



NAUTILUSLIVE.ORG

OCEAN EXPLORATION TRUST

Author: [Jason McGee](#)

Science Lesson: Ocean Clean-up

Objective: TLW explore human impact on the ocean and marine life IOT analyze, understand, and brainstorm ways to reduce impact on the ocean and support marine life.

“Look Fors”: TL is using vocabulary presented in the discussion and videos to continuously brainstorm ways to reduce ocean pollution.

Key

TTW: The Teacher (Will)

TLW: The Learner (Will)

WG: Whole Group work

SG: Small Group work

PPT: PowerPoint

IOT: In Order To

- Plastic tubs of water
- Pencil Shavings
- A can of dark soda (e.g. Coke)
- Small plastic marine life
- Coffee filters
- Glitter
- Any additional recycling bin or classroom items to make the water “polluted”
- Construction paper or writing paper that can be used as a brainstorming document
- [Ocean Clean-Up PPT presentation](#)

Supplies

- TTW use the provided **Ocean Clean-Up PPT** presentation slides to lead a discussion of human impact and pollution on oceans. TL should explore and discuss how humans are impacting the oceans, marine life, and waterways. TL should understand that we must start with waterways (e.g. streams, lakes, rivers) to reduce pollution in our waterways, before getting to the ocean.

- TT and TLW explore the following image gallery and discuss how the debris found by E/V *Nautilus* can be hazardous to marine life and ROV *Hercules*:

<https://nautiluslive.org/album/2018/10/31/marine-debris-davidson-seamount>

1. Engage

Student Work

No documents provided.

- TLW explore ways we can reduce ocean pollution using the video, *Solar-Powered Water Wheel Cleans Baltimore Harbor* (**embedded in the slides**). TLW lead the discussion towards creating inventions that will assist with reducing ocean pollution. TLW brainstorm and pair-share additional ideas we can implement to assist with reducing ocean pollution.

- To further explore human impact and effect on ocean pollution, TTW read *Help Our Oceans* by Rachel Walker on GetEpic.com (free download for educators).

2. Explore

- TLW brainstorm and discuss various ways to reduce ocean pollution by designing an invention and describing the possible affects the invention may have on our environment.
- Using the plastic tubs of water, TTW add various items to imitate ocean pollution. TLW use coffee filters to strain the polluted water, discussing challenges of cleaning solid items versus liquid items (representing oil spills and other various liquid pollutions).

3. Explain

Supporting essential questions that can be used to evaluate student understanding:

- How is learning about our impact on our environment beneficial to reducing ocean pollution?
- Why do you feel it is necessary for researchers to create *various* inventions that will assist in reducing ocean pollution?
- In your own words, how would you describe the impact your invention will have on reducing ocean pollution?
- What other ways could we implement to assist with reducing ocean pollution?

5. Evaluate

- To further explore the recycling movement, Crayola brand gladly collects any used markers, highlighters, and pens (from any brand) to recycle them. This is a great opportunity to reduce human waste going into dumps or the environment. Consider sending a school-wide, family letter asking used markers, highlighters and pens be donated to be recycled.

4. Extend

Animal Showcase:

Inspire your young explorers by showcasing a new ocean animal each class/club meeting.

For this lesson, TT may showcase the *Peppermint Shrimp/Candy Cane Shrimp* using the provided YouTube link(s). This animal is a cleaner of other animals which parallels students learning about cleaning the oceans.

<https://www.youtube.com/watch?v=KEDm11PVvaY>

<https://www.youtube.com/watch?v=s3ZCEBD1A5I>

Additional Resources and Links

- Join the Crayola Recycling Program; check out this link: <https://www.crayola.com/colorcycle.aspx>
- Ocean pollution art opportunity try this activity with items from the recycling bin (e.g. paper towel rolls, cereal boxes, plastic bottles): <https://www.crayola.com/lesson-plans/a-paper-relief-for-the-coral-reef-lesson-plan/>
- GetEpic.com- *Help Our Ocean* by Rachel Walker <https://www.getepic.com/app/read/35165>