Focus Question
What is marine conservation?

Overview
Students define the terms “conservation” and “marine conservation.” Students discover facts about ocean pollution. Students design and create a recycled product out of plastic trash. Students discover the differences between reuse, reduce, and recycle.

Objectives
Students will be able to:
- Define conservation and marine conservation
- Discover ocean pollution facts
- Design and create a recycled product
- Recognize the difference between reuse, reduce, and recycle

Materials Needed
- Plastic trash items such as milk jugs, soda rings, water bottles, DVD cases, plastic cutlery, straws, plastic bags, etc.
- Craft items such as tape, glue, and scissors
- Projector or SMART Board to show online video. YouTube Channel Episode Suggestions: “How We Can Keep Plastics Out of Our Ocean” by National Geographic, or “Ocean Trash is a Problem You Can Solve” by Ocean Conservancy.
- The projected image or print-out of Ocean Conservancy’s “Top Ten Item’s Found” International Coastal Cleanup graphic (page 214)
- Computers or tablets for student research
- A large paper or cloth bag
- Plain white paper

Teacher Preparation
1. Reserve computers or tablets (one per student).
2. Collect plastic trash items (see ideas for items above).
3. Prepare craft items such as tape, glue, and scissors for students.
Teacher Preparation (continued)

4. Prepare to show an online video on ocean conservation using a projector or SMART Board (recommended videos above).

5. Prepare to project Ocean Conservancy graphic (page 214) or print out for each student to see.

6. Get a large paper or cloth bag.

7. Gather plain white pieces of paper for each student.

Background

Conservation is the protection of things found in nature. Conservation requires the wise use of Earth’s natural resources. Conservation includes taking action to preserve natural resources.

Three ways to conserve resources is by reducing, reusing, and recycling. The process of reducing is using fewer things so less trash is created. The process of reusing is using things over and over again instead of throwing them away. The process of recycling is turning potential trash into something that can be used.

Marine conservation is the protection and preservation of ecosystems in oceans and seas. Marine conservation includes preventing damage caused by humans to marine ecosystems and restoring damaged marine ecosystems.

Procedure

Part One

1. Have students sit in their seats and begin walking around the room with a paper or cloth bag. Put items made out of plastic into the bag without explaining to students what you are doing. If you take any items off of student desks, reassure them that you will return their items.

2. Take all of the items out of your bag and place them on a desk in front of the classroom.

3. Ask students what all of the items have in common. If students do not come up with the answer, inform them that each item is made out of plastic.

4. Ask students where plastic items go when they are done being used.

5. Inform students that plastic items have three main destinations: landfills, the ocean, and recycling centers.

6. Ask students how much plastic they think ends up going into the ocean.

7. Inform students that researchers have estimated that about 4 million to 12 million metric tons of plastic washed offshore in 2010 alone, or about 1.5% to 4.5% of the world’s total plastic production—enough to cover every foot of coastline on the planet. One metric ton equals 2,205 pounds.
Procedure (continued)
8. Show students the Ocean Conservancy graphic showing the top ten items found by an international coastal cleanup crew. Ask students how many of the top ten items are made out of plastic (seven).
9. Have students watch one of the suggested online videos above, or another video of your choice on marine conservation.

Part Two
10. Ask students if they know what the processes of reducing, reusing, and recycling are.
11. Inform students of each process and provide examples.
12. Inform students that today they are going to be participating in the process of recycling.
13. Show students all of the plastic trash items you have collected.
14. Inform students that they are going to be researching ways plastic items are recycled, and then they are going to be designing and creating their own recycled plastic products out of the plastic items you have collected.
15. Have students research plastic recycling ideas on student-friendly search engines such as www.kidtopia.info.
16. Inform students that they can either imitate ideas they found using their research or they can come up with their own ideas on how to make a plastic recycled product.
17. Have students collect plastic trash items and draw a diagram of their plastic recycled product before they create their product.
18. Once students have collected their plastic items and designed their product they can create their plastic recycled product using the items you have provided for them.

Wrap-up
★ Ask students to identify the terms “conservation” and “marine conservation.”
★ Ask students to identify the terms “reduce,” “reuse,” and “recycle.”
★ Ask students why people should know about marine conservation and why people should reduce, reuse, and recycle.
## Top 10 Items Collected

<table>
<thead>
<tr>
<th>Rank</th>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cigarette Butts</td>
<td>2,127,565</td>
</tr>
<tr>
<td>2</td>
<td>Plastic Beverage Bottles</td>
<td>1,024,470</td>
</tr>
<tr>
<td>3</td>
<td>Food Wrappers</td>
<td>888,589</td>
</tr>
<tr>
<td>4</td>
<td>Plastic Bottle Caps</td>
<td>861,340</td>
</tr>
<tr>
<td>5</td>
<td>Straws, Stirrers</td>
<td>439,571</td>
</tr>
<tr>
<td>6</td>
<td>Other Plastic Bags</td>
<td>424,934</td>
</tr>
<tr>
<td>7</td>
<td>Glass Beverage Bottles</td>
<td>402,375</td>
</tr>
<tr>
<td>8</td>
<td>Plastic Grocery Bags</td>
<td>402,122</td>
</tr>
<tr>
<td>9</td>
<td>Metal Bottle Caps</td>
<td>381,669</td>
</tr>
<tr>
<td>10</td>
<td>Plastic Lids</td>
<td>351,585</td>
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</tbody>
</table>