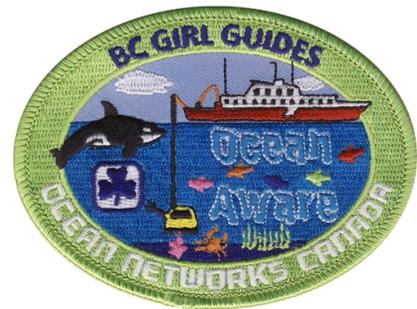


# OCEAN AWARE: PART 1

## AN INSTANT MEETING FOR BROWNIES FROM THE BC PROGRAM COMMITTEE

The ocean is an amazing place, something that everyone can experience, regardless of where they live. The Ocean Aware challenge is designed to get girls and Guiders thinking about the ocean in different and exciting ways, while exploring the principles of ocean literacy. Through this challenge, we hope to create a growing awareness, understanding and curiosity about the ocean, Ocean Networks Canada, and the seven principles of ocean literacy.



There are many activities within the Ocean Aware Challenge crest, so if you would like to exchange one activity for another, please feel free to do so!

Doing both instant meeting plans in this document will earn the Brownies the Ocean Aware challenge crest.

### Meeting Plan

10 min:	Gathering: Ocean Spot the Difference
5 min:	Brownie Opening
15 min:	Opening Discussion: How Deep is the Ocean?
10 minutes:	Deep Sea Sprint
5 minutes:	Take a Deep Breath
20 min:	Deep Sea Food
20 min:	Plankton Game
5 min:	Brownie Closing

*90 minute meeting. Approximate activity times shown.*

#### Program Connections

##### Key to the Living World

3. Water All Around

##### Key to Active Living

Go For it! Interest Badge

##### Key to the Living World

1. Wonderous Walks

##### Going Outside Keeper

Additional activity

##### In My Community Keeper

Water

## Meeting Supplies

- printed activity sheets (Marine Maze / Spot the Difference)
- masking tape
- Ocean Zones signs (optional)
- watch or stopwatch
- cotton balls or pompoms (300 or so)
- optional: blindfolds
- images from Ocean Networks Canada's Zooplankton Acoustic Profiler (ZAP) attached
- playing field
- a roll of toilet paper (any double roll with approximately 250 sheets)

## Gathering: Marine Maze / Spot the Difference

### Directions

Find activity sheets in the Ocean Aware challenge booklet: <http://bc-girlguides.org/Documents/BC/program/OceanAware.pdf> pages 65 and 95.

### Supplies

- printed activity sheets
- pencils, crayons, markers

## Opening Discussion: How deep is the Ocean

### Directions

1. Explain to the girls that in this meeting you'll be working on the Ocean Aware Challenge. Discuss with the girls, how deep do they think the ocean really is? Can they compare it to something they know?
2. Explain to the girls, the ocean averages about 4000 km deep and is divided into three zones. The three zones include the Sunlight zone, the Twilight zone and the Midnight zone. In this activity, the girls can see how big each zone is if the ocean were the same as a roll of toilet paper.
3. Explain that the first zone is the Sunlight zone. It is about 200 metres deep and is 5% of the ocean. This is about 12.5 squares of toilet paper. This is as deep as sunlight can go, so this is where we find most animals and all plants in the ocean. After this depth, it is too dark for plants.
4. The second zone is the Twilight Zone. It is like twilight on land, not quite dark, but not quite light either! Tear 50 sheets off the toilet paper roll. This is 20% or about 800 metres. Animals that like the dark live in the Twilight Zone.
5. The last zone is the biggest zone. Use the rest of the roll of toilet paper. This is called the Midnight Zone because it exists without light. It is very cold in this zone. The animals that live here never see daylight.
6. Look at the three different zones. Is there anything that surprised you?

### Supplies

- a roll of toilet paper (any double roll with approx.. 250 sheets)
- a long space

## Deep Sea Sprint

### Directions

1. Mark 4 consecutive sections on the floor. Each section should be a bit wider than the one before it, with room for the girls to stop in each section.
2. Name the sections: the “Sunlight Zone”, the “Twilight Zone”, the “Midnight Zone” and the “Deep Sea Trench”. The Sunlight Zone is at the surface, and the trench is at the bottom. Optional: add signs to each zone.
3. Secretly assign one or more girls to be “sea monsters”. Only the girls chosen should know who the sea monsters are. When the leader yells “sea monster”, these girls try and tag ONE other girl. In the next round, this girl becomes the Sea Monster.
4. Girls start at the surface and the leader yells different zones. Girls run to the area chosen as fast as they can. The leader should randomly call the zones and it can be fun to say them quickly together or to change zones before the girls get there (i.e. run to the sunlight zone, no wait, the trench, no wait, the midnight zone!). When the leader is ready, she can yell “sea monster”. This is the group’s cue to run back to the sunlight zone before being tagged.
5. Play until the girls are out of breath!

### Supplies

- masking tape (or painter’s tape) to mark different zones
- optional: signs for each zone

**TIP! Leave the tape on the floor for “Plankton Game,” later in the meeting. Caution: Make sure that the masking tape or the painter’s tape will not damage the gym floor if you unit meets in a school gymnasium.**

## Ocean Air: Take a Deep Breath

Most of the air we breathe comes from the ocean! Use this activity to find out how much air you get from the ocean, and to calm down for the final activity.

### Directions

1. Sit down quietly and count your breaths for one minute.
2. Explain to the girls that 7 of 10 breaths come from the ocean. In that one minute if they took 10 breaths, 7 came from the ocean. With 13 breaths, 9 came from the ocean. With 16 breaths, 11 came from the ocean. With 20 breaths, 14 came from the ocean. To calculate the number of breaths that come from the ocean, multiply the number of breaths by 7, then divide by 10.
3. Ask the girls to guess how many ocean breaths they might breathe in their lifetime! If the girls live to be 80, they would breathe more than 440,000,000 breaths from the ocean!

### Supplies

- watch or stopwatch

## Deep Sea Food

When you live in the deep sea, finding enough to eat can be a real challenge! In the deep, plants don't grow without sunlight so animals depend on food coming to them via currents and falling debris. How much would you catch as a deep sea creature?

### Directions

1. Explain to the girls that many of the animals that live in the deep ocean get their food from "marine snow". This is all the bits that fall from the surface. These animals are called detritivores, because they eat 'detritus' which is a mix of dead things, poop and normally inedible bits that fall from the upper layers of the ocean to the bottom.
2. In this activity, girls will try and catch enough food to eat, like a detritivore. Explain the cotton balls are food, and will be falling slowly, like marine snow. The girls will need to try and catch them by feeling the food, instead of seeing the food.
3. Make a standing circle of girls, and have two or three girls volunteer to be in the middle. Have the girls in the middle of the circle sit on the floor with their eyes closed. Remind the girls to not move from their seat. The girls on the outside gently throw the cotton balls towards the middle girls. Remind the outside girls to throw softly, and upward, so the cotton falls down like snow. Have the girls in the middle try and catch as many cotton balls as they can by feeling the cotton balls. Any cotton balls that fall in their lap also count.
4. Rotate the girls into the middle. When everyone has had a turn, talk about what it was like to try and get food. What survival strategies might deep sea animals use to get more food? Why might going a long time between meals, or having a small body help animals survive here?

### Supplies

- cotton balls or pompoms – the more cotton balls the longer the activity
- optional: blindfolds

## Plankton Game

Plankton are aquatic organisms that play an important role in the ocean ecosystem. Every single day, these plankton undertake the largest migration on Earth, relative to their body size. Each night, plankton travel from the dark zone to the sunlight zone to feed. In the daytime, they head back down to the dark zone again to avoid predators.

### Directions

1. Select one or two girls to be fish. The fish eat the phytoplankton, but only during the day.
2. Have the plankton line up in the midnight zone (already marked off from the Deep Sea Sprint Activity). This is where the planktons are safe from the predators.
3. Sprinkle the Sunlight Zone with the cotton balls. These are phytoplankton, the tiny plants eaten by zooplankton.
4. Have a leader call "night time". At night time, the girls run to the sunlight zone to grab as many cotton balls as they can. The plankton can stay in the Sunlight Zone as long as they like, but during the day, fish can catch them by tagging them.
5. When the leader is ready, she yells "day time". This is the fishes' cue to run into the playing area and tag as many zooplankton as she can. The fish can't go into the Midnight Zone though. Once a plankton gets into the midnight zone, she is safe!

### Supplies

- images from Neptune Canada's Zooplankton Acoustic Profiler (ZAP) (attached)
- cotton balls – the more cotton balls the longer the activity
- playing field/open space
- optional, masking tape to mark zones

6. A tagged plankton can either be “out” or can become a “fish” depending on the group.
  7. When all the girls are out of breath, show the images from the Zooplankton Acoustic Profiler. This device uses sound to detect particles in the water. This is very similar to how whales use echolocation. A sound is produced by the sensor, and as it bounces off the particles, the sensor can hear the return echoes. Some of the tiny particles are actually animals called zooplankton. The image shows one day in April 2007. Notice at the bottom of the picture, there is a bar showing if it is daytime or nighttime. During the day, the plankton (seen as the red, yellow and green fuzzy bar) are in the deep part of the ocean. At night, the bottom of the graph is clear because all of the animals are near the top of the graph at the surface of the ocean. Show the girls that scientists can see the tiny animals moving towards the surface at dusk and away from the surface at dawn.
- 

## Closing

Before Brownie closing, reflect with the girls on what they learned about the ocean today. Explain to them that they will have one more ocean meeting and then they will earn the Ocean Aware crest.

Close using your usual meeting closing

