

Life in the freezer – a day in the life of Antarctic and Southern Ocean animals

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CLASSROOM ACTIVITIES (Extension)

What's home like?

- Discuss the importance of the cold Southern Ocean. Cold oceans are highly productive because they can hold more oxygen. What does this mean for life?
- Look at the web cams of the Australian bases in Antarctica to see the daily temperature and conditions.
<http://www.aad.gov.au/default.asp?casid=27>
- Freeze a tray of ice and have students stand on it in bare feet. What might animals need to walk on the ice and live in an icy environment?

Where do they live?

- Have students create a giant floor map of the Antarctic region, including the southern parts of Australia. Mark the distribution of the various major animals they have chosen and then plot the distribution of the vital food web components (eg, the phytoplankton under the Antarctic sea ice, the krill and the fish, whales, seal species). A large map gives students a sense of scale in how far some of the animals move around the globe.
- Have students discuss the specific adaptation that particular animal species have made in order to occupy their niche. Split the group into those studying the terrestrial continental animals (eg, springtails, mites, endoliths) the marine animals (eg, seals, penguins, whales, birds) and the sea life (eg, fish, invertebrate) then look at the interactions between the three. Topics include:
 - feeding
 - the availability of fresh water in a frozen landscape
 - warmth and sunlight
 - breeding times and place.

Who lives there?

- Spot the mistake. Often children's stories (and some adult ones!) still have penguins living with polar bears and walrus. Explore the difference between the animals of the Arctic and the Antarctic.

The visitors

- Many whale and seal species navigate and communicate using high-frequency sounds underwater. But what happens when such environments become 'noisy' with human activities, such as shipping and sonic geological surveying? Play a modified 'bat and moth' game with blindfolded 'whales', noisy ships and echoing coastlines. Investigate whale beaching. Is there a link?