

RESOURCE LIBRARY | ACTIVITY : 1 HR

The Evolution of Climbing Everest

Students explore the changes in climbing Mount Everest over time. They identify changes to equipment, especially considering changes that have evolved due to the popularity of mountaineering. Students then consider how changes in popularity have guided governmental regulation. They analyze how the changes may positively and negatively affect the impact climbing Everest has on the environment and safety of climbers.

GRADES

6, 7, 8

SUBJECTS

English Language Arts, Social Studies, Civics, Economics, World History

CONTENTS

1 Resource, 1 Video, 5 PDFs, 3 Links

OVERVIEW

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For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/evolution-climbing-everest/>

In collaboration with

DIRECTIONS

Mount Everest: What Goes Up Should Come Down Unit Driving Question: *How can we enjoy and explore unique natural areas while still protecting our environment?*

The Costs of the Climb Lesson Driving Question: *What are the impacts of the climb?*

1. Lead a class discussion to activate students' prior knowledge by connecting this activity to the idea of change over time.

- Begin by asking students: *If you were interested in summiting Mount Everest or one of the other Seven Summits, how would you get to the base of the mountain today?* (Possible answers: drive, fly, or a combination of both).
- Then ask: *How would people 100 years ago have gotten there? 200 years ago?* (Possible answers: boats, horses, carriages, walking).
- Then ask: *What causes the change in how people solve problems like traveling from one location to another?* [Possible answers: people start wondering how to make things easier (asking questions), which leads to improvements in technology (seeking and developing solutions)].
- Then ask students: *How might these changes be both positive and negative?* (Possible answers for positive changes: The challenge becomes easier, things take less time, travel time is shorter so the time one gets to be participating in the actual activity might increase. As the demand to go to a destination increases, the amount of money the local economy may receive from tourism increases—supply/demand. Locals are receiving better training and are, therefore, able to provide greater services for visitors. Infrastructure and communications are improving as a result of the economy growing stronger. Possible answers for negative changes: The destination becomes more populated, air pollution may increase, more people in a location produces more waste in a location, and as demand to go to a destination increases, the cost may increase—supply/demand. There is a risk of cultural dissolution with greater economic forces driving inhabitants to become educated abroad, move outside for work, lose facility with local languages and dialects.)
- Conclude the discussion by drawing connections between the activity and culminating unit project. Talk about the negative impacts that have occurred because of the increase in the number of climbers on the mountain and connect that to their project goals of controlling for these impacts. Share with students that many in the climbing community and around the world are already engaged in this work.

2. Use video and images to share with students the ways in which climbing gear has changed over time, encourage them to consider whether improvements in technology have positively or negatively impacted safety.

- Have students watch the [Replicating 1920s Gear](#) video (1:30). After watching the video, have students view the [Everest Climbing Gear: Then and Now](#) slideshow of differences in gear from the past to the present. Guide students to listen and look for changes to equipment over time. Distribute a copy of [Everest Gear: Past and Present](#) and have students record their findings.
- Ask students: *Based on this information, raise your hand if you think climbing Everest today is safer than it was in 1920. Why or why not?*

3. Have students read to learn about two disasters on Everest caused by increased traffic at the summit.

- Display this quote from [Traffic Jams are Just One of the Problems Facing Climbers on Everest](#): “I cannot believe what I saw up there. Death. Carnage. Chaos. Lineups. Dead bodies on the route and in tents at Camp 4. People who I tried to turn back who ended up dying. People being dragged down. Walking over bodies. Everything you read in the sensational headlines all played out on our summit night.” –Elia Saikaly, Cinematographer
 - This is a quote from someone’s experience on Mount Everest. Ask students: *In what year do you think this quote was said?* Take student guesses and then reveal that the quote is from 2019.
 - Informally survey students to determine if they were surprised or not, then ask: *Why were you surprised that this quote was from 2019? Why not?*
- Have students read the background article for [May 10, 1996 CE: Disaster on Everest](#) while displaying [this image](#) to the whole class. After students have finished reading, ask: *How has climbing Everest evolved due to popularity according to this text?* Record student responses on a visible surface such as a whiteboard or chart paper.
- Then, have students independently read the article from 2019, [Traffic Jams are Just One of the Problems Facing Climbers on Everest](#). Lead a whole-class discussion about what this article says about how change has impacted the experience of summiting Mount Everest. Record additional changes the students identified on the running list started above.

4. Have students read to learn positive impacts and changes resulting from the increase in popularity of climbing Mount Everest.

- Have students read the article [*The Khumbu Climbing Center: In the Footsteps of Hillary and Norgay.*](#)
- After reading the article, have students identify changes mentioned in this article that have impacted climbing Everest, including education and governmental regulations and add these new ideas to the running list started in Step 3.

5. Facilitate a reflective discussion about how the changes to mountaineering over time have both positively and negatively affected Everest, especially in terms of the environment and safety.

- In small groups, have students refer to their [*Everest Gear: Past and Present*](#) worksheet and the class list of how climbing Everest has evolved started in Step 3 to reflect on both the positive and negative effects on Mount Everest. Have students evaluate the changes to determine which has had the biggest positive and negative effect on Everest and then have one representative from each group share with the whole class.
- Have students add the following three events covered in this activity to their [*History of Mountaineering Timeline:*](#)
 - May 10, 1996 disaster on Mount Everest
 - Creation of the Khumbu Climbing Center
 - National Geographic and Rolex Perpetual Planet Extreme Expedition to Mount Everest in 2019
- Have students record new learning from this activity on their [*Mount Everest: KWL Chart.*](#)

Tip

Step 3: Create a slide that can be projected in bold to the whole class with the quote from Elia Saikaly to guide discussion.

Modification

Step 2 and 3: Pair students up and have each student read one of the two articles and share their findings with their partner.

Tip

Step 3: Scaffold with additional vocabulary by presenting the terms ascender and carabiner before students read [Traffic jams are just one of the problems facing climbers on Mount Everest.](#)

Informal Assessment

Check in with small groups listening for understanding of how the changes in mountaineering have both positively and negatively impacted Mount Everest and mountaineers attempting the climb. Ask clarifying or guiding questions to move students towards an understanding of both perspectives if they have not fully developed a balanced perspective. Visually check their record of changes reminding students of the importance their notes will have on their culminating project.

Extending the Learning

Science Extension: Have students conduct an experiment to determine differences in fabrics worn in extreme environments in 1924 and today using the [Expedition Clothing: Then and Now.](#) The video [How the Chemistry of Clothing Protects You on Everest](#) video also provides valuable information about science in the clothing.

OBJECTIVES

Subjects & Disciplines

- English Language Arts
- **Social Studies**
 - Civics
 - Economics
 - World History

Learning Objectives

Students will:

- Compare and contrast the clothing, tools, and general climbing experiences of Mount Everest climbers today and in the past.

- Be able to explain how changes in mountaineering have affected the well-being of the environment, individuals, and businesses.

Teaching Approach

- Project-based learning

Teaching Methods

- Discussions
- Multimedia instruction
- Reading

Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
 - Information, Media, and Technology Skills
 - Information Literacy
 - Information, Communications, and Technology Literacy
 - Learning and Innovation Skills
 - Critical Thinking and Problem Solving
- 21st Century Themes
 - Environmental Literacy
- Critical Thinking Skills
 - Analyzing
 - Applying
 - Evaluating
 - Remembering
 - Understanding

National Standards, Principles, and Practices

COMMON CORE STATE STANDARDS FOR ENGLISH LANGUAGE ARTS & LITERACY

- **CCSS.ELA-LITERACY.RH.6-8.2:**

Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

- **CCSS.ELA-LITERACY.RI.6-8.7:**

Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

- **CCSS.ELA-LITERACY.SL.6-8.1:**

Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly.

- **CCSS.ELA-LITERACY.WHST.6-8.1.B:**

Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.

THE COLLEGE, CAREER & CIVIC LIFE (C3) FRAMEWORK FOR SOCIAL STUDIES STATE STANDARDS

- **D2.Civ.13.6-8:**

Analyze the purposes, implementation, and consequences of public policies in multiple settings.

- **D2.Eco.1.6-8:**

Explain how economic decisions affect the well-being of individuals, businesses, and society.

- **D2.His.14.6-8:**

Explain multiple causes and effects of events and developments in the past.

Preparation

What You'll Need

REQUIRED TECHNOLOGY

- Internet Access: Required
- Tech Setup: 1 computer per classroom, 1 computer per learner, Monitor/screen, Presentation software, Projector

PHYSICAL SPACE

- Classroom

GROUPING

- Heterogeneous grouping
- Large-group instruction
- Large-group learning
- Small-group learning
- Small-group work

RESOURCES PROVIDED: UNDEFINED

- Replicating 1920s Gear

RESOURCES PROVIDED: HANDOUTS & WORKSHEETS

- [Expedition Clothing: Then and Now](#)
- [History of Mountaineering Timeline](#)
- [History of Mountaineering Timeline Answer Key](#)
- [Mount Everest: KWL Chart](#)
- [History of Mountaineering Timeline Blank](#)

RESOURCES PROVIDED: IMAGES

- National Geographic: Everest Climbing Gear-Then and Now-2017

RESOURCES PROVIDED: ARTICLES & PROFILES

- National Geographic: The Khumbu Climbing Center - In the Footsteps of Hillary and Norgay
- National Geographic: Traffic Jams are Just One of the Problems Facing Climbers on Everest

RESOURCES PROVIDED: UNDEFINED

- Disaster on Everest

BACKGROUND & VOCABULARY

Background Information

Conquering the summit of Mount Everest has been many a person's dream since it was identified as the highest point on the Earth's surface in 1852. Since the first summit attempts in the 1920s and continuing to today, new technologies in climbing and climbing equipment, medical equipment, clothing, and electronics have been evolving and improving, making it easier and easier for anyone with enough money to be able to attempt the climb.

Furthermore, the Nepalese and Chinese governments have created a revenue-based model for increasing tourism dollars in exchange for the privilege and permission to climb Everest. Each country sets its own regulations, which has created visible differences in the environment on Everest on either side of the peak. The Nepalese government depends upon the tourism dollar more than the Chinese government, so China has set more limitations on the climb, which has led to less environmental destruction on the northern side of Everest.

As a consequence of this evolution, the way people prepare for and experience the ascension of Mount Everest today is much different than the way that it has been done in the past, and the effects of these changes have had both positive and negative impacts on the lives of mountaineers, those who live and work around Everest, and the environment on Mount Everest itself.

Prior Knowledge

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Recommended Prior Activities

- [Danger Versus Desire: The Inspirational Power of the Peaks](#)
- [The History of Mountaineering and Allure of Conquering Everest](#)

Vocabulary

| Term | Part of Speech | Definition |
|--------------|----------------|--|
| climb | verb | to ascend or go up. |
| conservation | noun | management of a natural resource to prevent exploitation, destruction, or neglect. |

| Term | Part of Speech | Definition |
|---------------------|----------------|--|
| ecotourism | noun | act and industry of traveling for pleasure with concern for minimal environmental impact. |
| geotourism | noun | tourism that sustains or enhances the geographical character of a place—its environment, culture, aesthetics, heritage, and well-being of its residents. |
| mountaineer | noun | someone who climbs mountains. |
| Mount Everest | noun | highest spot on Earth, approximately 8,850 meters (29,035 feet). Mount Everest is part of the Himalaya and straddles the border of Nepal and China. |
| stewardship | noun | responsible management to ensure benefits are passed on to future generations. |
| summit | noun | highest point of a mountain. |
| sustainable tourism | noun | industry that seeks to have the least impact on the places and cultures visited, while contributing to the local economy. |
| tourism | noun | the industry (including food, hotels, and entertainment) of traveling for pleasure. |

For Further Exploration

Articles & Profiles

- [National Geographic: Everest Gear--Then and Now 2012](#)
- [Summitpost.org: A Basic Course Outline and Reading List in the History of Mountaineering and Climbing](#)

Video

- [Elia Saikaly: The Dream of Everest](#)
- [Institute of Physics: How the Chemistry of Clothing Protects You on Everest](#)

Websites

- [National Geographic: Life at the Extremes](#)
- [Himalayan Trust: Homepage](#)



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