

San Lorenzo Middle School

Antarctica WebQuest

Teacher's Instructions

This WebQuest is currently designed as a 3 week project based on 50 minute class periods and it is divided into three parts; Information gathering, classroom activities, and presentations.

Students form groups of 4-5, each group is responsible for creating a presentation for the class on Antarctica. Specifically they must cover exploration, science, and history of the continent. Individual group members are responsible for gathering information about each area. I encourage interactive presentations with lots of props/visuals and images.

While they are conducting research in class there are several associated short activities that their groups are involved in at the beginning of each period.

Use the outline map of Antarctica and copy it on a transparency. Using an overhead, shine the transparency on a large sheet of butcher paper (two sheets taped together is better) and trace the outline onto the butcher paper. The larger it is the better. Draw in several geographic landmarks and the south pole.

There are four bases that several countries have established along the coastline of Antarctica. Geographically they are at four separate "corners." One is named Russkaya, another is Scott, and the last two are Mawson and Halley. Label each of these on the map.

Student teams will race to the South Pole over 5 class days and are faced with challenges along the way. The challenges are designed to fit the conditions of their starting points.

A description of the bases and distance to pole can be found at this address . . .

<http://www.kcusd.org/~slorenzo/webquests/start.html>

It is designed that all teams reach the pole at the same time so no starting point has any advantage over any other.

A breakdown of each days' lesson follows:

- Day 1 - Introduction to project, website visitations, discussion, selection of teams. Each team selects a name and creates a flag to put up on a bulletin board next to the map.
- Day 2 - Student teams select research responsibilities and presentation ideas, flags are presented to class, complete word scramble . . .

<http://www.kcusd.org/~slorenzo/webquests/scramble.html>

- Day 3 - Prepare for adventure. Discuss survival strategies and complete the crashed on moon activity. The answers to this are based on a NASA lesson plan which I have lost! Things that are not needed and should rank at the bottom of their list are stove and matches (no air), flashlight (always daylight), compass (no magnetic pole) and stove fuel. Important items are raft (protection from sun, sled), oxygen, suit repair, water, rope and parachute (protection, carry

supplies). Encourage them to think about ways to survive that are not obvious. Explain that the race will be sort of like the TV show "Survivor" for them.

<http://www.kcusd.org/~slorenzo/webquests/survival.html>

<http://www.kcusd.org/~slorenzo/webquests/moon.html>

- Day 4 - Purchase supplies for the race based on where they will start from. Some supplies are not necessary and others are more important than most students think. They must calculate the cost and weight of their purchases. They must spread the weight allowance around to be effective.

<http://www.kcusd.org/~slorenzo/webquests/supplies.html>

- Day 5 - Begin the race. At the beginning of class, student teams go to the challenge page and read what fate has in store for them. They are to come up with a solution based on their understanding of the situation and write it down in journal form based on the outline below. The teacher reads the responses and moves the team's marker (pushpin) on the map. The marker moves one full day - 1/5 of the way to the pole if the answer makes sense to the teacher and is written in the correct form. You may move the marker 1/2 of the distance allowed if the answer is just ok and do not move it at all if it is incomplete. A different group member is responsible for writing a journal entry each day. If a group does not do well, the teacher may elect to "injure" a party member or throw them another situation to overcome. There is also a "catch-up" question groups can answer that fall behind. As they come to class the next day, they check the map to see how far they got and compare their team with the others.

<http://www.kcusd.org/~slorenzo/webquests/first.html>

<http://www.kcusd.org/~slorenzo/webquests/journal.html>

<http://www.kcusd.org/~slorenzo/webquests/catch.html>

This will take them a few minutes at the start of the period to complete the journal assignment. All must sign the final copy to be turned in. The rest of the period is used to gather information and visit the websites listed under resources and prepare their presentations.

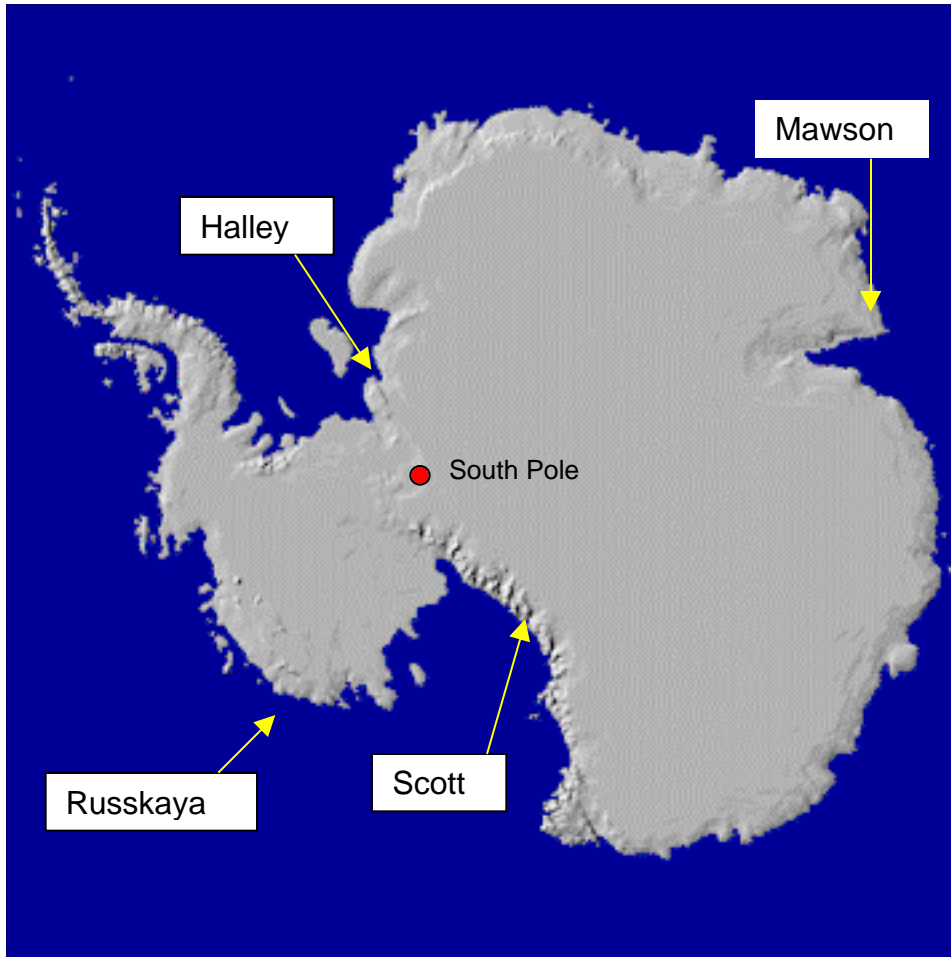
<http://www.kcusd.org/~slorenzo/webquests/antarctica4.html>

- Days 6-9 - Repeat day 5. Depending on availability of computers students may need more time for research. I use this as a homework assignment too so I have not had a problem getting the research done in this time period.
- Days 10 and 11 - I withhold the announcement of the "winning" team until the end of the project to keep the suspense. These days are used to finish/polish presentations.
- Days 12-14 - Presentations and conclusion. I have students fill a bulletin board with facts they learn about Antarctica as each presentation finishes. I grade students on presentations (both individual and group grades) as well as group journal grades. The "winning" team receives peppermint patties and snow cones. In the past we have done an ice block relay as a culminating activity. Teams carry blocks of ice through an Antarctic "obstacle course." Each team member must sit on a block of ice until it is their turn to run the course.

Thanks for your interest in my WebQuest. Please email me any suggestions/questions.

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San Lorenzo Middle school
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Outline Map of Antarctica



San Lorenzo Middle School

Antarctica WebQuest

Catch-up Questions

Catch-up question #1

By the end of the day submit an answer to the following question:

What are the "katabatic winds?"

Catch-up question #2

By the end of the day submit an answer to the following question:

What is -60 degrees C in Fahrenheit? Show all work.

Catch-up question #3

By the end of the day submit an answer to the following question:

What does "Antarctic Convergence" mean?
(Hint - it has something to do with the ocean around Antarctica)

Catch-up question #4

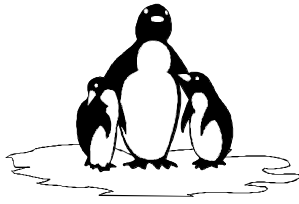
By the end of the day submit an answer to the following question:

What are krill and why are they important?

Catch-up question #5

By the end of the day submit an answer to the following question:

What Antarctic animals would you expect to find in a rookery and what would they be doing there?



Antarctica General Store

PRICE LIST

Your Credit Limit (per person):
Team Member:

\$7,500

Your Weight Limit (per person): 500 lb

ITEM	COST EACH (\$)	WEIGHT (lb.)	HOW MANY WILL YOU BUY?	TOTAL WEIGHT	TOTAL COST
Rations - per person, per day	12.00	4			
ski set, 1 pair	200.00	7			
sled	1000.00	50			
parka	300.00	5			
long underwear, 1 pair	50.00	0.5			
sweater	100.00	3			
dark glasses	100.00	0.25			
socks, 1 pair	10.00	0.25			
ice axe	100.00	5			
sled dogs, 1 set	2000.00	0			
dog food, per set of dogs, per day	10.00	5			
gloves, 1 pair	100.00	1			
rope, 50 feet	100.00	5			
tent, sleeps 4	1000.00	10			
backpack	300.00	5 (empty)			
boots	200.00	5			
cooking stove	100.00	5			
stove fuel (25 day supply)	100.00	10			
lantern with fuel (25 day supply)	50.00	3			
sleeping bag	200.00	5			
climbing gear, per person	1000.00	25			
ski cap/ balaclava	25.00	1			
1st Aid Kit	200.00	10			
sledge hammer	25.00	10			
matches, per 25 books	20.00	1			
handgun with ammo	150.00	5			
toilet paper, per roll	1.00	0.5			
books, each	5.00	1			
compass	250.00	0.25			
shovel	50.00	2			
knife	25.00	1			
sunscreen, per bottle	10.00	0.5			
binoculars	100.00	3			

GRAND TOTALS:

\$ =

Pounds =

Antarctic Journal

Basic requirements:

1. There must be one or two writers per journal.
2. A minimum of four (4) entries must be written.
3. If there are two writers, each must write half of the entries.
4. Entries must be written in the first person.
6. Entries must be at least one paragraph in length.
7. A rough draft, revision papers, and a final draft must be completed in order to receive full credit.

Journal Content:

1. You are on your way to the South Pole. Write about some emergency which has overtaken you on the ice.
2. Include sense details and an exploded moment to help make your description of the crisis colorful and interesting.
3. Be sure to end your anecdote. Tell what finally happens.
4. Include realistic details and draw upon your knowledge of Antarctic conditions.
5. Your final draft should be legible and free of spelling, punctuation, and grammatical errors.

DUE _____

Possible Emergencies: