

RESOURCE LIBRARY
LESSON

The Costs of the Climb

Students explore the history of climbing Mount Everest. Then, they unpack what it takes to summit Everest today, including the types of costs. Finally, students consider what happens to waste, both organic and non-organic, and how waste has impacted the mountain over time. This lesson is part of the *Mount Everest: What Goes Up Should Come Down* unit.

GRADES

6 - 8

SUBJECTS

Biology, Health, Conservation, English Language Arts, Social Studies, Civics, Economics, World History

CONTENTS

3 Activities

In collaboration with



ACTIVITY 1: THE EVOLUTION OF CLIMBING EVEREST | 1 HR

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: Know and Need to Know 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.6.7:

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.6.1:**

Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 6 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

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](#)

Vocabulary

Term	Part of Speech	Definition
climb	<i>verb</i>	to ascend or go up.
conservation	<i>noun</i>	management of a natural resource to prevent exploitation, destruction, or neglect.
ecotourism	<i>noun</i>	act and industry of traveling for pleasure with concern for minimal environmental impact.
geotourism	<i>noun</i>	tourism that sustains or enhances the geographical character of a place—its environment, culture, aesthetics, heritage, and well-being of its residents.
mountaineer	<i>noun</i>	someone who climbs mountains.
Mount Everest	<i>noun</i>	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	<i>noun</i>	responsible management to ensure benefits are passed on to future generations.
summit	<i>noun</i>	highest point of a mountain.

Term	Part of Speech	Definition
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.

ACTIVITY 2: SUMMITTING EVEREST TODAY | 1 HR

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. Engage students in an analysis of this Everest infographic as they infer various costs based on their observations.

- Distribute to students this Everest infographic created using data from 1900 to 2016. Ask students: *Based on our new, inclusive definition of costs, what do you notice on this infographic that is an example of a cost?*
 - Conduct another Think, Pair, Share where students discuss what they notice on the infographic that would be a cost. Have students share their partner's observation, and record them on the whiteboard or chart paper.
- Distribute the Cost of the Climb handout to each student. Ask: *What categories of costs can you identify? Which observation would go in that category?*
 - Conduct a class discussion until students have identified examples from each category on the *Cost of the Climb* worksheet: physical or human body, financial or money, material or supplies, environmental, and personnel or workers.
 - Demonstrate adding one of these student-identified costs to the appropriate area of the *Cost of the Climb* worksheet. For example, hired workers would go under personnel; death, altitude sickness, or frostbite would fall under physical costs.
- Show students an image of the climber known as green boots. Share with students that green boots died on Everest in 1996, but his body is still there.

- Ask: *Why is this climber's body still on the mountain? What else is left with him?* (Answers may include oxygen tank, climbing pack.)

2. Have students read articles to learn in-depth about what it takes physically, financially, materially, environmentally, and in personnel to summit Everest.

- Have students read two or more of the following articles and use what they discover in each reading to complete their *Cost of the Climb* worksheet.

1. [The Everest Moral Dilemma](#)
2. [Nepal Slashes Everest Fees; Will Lower Costs Increase Crowds of Climbers?](#)
3. [Alpine Institute's Everest Equipment List-2018](#)
4. [Sherpas: The Invisible Men of Everest](#)
5. [NPR: The Science Behind the Super Abilities of Sherpas](#)
6. [Leave No Trace: Plan Ahead and Prepare in Mountaineering](#)

3. Have students share what they discovered while reading with peers and reflect on the costs of summiting Everest.

- Divide students into groups of three to four. Have students share with their group members, who read different articles in Step 4, what they learned about the costs of summiting Everest. Have students record new ideas from their group's discussion to their [Cost of the Climb](#) worksheet.
- Conduct a class discussion for students to share their responses to the final question on the *Cost of the Climb* worksheet. Ask: *What are the major impacts of climbing Mount Everest on the mountaineers? What about on the mountain?*
- Conclude the discussion with: *The influential mountaineer Reinhold Messner is rumored to have said, "Everyone knows what climbing mount Everest costs; but only a few know what it is worth." What do you think?*

Modification

Step 2: Give students 20 minutes for reading with the expectation that they will be reading at least two of the provided articles. If they complete two and have time for an additional article, then they may read one or more of the other articles provided.

Modification

Step 2: Rather than having students record categories of expenses and itemize costs by hand, tie in computer skills learning, and teach spreadsheet skills. Then, allow students to use formulas to calculate totals in expenses.

Informal Assessment

Collect and review students' *Cost of the Climb* worksheet, looking for at least one example of each type of cost (physical, financial, material, personnel, and environmental). Make suggestions for resources to review for students who may be missing examples from the main cost categories.

Extending the Learning

Math and Computer Skills Extension: Have students use the resources provided in this activity to predict an overall cost for an individual climbing Mount Everest that includes travel, equipment, personnel, and other potential monetary expenses. Students practice using computer-based spreadsheets to label and categorize data and develop formulas to predict expenses. Use the spreadsheet to create a graph that breaks down the fraction/percentage of expenditures for items such as regulatory fees, supplies, and expedition charges.

ELA Argumentative Writing: Have students debate verbally or through argumentative writing whether or not climbers should tackle Mount Everest if they are heavily reliant upon supports.

OBJECTIVES

Subjects & Disciplines

Biology

- Health
- English Language Arts

Social Studies

- Economics

Learning Objectives

Students will:

- Identify and categorize the costs of climbing Mount Everest.
- Understand that not all costs are financial.

Teaching Approach

- Project-based learning

Teaching Methods

- Discussions
- Jigsaw
- Multimedia instruction

Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
 - Information, Media, and Technology Skills
 - Information Literacy
 - Learning and Innovation Skills
 - Communication and Collaboration
 - Critical Thinking and Problem Solving
- 21st Century Themes
 - Environmental Literacy
 - Financial, Economic, Business, and Entrepreneurial Literacy
 - Global Awareness
- Critical Thinking Skills
 - Analyzing
 - Applying
 - 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.6.7:**

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.

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

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

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

- **D2.Geo.4.6-8:**

Explain how cultural patterns and economic decisions influence environments and the daily lives of people in both nearby and distant places.

Preparation

BACKGROUND & VOCABULARY

Background Information

The cost of summiting Mount Everest includes both gear and hiring specialized guides known as Sherpas who will manage equipment, cook, and guide climbers. Sherpas are Nepalese people who live at high altitudes and are better acclimated to the conditions of Everest, but they are also the group with the highest mortality on the mountain. As the number of people attempting to summit rises, the costs to the mountain, local people, and climbers continue to increase.

Prior Knowledge

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Recommended Prior Activities

- [Danger Versus Desire: The Inspirational Power of the Peaks](#)
- [Mountaineering as Exploration, Recreation, and Vocation](#)
- [The Evolution of Climbing Everest](#)

Vocabulary

Term	Part of Speech	Definition
altitude sickness	<i>noun</i>	illness caused by reduced oxygen levels at high elevations.
expedition	<i>noun</i>	journey with a specific purpose, such as exploration.
financial	<i>adjective</i>	having to do with money.
Mount Everest	<i>noun</i>	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.
personnel	<i>noun</i>	employees or all people working toward a common goal.
physical	<i>adjective</i>	having to do with the body.
Sherpa	<i>noun</i>	people and culture native to the Himalayan region of Nepal and China. Sherpa often serve as mountaineer guides and porters on mountain-climbing expeditions.

ACTIVITY 3: TOURISM, WASTE, AND THE EFFECTS OF CLIMATE CHANGE ON EVEREST | 1 HR 40 MINS

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. Use a variety of media to facilitate a discussion about how garbage is dealt with on Everest.

- Show students a piece of trash and ask: *What do we do with trash when we find it in our classroom? What happens to that trash after we put it in a trash can?*
- Ask: *What do you think happens to trash on Everest?*
- Then, as a class, watch [The human impact on Everest](#) from CNN.
- Have students read the article [Tons of Trash Removed from Everest as Cleanup Unearths Bodies](#).

- After reading, ask students: *What confirmed, challenged, or furthered your thinking? What surprised you most?*
- Show students [this photo](#) from a May 8, 2017, Everest cleanup campaign. Ask:
 - *What would encourage and/or prohibit you from participating in something like this?* (Possible student answers: There is a sense of pride in participating in service work, such as a cleanup campaign. The work is physically demanding, and I don't want to hurt myself cleaning up after others.)
 - *Why is it important to tourism that cleanup campaigns like this exist?* (Possible student answers: Tourists, who are important to the economy, are not going to want to visit a natural area if it is completely littered with trash because it takes away from the natural beauty.)
 - *How might cleanup campaigns like this deter mountaineers from packing their own waste out?* (Possible student answers: People may feel that if they are paying for services such as a Sherpa guide, then it is not their responsibility to clean up after themselves.)
 - *Why is it hard for mountain climbers to clean up after themselves?* (Possible student answers: Climbers need to keep their packs light, especially as they get up into higher altitudes.)

2. Poll students to determine their current position on the following topics related to waste on Mount Everest.

- Use a digital survey, polling tool, or a simple thumbs up/thumbs down to survey the class on the following questions:
 - *Is it possible for a mountaineer to summit Everest without leaving waste behind?*
 - *Should Sherpas and other mountain guides be responsible for bringing waste down the mountain?*
 - *Is it fair to leave behind the bodies of those who die trying to summit Everest?*
 - *Whose responsibility is it to prevent pollution from organized expeditions?*
- Record the responses so they can be referenced during Step 4.

3. Engage students in a jigsaw reading to become experts on an article in order to collaboratively evaluate Mount Everest's problems and to propose solutions.

- Distribute the *Mount Everest's Problems and Proposed Solutions* worksheet to students. Inform students that ideas collected on this worksheet may benefit them during the

creation of their culminating project as the solutions they identify will be a big part of the foundation of the Everest Bill of Rights.

- Assign students to one of the six articles to read and become an expert. As they read, have students record their learning on the *Mount Everest's Problems and Proposed Solutions* worksheet.

1. *Vanity, Pollution, and Death on Mt. Everest*

2. *Maxed Out on Everest*

3. *The Mission to Cleanup Mount Everest*

4. *Environmental Issues on Mount Everest*

5. *Healing the Human Impact on Everest*

6. *Saving Mount Everest Campaign*

- Next, have students form a jigsaw group with students who have read the other five articles. Have students share the main problems and/or solutions discussed in their article with their group and record the rest of the group's findings on their own Mount Everest's Problems and Proposed Solutions worksheet.
- Then have students add new, relevant information to the graphic organizer *Cost of the Climb* worksheet that was started in the *Summitting Everest Today* activity.
 - Possible additions students may have include: cleanup costs to pay Sherpas who are bringing trash down the mountain, extra fees charged for cleanup that are added on to the mountaineering fees, and emotional costs for the families of those who die on the mountain.

4. Revisit the survey questions from Step 2 to see if students' opinions have changed.

- *Is it possible for a mountaineer to summit Everest without leaving waste behind?*
- *Should Sherpas and other mountain guides be responsible for bringing waste down the mountain?*
- *Is it fair to leave behind the bodies of those who die trying to summit Everest?*
- *Whose responsibility is it to prevent pollution from organized expeditions?*

5. Connect students to the final project and practice identifying a right.

- Remind students their final product will be to create an Everest Bil of Rights as a class.
- Share with students one example of a right (for example, you have the right to remain silent). Then ask students to brainstorm in their groups what kinds of rights would be necessary to implement the solution they identified.

- Students write down their right and submit it as an exit ticket.

Tip

Step 5: If students have not yet learned about the concept of rights, pre-teach that vocabulary word prior to this step.

Modification

Step 2 and 4: Additional questions for polling thinking:

- *Is it ethical to have human beings carry at great personal risk loads of trash off the mountain?*
- *Is it ethical to have helicopters do the same?*
- *Is it better to deposit trash in deep crevasses away from camps and the climbing route, sparing the Nepalese and Tibetan support staff the risk of carrying down additional loads?*
- *Often, Sherpa and other Nepalese climbers are following cultural practices by not disturbing deceased climbers on the mountain. Is it ethical to offer them bonus payments to remove the deceased in that case?*

Tip

Step 2 and 4: Use an online survey or polling tool in order to quickly see the results of the survey and to engage students through their personal devices or one-to-one technologies.

Tip

Step 2 and 4: Use colored dots stickers to chart survey responses on chart paper. Ask students to stack their dots one above the other in the Yes or No columns to indicate their response. This will create a visual bar graph. Use one color for their initial opinions and a different color to chart opinions after the reading.

Tip

Step 3: Pre-assign articles to students based on interest, reading level, or student grouping considerations.

Modification

Step 4: Label one side of the room “Yes,” and label the other side “No.” Have students respond by moving to the side of the room that represents their opinion. Record the number of students on each side to the survey count.

Informal Assessment

Mount Everest’s Problems and Proposed Solutions: Students complete the *Problems and Proposed Solutions* by accurately citing problems on Everest and developing reasonable solutions.

Oral Presentation of Leave No Trace Best Practices: Students brainstorm and write a draft of a right that relates to the impact of climbers on Everest.

Extending the Learning

ELA Extension: Have students write argumentative essays further defending one of their survey response opinions with additional research, support, and commentary.

- *Is it possible for a mountaineer to summit Everest without leaving waste behind?*
- *Should Sherpas and other mountain guides be responsible for bringing waste down the mountain?*
- *Is it fair to leave behind the bodies of those who die trying to summit Everest?*
- *Whose responsibility is it to prevent pollution from organized expeditions?*
- *Are cleanup expeditions encouraging or discouraging mountaineers to pack out their own trash?*

Design & Engineering Extension: After reading one or more of the suggested articles, have students determine what type of pollutant is the most problematic or troublesome for Mount Everest. Have students design and create a mock-up of an invention that might help reduce this pollutant’s impact on the mountain. This invention should be lightweight and portable for backpacking mountaineers. Students should write a narrative explaining how it works.

Local Research Extension: Have students research, discover, and share how biogas projects may be impacting your local area.

OBJECTIVES

Subjects & Disciplines

- Conservation
- English Language Arts
- **Social Studies**
 - Civics

Learning Objectives

Students will:

- Understand that a large amount of waste, including human waste and dead bodies, is produced by those who climb Mount Everest and some of it never comes down.
- Understand there are some responsibilities that citizens must take on in order to protect Mount Everest from the effects of tourism.

Teaching Approach

- Project-based learning

Teaching Methods

- Cooperative learning
- Modeling
- Research

Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
 - Information, Media, and Technology Skills
 - Information Literacy
 - Learning and Innovation Skills
 - Communication and Collaboration

- Critical Thinking and Problem Solving
- Life and Career Skills
 - Initiative and Self-Direction
 - Leadership and Responsibility
- 21st Century Themes
 - Environmental Literacy
- Critical Thinking Skills
 - Analyzing
 - Applying
 - Evaluating
 - Understanding

National Standards, Principles, and Practices

COMMON CORE STATE STANDARDS FOR ENGLISH LANGUAGE ARTS & LITERACY

- **CCSS.ELA-LITERACY.RI.6.7:**

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.

- **Speaking and Listening Standards 6-12:**

Comprehension and Collaboration, SL.8.1.

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

- **D2.Civ.1.6-8:**

Distinguish the powers and responsibilities of citizens, political parties, interest groups, and the media in a variety of governmental and nongovernmental contexts.

Preparation

BACKGROUND & VOCABULARY

Background Information

The environment of Mount Everest is heavily impacted by mountaineers. This impact includes increasing waste, both in terms of left-behind objects as well as biological waste. As the number of climbers increases, the need to ensure waste comes off the mountain is becoming a focus for conservationists and mountaineers.

Prior Knowledge

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Recommended Prior Activities

- [Danger Versus Desire: The Inspirational Power of the Peaks](#)
- [Mountaineering as Exploration, Recreation, and Vocation](#)
- [Summitting Everest Today](#)
- [The Evolution of Climbing Everest](#)

Vocabulary

Term	Part of Speech	Definition
biogas	<i>noun</i>	fuel produced by bacteria helping to decompose organic material, such as plants and sewage.
climate change	<i>noun</i>	gradual changes in all the interconnected weather elements on our planet.
ecotourism	<i>noun</i>	act and industry of traveling for pleasure with concern for minimal environmental impact.
Mount Everest	<i>noun</i>	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.
tourism	<i>noun</i>	the industry (including food, hotels, and entertainment) of traveling for pleasure.
trace	<i>noun</i>	surviving mark or evidence.

