

TIDE POOL PAINTING

Topic

Tide Pool, Adaptations

Duration

Two sessions

Vocabulary

adaptation
intertidal zones
tide
tide pool

STANDARDS

Practices

Engaging in Argument from Evidence

Core Ideas

Ecosystem Dynamics, Functioning, and Resilience

Crosscutting Concepts

Scientific Knowledge Assumes an Order and Consistency in Natural Systems

OCEAN LITERACY PRINCIPLES

OLP 2, OLP 5

FOCUS QUESTION

What is a tide pool?

OVERVIEW

Students make inferences of what a tide pool is based on their prior knowledge and experiences. Students identify the term “tide pool.” Students listen to the book *Between the Tides* by Fran Hodgkins (or another book on tidal pools) and create a T-Chart of the knowledge they learned from the reading. Students illustrate the knowledge they have learned from the non-fiction book by creating a mixed-media piece of art.

OBJECTIVES

Students will be able to:

- ★ Identify the term “tide pool”
- ★ Identify different organisms that reside in a tide pool
- ★ Explain how a tide pool is formed, how it can be a harsh environment, and what adaptations organisms have that enable them to survive in a tide pool
- ★ Illustrate a tide pool using mixed-media by referring to the knowledge they have attained

MATERIALS NEEDED

- ★ Tide Pool T-Chart (one per student, page 90)
- ★ Blank white paper (two per student)
- ★ Pencils
- ★ Watercolor paints
- ★ Scissors
- ★ Glue

TEACHER PREPARATION

1. Each student will need a copy of the Tide Pool T-Chart activity sheet.
2. The teacher will need a copy of Fran Hodgkins’ book *Between the Tides*. Other tide pool books could be substituted for this lesson.
3. Prepare art supplies for each student.
4. Teachers will need easy access to a whiteboard or interactive whiteboard to record Tide Pool T-Chart feedback.





Teacher Tips

- ★ Instead of students drawing organisms, teachers can print out actual photographs or illustrations of tide pool organisms for students to cut out and paste to their watercolor painting.
- ★ Read the story to the students more than once.
- ★ Students could fill out their Tide Pool T-Chart as the story is being read.



Extension Suggestions

- ★ Have students participate in “Tide Pool Math” activities created by the Bureau of Ocean Energy Management.



Books

- ★ *Between the Tides* by Fran Hodgkins
- ★ *Ocean Soup: Tide Pool Poems* by Stephen R. Swinburne

BACKGROUND

Tide pools are shallow bodies of saltwater that are left behind when the tide recedes. Tide pools are found in the intertidal zones of the rocky shore. Tide pools are homes to many organisms that need to be able to survive very harsh conditions. These harsh conditions include the power of the waves and currents, the fluctuation of temperature, the fluctuation of salinity and oxygen levels, and the openness to predators.

PROCEDURE

Part One

1. Ask students to recall the definition of a tide.
2. Ask students to define the word “pool.”
3. After listening to student answers, ask students to use their knowledge of tides and experiences with pools to infer what the term “tide pool” means.
4. Tell students and write visibly for all students the definition of a tide pool: a shallow body of saltwater that is left behind when the tide recedes (goes out).
5. Explain to students that tide pools occur in the intertidal zones and are the home to many organisms that need to be able to survive very harsh conditions.
6. Ask students why a tide pool would be considered a harsh place to live.
7. Inform students that you are going to read a book about tide pools titled *Between the Tides* by Fran Hodgkins. Ask them to listen closely for the different adaptations each organism has that are mentioned in the book.
8. When the reading is finished, assist students in filling out their Tide Pool T-Chart.

Part Two

9. Inform students that they are going to be creating a tide pool painting.
10. Provide students with the following steps to help guide them as they create their tide pool painting:
 - a. Have your blank paper in a horizontal (hot dog) position.
 - b. With a pencil, draw a line three-fourths from the bottom of the paper.
 - c. With a pencil, draw an outline of a tide pool showing the rocks beneath and above the water (i.e. from the point of view of a sea urchin).
 - d. With watercolor paints, paint the rocks above the water but not under the water.





Websites

- ★ Check out a quick time-lapse video of a tide pool as the tide comes in at the Seacoast Science Center's YouTube Channel titled "Rising Tide."
- ★ Check out a video on a tide pool touch tank and its many organisms on the Seacoast Science Center's YouTube Channel titled "#OceanRunnerNH: Tide Pool Touch Tank."
- ★ Have students participate in a short interactive activity of identifying tide pool organisms on the PBS LearningMedia website titled "Exploring Tidepools."



Scientist Notebook

- ★ Students can record the challenges and adaptations of organisms found at the upper intertidal zone.

PROCEDURE (CONTINUED)

- e. Paint the sky above the tide pool a darker blue and the water a lighter blue (or use the same blue paint but water it down more to paint the water).
 - f. Let the paint dry.
 - g. While the paint is drying choose at least five tide pool organisms to draw on another blank piece of paper using colored pencils, markers or crayons. Make sure the size of the organisms will look accurate as students will be pasting them to their paintings. If possible, attempt to draw them using their adaptations.
 - h. When the paint is dry and the drawings are complete, cut out and then paste the drawings to the painting.
- II. Have students share their paintings with partners and/or the class by pointing out the organisms they created and discussing the adaptations of each organism.

WRAP-UP

- ★ Ask students to identify the term "tide pool."
- ★ Ask students to recall the location of tide pools, and the different organisms that can be found in a tide pool.
- ★ Ask students to recall the different adaptations organisms of tide pools possess.
- ★ Students may bring their T-Charts home, or paste them into their science notebooks (if applicable). Teachers can display student artwork or send home with students.



TIDE POOL T-CHART

Name: _____

Date: _____



Tide Pool Organisms	Adaptations

