

ESTUARY EXPLORATION

STUDENT TARGETS

- **Skill:** I will demonstrate balance as I move through open space.
- **Cognitive:** I will learn about activities that occur in an estuary while exploring general space.
- **Fitness:** I will demonstrate muscular strength and endurance while pretending to explore an estuary.
- **Personal & Social Responsibility:** I will work safely with my classmates as we learn about estuaries.

TEACHING CUES

- Scooter Safety (See Poster)
- Active Eyes
- Tag Safely with Noodle

ACTIVITY SET-UP & PROCEDURE

Equipment:

- 1 scooter per student
- 12–15 hoops
- 12–15 cones
- 3 pinnies (rain coats)
- 3 noodles (crab nets)
- Scooter Safety Poster

Set-Up:

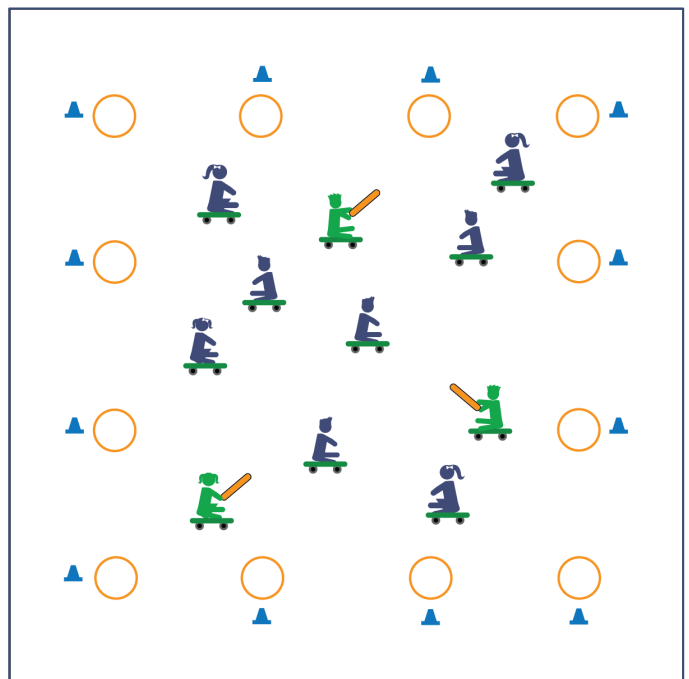
1. Scatter the hula hoops around the perimeter of the bay (activity area) to serve as crab nets. Place a cone next to each hoop.
2. Assign 3 students as “watermen,” each with a pinnie and a noodle.
3. All students begin on scooters. Use the Scooter Safety Poster to remind students of proper positioning and scooter safety.

Activity Procedures:

1. This activity is called Estuary Exploration. We’ll learn about estuaries with a chasing and fleeing game.
2. You might have heard the words “harbor,” “bay,” “inlet,” or “sound.” These are all different words for an estuary, a partially enclosed area of water where fresh water from rivers and streams mixes with salt water from the ocean. They are a place where the land and the sea meet. The biggest estuary in the United States is the Chesapeake Bay.
3. The 3 students with pinnies and noodles are watermen. Watermen work the estuary, harvesting crabs and other resources from the bay. All other players are crabs living in the estuary.
4. When I say, “GO,” the watermen will chase and try to tag the crabs with their crab nets (noodles).
5. If a waterman tags a crab, the crab goes to 1 of the crab traps (hula hoops), parks their scooter (wheels up), and performs mummy jacks in the crab trap. Another crab can rescue them by lifting the cone so that the crab(s) can crawl out. If the watermen get all the crabs into traps at once, crab season is over.

Standards & Outcomes Addressed:

- **Standard 2 [E1.3-5]:** Recognizes the concept of open spaces in a movement context (3); Applies the concept of open spaces to combination skills involving traveling (e.g., dribbling and traveling) (4a); Combines spatial concepts with locomotor and non-locomotor movements for small groups in gymnastics, dance, and games environments (5).
- **Next Generation Science Standard 3-LS4.D:** Populations live in a variety of habitats, and change in those habitats affects the organisms living there.





CONNECTION NOTES

PROTECTING THE ESTUARY

STUDENT TARGETS

- **Skill:** I will demonstrate balance as I move through open space.
- **Cognitive:** I will learn about activities that protect the estuary while exploring general space.
- **Fitness:** I will demonstrate muscular strength and endurance while pretending to explore an estuary.
- **Personal & Social Responsibility:** I will work safely with my classmates as we learn about the Chesapeake Bay.

TEACHING CUES

- Scooter Safety (See Poster)
- Work Together
- Reduce, Reuse, Recycle

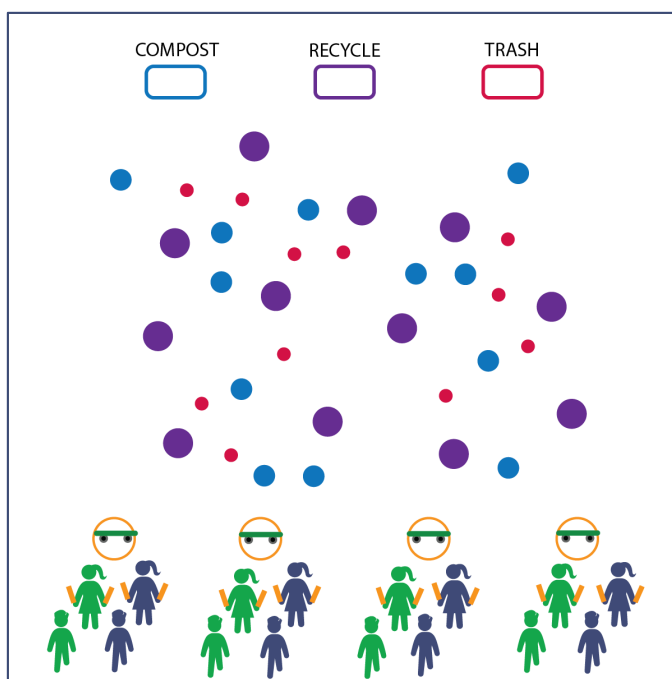
ACTIVITY SET-UP & PROCEDURE

Equipment:

- 1 scooter per 4 students
- 2 half-cut noodles per 2 students
- 30–50 balls of different colors or sizes
- 1 hoop per 4 students
- 3 storage bins

Set-Up:

1. Place hoops at the end of the activity area with 1 scooter inside each hoop.
2. Place the storage bins at the other end of the activity area. Label them “trash,” “recycle,” and “compost.”
3. Scatter the balls in general space.
4. Pair students, 2 pairs standing behind each hoop. Give 1 person from each pair 2 noodles.



Activity Procedures:

1. Today’s activity is called Protecting the Estuary. In this game, we will learn about conservation and ways to help protect our estuaries.
2. Human activities on land can harm the estuaries’ health and often damage living conditions for the creatures that live in and visit the estuaries. Stream and river banks can be damaged by erosion that comes from outdated agricultural or forestry methods, or by construction too close to the stream. Today we are going to be cleaning up the shores and beaches of the bay (gym floor).
3. When I say, “GO!” 1 set of partners at your dock (hoop) will work together to pick up waste (balls) off the beach. Partner 1 will drive the boat, and Partner 2 will work the nets (noodles) to gather the waste. Do not use your hands.
4. After picking up the waste, bring it back to the docks. Then the next pair will complete the activity. Continue until all waste has been cleaned off the beach.
5. Once all the waste has been picked up, work with other students at your dock to sort the trash into 3 piles: waste, recycling, compost. (Teachers, choose a color or size ball to represent each type of waste.)

Next Gen Extension: Develop (and/or promote) in-school recycling and composting programs to emphasize the importance of conservation.

PROTECTING THE ESTUARY

UNIVERSAL
DESIGN
ADAPTATIONS

- Perform the activity without scooters and use only locomotor movements.
- Allow students to pick up and carry objects with their hands.

ACADEMIC
LANGUAGE

Bay, Compost, Conservation, Estuary, Landfill Waste, Reduce, Reuse, Recycle

STANDARDS
& OUTCOMES
ADDRESSED

- **Standard 2 [E1.3-5]:** Recognizes the concept of open spaces in a movement context (3); Applies the concept of open spaces to combination skills involving traveling (e.g., dribbling and traveling) (4a); Combines spatial concepts with locomotor and non-locomotor movements for small groups in gymnastics, dance, and games environments (5).
- **Standard 2 [E2.3-5]:** Recognizes locomotor skills specific to a wide variety of physical activities (3); Combines movement concepts with skills in small-sided practice tasks, gymnastics, and dance environments (4); Combines movement concepts with skills in small-sided practice tasks/games environments, gymnastics, and dance with self-direction (5).
- **Next Generation Science Standard 5-ESS3.C:** Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth’s resources and environments.
- **Next Generation Science Standard 3-LS4.D:** Populations live in a variety of habitats, and change in those habitats affects the organisms living there.

DEBRIEF
QUESTIONS

- **DOK 1:** What are human activities that we could include on a list of things that negatively impact estuaries?
- **DOK 2:** How can human activities positively affect estuaries?
- **DOK 3:** How is the health of our estuaries related to our community’s health?
- **DOK 4:** Let’s create a daily plan that will include 3 things we can do to help keep our environment healthy.

TEACHING
STRATEGY
FOCUS

Make Connections: Learning about the environment and how it links to the health of the planet is very important to understanding our connection to the environment and our community. Without healthy estuaries, the food chain and water supply suffer and negatively impact our way of life. Helping students understand this link will strengthen our communities and help our local ecosystems thrive. If everybody does their part for the environment, we all win.

CHESAPEAKE BAY RESTORATION

STUDENT TARGETS

- **Skill:** I will demonstrate balance and coordination on a scooter.
- **Cognitive:** I will discuss ways to keep an estuary healthy.
- **Fitness:** I will apply muscular strength and endurance to scooter activities.
- **Personal & Social Responsibility:** I will work safely with my classmates as we pretend to swim in the Chesapeake Bay.

TEACHING CUES

- Stay in the Channel
- Scooter Safety
- Move in Personal Space

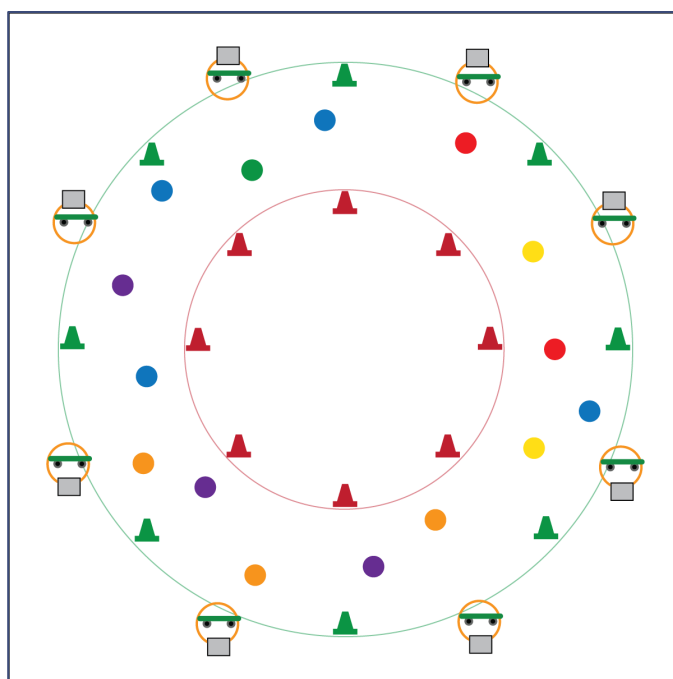
ACTIVITY SET-UP & PROCEDURE

Equipment:

- 1 scooter per group of 3 students
- 4–8 green cones
- 4–8 red cones
- 30–50 poly spots (in 6 colors)
- 1 task card per group of 3 students

Set-Up:

1. Develop a circular boating channel using cones: Arrange red cones in a circle in the middle of the activity area, and arrange green cones in a circle around on the outside of the room as a safety zone for the shallow water areas of the bay.
2. Create a series of “docks” by placing 1 hoop and scooter together on the perimeter in between the green cones. Place a task card inside each hoop.
3. Scatter poly spots throughout the boating channel.



Activity Procedures:

1. Today’s activity is called Chesapeake Bay Restoration. The object of the activity is keep the estuary healthy while driving your boat around the bay as many times as you can.
2. You will take turns with the other students in your group by driving the boat (scooter) safely through the channel. Your goal is to avoid the man-made environmental conditions (poly spots) that are causing illness and damage within the bay. Each color represents a different environmental factor.
3. When I say, “GO!” 1 student from each group will begin driving their boat (laying down on the scooter in the prone position or on bottom with feet propelling them forward). Drive your boat in the zone between the red and green cones while trying to avoid the poly spots. If you touch a spot, remember its color.
4. When you return from your lap around the channel, your group must complete the physical challenges from the task card that matches the environmental hazards you touched with your boat. By completing the challenges, you will be working to actively reduce the amount of pollution in the bay (restoration).
5. Your group will take turns driving the boat around the bay. Keep track of the number of laps your group completes without touching a spot. At the end of the time period, the group with the greatest number of clean laps completed will receive the “most responsible boat on the water” award.

Next Gen Extension: Take students on a walking field trip in the community to pick up trash and clean up storm runoffs that drain to local waterways.

BAY RESTORATION

UNIVERSAL
DESIGN
ADAPTATIONS

- Perform the activity without scooters and use only locomotor movements.
- Use few (or no) poly spot obstacles.
- Use brightly colored spots and boundaries.
- Provide auditory signals to help students with visual impairments move around the channel.

ACADEMIC
LANGUAGE

Conservation, Dead Zones, Environmental Impact, Estuary, Natural Resource, Plastic, Restoration

STANDARDS
& OUTCOMES
ADDRESSED

- **Standard 1 [E11.3-5]:** Combines locomotor skills and movement concepts (levels, shapes, extensions, pathways, force, time, flow) (3); Combines locomotors and movement concepts (levels, shapes, extensions, pathways, force, time, flow) (4); Combines locomotor skills and movement concepts (levels, shapes, extensions, pathways, force, time, flow) (5).
- **Standard 2 [E1.3-5]:** Recognizes the concept of open spaces in a movement context (3); Applies the concept of open spaces to combination skills involving traveling (4a); Combines spatial concepts with locomotor and non-locomotor movements for small groups in game environments (5).
- **Next Generation Science Standard 5-ESS3.C:** Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth’s resources and environments.
- **Next Generation Science Standard 4-ESS3.A:** Energy and fuels that humans use are derived from natural sources, and their use affects the environment in multiple ways. Some resources are renewable over time, and others are not.
- **Next Generation Science Standard 3-LS4.D:** Populations live in a variety of habitats, and change in those habitats affects the organisms living there.

DEBRIEF
QUESTIONS

- **DOK 1:** What is restoration?
- **DOK 2:** What does restoration look like in an estuary like the Chesapeake Bay (or name your local estuary)?
- **DOK 3:** How is the use of gasoline related to estuary health?
- **DOK 4:** Let’s identify strengths and weaknesses in our community related to estuary health. What are weaknesses that we can work to improve upon?

TEACHING
STRATEGY
FOCUS

Cause and effect: While discussing estuary health, it’s important to help students explore the cause and effect relationships that exist between humans’ use of energy and fuels and their effects on the environment.