



TEACHERS AND RESEARCHERS EXPLORING AND COLLABORATING

## **PolarTREC Lesson Resource**

### **360 Tour of Permafrost Tunnel**

**Kim Young**

### **Winter Respiration in the Arctic**

PolarTREC Expedition Page

<https://www.polartrec.com/expeditions/winter-respiration-in-the-arctic>



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## Overview

This resource is a 2-minute immersive video that takes students inside the [Permafrost Research Tunnel](#) outside of Fairbanks, Alaska. It includes footage of both the new and old sections of the tunnel.

## Objectives

Through watching this video, students will get to see what permafrost looks like from the inside, identifying typical features geological features (ex. ice wedges). Through the use of 360 technology students are transported inside the tunnel to explore.

## Lesson Preparation

**Option #1:** Full Immersion – Students will need access to smartphones with the YouTube App downloaded. Students should search for the video using the app and click on the “Cardboard” icon in the upper right-hand corner. The student may then place the phone in a 360 viewer to explore the tunnel.

**Option #2:** Partial Immersion – Students can view the view on a smartphone with the YouTube App or on a laptop/desktop through an internet browser. Students should use their fingers (touch screen) or mouse to explore the video, looking up, down, and around.

## Procedure

This resource can be used to introduce students to permafrost or to reinforce a textbook or lecture lesson on permafrost. For a formative activity, have students pair up and complete the “See, Think, Wonder” thinking routine from Project Zero. One student engages with the video and verbally explains what they are seeing. The other partner records these observations.

Students then switch roles, and on the second round, the viewer should only share new things they observe. Together, students use their combined observations (See) to draw conclusions (Think) and generate further questions (Wonder). For a summative/reinforcement activity, have students view the video individually and identify key terms, elements, and learnings from the lesson plan on permafrost.

## Resources

[Hot Times in Cool Places](#) – Multiple resources for teaching about permafrost

## Resource Details

### Date

26 March 2019

### Region

Arctic

### Completion Time

Less than 1 period

### Grade

All Aged

### Permission

Download, Share, and Remix

### Expeditions

Winter Respiration in the Arctic

### Author(s)

Kim Young

### Link

[360 Tour of Permafrost Tunnel](#)

### Related Members

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### Materials

Attached Video

Smart Phone or Computer with Internet Connectivity

### Topic

## Author/Credits

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