle of the lobster	D4			
Draw, label and explain the water cycle	F4			
Create and share an informational Maine/Ocean brochure	L5			
QUIZZES, TESTS, PROMPTS				
List 5 or more facts learned				
Oral presentation				
Ocean test				

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OTHER				
Teacher observation				
Class chart to show sorting properties				
Create a poster				
Identification worksheet				
Label diagrams				
Reports				
Create an ocean food chain				
Teacher observation using product descriptor				
Diorama following a rubric				
Drawing of lobster life cycle				
Drawing of water cycle – using rubric				
Informational brochure				
STUDENT SELF ASSESSMENT				
Rubric check sheets				

\*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):**

\*Resources – Ocean Kits, science text

1. Group shells by properties such as color, size, etc.
2. Read or listen to books about ocean food webs
3. Make an ocean food web diagram
4. Observe videos and filmstrips about the oceans. Write webs or summaries
5. Use the Ocean computer program to identify ocean creatures and write stories
6. Use activity sheets and books to identify ocean creatures
7. Conduct evaporation experiment with salt water
8. Make a diagram of the water cycle (p. 183 science text)
9. Do condensation experiment (p.184 science text)
10. Explore the Lobsterman's internet site and answer questions of the packet

### **REFERENCES:**