

Deep Sea Exploration

FOCUS QUESTIONS

1. In pairs, discuss the BtN *Deep Sea Exploration* story and record the main points of the discussion.
2. How much of the ocean floor is still unexplored?
 - a. 50%
 - b. 80%
 - c. 95%
3. How many shipwrecks are thought to be in the ocean?
4. The ocean is divided into three zones. What are they?
5. In which zone does light start to disappear?
6. The deepest part of the ocean is 11,000 metres down. How many Eiffel Towers stacked on top of each other is that?
7. How many people have been to the deepest part of the ocean?
8. Describe the deep sea exploration vessels.
9. Illustrate an aspect of this story.
10. What did you like about the BtN story?

ACTIVITY

After watching the BtN story, respond to the following questions:

- What did you SEE in this video?
- What do you THINK about what you saw in this video?
- What does this video make your WONDER?
- What did you LEARN from this story?
- How did this story make you FEEL?
- What was SURPRISING about this story?

Class Discussion

Hold a class discussion about the information in the BtN *Deep Sea Exploration* story. Record any questions students have about the deep sea exploration. Use the following questions to help guide discussion:

- What are some challenges for deep sea creatures?
- What equipment do scientists use to find out about life on the sea floor of deep oceans?
- What types of creatures do they find?

KEY LEARNING

Students will explore the different deep sea zones and find out more about deep sea creatures and how they have adapted to their environment.

AUSTRALIAN CURRICULUM

Science – Year 4

Living things depend on each other and the environment to survive ([ACSSU073](#))

Living things have life cycles([ACSSU072](#))

Science – Year 5

Living things have structural features and adaptations that help them to survive in their environment([ACSSU043](#))

Science – Year 6

The growth and survival of living things are affected by physical conditions of their environment ([ACSSU094](#))

Communicate ideas, explanations and processes using scientific representations in a variety of ways, including multi-modal texts ([AC SIS110](#))

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 be bioluminescent?

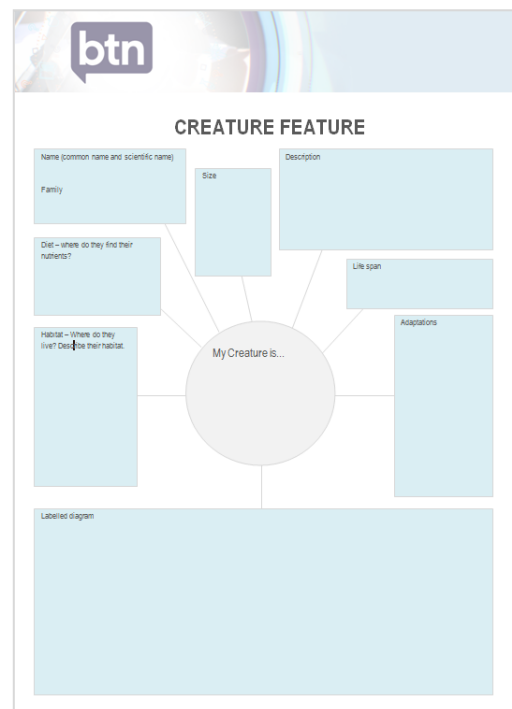


ACTIVITY

Creature feature

Explain to students that they will imagine they are biologists exploring life found deep in the ocean.

- As a class identify different animals that can be found in the Twilight or Midnight zones. Make a list on your class whiteboard. The [deep sea diversity slideshow](#) or the [Nautilus Live website](#) has some examples of creatures to choose from.
- Students will choose an animal which calls the deep ocean their home.
- Students will create a Creature Feature on their chosen animal. Students will use a range of sources to find their information, including the internet, newspapers and books. Students will use the [Creature Feature worksheet](#) to organise and present their information.



Further investigation

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

Watch the BtN [Sea Creatures story](#) to find out more about researchers who are exploring the world under the sea. They can then answer the following discussion questions:

1. Benthic habitats are in the _____ parts of the ocean.
1. What special equipment do the researchers use?
2. Describe a problem the researchers have.
3. What are pycnogonids also known as?
4. Why are researchers exploring in the deepest parts of the Southern Ocean?
5. What impact could illegal fishing have on marine life?
6. What evidence of illegal fishing did the researchers find?
7. Illustrate an aspect of the story.
8. What do you now know about deep ocean sea creatures that you didn't know before watching the BtN story?

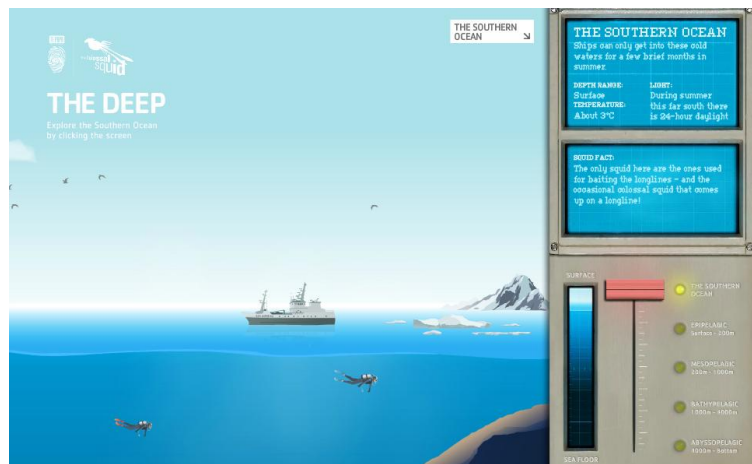


ACTIVITY

The [Deep interactive](#) allows students to explore the different zones of the Southern Ocean and the creatures that live there.

Ask students to:

- Name each zone
- Give an example of a creature that lives in each zone
- A fact about each creature.



USEFUL WEBSITES

Behind the News – Sea Creatures

<http://www.abc.net.au/btn/story/s2910973.htm>

BBC – Deep Sea Creatures: Nature's Microworlds

https://www.youtube.com/watch?v=BtmXN_tH2IM

The Colossal Squid – The Deep Interactive

<http://squid.tepapa.govt.nz/the-deep/interactive>

Nautilus Live – Photos and Videos

<http://www.nautiluslive.org/photos-videos>