

## Public Science Announcement

Students will find an expedition within the PolarTREC archives and use the research to make a video explaining why studying polar science is important.

### Overview

PolarTREC sends teachers on expeditions with real scientists to study in the field. Studying in the Arctic and Antarctic environments can be a harsh and rewarding experience. I participated in Operation IceBridge, an aerial study of the poles collecting data which is then disseminated to the public through the National Snow and Ice Data Center. Operation IceBridge collects different types of information that can be used in a myriad of ways.

### Objectives

Students will create a short video describing an aspect of polar science and why studying the poles is important.

### Lesson Preparation

- Introduce students to the PolarTREC website.
- Show students various expeditions and photos.
- Do a lesson from the PolarTREC webpage [https://www.polartrec.com/resources/search?f%5B0%5D=taxonomy\\_vocabulary\\_....](https://www.polartrec.com/resources/search?f%5B0%5D=taxonomy_vocabulary_....)

### Procedure

- Have students explore the PolarTREC site and pick a research project to research and explain to the class.
- Working in groups of three or four, students will use the PolarTREC website and the National Snow and Ice Data Center website to do research on a topic in polar studies.
- Students will pick their topic from expeditions on the Virtual Base Camp (<https://www.polartrec.com/expeditions>). They can

#### Details

- Lesson
- Arctic
- More than a week
- Download, Share, and Remix
- High school and Up

#### Standards

##### Next Generation Science Standards

**HS-ESS2-2:** Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth systems.

**HS-ESS3-5:** Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.

##### Florida State Standards

**SC.912.E.7.3:** Differentiate and describe the various interactions among Earth

use computers, books, articles, and interviews with scientists to answer their questions.

- The video will be no more than 4 minutes long and should be interesting and fun.
- Students will be graded on their creativity and the science content of the video.
- Before filming can begin, students must show an outline to the teacher with a script. For the outline, students will describe what is occurring in each scene of their movie.

## Extension

- Students will create a video trailer for a future research idea (can be used as a bonus opportunity).
- Participate in the JESP Program:  
<https://dickey.dartmouth.edu/joint-science-education-project>
- Participate in the JASE Program:

<https://dickey.dartmouth.edu/environment/programs/joint-antarctic-school...>

## Resources

PolarTREC Basecamp webpage: <https://www.polartrec.com/expeditions>

PolarTREC Lesson webpage: [https://www.polartrec.com/resources/search?f%5B0%5D=taxonomy\\_vocabulary\\_...](https://www.polartrec.com/resources/search?f%5B0%5D=taxonomy_vocabulary_...)

National Snow and Ice Data Center: <https://nsidc.org/>

## Assessment

Use the attached Project rubric to assess the students' videos.

## Author / Credits:

Adeena Teres

Stoneman Douglas High School, Parkland, FL

[adeena.teres@browardschools.com](mailto:adeena.teres@browardschools.com)

systems, including:

atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.

**SC.912.N.1.7:** Recognize the role of creativity in constructing scientific questions, methods and explanations.

**SC.912.N.1.3:** Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on† critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.

# Arctic Research PSA Assignment

## Public Science Announcement

Pick a topic to from the PolarTREC website to research.

Some Questions to Answer When Working On Your Video:

- While researching and creating your video think about the message you want to convey.
- Who is the intended audience?
- What message do you want to convey to your audience?
- What do you want your audience to take away from watching your video?
- Why is this research project important?
- What is the purpose of the research?
- How does this research impact the people or the environment?
- Why is doing scientific research important to the public?

Required components of the project:

1. Turn in your script for your video. You must get approval on the video content from your teacher before you start filming.

2. Video and Picture Credits

When using videos or pictures, make sure you give credit to the photographer and include where you got the videos and photos from.

3. Create your video.

There are many different platforms you can use. For iphone you can use iMovie.

## Public Science Announcement Rubric

Group Members:

1. \_\_\_\_\_ 2. \_\_\_\_\_

3. \_\_\_\_\_ 4. \_\_\_\_\_

Due Date: \_\_\_\_\_

Period: \_\_\_\_\_

### Grading Breakdown

#### **Technical Aspects**

1. Video is filmed in a way that makes it easy to view and watch.
2. The voices and/or music in your video is clear and easy to hear. Written content in the video is easy to read and flows at a rate of speed that allows the viewer to read it.

#### **Creativity**

The video is interesting and holds the attention of the audience.

#### **Written Work**

The script and the story board were turned in on time and checked by the teacher. Any corrections or suggestions made by the teacher were addressed in the video.

#### **Scientific Facts**

All of the information in the video is accurate and understandable. The topic is explained and all of the questions in the outline have been addressed.

1. Why is this research project important?
2. What is the purpose of the research?
3. How does this research impact the field of science, people or the environment?
4. Why is doing research important to the public?

Grading Breakdown	10	8	6	4	2
<b>Importance:</b> Explain why the research is being conducted, where is it being conducted and what organization and or scientist is conducting the research.	10	8	6	4	2
<b>Purpose:</b> The message is clear and concise. Explains the research project and is easily understood by the audience.	10	8	6	4	2

<b>Social Benefit:</b> Does the PSA show how the research benefits the field of science, people, or the environment.	10	8	6	4	2
<b>Presentation Filming:</b> The video is clear and takes up the entire scene. The video has been edited to ensure proper viewing.	10	8	6	4	2
<b>Presentation Sound:</b> The sound is clear and understandable. The students talk at a pace that is easy to understand and follow.	10	8	6	4	2
<b>Participation:</b> Each member will write a paragraph stating their role in the group and what the other members contributed.	10	8	6	4	2

Total Points: \_\_\_\_\_/60