Beluga Chatter

Role-play Game	**KNOWLEDGE** • Explain how animals communicate in the ocean • Learn about noise in the ocean, how it travels faster underwater than on land, and why it is vital for whale survival. • Learn how humans rely on the ocean as much as the aquatic animals • Create unique solutions to real-world problems.
	ACTIVE • Students have to communicate to each other without using words • Students have to navigate in an unique environmental situation • Students have to empathize with animals in the wild.

TIME	GROUP SIZE	LOCATION	GRADE LEVEL	EQUIPMENT
30+ minutes	**10+**	**Classroom or Outdoor Large play area necessary**	**4+**	Blindfolds optional Whale sounds optional: https://www.nefsc.noaa.gov/psb/acoustics/sounds.html Whale ID Cards optional

DEBRIEF/REFLECTIVE COMPONENT	HELPFUL TIPS
• What challenges do marine mammals face living under water? • What is pollution? How do define pollution? • Can we prioritize different types of pollution, or look at them independently from each other? • Why is it important to sustain life in the ocean? • How are humans competition for animals in the ocean? • How are humans connected inextricably interconnected with the ocean? • Why is effective communication important for whales? For people? For other animals?	Effective active game for students Give explicit instructions and expectations prior to playing

5. The ocean supports a great diversity of life and ecosystems
- The ocean provides a vast living space with diverse and unique ecosystems from the surface through the water column and down to, and below, the seafloor. Most of the living space on Earth is in the ocean
- Ocean ecosystems are defined by environmental factors and the community of organisms living there.

6. The ocean and humans are inextricably interconnected
- The ocean provides foods, medicines, and mineral and energy resources. It supports jobs and national economies, serves as a highway for transportation of goods and people, and plays a role in national security
- 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
- Everyone is responsible for caring for the ocean. The ocean sustains life on Earth and humans must live in ways that sustain the ocean. Individual and collective actions are needed to effectively manage ocean resources for all.

7. The Ocean is largely unexplored
- New technologies, sensors and tools are expanding our ability to explore the ocean system. Scientists are relying more and more on satellites, drifters, buoys, subsea observatories and unmanned submersibles.
- Ocean exploration is truly interdisciplinary. It requires close collaboration among biologists, chemists, climatologists, computer programmers, engineers, geologists, meteorologists, meteorologists, physicists, animators and illustrators. And these interactions foster new ideas and new perspectives for inquiries.

Setup

1. Explain to the students that vocal communication is vital to whales living in the ocean. Because they swim long distances and often in dark waters, vocalization can help the whales find their pod and find their food. In the case of Belugas, mother whales have a specific all that they use with their calf. This call is unique to each mother and baby, and is crucial for the calf's survival.
2. Divide the students into two teams. Assign each group a different vocal sound, to use to locate the other whales in their pod. Have the students mix and spread out around the room. With their eyes closed, students must locate the others in their group using only their vocal sound.
3. After the groups have found each other, debrief with the group. Was this easy? What made it easy?
4. For the second ground, have the students break up into teams of two. Have each pair decide on their own unique vocal sound (it should be vocal only, no hand sounds). Again have the students mix and spread out around the room. This time they must try and find their partner with their eyes closed, using only their unique vocal sound.
5. Debrief with the students again, and ask what made it easy or difficult. This sort of chaotic noise is normal for the ocean, because each species has a different way to communicate.

ocean wise.

6. Play one more time with the students in their pairs. This time choose 6 students (or use the adults in the room) to be boats. While the students with their eyes closed try to find each other, the boats will move around the room with their eyes open and clapping loudly. They should not touch or interfere with the whales.
    a ALTERNATIVE: Play loud boat noises from a computer rather that use students
7. Debrief again and discuss with the students the potential ramifications of the boat noise in the environment (for example: physical injury due to noise or collision, calf mortality, lost or stranded whales, interrupted migration) Discuss possible solutions that humans could implement to protect the aquatic habitats. Is it possible for us to meet our needs in trade, and create a sustainable and safe environment for whales?