

Antarctica: Ice Axe Education

This curriculum guide is designed for the following:

- Public, charter, and private secondary education to allow for Independent Study credit completion.
- Guide can also be adjusted to meet individual school districts requirements and be modified for home school students.

Antarctica Reader Educators Guide: Before, During, and After

Science, History, English, Outdoor leadership

Student centered with focus on learning outcomes, personal growth, and reflection

Students will be able to :

- identify a variety of marine life, locate and label various islands, waterways, and land masses of the Antarctic peninsula
- retell and explain the history of Antarctic peninsula, including but not limited to exploration, whaling, and the Antarctic Treaty of 1959
- understand the current tourism and exploration with the terms of " peace and science" and wilderness protection with future sustainability
- ground themselves in the experience and focus on a character traits and personal goals that relate to their lives and the expedition.

Rigor:

- Writing- daily academic and personal reflection entries
- Inquiry- Socratic inspired discussions nightly based on student generated questions
- Collaboration- group interdependence in leadership building skills and activities
- Organization- logistics
- Reading- Antarctic Reader

Essential Questions:

- How and why should we be acting as stewards of the environment in conserving Antarctica?
- Explain and describe the significance of ocean ice and current environmental concerns?
- What are places you can visit in Antarctica and their significance to understanding the history and current state of the continent?
- Choose an explorer or scientist from Antarctica's history and analyze their experience and contributions.
- What is the Antarctic Treaty and its essential points?
- Describe the physical environment including but not limited to geology, sea ice, icebergs, and the ozone hole.

· Describe the biological environment including but not limited to adaptations, krill, and wildlife.

Character building and reflections: as you journey, both literally and metaphorically, in Antarctica, choose and focus on character traits that resonate with you and set goals based on your desired experience and outcomes; such as

1. courage
2. integrity
3. leadership
4. humility
5. Determination.

Before: to prepare students to maximize their experience readings and films will be assigned. Upon arrival students should have read the Quark Antarctica Reader and completed the student reader's guide (https://docs.google.com/document/d/1VO-pL_dlyxu4o6_ihw8-R-hCSS_UkyGxHm3zwdDDZLE/edit). To ensure accountability and honor their pre-work, students will gather for discussion of the reader night one in Ushuaia and refer to the reader through the evening debriefs to aid in comprehension and application during the trip. In addition to the reader, the film INSERT HERE.

Optional films included: list of Antarctica documentaries

During: Each day will vary and is subject to change due to weather conditions.

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Arrive in Ushuaia, Argentina. Orientation with ski or trekking guide at glacier. Welcome Dinner. Overnight in Ushuaia.

Ushuaia Museums and cultural opportunities include but are not limited to:

Spanish Immersion:

- Communication required to take taxi to Glacier for ski objective/hike
- Visit 1 of the 3 museums: taxi ride, admissions, and guide
- Walking tour of the city including outdoor street art and historical monuments
- Ordering lunch and buying souvenirs
- Exchange money
- Write postcards to your Spanish teacher

Before Dinner- gather with your educator and review student companion guide to the Antarctica Reader

Evening: write in trip journal and respond to the following prompts:

1. What challenges did you face today using Spanish to navigate Ushuaia? What success did you experience?
 2. What fears or anxieties do you have about the trip? What goals do you have for self?
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3. Free-write opportunity



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Board the Sea Adventurer and set sail down the Beagle Channel.

Logistics and organizational skills

In the morning: opportunity for continued Spanish language practice and time in Ushuaia

Aboard the Sea Adventurer:

- Enjoy the sail and take photos leaving port
 - Mingle and meet guides
 - Unpack and organize room, gear, and journal
 - Prompt: focus on Courage
 - How will courage be important on this journey? Reflect on definition of courage and practical examples such as in the mountains physically and socially on the boat
 - Quark Safety debriefing and Programing (details TBA)
 - Dinner
 - Prepare for Drake Passing
 - Evening meeting with Educator to review logistics and with
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guide to review gear

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Cross the Drake Passage. Sperm, fin, and humpback whales, along with skies of seabirds will accompany our journey.

- Sea sick and cabin bound?

 - Or Up and about on deck.
 - Use wildlife checklist

 - Take meals appropriately based on comfort and seas

 - Participate in Quark lectures, movies, and programming based on seas

 - Journal entries:
 - Using the Maps and announcements on board how would this journey be in a vessel from the 1800s?

 - What if any wildlife have you observed?

 - Were you able to tap into the courage element, if so how?

 - Independent reading time*
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Ski and trekking objectives at Neko Harbour. Zodiac cruises, penguin rookeries, hiking.

- Morning journal and reflections
 - Define integrity. Identify examples of integrity that you have observed in yourself or in others. Observe integrity in yourself and others during today's adventure
 - On-board yoga and or stretching
 - Breakfast
 - Gear checklist and disembarking to Zodiacs
 - High Adventure skiing and touring
 - Photos
 - Personal reflections
 - Questions and observations relating to integrity and environment
 - Lunch
 - Afternoon excursion and observations
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- Quark Programming and Day debrief
 - Journal entries
 - Where did you adventure to today? What obstacles did you and your guide/group face and how did you overcome them? Weather report? Add to map and journal entries about environmental factors: biological and physical
 - Use wildlife checklist
 - Dinner and evening entertainment
 - Slide shows or film
 - Evening debrief with educator about the day- focus on accomplishments, challenges and address student generated questions and curriculum essential questions
 - Independent reading time
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Ski and trekking objectives at Anvers and Wenke Islands. Port Lockroy scientific base and museum. Visit gentoo and adelic penguin habitat.

- Morning journal and reflections
 - Define leadership. Identify examples of leadership that you have observed in yourself or in others. Observe leadership in yourself and others during today's adventure
 - On-board yoga and or stretching
 - Breakfast
 - Gear checklist and disembarking to Zodiacs
 - High Adventure skiing and touring
 - Photos
 - Personal reflections
 - Questions and observations relating to leadership and environment
 - Lunch
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- Afternoon excursion and observations

 - Quark Programming and Day debrief
 - Journal entries

 - Where did you adventure to today? What obstacles did you and your guide/group face and how did you overcome them? Weather report? Add to map and journal entries about environmental factors: biological and physical

 - Use wildlife checklist

 - Dinner and evening entertainment
 - Slide show, film, and/or games

 - Evening debrief with educator about the day- focus on accomplishments, challenges and address student generated questions and curriculum essential questions

 - Independent reading time
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Ronge/Island/Mt. Britannia. Visit penguin rookery at Georges Point.

- Morning journal and reflections
 - Define humility. Identify examples of humility that you have observed in yourself or in others. Observe humility in yourself and others during today's adventure
 - On-board yoga and or stretching
 - Breakfast
 - Gear checklist and disembarking to Zodiacs
 - High Adventure skiing and touring
 - Photos
 - Personal reflections
 - Questions and observations relating to humility and environment
 - Lunch
 - Afternoon excursion and observations
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- Quark Programming and Day debrief
 - Journal entries
 - Where did you adventure to today? What obstacles did you and your guide/group face and how did you overcome them? Weather report? Add to map and journal entries about environmental factors: biological and physical
 - Use wildlife checklist
 - Dinner and evening entertainment
 - Slide show, film, and/or games
 - Evening debrief with educator about the day- focus on accomplishments, challenges and address student generated questions and curriculum essential questions
 - Independent reading time
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Ski and trekking objectives in Paradise Bay. Zodiac excursions. Visit penguin rookery and Almirante Brown Station.

- Morning journal and reflections
 - Define determination. Identify examples of determination that you have observed in yourself or in others. Observe determination in yourself and others during today's adventure
 - On-board yoga and or stretching
 - Breakfast
 - Gear checklist and disembarking to Zodiacs
 - High Adventure skiing and touring
 - Photos
 - Personal reflections
 - Questions and observations relating to courage and environment
 - Lunch
 - Afternoon excursion and observations
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- Quark Programming and Day debrief
 - Journal entries
 - Where did you adventure to today? What obstacles did you and your guide/group face and how did you overcome them? Weather report? Add to map and journal entries about environmental factors: biological and physical
 - Use wildlife checklist
 - Dinner and evening entertainment
 - Slideshows, film, and or games
 - Evening debrief with educator about the day- focus on accomplishments, challenges and address student generated questions and curriculum essential questions
 - Independent reading time
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Lemaire Channel/ Mt. Scott/ Mt. Demaria/Mt. Mill ski descents.
Visit the Ukrainian Vernadsky scientific station. Killer whale and leopard seal sightings.

- Morning journal and reflections
 - Revisit previous entries and focus on one or more character trait(s) that resonates with you
 - Name those traits and set goals for the day
 - On-board yoga and or stretching
 - Breakfast
 - Gear checklist and disembarking to Zodiacs
 - High Adventure skiing and touring
 - Photos
 - Personal reflections
 - Questions and observations relating to chosen character trait (s) and environment
 - Lunch
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- Afternoon excursion and observations

 - Quark Programming and Day debrief
 - Journal entries

 - Where did you adventure to today? What obstacles did you and your guide/group face and how did you overcome them? Weather report? Add to map and journal entries about environmental factors: biological and physical

 - Use wildlife checklist

 - Dinner and evening entertainment
 - Slide show, film, and or games

 - Evening debrief with educator about the day- focus on accomplishments, challenges and address student generated questions and curriculum essential questions

 - Independent reading time
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New ski descents and nature cruises of Charlotte Bay; begin journey north in the evening.

- Morning journal and reflections
 - Focus on individual character trait(s)
 - Set goals for the day
 - Pose questions to share at evening debrief
 - On-board yoga and or stretching
 - Breakfast
 - Gear checklist and disembarking to Zodiacs
 - High Adventure skiing and touring
 - Photos
 - Personal reflections
 - Questions and observations relating to character traits and environment
 - Lunch
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- Afternoon excursion and observations

 - Quark Programming and Day debrief
 - Journal entries

 - Where did you adventure to today? What obstacles did you and your guide/group face and how did you overcome them? Weather report? Add to map and journal entries about environmental factors: biological and physical

 - Dinner and evening entertainment
 - Slide show, films, and/or games

 - Debrief with educator about the week's slide shows and films
 - Identify themes and share observation

 - Discuss questions from morning's journal entry

 - Make connections and draft responses to essential questions

 - Independent reading time
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Sail Drake Passage; pass the dramatic cliffs of Cape Horn.

- Sea sick and cabin bound?
 - Or Up and about on deck.
 - Use wildlife checklist
 - Take meals appropriately based on comfort and seas
 - Participate in Quark lectures, movies, and programming based on seas
 - Journal entries:
 - Using the Maps and announcements on board how would this journey be in a vessel from the 1800s?
 - What if any wildlife have you observed?
 - What elements of the trip have been the most surprising, memorable, inspiring, or/and shocking, if so how?
 - What new goals have you set for yourself?
 - What news mentors or role models have you met?
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- Share examples of how you have embodied and grown from your focus on character traits

 - Brainstorm ideas for culminating final project
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- Independent reading time*
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Disembark the Sea Adventurer in Ushuaia, Argentina: What did you miss from the Day 1 itinerary?

Ushuaia Museums and cultural opportunities include but are not limited to:

Spanish Immersion:

- Communication required to take taxi to Glacier for ski objective/hike
- Visit 1 of the 3 museums: taxi ride, admissions, and guide
- Walking tour of the city including outdoor street art and historical monuments
- Ordering lunch and buying souvenirs
- Exchange money
- Write postcards to your Spanish teacher

Evening: write in trip journal and dinner debrief about Culminating experience and rubric

- Free-write opportunity
 - How will you best demonstrate your understanding of the Trip's essential Questions?
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- Advice to any student who will embark on this journey
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Flexibility is necessary for all Antarctic travel. This program is subject to change throughout the journey depending on ice, weather and local conditions.

After: students will be required to prepare a culminating paper or project that is individualized and demonstrates their completion of learning outcomes and answers the essential questions. Papers can be expository or narrative in nature but all citations must be academic and inclusive of resources provided. Projects can be in the form of presentations/ slide shows, art work, or educational/ activism material. All culminating work will be graded using the rubric provided that is aligned with the educator's guide learning goals with the character trait goals being individualized.