

# INTO THE ABYSS: OCEAN ZONES

## AGES

Children 8+ years

## PROGRAM DESCRIPTION

Several options for learning about ocean zones! The first is an interactive display where patrons add sea creatures to the correct depths. The display can also be left up as a passive activity. For an in-person program, play the active Ocean Zones Game, then make a craft. To modify the craft for different age groups, have younger children distinguish between the three ocean zones (Sunlight, Twilight, and Midnight), and have older children use all five scientific zones (which further divide the Midnight Zone into the Abyss and the Deep Trenches). Suggested runtime: 45 min.

## TRIVIA:

What is the deepest point on earth? The Mariana Trench, at about 7 miles deep! (See the Mariana Trench program on page 308 for more.)

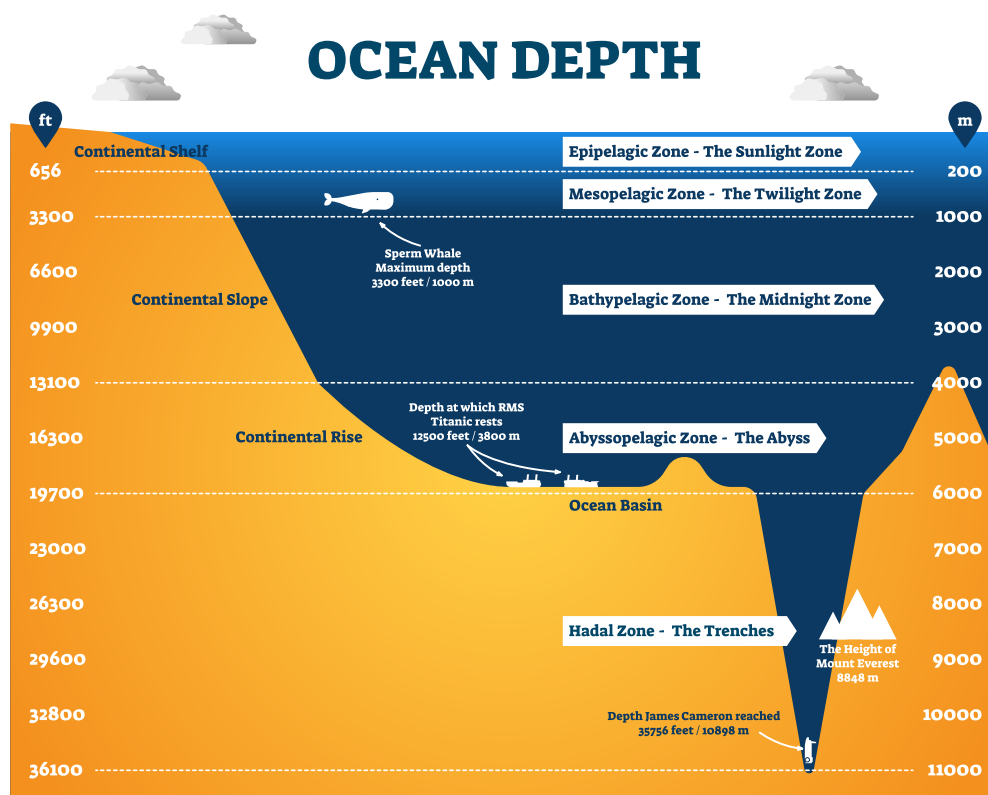


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## MATERIALS AND PREPARATION

### Ocean Zones Display

Materials:

- Blue paper or felt in different shades
- Large magnetic or felt board
- Images of sea creatures (from sticker sheets or printed)
- Laminator
- Magnets or felt backing
- Scissors
- Hot glue to attach sea creatures to magnets or felt backings

Put up a poster or list of ocean zones and the sea life in those zones. Next to it, provide a blank ocean display (with clearly labelled zones) on which patrons can move sea creatures into their respective zones.

### Ocean Zones Game

Materials:

- Tape, rope, or other materials to divide space into 3 sections.
- Ocean animal cards

Preparation:

Before the program, prep the cards. Each one should include a picture, name, and a fact about each animal. Choose a game option that best suits your audience.

Version 1 (very active)

- Participants line up at one end of the room
- Leader holds up an ocean creature, and participants run to that zone
- The leader reads the fact about that creature
- Then the leader holds up another creature and participants run to that zone
- There is no elimination, just a lot of movement for an active group

### TIP:

Don't forget that some sea creatures live in more than one zone!

### Version 2 (less active)

- Participants each are given a card with a ocean creature
- When given a signal, they sort themselves into the correct zone (no running needed)

### Version 3 (less active, more challenging)

- Five participants are each given a card with an ocean creature, each from a different zone
- WITHOUT talking, participants sort themselves according to zone.

## Ocean Zones Craft

### Materials:

- Tall container, such as for sanitizing wipes or oatmeal
- 3 or 5 different shades of blue tissue paper
- Black tissue paper
- Paintbrush
- Mod Podge or white glue
- Scissors
- Animal silhouettes

For younger children, cut out the animal silhouettes in advance. Older children could also draw their own ocean animals.

### Assembly:

- If using a container with a label that won't come off, paint it or glue on white paper before adding tissue paper. Alternatively, cover with construction paper instead.
- Then glue the tissue paper onto the container in three stripes.
- While the zones dry, participants cut out or draw their animal silhouettes.
- Then they glue them to the correct ocean zones. For example, kelp and all plants go in the Sunlight Zone, as do sea turtles and dolphins; whales go in both the Sunlight and Twilight Zones; and anglerfish go in the Midnight (Abyssal) Zone.

## UNIQUE SPACE AND/OR PERSONNEL NEEDS

The Ocean Zones game works well outdoors.

## RESOURCES

### Web

Deep sea creatures quiz from Zoo: <https://bit.ly/3bXVSfA>

Ocean zones video from SciShow Kids: <https://bit.ly/3vtJpbl>

Bizarre deep sea creatures video from Be Amazed: <https://bit.ly/3yFCePo>

Abyss-dwelling animals video from Henry the PaleoGuy:  
<https://bit.ly/3uvBfxQ>

Strange ocean creatures video from Ben G. Thomas [13:46]:  
<https://bit.ly/3yHyNHW>

Ocean zones craft from Live Porpoisefully: <https://bit.ly/3yJ5eWw>

### Books

#### Non-fiction

*Do Jellyfish Like Peanut Butter: Amazing Sea Creature Facts* (2020) by Corinne Demas, Artemis Roehri and Ellen Shi (children's)

*Alien Deep: Revealing the Mysterious Living World at the Bottom of the Ocean* (2012) by Bradley Hague (children's)

*Somewhere in the Ocean* (2000) by Jennifer Ward, T.J. Marsh, and Kenneth J. Spengler (children's)

*The Most Amazing Creatures in the Sea* (2015) by Brenda Z. Guiberson and Gennady Spirin (children's)

*I Wish I Was a Sea Turtle* (Ranger Rick: I Can Read! series) (2020) by Jennifer Bové (children's)

*Ocean Atlas: A Journey Across the Waves and Into the Deep* (2020) by Tom Jackson and Ana Djordjevic.

#### Fiction

*The Blobfish Book* (2016) by Jessica Olein (children's)

*The Ocean Disaster* (Mad Scientist Academy) (2019) by Matthew McElligott (children's)

*Challenger Deep* (2016) by Neal Shusterman and Brendan Shusterman (YA)

### Printables

Ocean Zones Facts

Sea Life Silhouettes

# OCEAN ZONES FACTS

## Zone 1: Sunlight (Epipelagic Zone, 0–200m below the surface)

Contains 90% of all ocean life, most animals and ALL of the plants. Dolphins, sea turtles, and most other air-breathers need to live in this zone. It is the warmest zone, and it gets enough sunlight to support photosynthesis. Plankton, seaweed, algae, seagrass, jellyfish, coral, turtles, orcas, dolphins, bigeye tuna, blue whales, sharks, angelfish, oysters.

## Zone 2: Twilight (Mesopelagic Zone, 200–1,000m below the surface)

No plants grow in this zone because it doesn't have enough sunlight for photosynthesis. Animals in this zone either eat each other or floating bits that sink from the sunlight zone. Some bioluminescent animals live here, and some whales can dive into this zone too. Most fish in this zone are highly mobile, with muscular bodies and rigid bones. Sponges, octopuses, sperm whales, squid, crab, cuttlefish, swordfish, wolf eels, gulper eels, bigeye tuna, viperfish, hatchet fish.

## Zone 3: Midnight (Bathypelagic Zone, 1,000–4,000m below the surface)

This zone is completely dark! Bioluminescence is the only source of light. It is cold and has very high water pressure. This zone goes all the way down to the deepest part of the ocean, the Mariana Trench in the Pacific Ocean, which is about 6.8 miles (11 km) deep. Fish here tend to have huge mouths that let them swallow everything that comes their way. Sea stars, octopuses, squid, large whales, frilled sharks.

## Zone 4: Abyss (Abyssopelagic Zone, 4,000–6,000m below the surface)

Near freezing and low in oxygen, food, and nutrients. Fish often have no eyes. Anglerfish, Deep Sea/Humpback Anglerfish, deep sea jellyfish, tripod fish, cookiecutter shark, abyssal octopus.

## Zone 5: Deep Trenches (Hadalpelagic Zone, 6,000–11,000m below the surface)

Freezing temperatures, heavy pressure, intense darkness. Mostly invertebrates. Sea cucumber, tube worms, deep-water squids, basket stars, sea pigs, sea spiders, star fish.

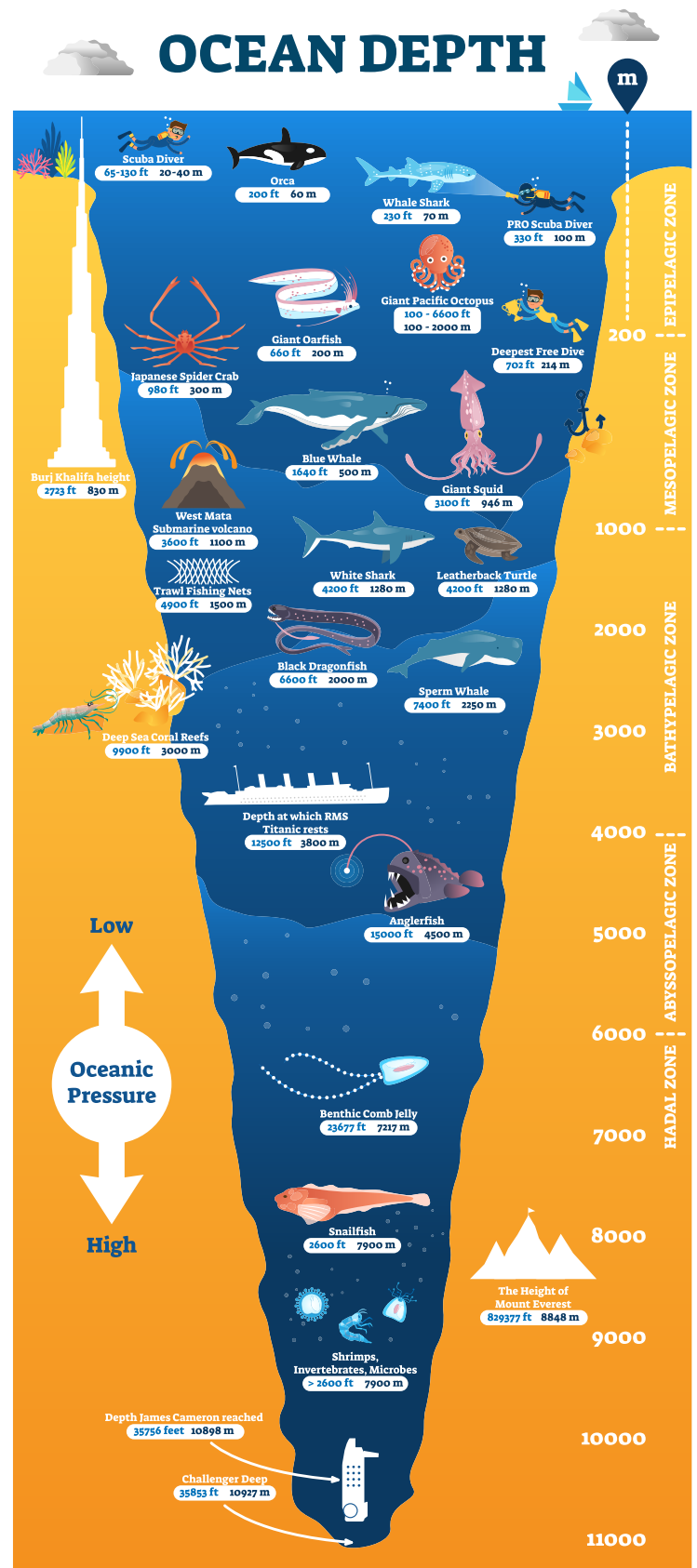


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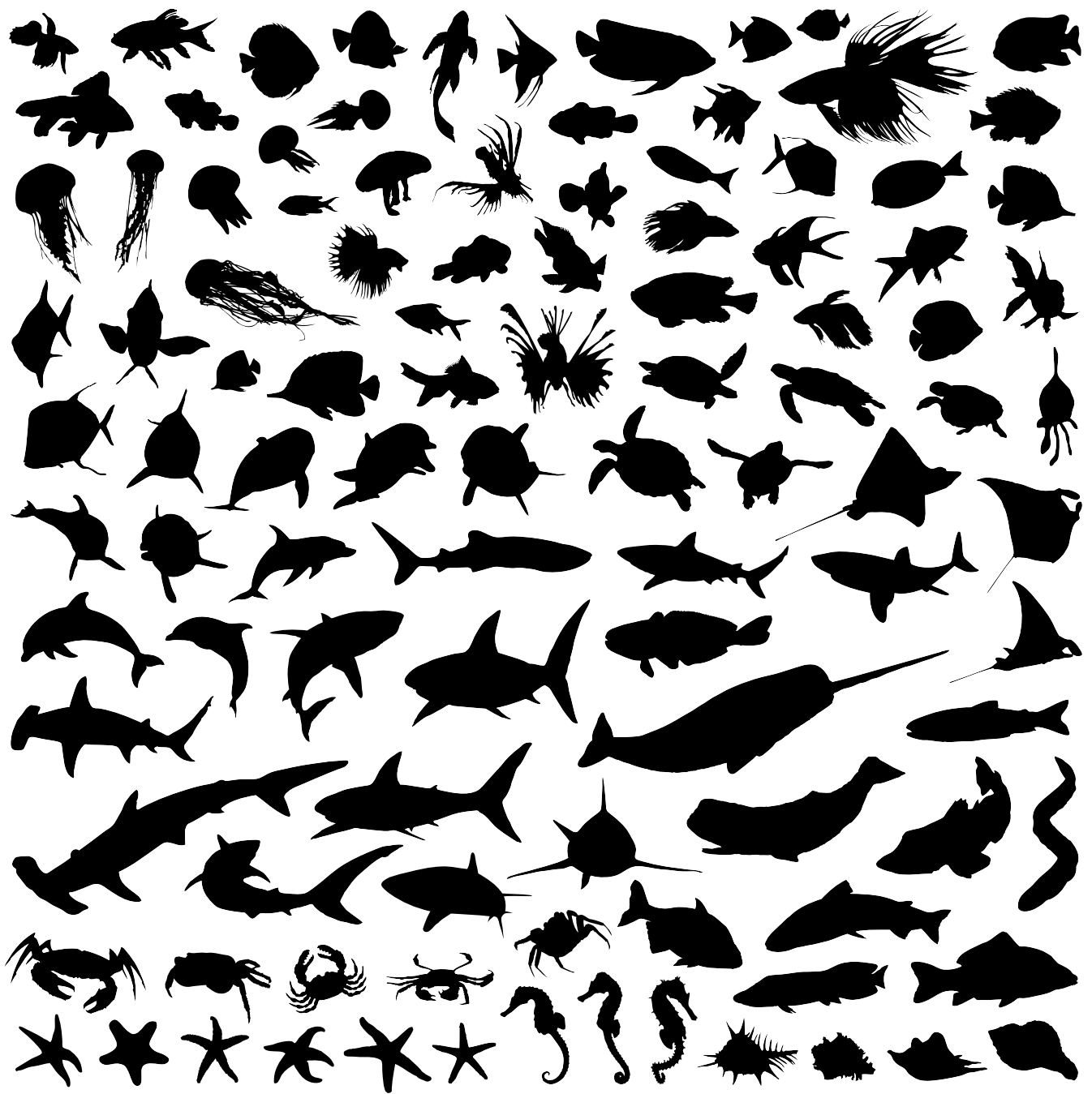


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