

Dealing with the Pressure: High Altitude Hiking



Introduction

Kilimanjaro is located in Tanzania. It is the highest mountain in Africa at about 3½ miles tall; it is made up of three extinct volcanoes: Kibo (19,340 ft), Mawenzi (16,896 ft.), and Shira (13,000 ft.). Adventure seekers and serious climbers attempt to climb Kilimanjaro each year but many do not make it to the summit. Why? In this WebQuest you will research the history and climate of Kilimanjaro as you prepare a backpack for a trip up the mountain! You will find out how air pressure affects the body as you climb to extreme heights and what can be done to combat the debilitating effects of altitude sickness and harsh weather conditions.

Task

You and two friends are planning to hike up Mt. Kilimanjaro for the first time. In order to prepare for this challenge you must conduct research to determine how much and what type of gear to pack. You can only take what you can carry up the mountain, so you must plan carefully; your life could depend on it!

Process

Use the resources listed below to learn more about Mt. Kilimanjaro and how air pressure affects the human body as you climb to extreme heights. Keep a record of the supplies you think you might need for an excursion to the top of the highest peak on Mt. Kilimanjaro.

Answer these questions as you conduct your research:

1. How does the climate change as you hike from the plains surrounding the mountain to the top of the tallest peak?
2. What is the change in elevation from the base of the mountain to the top?
3. What are the major symptoms of altitude sickness? What can you do to prevent or treat altitude sickness?
4. How does air pressure change as you climb up a mountain?
5. What are the common items people include on their equipment list when climbing a mountain such as Kilimanjaro?
6. Would your list of items be the same if you chose to climb a different mountain, such as Mt. McKinley in Alaska?

Once you have completed your research, list the items that you would include in your backpack. Don't forget that you must be able to carry the backpack all the way to the top and back down again. Then, sketch your backpack with items that you included laying beside it. This will become a climber's checklist poster for future adventure-seekers. Provide your list and sketch to your teacher who will act as the outfitter for your trip and evaluate your choices. Read the rubric to see how you will be graded.

Resources

Use the following sites to complete your research. Keep in mind that not all Web sites are written specifically for students. Some of what you read might be challenging. Look for information that will be useful in completing this WebQuest.

Kilimanjaro National Park

http://gorp.away.com/gorp/location/africa/tanzania/home_kil.htm

Tanzania National Parks – Kilimanjaro

<http://www.tanzaniaparks.com/kili.html>

Altitude Sickness (AMS) on Kilimanjaro

<http://www.climbmountkilimanjaro.com/safe-trekking/index.html>

What to carry in your daypack on Kilimanjaro

<http://www.climbmountkilimanjaro.com/on-the-mountain/what-to-put-in-your-daypack-on-kilimanjaro/index.html>

Center for Disease Control – Altitude Sickness

<http://wwwn.cdc.gov/travel/yellowBookCh6-AltitudeIllness.aspx>

Acute Mountain Sickness

<http://www.nlm.nih.gov/MEDLINEPLUS/ency/article/000133.htm>

Evaluation

This rubric gives information on how you will be graded for this project.

	Criteria				Points
	1	2	3	4	
Task	The task was not completed.	It appears that some effort was made to complete the task, but major ideas are missing.	The task was completed as assigned, but some of the evidence for the choices was faulty.	The task was completed with great attention to detail and thorough documentation.	
Process	The process was not followed.	The process was followed, but some of the questions were not addressed.	The process was followed thoroughly; some ideas need additional supporting information.	It is clear that much research went into the project. The results show a high degree of originality and imagination.	
Backpack List	The backpack list was sloppy and not well prepared. No sketch was included.	The backpack list included essential items but other key items such as extra clothing were left off. The sketch was sloppy.	The list showed a real attempt to include necessary information, and the sketch reflected the list well.	The list and sketch were visually engaging; choices were clearly shown and backed up with supporting evidence.	

Conclusion

In this WebQuest you learned that a lot of planning must be done before you can climb up a mountain such as Kilimanjaro. You have to consider the terrain, weather conditions, and change in altitude before you begin a hike. How would your choice of gear to put in your backpack help you survive the trip?