

LESSON 5: FROM ICE TO PAPER

All lesson resources can be found at: encounteredu.com/teachers/lessons/frozen-oceans-science-14-16-lesson-5

Summary

Scientists work to increase our understanding, and the Catlin Arctic Scientists are no different. It is important for the Catlin Ice Base research team to share their findings with a wider audience. They did this in three ways. First, they wrote a scientific paper, recording their research, data and analysis. Second, the university published a press release to share the findings more widely outside the science community. They also collaborated to make this educational resource. This lesson examines the process and difficulties of sharing science with different audiences.

Learning Objectives

- Understand that scientists need to share their findings
- Know about and evaluate the different ways of sharing scientific research
- Compare the style and language of scientific papers with press releases

Preparation

- Download and familiarise yourself with the Lesson 4 slideshow 'Sharing research'
- Read Subject Update - Vertical migration for background information
- Print out enough copies of:
 - Student Sheet 5a - Published paper summary
 - Student Sheet 5b - Press release

Notes

LESSON PLAN

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Aims / Objectives	Activities	Resources	Outcomes
STARTER: SHARING THE SCIENCE	Use the Slideshow 'Sharing research' to introduce students to the different methods that scientists use to disseminate their findings and about the peer review process.	Slideshow - Sharing research	Know about the peer review process Know about how scientists share their findings
WHAT DOES A SCIENCE PAPER LOOK LIKE?	Use the slideshow and the Student Sheet 5a to explain the science paper to your class. Use the following questions to guide a class discussion or for students to answer in their books: What do you think about the language used in the science paper? Why do you think that scientists use this kind of language? (Hint: there is a strict word limit for papers) Do you think that science publishers and scientists should aim to write in a way that is more understandable for a wider audience?	Slideshow - Sharing research Student Sheet 5a - Science paper summary The full published paper can be downloaded from: www.pnas.org/content/110/51/E4960	Know what a science paper looks like Debate the nature of science publishing
HOW CAN SCIENCE BE COMMUNICATED IN THE PRESS?	A copy of the University of Exeter press release for the science is included on Student Sheet 5b. Read through the Press Release as a class. Does it make the science easier to understand? Use the slideshow to explore how else the university could have communicated the science.	Slideshow - Sharing research Student Sheet 5b - Press release	Debate how academic institutions communicate science to a wider audience
HOW CAN SCIENCE BE USEFUL TO SOCIETY?	Use the slideshow to identify the different pathways to impact used by scientists. Which of the pathways are important and why?	Slideshow - Sharing research	Explore and discuss the idea of pathways to impact
PLENARY: WHAT CHANGES COULD BE MADE TO THE WAY SCIENCE AIMS TO HAVE IMPACT?	As a plenary session use the slideshow to debate how public-funded science might be of more use to society.	Slideshow - Sharing research	Explore the connection between science and society