

WORKSHOP: Beach/Riparian Clean-up, Sort and Data Collection

Engage/Clean up	BACKGROUND By 2050 there is expected to be more plastics in the ocean than fish by weight. If all we do is clean up, that’s all we’ll ever do (<i>Quote: Tangaroa Blue Foundation</i>). It’s just as importance to collect information on what we find during a clean-up, so we can use that information to stop the trash at the source. AIM To encourage students to think about the source and destination of the things they consume in everyday life (focus on single-use plastics and marine debris) KNOWLEDGE <ul style="list-style-type: none">• Identify what marine debris is, where it comes from and its impact on our health and the environment• Discuss the interconnectedness of our oceans• Identify what single-use plastics are, which ones we use in everyday life, and the direction society is going in• Discuss the importance of collecting data, to trace the garbage back to the source• Discuss ways in which students can reduce their impact on the environment				
	ACTIVE <ul style="list-style-type: none">• Clean-up session• Sorting and data collection session• Alternatives to everything that was found				
	TIME	GROUP SIZE	LOCATION	GRADE LEVEL	EQUIPMENT
2-3 hours (can be adapted)	Entire class	Beach or Riparian Zone	Grade 5 and up	Reusable gloves, grabbers, collection bags, sorting tarp, data collection sheets and pencils, water, first aid kit	
DEBRIEF/REFLECTIVE COMPONENT					
<ul style="list-style-type: none">• Where does the garbage that we throw away eventually end up and what impact does garbage have on the environment and aquatic life?• How can we reduce the amount of garbage we throw away and what can we use instead of plastic?• How can we use our voice and actions to create change?					

OCEAN LITERACY PRINCIPLES

(from <https://education.ocean.org/oceanlitsec/>)

1– The Earth has one big ocean with many features.

c. Throughout the ocean there is one interconnected circulation system powered by wind, tides, the force of Earth’s rotation (Coriolis effect), the Sun and water density differences. The shape of ocean basins and adjacent land masses influence the path of circulation. This “global ocean conveyor belt” moves water throughout all of the ocean basins, transporting energy (heat), matter, and organisms around the ocean. Changes in ocean circulation have a large impact on the climate and cause changes in ecosystems.

g. The ocean is connected to major lakes, watersheds, and waterways because all major watersheds on Earth drain to the ocean. Rivers and streams transport nutrients, salts, sediments, and pollutants from watersheds to coastal estuaries and to the ocean.

h. Although the ocean is large, it is finite, and resources are limited.

6– The ocean and humans are inextricably interconnected.

b. The ocean provides food, medicines, and mineral and energy resources. It supports jobs and national economics, serves as a highway for transportation of goods and people, and plays a role in national security.

d. Humans affect the ocean in a variety of ways. Laws, regulations, and resource management affect what is taken out and put into the ocean. Human development and activity leads to pollution (point source, non-point source, and noise pollution), changes to ocean chemistry (ocean acidification) and physical modifications (changes to beaches, shores, and rivers). In addition, humans have removed most of the large vertebrates from the ocean.

e. Changes in ocean temperature and pH due to human activities can affect the survival of some organisms and impact biological diversity (coral bleaching due to increased temperature and inhibition of shell formations due to ocean acidification).

g. Everyone is responsible for caring for the ocean. The ocean sustains life on Earth and humans must live ways that sustain the ocean. Individual and collective actions are needed to effectively manage ocean resources for all

SETUP

1. Introduce everyone at “Base-camp” – location of first aid kit, water, sunscreen. Have safety briefing and marine debris briefing
2. Clean-up : send two supervised groups up opposite ends of the beach/river and provide a return time
3. Sort: Bring everyone back to sorting tarp. Have briefing on sorting categories, separate students into sorters and data collectors
4. Discussion of alternatives and ways we can create change at the end

For more information on how to run a clean-up, see Great Canadian Shoreline Clean-up Resources:

<https://www.shorelinecleanup.ca/storage/resources/sitecoordinatorguide-en.pdf>