

OUR OCEAN: BIG BLUE BUDDY



Objectives: Students will learn about how we are connected to the ocean, our Big Blue Buddy, and the need to protect our Buddy.

Time: 30 minutes

Materials: Whiteboard, Appendix 1, Activity sheet

Key question: Why is the ocean important to us?

Purpose of this activity: Ocean Conservation is a complex topic, and sharing this with students can be overwhelming. As such, this activity is designed to give students a chance *to examine their personal beliefs by sharing their opinions and feelings about the ocean* with their peers. A series of statements is included in Appendix 1 to enrich the classroom discussion. These can be printed and pasted in the classroom to get students to employ *critical thinking skills*, such as why they agreed or disagreed with this statement the most.

Background: Why is the ocean important to us? The ocean is the planet's life support system, supplying more than half of the world's oxygen while regulating our climate. Ultimately, this makes the ocean an essential tool to support all living organisms. In addition, this video highlights other essential benefits that the ocean provides – food, water, medicine, economy, culture, and recreation.

As such, countries around the world are calling for action to protect 30% of the ocean by 2030. Global efforts are required, with combined commitment from governments, corporations, and individuals to do their part to safeguard the ocean and its precious resources for the future of our planet.

Suggested discussions for video:

Recall

- What is the percentage of the ocean that remains unmapped, unobserved, and unexplored? [About 80% as of 2021]
- Name two benefits that Blue Buddy provides. [Source of oxygen and food, climate regulator, habitat for biodiversity, education, economy, culture, recreation.]
- What can we do to be a friend to Blue Buddy? [Tell your family about the importance of the ocean, eat only sustainable seafood, learn about the ocean such as exploring marine ecosystems with proper trail etiquette]

Explain

- Explain why plankton is important for our survival on Earth. [Plankton form the base of the food chain for many marine animals, which helps balance the entire ocean ecosystem. Phytoplankton play a crucial role in photosynthesis, which provides more than half the oxygen on the planet.]
- Singaporeans love seafood. Explain what might happen to our seafood supply if we do not take care of our Blue Buddy. [Fewer seafood choices, higher prices with a reduced supply of seafood.]

Infer

- Why must we be a friend to Blue Buddy? [Relate back to the benefits the oceans provide.]
- Why do countries want to protect 30% of the ocean by 2030? [To be a true friend to Blue Buddy so that present and future generations can continue to enjoy the benefits provided by the ocean.]



What to do:

1. Watch the video. Use the suggested discussion questions above to find out what students have learnt, such as:
 - a. The benefits that the ocean provides
 - b. The importance of caring for the ocean
2. Ask students the key question: Why is the ocean important to us? Invite them to share their answers verbally with the class or write down their responses.
3. Appendix 1 contains statements mentioned by Jo in the video, which expresses why people around the world are protecting the ocean. Put the statements up around the classroom to drive the discussion. A statement for “others” has been included in the appendix as students may have differing opinions, which can be shared with the class to enrich discussions further.
4. Ask students to carefully consider all the statements before deciding which statement resonates with them. [Thought starter – Why is this reason most important to you?] Students can “vote” for the most important reason by standing next to the statement put up in the different parts of the classroom.
5. Differentiated discussion strategies:
 - a. For Lower Primary – Encourage students to share why they chose this statement.
Example: I chose the first statement as I hope that people can stay healthy and not fall sick.
 - b. For Upper Primary and Secondary– Encourage students to elaborate on why they chose that statement. [Guiding questions: How does the removal of this ocean benefit impact you, Singapore, or the world?] Example: I chose the first statement as I know that with more new diseases, there is a need to develop new medicines to fight these diseases to stay healthy. The ocean provides some of this knowledge and resource for medical purposes.
6. Personal reflection: Through the activity sheet, students reflect on how to care for the ocean and be the ocean’s best buddy through creative ways like:
 - a. Writing a poem
 - b. Writing a letter addressed to the ocean or someone in power to protect the ocean
 - c. Designing a poster
 - d. Drawing a comic strip
7. At the end, encourage students to paste their masterpieces around the classroom. If this is done online, teachers are encouraged to use platforms like Padlet for students to share their work.



Appendix 1



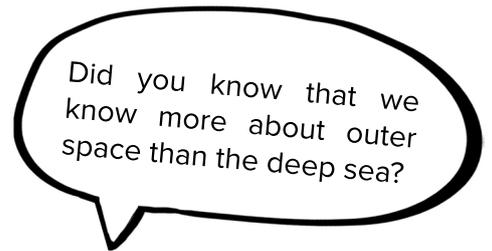
1. It is important to protect the ocean, which hosts organisms that can help us fight diseases.
2. It is important to protect the ocean to fight climate change.
3. It is important to protect the ocean so that oxygen levels can support life on Earth.
4. It is important to protect the ocean so we can enjoy activities like snorkeling, kayaking and wakeboarding.
5. It is important to protect the ocean so that marine biodiversity such as fish, turtles, corals, and whales can continue to thrive.
6. It is important to protect the ocean as humans have no right to destroy the marine environment and resources on which future generations will depend.
7. It is important to protect the ocean so that all of us can continue to enjoy seafood!
8. Others

Dive deeper: Explore some of these resources to learn more about our ocean.

- Protecting 30% of the Ocean by 2030 [Podcast]:
<https://www.eco-business.com/podcasts/protecting-30-per-cent-of-the-ocean-by-2030-mission-impossible/>
- What are plankton? The difference between zooplankton and phytoplankton:
<https://oceanconservancy.org/blog/2019/08/09/plankton-small-organism-big-role/>
- Marine reserves can mitigate and promote adaptation to climate change (Proceedings of the National Academy of Sciences in the USA):
<https://www.pnas.org/content/114/24/6167>



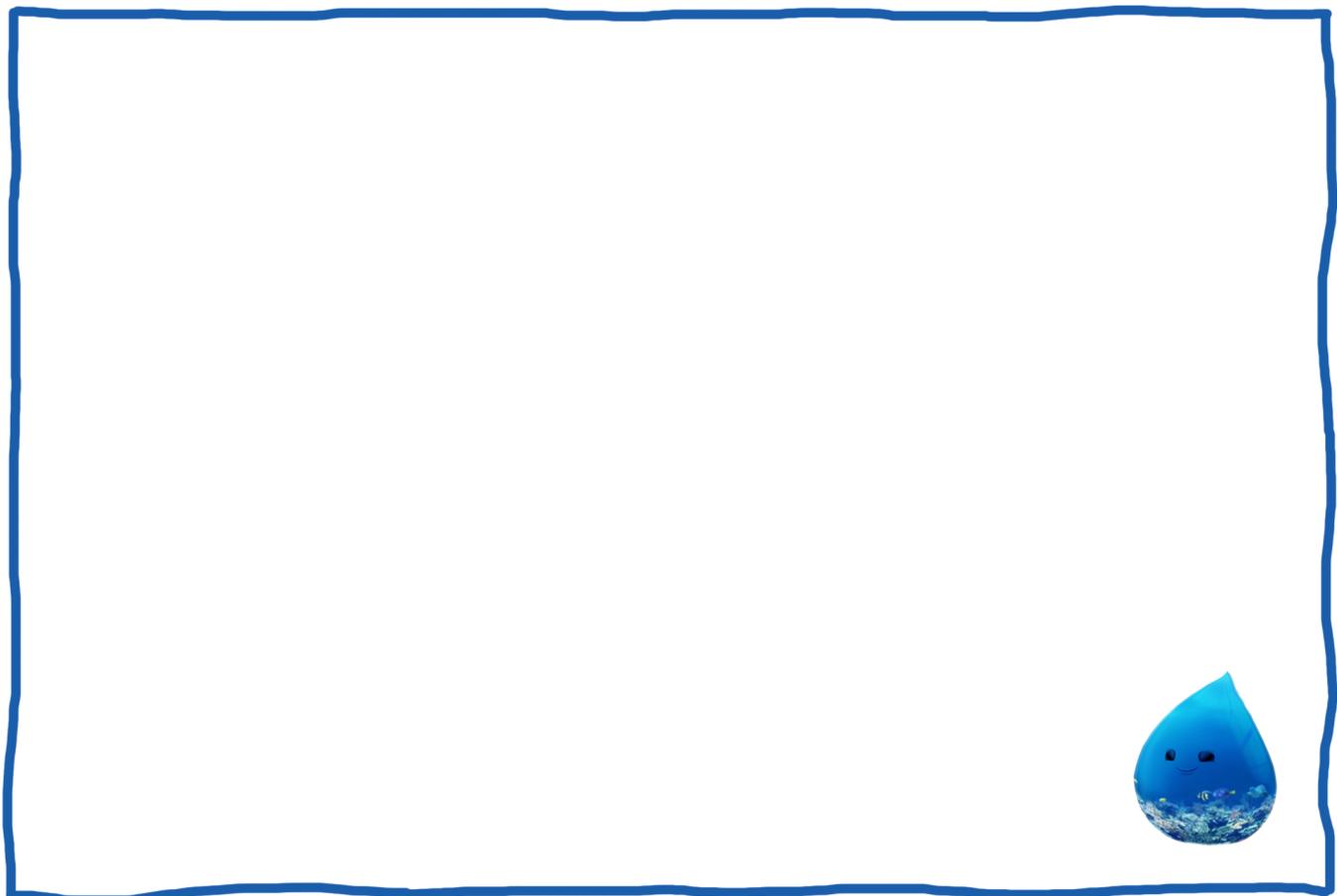
OUR OCEAN: BIG BLUE BUDDY



A healthy friendship means that care goes both ways. The ocean cares for people by providing us with numerous benefits. In return, how can we be the ocean's best buddy?

Express how you can care for Blue Buddy through:

1. Writing an acrostic poem using the word "ocean"
2. Writing a letter addressed to someone in power to protect our ocean
3. Designing a poster to encourage your family and friends to protect our ocean
4. Drawing a comic strip that shows the friendship we have with our ocean



Dive Deeper: Share with your family and friends about how they can care for our ocean and initiate trips to explore marine spaces like beaches, rocky shores, mangroves and intertidal zones. You could even conduct a beach clean-up while you are there to be a true friend to Blue Buddy.

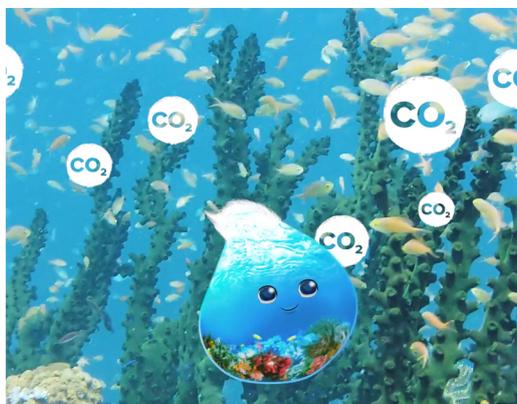


Appendix 1: Vocabulary

Ocean

A huge body of water made of various ecosystems called marine ecosystems. Each ecosystem hosts a wide variety of marine biodiversity. Such ecosystems include places that are near and far, shallow and deep, such as:

- High sea: The vast open ocean.
- Coasts: The area where the ocean meets the land.
- Deep-sea: The deepest parts of the ocean - depths of more than 200 metres and therefore often inaccessible to humans. It is only made accessible in recent times with technological advancements such as robotic submarines. As a result, organisms that live in these depths see little or no sunlight.



Carbon sink

A reservoir that absorbs and stores carbon. The ocean can absorb and store carbon from the atmosphere through two main mechanisms:

- Physical: Simple dissolution of carbon dioxide in the atmosphere into the ocean.
- Biological: Like plants, phytoplankton take in carbon dioxide through photosynthesis. This carbon is stored in their bodies.

Plankton

Tiny micro-organisms found in water that are too small or weak to swim against the current. Examples of plankton include algae, crustaceans, mollusks and bacteria. As such, they form the base of the food chain for many marine animals, ultimately balancing the marine ecosystem. This video highlights two types of plankton, namely zooplankton, which are animals and phytoplankton, which are plants.

