

# Traditional Knowledge in Geoscience

with Dr Judith Brown Clarke and Dr Wendy K'ah Skaahluwaa Todd

## Talking points

### KNOWLEDGE & COMPREHENSION

1. In what forms might traditional knowledge be passed to future generations?
2. What is the Doctrine of Discovery, and how has it led to traditional knowledge being undervalued?
3. How does the story in the article help the Dunne-Za survive harsh Canadian winters?

### APPLICATION

4. If you were a geoscience researcher conducting fieldwork, how would you ensure that your research was respectful of Indigenous communities living in the region?
5. If you were studying how salmon populations in Alaska have changed over time, how could traditional knowledge inform your research?
6. If you were a geoscience teacher, how would you design your curriculum to be inclusive of Indigenous students?

### Analysis

7. How is traditional knowledge different from western science?
8. Why is it problematic to treat traditional knowledge as a single entity?
9. How have Judi and Wendy's personal experiences influenced the work they do?
10. How can geoscience careers empower Indigenous communities?

### EVALUATION

11. How important do you think it is that researchers consider traditional knowledge in their research, from both scientific and ethical points of view?
12. To what extent do you think traditional knowledge can help us understand and mitigate the effects of climate change?

## Activities

### 1. What can we learn from traditional stories?

The story in the article, of the young man and the partridge, is an example of traditional knowledge, where environmental understanding is passed on through the medium of storytelling. Visit Talking Stories ([talkingstories.uoregon.edu](http://talkingstories.uoregon.edu)), an encyclopaedia of traditional stories from Indigenous communities around the world. Each story is accompanied by explanations of how it links to western scientific disciplines such as ecology, zoology, botany and geography.

Read some of the stories in the encyclopaedia, choose one that you enjoy (or choose a different traditional story that you know) and present it to your classmates. Be creative in your retelling of the story – you could recite it, act it out with friends, or use another form of art to express the story. After sharing your chosen story, ask your audience what they can learn from it about the environment from which the story originates.

### 2. Write your own story to share knowledge of your environment

What knowledge should a 10-year-old have to keep them safe in your local environment? Write a list safety tips and advice, covering any aspects that are relevant to your environment (e.g., What insects might sting or bite? Which local plants can be eaten, and which are harmful? How should they stay safe near water or crossing the road? etc.).

Create a story to share this information with local children. Your story should be interesting and engaging, so they remember the information they are being taught, but not too complicated, or they might miss the safety advice contained within it.

If possible, share your story with younger children. Be creative in the way you tell it – you could recite your story, act it out with friends, or use another form of art to express it. After sharing your story, ask your audience what they can learn from it about how to stay safe in your local environment.

## More resources

- Learn more about Wendy's geomicrobiology research ([www.sites.google.com/d.umn.edu/wfsmythe](http://www.sites.google.com/d.umn.edu/wfsmythe)) and listen to her talk about the importance of belonging for Indigenous students ([www.youtube.com/watch?v=z0Lzs-7nAlc](https://www.youtube.com/watch?v=z0Lzs-7nAlc)).

- Learn more about the mural depicting Wendy's work as a Haida geoscientist: [www.findingsproject.com/murals/everything](http://www.findingsproject.com/murals/everything)
- Visit [www.futurumcareers.com/ways-of-knowing](http://www.futurumcareers.com/ways-of-knowing) to listen to Judi's podcast