Place name and Location: Mount Everest

Real World: 29,028 feet **Classroom:** 2 ft, 5 in

Resource Dispute Overview: Mount Everest rests in both Nepal and Tibet. The Mount Everest area in Nepal is preserved in Sagarmatha National Park. In this park there are 11 endemic plants, and several endangered mammals such as musk deer and Tibetan wolves. Dozens of bird species are also unique to this region. Sagarmatha National Park has become a popular tourist destination, attracting increasing numbers of travelers each year. Visitors are attracted to Nepal because of its natural beauty, extraordinary cultural heritage, rich ethnic diversity, artistic heritage, and the Himalayan Mountains, particularly Mount Everest.

Resource Dispute Pro Position of Supporting Environmental Protection:

Sagarmatha National Park visitor numbers have increased over the years providing many employment opportunities. Over 75% of the local people (Sherpa) are engaged in the tourism business as porters, guides, climbers, and hotel, lodge and tea-shop owners. About 400,000 tourists visit the area each year and supply about \$300,000 to the area's economy. Volunteer aid agencies and tourism has greatly improved living standards with better health care, education, and building structures.

Resource Dispute Con Position of Supporting Tourism Growth:

The growing number of visitors over the decades has increased environmental destruction of this fragile mountain area. There is widespread agreement that too many tourists degrade this beautiful area. Environmental impacts include pollution of water, destruction of vegetation, cutting down trees for fuel, destruction of local food-growing capacity, and loss of wildlife. Congestion is inescapable with ever-growing traffic, disturbance and crowding in this mountain region. Tourism also creates changes to the traditional social customs of local Sherpa.

TEACHER BACKGROUND ON ONGOING SOLUTIONS TO DISPUTE: Eco-tourism works with local Sherpa authorities to have tourists pay for protection of their harmful effects. For example, eco-tourism groups now use fuel saving technologies to reduce dependency upon and use of firewood; they train local people on ways to protect the environment; promote locally controlled lodge management committees; create and promote long-term maintenance of designated campsites; pay for trail and bridge improvement programs to improve access and safety; improve waste management for garbage and toilets; and develop codes of conduct for tourism operators.



Place name and Location: Mount McKinley, Alaska

Real World: 20,320 **Classroom:** 1 ft, 8 in

Resource Dispute Overview: The Alaska National Interest Lands Act set aside approximately 100 million acres of land and resources to protect Alaska. It tripled the size of Mt. McKinley National Park, and the area was renamed Denali National Park and Preserve. However, local rural people have long used the land in Denali to fish and hunt. This set up a conflict between the National Park Service, devoted to preservation, and local rural people who have long lived on the land.

Resource Dispute Pro Position of Making Sure that All National Parks are Dedicated to Preserving the Land: Ever since the creation of the first national park at Yellowstone, National Parks have become places that reflect the values of preserving land and wildlife. Hunting doesn't occur in National Parks, because visitors should get to see wildlife that exists as naturally as possible. Allowing people to use natural resources, simply because they want to live locally, does not make sense in terms of the purpose of the National Park Service. National Parks are for conservation, not for use. Also, the national park has a large number of summer visitors who engage in outdoor activities that could put them at risk of a firearm related injury when locals try to hunt.

Resource Dispute Con Position of Allowing Locals to Use Resources in Denali National Park: Local residents who lived in the area before it became a national park want to continue their traditional subsistence activities. These people believe that subsistence ways of life differ from region to region. In Denali, local residents believe the National Park Service should promote local involvement in managing local resources. Locals believe there must be good communication and mutual understanding of subsistence and park purposes. In order to avoid hazards associated with firearm use, local users could be limited to specific hunting areas and visitors could be told where hunting is occurring.

TEACHER BACKGROUND ON ONGOING SOLUTIONS TO DISPUTE: The Alaska National Interest Lands Act reached a compromise on the important connection between local rural subsistence users and the land. In Denali National Park, as long as fish and wildlife resources and their habitats are maintained in a natural and healthy state, traditional subsistence hunting, trapping and fishing are allowed.



Place name and Location: Grand Canyon Village, Arizona (South Rim)

Real World: 6880 feet **Classroom:** 0 ft, 7 in

Resource Dispute Overview: There is a great need to manage growing crowds of visitors at national parks. This is especially true at the Grand Canyon where the number of visitors has doubled since the mid-1980s to about 5 million a year. Crowding at the South Rim is so great that drivers circle parking spaces as they would at a busy mall, and airplanes buzz overhead with tourists every few minutes. How do you give people the chance to visit the Grand Canyon, but still protect national parks from being destroyed by the crush of people?

Resource Dispute Pro Position of Managing the Flow of People: Officials at Grand Canyon National Park advocate a plan to limit the number of people and limit their impact. The idea is to build a light-rail system and limit car traffic at the South Rim of the Grand Canyon. Outside the south entrance, developers would build a giant complex of hotels and shops, and people would visit by rail. The idea is to limit the number of visitors and the number of cars. Proponents of management argue that the millions of visitors destroy the canyon's inspiring solitude. Thoughts of building cell-phone towers and expansion of the two-lane road to four-lanes make the wilderness advocates very upset.

Resource Dispute Con Position not Keeping People from the Parks: While almost everybody wants to protect the natural grandeur of the Grand Canyon from civilization, opponents of the government plan say that we should not restrict access to the people that own the park. Those who do not favor restrictions say that this is not what President Theodore Roosevelt had in mind when he welcomed Grand Canyon to the National Parks system. Roosevelt stated that we must keep it "for your children, your children's children and for all who come after you, as the one great sight which every American should see".

TEACHER BACKGROUND ON ONGOING SOLUTIONS TO DISPUTE: The question comes down to whether you believe the Grand Canyon is a natural marvel that all should see or one of the last great wild places that needs to be preserved. For now, the management plan of light rail bringing people into the canyon from private lands is still what the National Park Service wants and the plan is slowly being implemented.



Place name and Location: Humphreys Peak, Arizona

Real World: 12,633 feet **Classroom:** 1 ft, 1 in

Resource Dispute Overview: Humphreys Peak, Arizona, is part of the San Francisco Peaks outside of Flagstaff. Humphreys Peak and other peaks in the area are sacred to many Native American tribes, who strongly object to any development on any of the San Francisco Peaks. At the same time, the forests and mountains have long attracted hikers and skiers. In the 1930s, a ski lodge was built at the present location of Snowbowl Ski Resort, along with a road. A full-scale ski resort was proposed in 1969, but was opposed by Native American tribes. After 10 years of community debate and legal action, the U.S. Forest service approved a new lodge, 4 new ski lifts and 50 new trails of skiing. Native Americans protested, claiming that the expansion would interfere with religious rights. Their appeals to this decision went as far as the Supreme Court, but were denied.

Resource Dispute Pro Position to Further Develop Snowbowl Ski Resort: Arizona experiences periodic droughts. In these years, people want to ski but can't because there is no snow. Snowbowl wants to install equipment to make artificial snow during the November to February ski season. Because water is scarce in the area, Snowbowl proposes to use reclaimed water. This is water that has been used by people and then cleaned in wastewater facilities. The cleaned water would be piped 14 miles to Snowball to give people the chance to ski even in a drought year. Snowbowl also wants to add additional ski trails to support growing interest in skiing.

Resource Dispute Con Position: The San Francisco Peaks have special spiritual and resource importance to Native Americans, especially Hopi and Navajo. Both Native American nations claim religious rights to the mountain. In the Hopi view, Katsinas (spiritual beings bringing rain and maintaining order) live on the mountain. To the Navajo, Humphreys Mountain is part of a manifestation of sacred forces and home to spiritual beings. Both tribes believe the San Francisco Peaks should only be used for ceremony or collection of medicinal plants. To use the area for personal entertainment or making money contaminates this sacred place. The thought of adding water that has been with human waste to this sacred place would be like washing the cross in a Christian Church with polluted water. The idea of putting impure water on this sacred place is very upsetting to Native Americans.

TEACHER BACKGROUND ON ONGOING SOLUTIONS TO DISPUTE: As of the writing of this lesson in 2004, the issue is undecided. The U.S. Forest Service that manages the land believes in a philosophy of multiple use. Outdoor recreation activities are thought to be very important to the public's quality of life and tourism industry. At the same time, the Forest Service wishes to honor relationships with Native American nations.



Place name and Location: Mt Hood, Oregon

Real World: 11, 239 feet **Classroom:** 1 ft, 0 in

Resource Dispute Overview: Mt Hood is part of the Cascade Volcanoes. This volcanic chain runs from northern California into British Columbia and includes Mt Lassen, Mt Saint Helens, Mt Ranier, and Mt Baker. The volcanoes are called "composite" volcanoes, because they erupt many different types of volcanic materials. Some eruptions can be very violent and dangerous, while other eruptions do not pose much danger to the surrounding areas. The controversy is whether people should live very close to these volcanoes.

Resource Dispute Pro Position of Allowing People to Live Close to Cascade Volcanoes: Mt Lassen in California erupted during World War I. Then, the volcanoes slept peacefully for more than 60 years before Mt Saint Helens erupted in 1980 in Washington. The areas around the Cascade volcanoes are growing in population. Seattle suburbs push up against Mt Rainier. Portland is edging out towards Mt Hood. Why should people have to stay away from living close to such beautiful places? If people understand the danger, why shouldn't people be allowed to live where they want? Two major volcanic eruptions in the last 100 years should not be a reason to stay away from living in beautiful places.

Resource Dispute Con Position of Enacting Laws to Prevent the Growth of Cities into a zone of Volcanic Hazard: About 500 years ago, Mt Rainier erupted. The snow and glacier ice atop the mountain melted quickly and mixed with ash on the volcano's side. Mudflows oozed down the mountain and filled up river valleys that are now covered with Seattle suburbs. Mt Hood has had more than a dozen major eruptions in the last ten thousand years, with some mudflows reaching downstream far enough to endanger places where development stretching from Portland is now planned. Mt Baker in the far north of Washington could send dangerous mudflows that could reach such towns as Bellingham. Even though volcanoes erupt only a few times in a thousand years, their damage can destroy lives and property. Why not establish zones of "no building" in places that could be destroyed by a volcano? In addition to saving lives, these open spaces could be appreciated by everybody, not just by those who develop the land.

TEACHER BACKGROUND ON ONGOING SOLUTIONS TO DISPUTE: Some places are starting to prohibit development in locations that could be in danger. Other places do not. Even if property is in danger, volcanologists are getting better and better at predicting large volcanic eruptions. This makes the loss of life less and less likely. So even if people are allowed to develop lands endangered by a volcano, there will probably be plenty of time to evacuate.



Place name and Location: Four Peaks, Arizona

Real World: 7657 feet **Classroom:** 0 ft, 8 in

Resource Dispute Overview: The Four Peaks area experienced one of the largest fires in Arizona history. In April of 1996 two campers left a campfire smoldering. Their lack of care resulted in the Lone Fire that burned thousands of acres of brush-covered slopes. Ponderosa pines, hundreds of years old, burned. This monster fire raged over the Four Peaks Wilderness for eleven days. More than 61,000 acres burned and was the largest fire to have occurred in Arizona up to that time. After four years of drought, even larger fires have burned on the Mogollon Rim in Arizona. These major fires have led to a dispute over how to handle forests in Arizona.

Resource Dispute Pro Position of Thin the Forest through Small Fires: Back in the 1920s, 30s, 40s, we believed that forest fires were bad. We thought fire destroyed timbers and killed animals. Smokey the Bear ads told us to stop all fires in our forests. This high level of fire suppression contributed to the buildup of organic materials (fuels) on the forest floor. Also, preventing small fires helped the growth of young trees in older stands, providing fuel to help burn the entire forest. As a result, there are larger fires and fires that are more catastrophic than in the past. In the past, before we suppressed fires, small fires killed pine tree seedlings encroaching into forest meadows. So in the past, there were many more grasslands that helped grazing animals. Frequent fires are more natural. Prescribed fires are those deliberately set and controlled to reduce fuel on forest floors (dead trees, brush, limbs). If done properly, prescribed burns would prevent giant large wildfires. If we have periodic controlled burns, giant wildfires would be less common.

Resource Dispute Con Position Avoid Prescribed Fires: In the past, before fire suppression, frequent fires maintained an open forest structure in Arizona's forests, and prevented tree invasion into mountain meadows and grasslands. But frequent fires are a big danger to people living close to forests. A giant fire at Los Alamos in New Mexico started with a small, prescribed fire. The fire got out of control. It cost millions of dollars to put it out and resulted in millions of dollars in property damage. An alternative to setting prescribed fires is to encourage livestock grazing and careful thinning of small trees. Grazing removes grass fuels that carry surface fires; also roads and grazing trails created fire breaks to reduce fire frequency and size.

TEACHER BACKGROUND ON ONGOING SOLUTIONS TO DISPUTE: Most experts agree that some form of thinning is good to prevent giant fires. The disagreement occurs in how the thinning takes place. Logging companies want to make money removing economically profitable big trees, whereas conservationists wish to thin smaller trees to help preserve old-growth forests. The debate is ongoing on how best to reduce giant wildfires, while also preserving old growth forests.



Place name and Location: Sun Devil Stadium, Arizona State University

Real World: 1150 feet **Classroom:** 0 ft, 1 in

Resource Dispute Overview: In the year 2001, the Tourism and Sports Authority (TSA) had the job of building and operating a new football stadium for the NFL Cardinals. To pay for the project voters agreed to increase taxes on hotels and rental cars. Money for the stadium would also come from taxes on the salaries of Cardinal players and employees. Many sites were considered and rejected, including Sun Devil Stadium.

Resource Dispute Pro Position Advocating Upgrade of Sun Devil Stadium: Some politicians argued that since the Cardinals now share Sun Devil Stadium with Arizona State University, a new stadium would be a waste of government money. Some people suggested that the TSA could renovate Sun Devil Stadium and put a roof over it. Others suggested that Sun Devil Stadium be replaced at the same spot by a new stadium that could host ASU, NFL Cardinals, and the Fiesta Bowl.

Resource Dispute Con Position Advocating Upgrade of Sun Devil Stadium: Many people opposed upgrading Sun Devil Stadium. Some ASU administrators did not like the idea. The Arizona Cardinals also opposed the notion, because they wanted rights to such things as parking revenue. Many real-estate developers also did not like the idea, because they wanted to build such things as big hotels and shopping complexes; and they needed more land than would be available around ASU. Still others opposed the entire idea of using taxpayer dollars to support a NFL team.

TEACHER BACKGROUND ON ONGOING SOLUTIONS TO DISPUTE: in the end, the Tourism and Sports Authority selected a site in Glendale, Arizona. However, feelings run strong over the use of public dollars to support private development.



Place name and Location: Caspian Sea

Real World: -92 feet **Classroom:** 0 ft

Resource Dispute Overview: The environmental health of the Caspian Sea is in danger. Supported by multinational oil companies, Kazakhstan, Uzbekistan and Azerbaijan have largescale drilling efforts in the shallow waters of the Caspian Sea. Oil spills are destroying the Caspian Sea's ecosystems. Uzbekistan is pursuing intensive cotton production based on massive use of fertilizers and pesticides, just as it did under the Soviet system. Pesticides and fertilizers enter the Caspian Sea, further polluting its water.

Resource Dispute Pro Position of Develop Resources to Help Reduce Poverty: Oil exploration around the Caspian sea began in the mid-1870s. By the end of the twentieth century, oil from this region provided about 10% of the world's total oil supply. The former Soviet Union's Republic of Kazakhstan began to exploit oil along the Caspian in 1979. Since then, estimates of oil and natural gas reserves have grown sharply. Today, several foreign oil and gas companies have entered into various arrangements with the local countries for exploration, production and transport of oil and gas resources with the hope of being able to export large quantities to markets around the globe. These oil and gas supplies provide desperately needed income to local people.

Resource Dispute Con Position to not Develop Resources to help Preserve the Caspian Sea: It is important to maintain environmental quality, not only for the present, but also for future populations of the region. An example of short-term benefit is what has happened to the sturgeon fish population. Supplies of sturgeon and their eggs (caviar) have provided income to the inhabitants of the Caspian Sea for years. However, sturgeon supplies dwindled sharply in the 1980s and 1990s because of over fishing. Taken for the export value of their highly valued caviar, sturgeon numbers have been pushed to such low levels that the Caspian sturgeon may go extinct. With oil spills and pesticides, this many people fear for the long-term future of the entire Caspian Sea.

TEACHER BACKGROUND ON ONGOING SOLUTIONS TO DISPUTE: Governments in the Caspian basin face difficult decisions. Governments currently separate political and economic considerations from environmental considerations along the Caspian shores. If things proceed without efforts to preserve the environment, the Caspian basin could become as bad an environmental disaster as the neighboring Aral Sea Basin.



Place name and Location: Dead Sea

Real World: -1312 feet **Classroom:** -1 in

Resource Dispute Overview: The Dead Sea is the lowest point on Earth. It is the saltiest large body of water in the world. Along its shores are ancient sites that are sacred to Christians, Jews and Muslims. The ecosystem of the area is unique. Leopards, ibexes and several threatened birds live in this region. Its unique minerals are used for health treatments. Its potash is important for a major chemical industry and its beauty attracts thousands of tourists. The sea has been shrinking for decades because much of the water from the Jordan River has been diverted for use in the region. Unless something is done, in the next 50 years the Dead Sea will loose 1/3 of its total area.

Resource Dispute Pro Position to Build Pipeline: Israel and Jordan both would both suffer if the Dead Sea dried up any more. So both have proposed a \$800 million pipeline to take sea water from the Red Sea, over 190 miles away, to the Dead Sea. The pipeline would halt the decrease in water level in the Dead Sea. Both countries hope that this pipeline will be the start of a larger plan to build a canal and plan to desalinize the sea water to provide fresh water for the desert region. This larger project would cost \$3 billion.

Resource Dispute Con Position: terrorists wanting to destroy the Israel-Jordan peace could easily destroy a pipeline or canal. These people do not want to believe that Israelis and their neighbors can cooperate and understand and share resources. Given the threat of terrorism, it would be a waste of money to try to build such an expensive pipeline. Another problem with this pipeline is that it will allow plants and animals from the Red Sea to could contaminate the unique ecosystem of the Dead Sea.

TEACHER BACKGROUND ON ONGOING SOLUTIONS TO DISPUTE: Right now, the firststage pipeline is in the works. Cooperation to save the economically critical Dead Sea ecosystem is overcoming distrust between Israel and Jordan.

NOTE: A satellite image in the supplemental webpage shows a complex of Jordanian salt evaporation ponds at the southern end of the Dead Sea. It has expanded significantly over the past dozen years. The western margin of the salt ponds marks the Jordan-Israel border. In August 1989, the northern extension did not exist. In March 2001, one can see that there has also been expansion at the southeastern end.



Check sheet for student posting on the Class Wall Chart (Check the box when the elevation has been posted on the wall chart)

Location	Real World	Class Wall	Chart
Mt. Everest	29,028	2 ft	5 in
K2	28,251	2 ft	4 in
Aconcagua	23,034	1 ft	11 in
Mt. McKinley	20,320	1 ft	8 in
Mt. Kilimanjaro	19,335	1 ft	7 in
Popocatepetl	17,887	1 ft	6 in
Matterhorn	14,690	1 ft	4 in
Mt Whitney	14,494	1 ft	3 in
Mauna Loa	13,677	1 ft	2 in
Humphreys Peak	12,633	1 ft	1 in
Mt Fuji	12,389	1 ft	1 in
Mt. Hood	11,239	1 ft	0 in
Telescope Peak	11,049	0 ft	11 in
Four Peaks	7,657	0 ft	8 in
Mexico City	7,328	0 ft	8 in
Grand Canyon Village	6,880	0 ft	7 in
Superstition Mountain	5,057	0 ft	5 in
South Mountain	2,690	0 ft	3 in
Grand Canyon (Phantom Ranch)	2,500	0 ft	3 in
Sun Devil Stadium	1,150	0 ft	1 in
Ocean Beaches	0	0 ft	0 in
Lake Eyre	-38	0 ft	0 in
Caspian Sea	-92	0 ft	0 in
Peninsula Valdes	-181	0 ft	0 in
Badwater in Death Valley	-282	0 ft	0 in
Dead Sea	-1,312	0 ft	-1 in
Ocean Floor next to Hawaii (Mauna Loa) B Island	ig -26,250	-2 ft	3 in
Japan Trench	-28,000	-2 ft	10 in
Challenger Deep in Marianas Trench	-35,810	-3 ft	6 in















Copy the cards on this page on blue paper.





Marianas Trench Challenger Deep



Location	Elevation (feet)
Mt. Everest	29,028
K2	28,251
Aconcagua	23,034
Mt. McKinley	20,320
Mt. Kilimanjaro	19,335
Popocatepetl	17,887
Matterhorn	14,690
Mt Whitney	14,494
Mauna Loa	13,677
Humphreys Peak	12,633
Mt Fuji	12,389
Mt. Hood	11,239
Telescope Peak	11,049
Four Peaks	7,657
Mexico City	7,328
Grand Canyon Village	6,880
Superstition Mountain	5,057
South Mountain	2,690
Grand Canyon (Phantom Ranch)	2,500
Sun Devil Stadium	1,150
Ocean Beaches	0
Lake Eyre	-38
Caspian Sea	-92
Peninsula Valdes	-181
Badwater in Death Valley	-282
Dead Sea	-1,312
Ocean Floor next to Hawaii (Mauna Loa) Big Island	-26,250
Japan Trench	-28,000
Challenger Deep in Marianas Trench	-35,810

Summary Chart of Elevations (for student use in HiLo Worksheet)



Name Period Date					
HiLo Worksheet					
Instructions: Calculate the difference in elevation between places listed below.					
Places	Difference				
Mount Everest and K2					
Mount Everest to Popocatepetl					
Matterhorn to Mexico City					
Mexico City to Lake Eyre					
South Mountain to Badwater					
Sun Devil Stadium to Ocean Floor next to Hawaii (Mauna Loa) Big Island					
K2 to Japan Trench					
Mt McKinley to Ocean Beaches					
Ocean Beaches to Dead Sea					
Mauna Loa to Big Island Ocean Floor					
Mt Fuji to Japan Trench					
Mt Everest to Challenger Deep in Marianas Trench					
Describe how you found the difference between two positive elevations:					
Describe how you found the difference between a positive elevation and an	elevation below sea level: -				



HiLo Worksheet				
Instructions: Calculate the difference in elevation between places listed below.				
Places	Difference in Feet			
Mount Everest and K2	777			
Mount Everest to Popocatepetl	11,141			
Matterhorn to Mexico City	7362			
Mexico City to Lake Eyre	7366			
South Mountain to Badwater	2972			
Sun Devil Stadium to Big Island Ocean Floor	27,400			
K2 to Japan Trench	56,251			
Mt McKinley to Ocean Beaches	20,320			
Ocean Beaches to Dead Sea	1312			
Mauna Loa to Ocean Floor next to Hawaii (Mauna Loa) Big Island	39,927			
Mt Fuji to Japan Trench	40,389			
Mt Everest to Challenger Deep in Marianas Trench	64,838			

Describe how you found the difference between two positive elevations: *I subtracted the lower* elevation from the higher elevation

Describe how you found difference between a positive elevation and an elevation below sea level: <u>I</u> added the two numbers together and my answer(s) were positive.



KEY

Name	_ Period	Date			
HiLo Resource Essay					
Instructions: Pic resource controv positions.	k one place discussed l versy related to that pla	by a group in class. Write a summ ce. Be sure to include both the "pr	ary of the ro" and the "con"		



Grading Rubric

Use your local school's version of the 6 traits writing rubric. The CDs resource section contains the official 6 traits rubric, in case your school does not have its own. This essay will be graded in terms of ideas and organization. In terms of content, make sure that students have covered both pro and con positions.

