



Teacher Resource

# New Ocean

## Focus Questions

1. What was the main point of the New Ocean story?
2. What continent does the Southern Ocean surround? Find on a map.
3. Who approved the Southern Ocean as the world's 5<sup>th</sup> ocean?
4. What are the 4 other oceans?
5. What defines an ocean?
6. What makes the Southern Ocean an ocean?
7. The ACC is the weakest ocean current on our planet. True or false?
8. What helps keep Antarctica cool and icy?
9. The Southern Ocean is home to thousands of \_\_\_\_\_ that aren't found anywhere else.
10. Think of three questions you have about the Southern Ocean. Share them with the class.

## Activity: Class Discussion

Watch the BTN New Ocean story then use the following questions to get the discussion started...

- What makes an ocean an ocean?
- Name the five oceans.
- How much of our planet's surface is covered with water?
- Which ocean is closest to you?
- What else do you know about oceans? Brainstorm and record your thoughts as a class.
- What do you want to learn about oceans?

## Activity: Glossary

Students will brainstorm a list of key words that relate to the BTN New Ocean story. Below are some words to get them started.

OCEAN	CONTINENT	ANTARCTICA
OCEAN CURRENT	SPECIES	ANTARCTIC CIRCUMPOLAR CURRENT

### EPISODE 18

22<sup>nd</sup> June 2021

#### KEY LEARNING

Students will identify the five oceans and learn more about the Southern Ocean and the animals that live there.

#### CURRICULUM

##### Science – Year 4

Living things depend on each other and the environment to survive.

##### Science – Year 5

Living things have structural features and adaptations that help them to survive in their environment.

##### Science – Year 6

The growth and survival of living things are affected by physical conditions of their environment.

##### Science – Year 7

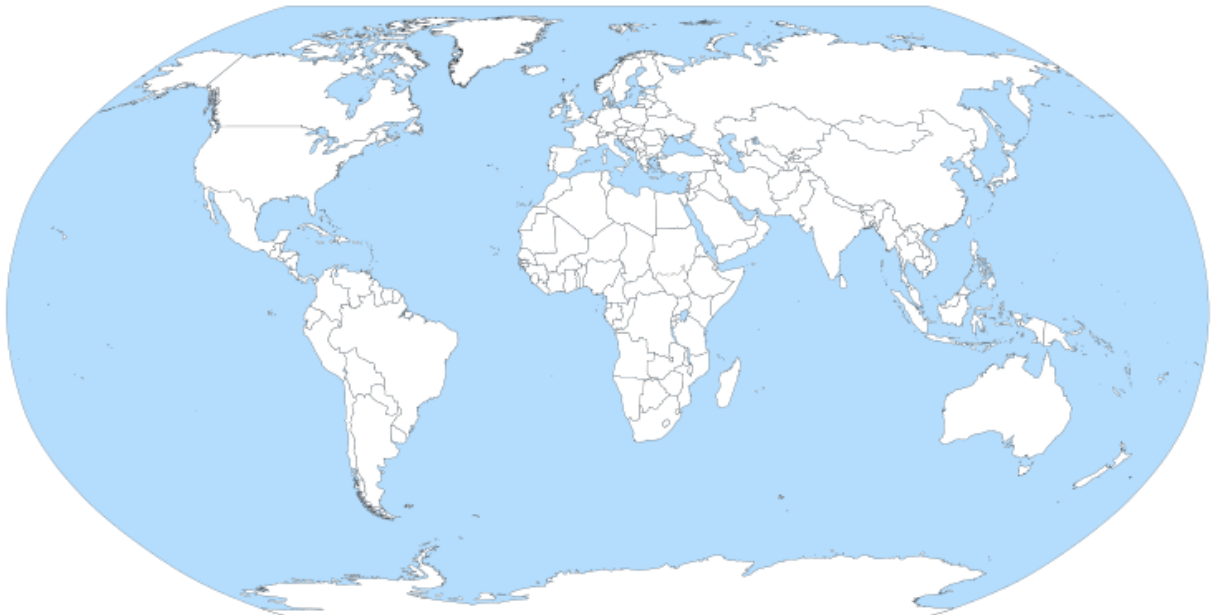
Interactions between organisms, including the effects of human activities can be represented by food chains and food webs.

Scientific knowledge has changed peoples' understanding of the world and is refined as new evidence becomes available.

## Activity: Identifying Oceans

Working in pairs, students use the following clues to work out which ocean is which then label the [world map](#) below.

- This is the largest ocean, covering one third of the planet's surface. (Pacific)
- This is the shallowest and smallest of the oceans. (Arctic)
- This ocean is the third largest and has some important waterways. (Indian)
- This ocean's name comes from Greek mythology and means 'Sea of Atlas'. It is the second largest ocean. (Atlantic)
- This ocean is the second smallest and is the only ocean that stretches around the entire planet. (Southern)



## Activity: Ocean Research

After watching and discussing the BTN New Ocean story, what questions do students have and what are the gaps in their knowledge? They can develop their own question to investigate or select one or more of the questions below.

- Investigate sea creatures that live in the deep ocean habitats of the Southern Ocean. How have the animals adapted to survive? What is unique about the deep ocean habitats of the Southern Ocean?
- What is the Antarctic Circumpolar Current? How does it affect us in Australia?
- What role does the Southern Ocean play in buffering the planet from climate change?
- Investigate the critical role sea ice plays in both global climate and Southern Ocean ecosystems.
- What are the threats to the Southern Ocean? What is Australia doing to protect the Southern Ocean?
- The deepest part of the ocean is called the Challenger Deep. Where is it located and how deep is it?


## Activity: Southern Ocean Animals

Students will imagine they are marine biologists studying an animal from the Southern Ocean in detail. Students will choose an animal to explore, create a profile and then share their findings with the class. Here are some suggestions:

- Sea lion
- Squid
- Icefish
- Headless Chicken Monster
- Emperor penguin
- Krill
- Blue whale

Students can use the profile worksheet at the end of this activity to organise and present their information.

- Common and scientific name
- Appearance - what are some of their physical characteristics?
- Describe their habitat.
- Threats - what are some of the threats to their survival?
- Adaptations and interesting features.

<b>Common Name:</b>	
<b>Scientific Name:</b>	
<b>Life Span:</b>	
<b>Size:</b>	
<b>Characteristics:</b>	
<b>Threats to species:</b>	
<b>Adaptations:</b>	
<b>Habitat:</b>	
<b>Behaviour:</b>	
<b>Interesting features or facts:</b>	

## Activity: The Deep Sea Zones

Students will explore the different deep sea zones in the short video [The Deep Sea – Exploring the Zones](#), then respond to the following:

- Describe the deep sea exploration vessel being used to explore the ocean.
- The mesopelagic zone is also known as the \_\_\_\_\_ zone.
- Can photosynthesis occur in this zone? Why?
- Why are a lot of the animals in this zone red?
- What percentage of deep sea animals are thought to bioluminescent?



### Further Learning

- What animals and plants are unique to the deep sea?
- How are creatures able to survive in the deep sea?
- What are some challenges to life for deep sea creatures? (Pressure, cold, darkness)
- What is bioluminescence?
- How is the light produced?
- Why do some deep sea creatures have this feature?
- Give some examples of creatures that are bioluminescent.

## Activity: Who am I?

Students will make their own *Who am I?* game to learn more about Southern Ocean animals.

- Students will research and write 5 clues to correspond with each animal in the Who am I? worksheet at the end of this activity, with the first clue being the hardest and the last clue being the easiest.
- Include clues about the animal's special features, its predators and how it adapts to its environment.
- Students will test their game on a partner.

### Who am I?

Choose 5 Southern Ocean animals or use the five animals below. Write 5 clues to correspond with each animal. Include clues about the animal's appearance, diet and adaptations. Cut up the cards and test a partner to see if they can match the animal to the clues.



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Who am I?  
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Images: 1. Emperor penguin 2. Humpback whale 3. Icefish 4. Krill 5. Headless Chicken Monster

## Useful Websites

- [Curious Kids: How deep is the ocean?](#) – ABC Education
- [Australia Remastered: Australia's Oceans](#) – ABC
- [Meet the creep critters of the Southern Ocean's 'twilight zone'](#) – ABC News
- [Underwater Research](#) – BTN
- [Deep Sea Exploration](#) – BTN
- [Sea Creatures](#) – BTN
- [World Oceans Day: What is it?](#) – Newsround

# Southern Ocean Animal

**Common Name:**

**Scientific Name:**

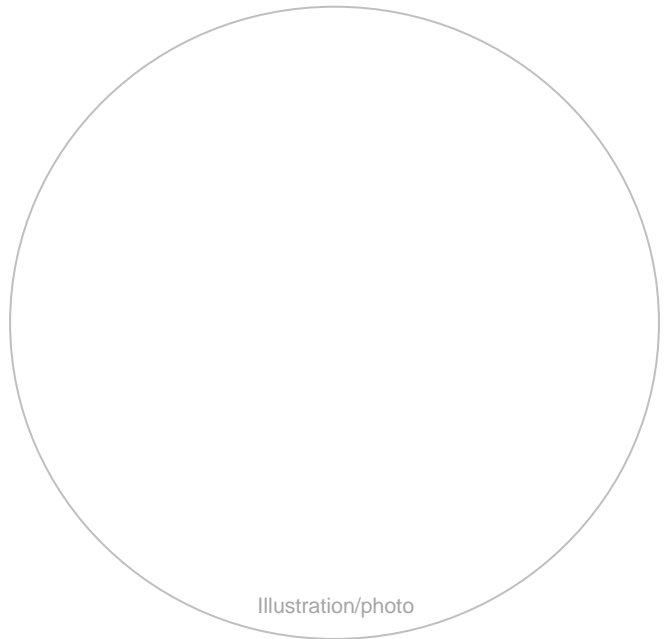
**Life Span:**

**Size:**

**Characteristics:**

**Threats to species:**

**Adaptations:**



**Habitat:**

**Behaviour:**

**Interesting features or facts:**

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Who am I?

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Who am I?

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Who am I?

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Who am I?

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