

**RESOURCE LIBRARY**

ACTIVITY : 1 HR 15 MINS

## Magazine Design Workshop I

Publishing teams engage in focused work on their unit project, a magazine modeled on *National Geographic*. Teams develop three elements of their magazine based on understanding gained in the previous four activities: the introduction, *Ocean Plastics Movement Model*, and the glossary.

**GRADES**

6 - 8

**SUBJECTS**

*Chemistry, Earth Science, Oceanography, English Language Arts, Geography, Human Geography, Storytelling*

**CONTENTS**

3 PDFs

## OVERVIEW

Publishing teams engage in focused work on their unit project, a magazine modeled on *National Geographic*. Teams develop three elements of their magazine based on understanding gained in the previous four activities: the introduction, *Ocean Plastics Movement Model*, and the glossary.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/magazine-design-workshop-i/>

## In collaboration with

# DIRECTIONS

**Plastics: From Pollution to Solutions unit driving question:** *How can humans solve our plastic problem in the ocean?*

**Plastics, Plastics, Everywhere lesson driving question:** *How do plastics get into and move around the ocean?*

## 1. Prepare students for focused teamwork.

- Use personal reflection to remind students that their project is meaningful, and to ensure that limited teamwork time will be well spent. Discuss the following questions:
  - *How have the activities in this unit impacted you personally?*
    - Possible responses may include:
      - Increased awareness or personal reduction in plastic use;
      - Recycling;
      - Communication with family, friends, or community; or
      - Independent research into related issues.
  - *How will your final project help address the problem of plastic pollution?*
    - Possible responses:
      - *Raising awareness about the issue*
      - *Helping us become experts*
      - *Inspiring people to become a part of the solution*
  - *What are examples of good teamwork in the classroom?*
    - Possible responses:
      - Every student participates.
      - Space and materials are shared.
      - Class time is valued and not wasted.
      - Work is divided fairly.
      - Students attempt to resolve their own conflicts before they escalate.

## 2. Facilitate productive work time as teams develop three project elements.

- Tell students that they will now have time to work in their publishing teams on a few key elements of their magazines.
- Ensure all teams have their *Final Project Checklist and Rubric* with two key items highlighted:
  - An *Ocean Plastics Movement Model* showing how plastics reach the ocean and what happens to plastics in the ocean.
    - Emphasize that this model must include both drawings and written explanations for each step.
  - A glossary of related vocabulary used in the magazine.
- Distribute the *Glossary Organizer* and tell teams to spend a few minutes as a team deciding if the words on this list are the most important for their magazine readers to understand. Tell them to choose 12 to 15 words as a team, but not to write definitions or sentences yet.
  - Emphasize that this *Glossary Organizer* is not the final copy that will go in their magazine, but a working draft. (See Tips for more on how to frame this as an intellectual task.)
- Instruct publishing teams to spend a few more minutes discussing general ideas and compiling notes as a team, and then quickly move on to dividing tasks between team members. Since teams have four members and there are two elements in progress, each team will decide how to allocate their members' time most efficiently.
- Allot plenty of time for teams to work on their projects independently. Circulate through the room to check in with each team and individual members about their progress. Answer any clarifying questions they have about the rubric or project expectations.
- Narrate positive examples of teamwork as you witness them.

## 3. Wrap up with a gallery walk that allows students to demonstrate their progress.

- Tell students to clean up their project work areas, clearing away all materials and notes except for the physical products of their teamwork.
- Acknowledge that these products are still works in progress, but that every team is getting closer to their goal.
- Explain to students that they will spend a few minutes walking around the room quietly to view their peers' work, then return to their seats.

- Ask students for examples of teams whose work they admired. Tell students to refer to the *Final Project Checklist and Rubric* so they can provide meaningful feedback, both positive and constructive.
- Have students update the class *Know and Need to Know* chart using their *Final Project Checklist and Rubric* as a reference to indicate what else they still need to know in order to finish the rest of their final project.
  - Possible responses:
    - We still need to know how macroplastics and microplastics affect ecosystems, food webs, and one featured marine organism.
    - We still need to write survey questions about community members' attitudes and behaviors regarding plastics, administer the survey, and analyze results.
    - We still need to write a profile of the winner of the 2019 Ocean Plastic Innovation Challenge and a *Call to Action* for readers.
- Finally, remind students to return all project materials (including their introduction to the definition of plastics, *Ocean Plastics Movement Model*, *Glossary Organizer*, and *Final Project Rubric and Checklist*) to their project folders for safekeeping.

## Modification

In teamwork settings, extroverted students often shine, and introverted students can feel neglected or shut out. PBL Works published [this blog post](#) with recommendations about how to ensure introverted students' unique skills and voices are valued.

## Tip

- **Step One:** To read more about structuring time and expectations for teamwork, read [5 Strategies for Making Project Work Time More Productive](#) from the PBL Works blog.
- **Step One:** To read more about assigning roles to team members, read [Roles in PBL: 3 Approaches For Organizing Group Tasks](#) from the PBL Works blog. For teams that benefit from extra time management scaffolding, read [The Ultimate Teamwork Management Tool: Kanban Boards](#) from the PBL Works blog

- **Step Two:** Although the glossary may at first appear less intellectually demanding than other elements of the magazine, the role of students working on the glossary is not to be taken lightly. They must curate an ever-growing list of words, craft student-friendly definitions for each, and write a meaningful sentence that shows the meaning of the word. They must remain in constant communication with their teammates to ensure that their glossary accurately reflects the terminology used in other elements of the magazine. It may be appropriate to provide a computer with internet access to students working on the glossary so they can search for definitions and refer back to previously cited resources.

## Informal Assessment

Students' progress on their *Ocean Plastics Movement Model*, introduction to plastics, and glossary provide insights into their current ability to articulate scientific concepts in words and visual models. Their feedback to other teams and their reflection of gaps in their knowledge provide further evidence of their scientific communication skills.

## OBJECTIVES

## Subjects & Disciplines

- Chemistry
  - Earth Science**
    - [Oceanography](#)
- English Language Arts
  - Geography**
    - [Human Geography](#)
  - Storytelling**

## Learning Objectives

Students will:

- synthesize information from notes to make progress toward unit project goals; and
- celebrate the progress of their team and their class.

## Teaching Approach

- Project-based learning

# Teaching Methods

- Cooperative learning
- Reflection
- Writing

# Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
  - Learning and Innovation Skills
    - Communication and Collaboration
    - Creativity and Innovation
    - Critical Thinking and Problem Solving
  - Life and Career Skills
    - Initiative and Self-Direction
    - Leadership and Responsibility
    - Productivity and Accountability
- Critical Thinking Skills
  - Creating
- Geographic Skills
  - Answering Geographic Questions
  - Organizing Geographic Information
- Science and Engineering Practices
  - Constructing explanations (for science) and designing solutions (for engineering)
  - Obtaining, evaluating, and communicating information

# National Standards, Principles, and Practices

## NATIONAL GEOGRAPHY STANDARDS

- Standard 1:

How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information

## COMMON CORE STATE STANDARDS FOR ENGLISH LANGUAGE ARTS & LITERACY

- **WHST.6-8.2:**

Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

- **WHST.6-8.2.A:**

Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.&nbsp;

## NEXT GENERATION SCIENCE STANDARDS

- **MS-ESS2-6:**

Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.

- **Science and Engineering Practice 2:**

Developing and using models

### Preparation

### What You'll Need

## REQUIRED TECHNOLOGY

- Internet Access: Optional
- Tech Setup: 1 computer per pair

## PHYSICAL SPACE

- Classroom

## GROUPING

- Large-group instruction

- Small-group work

## BACKGROUND & VOCABULARY

### Background Information

This activity nominally focuses on group work toward project goals, but don't underestimate the importance of other objectives, too. Articulating a personal connection helps make project-based learning more meaningful. Regularly celebrating team and class progress toward final project goals helps students stay motivated. Reflecting on past and future knowledge is a form of metacognition that helps students synthesize and retain information. The first lesson in this unit is packed with scientific content as well as emotional processing about the plastic crisis. Students need time to process these facts and feelings before they can move on and apply their knowledge to the following lessons.

### Prior Knowledge

### Recommended Prior Activities

- [Autopsy of an Albatross](#)
- [Follow the Friendly Floatees](#)
- [Plastics Aplenty](#)
- [The Life Cycle of Plastics](#)

### Vocabulary

Term	Part of Speech	Definition
macroplastics	noun	pieces of plastic larger than 5 mm in size.
marine debris	noun	garbage, refuse, or other objects that enter the coastal or ocean environment.
microplastics	noun	piece of plastic between 0.3 and 5 millimeters in diameter.
pollution	noun	introduction of harmful materials into the environment.
waste	noun	material that has been used and thrown away.



