

INCAS AND US

How are our lifestyles today in Utah similar to the ancient Incas of South America?

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OVERVIEW AND RATIONALE

Our group of future teachers chose the unit theme, “How are our lifestyles today in Utah similar to the ancient Incas of South America?” We chose this because children should be aware of other cultures and how their lives relate to one another. They need to be aware of differences among cultures around the world. Students should be informed on social issues that are prevalent in the world around them, and that pertain to their lives. We believe students should be aware of ancient cultures and how we are connected to them, and notice the many resources that we have built upon to get where we are today (learning from the past to become better in the future). They should be respectful and accepting of diverse ways of life. Students also need to understand how our government works, on a national and local level and how it compares to other forms of government. Through this unit, students will learn that no country, no person, no culture is better than another.

We chose to focus on the Incas because this unit covers a wide range of standards from Utah’s core curriculum as well as the National Council for the Social Studies standards. The topics in which we focus on to meet all standards are as follows: government, communication, weather/climate, agriculture, textiles, economy, art, and music. In the Utah core curriculum, it states that students should compare the people in their local community with the Inca of South America and their local environment with the Andes Mountains. By meeting these state standards and objectives, we are also meeting several national standards for social studies. In the NCSS standards it states that students will compare different cultures by the way they meet people’s basic needs. For the purpose of this unit we will define human needs by the way people use physical environment, communication, and how they set up their government. We will also touch upon artistic expression through art and music and different interpretations within cultures. By integrating math and science in our unit we can identify the roles that science and technology play in our daily lives, past and present.

In the NCSS “Vision” it says that we need to make social studies teaching and learning meaningful. We will accomplish this by allowing students to participate in hands-on activities which will enhance their learning. Students will have opportunities to work in a group or independently, whichever the teacher sees appropriate. These activities, along with the presentation and delivery of the lessons, will ensure that they will remember and understand the culture of the Incas and how it relates to their lives. Students will be actively engaged in their learning because there will be guest speakers, read alouds, pictures and artifacts from Inca times, discussions, and films, so that they are absorbed in Incan culture.

In the third grade, students are starting to recognize differences within their environment and in their interactions with others. They are recognizing more of the differences among people around them. Although students are starting to think on their own, they still need guidance to their thought process, and teacher’s deeper understanding of concepts to help facilitate critical thinking. Around this age students are making connections between the ways they live their own lives to the ways that others live theirs. We will also be creating many projects that will help them connect their knowledge to other cultures.

We stress that this unit can also be integrated with math, science, art, music, physical education, reading, and language arts. We believe that we’ve made this unit complete so that anyone can implement it and modify it to meet the needs of individual students.

TEACHER BACKGROUND INFORMATION

COMMUNICATION

The main form of communication between cities was the chasqui. The chasqui were young men who relayed messages. Say the army general in Nazca needs to report information to Cuzco, the center of their Empire. One chasqui runner would start from the chasqui post in Nazca and run about a kilometer to another chasqui, waiting outside another hut. The message would be relayed and the chain would be continued for hundreds of miles by hundreds of runners until the last runner reached the Sapa Inca and told the message, exact to the original word, because a severe punishment awaited a wrong message, which they knew since their training began in boyhood. (www.crystalinks.com/incan.html)

Animals such as the llama were a very important part of Inca life. Alpacas were herded in mountain pastures and their wool was mostly used for clothing. The wild vicuna was only hunted when the ruler allowed. The fine and silky wool of the vicuna was only used for the royal emperor. Llamas were sometimes killed for their meat but were mostly bred for use in the fields or as a pack animal. Some herds of llama were also used for sacrifices at festivities.

The potter's wheel was not available during Inca times so all pottery was made by hand. All the clay items were fired in a furnace and then painted. The paint was in the colors of red, purple, cream and black. Other craftsmen would build the royal palace and the sun temples. The woodcarvers made special cups. In the time of the Incas the craftsmen were well-respected. Some of the special craftsmen would make objects of beauty such as the gold and silversmiths. They made nothing but religious objects and wonderful things for the Emperor. (http://www.internet-at-work.com/hos_mcgrane/inca/eg_inca_6.html)

The Incas did not have written records or books and therefore what remain are mostly pictures through their art. For a long time they relied on the stories told from the past. The wise people would remember the stories and the scholars wrote them down. Another way they communicated was through a knot system that recorded information. Quipu-makers were responsible for encoding and decoding the information. A quipu is an assemblage of colored knotted cotton cords. The colors of the cords, the way the cords are connected together, the relative placement of the cords, the spaces between the cords, the types of knots on the individual cords, and the relative placement of the knots are all part of the logical-numerical recording. (<http://www.cs.uidaho.edu/~casey931/seminar/quipu.html>)

GOVERNMENT

The Founding Fathers, the framers of the Constitution, wanted to form a government that did not allow one person to have too much authority or control. While under the rule of the British king they learned that this could be a bad system. Yet government under the Articles of Confederation taught them that there was a need for a strong centralized government.

With this in mind the framers wrote the Constitution to provide for a separation of powers, or three separate branches of government. Each has its own responsibilities and at the same time they work together to make the country run smoothly and to assure that the rights of citizens are not ignored or disallowed. This is done through checks and balances. A branch may use its powers to check the powers of the other two in order to maintain a balance of power among the three branches of government.

The three branches of the U.S. Government are the legislative, executive, and judicial. A complete diagram of the branches of the U.S. Government may be found in the U.S. Government Manual (PDF, 9.7k).

The *legislative branch* of government is made up of the Congress and government agencies, such as the Government Printing Office and Library of Congress that provide assistance to and support services for the Congress. Article I of the Constitution established this branch and gave Congress the power to make laws. The U.S. Congress is made up of two parts, the House of Representatives and the Senate. Congress meets at the U.S. Capitol in Washington, D.C. Its primary duty is to write, debate, and pass bills, which are then passed on to the President for approval.

The *executive branch* of Government makes sure that the laws of the United States are obeyed. The President of the United States is the head of the executive branch of government. This branch is very large so the President gets help from the Vice President, department heads (Cabinet members), and heads of independent agencies.

President: Leader of the country and commands the military.

Vice President: President of the Senate and becomes President if the President can no longer do the job.

Departments: Department heads advise the President on issues and help carry out policies.

Independent Agencies: Help carry out policy or provide special services.

The *judicial branch* of government is made up of the court system. The Supreme Court is the highest court in the land. Article III of the Constitution established this Court and all other Federal courts were created by Congress. Courts decide arguments about the meaning of laws, how they are applied, and whether they break the rules of the Constitution.

The Supreme Court is the highest court in the United States. The Supreme Court hears cases that have made their way through the court system, but of the more than 7,500 cases that are sent to the Supreme Court each year, only about 80 to 100 cases are actually accepted. Once the Supreme Court makes a decision, it can only be changed by another Supreme Court decision or by amending (changing) the Constitution. This is a very important power that can affect the lives of a lot of people. Also, since the main power of the Supreme Court is to decide cases that challenge the Constitution, the Court must decide if the case they receive really challenges the Constitution.

The Supreme Court is made up of nine Justices. One of these is the Chief Justice. They are appointed by the President and must be approved by the Senate. Justices have their jobs for life, unless they resign, retire, or are impeached by the House and convicted by the Senate (the removal process as described by the Constitution).

There are no requirements in order to be appointed a Justice, but all have been trained in the law. Many Justices served as members of Congress, governors, or members of the President's Cabinet.

Taken from: <http://bensguide.gpo.gov/>

INCAN GOVERNMENT

The Incan government was strictly organized, from the emperor (known as "The Inca") and the royal family to the peasants. The Inca was thought of as a descendent of the sun god, Inti, so he ruled with a divine authority. The only check on The Inca was the influence of customs and the fear of revolt. The emperor chose his most important administrators from his sons. He had one official wife and many royal concubines and his children often numbered in the hundreds.

Directly below The Inca was the aristocracy. The pure-blooded Incas were in the most important government, military, and religious positions. The nobles of conquered people became a part of the aristocracy and were considered Inca by adoption.

For administrative reasons the empire was divided up into regions known as the "four suyus (quarters) of the world". Cuzco was the center. The region known as Antisuyu stretched to the east of Cuzco. Cuntisuyu was all the land to the west of Cuzco. Collasuyu was the largest and was located to the south. Finally, Chincasuyu was the remaining land to the north of Cuzco.

A blood relative of The Inca was selected as the governor of each of the four quarters. Each quarter was further divided into progressively smaller units. Under the governor were ten district governors. They ruled over a district of about 10,000 peasants. Another official, generally a leader of a small village, ruled over a smaller area containing about 1,000 peasants. A level lower was ten foremen, each supervising a total of 100 peasants. At the lowest level was an official who oversaw ten peasants. For every 10,000 people there were 1331 officials.

Inca state affairs were tightly controlled. Government kept strict records of all the people, land, gold, crops, and projects of the empire. People were expected to work hard for The Inca by taking care of the land and paying taxes. The Inca had absolute power and there was a death penalty for persons who were caught not working or stealing.

Taken from: www.crystallinks.com/incan.html and academics.uww.edu/cni/webquest/spring03/Inca/rulers.htm

TEXTILES

For my lesson plan, I needed to know about textile traditions in the time of the Incans, and also background knowledge about the textiles we use today, and how they are manufactured here. It was also very important to know how to make a loom, and how to weave effectively. I needed many resources to show me different types of looms, and different designs that were once used, and still used today. There were many different resources and ideas that I found, but these were some of the best, and the ones that I decided to use in my lesson plan.

The textile tradition was very old in pre-Hispanic Peru and goes back more than eight thousand years B.C. The raw materials used in the textiles were "cabuya", cotton and camelid (a member of the camel and llama family) fiber. The first stammering of textiles occurred before pottery was known. At that time, the fibers used were called "cabuya" (Cuban hemp) by the Spanish, bulrushes. These were used in the form of ropes, net bags, braids and coarse blankets. Hemp is followed in time by cotton of two varieties, white and native, the latter in rich brown tones. A fiber of great importance was camelid fiber; the coarse hair came from llamas and the fine from alpacas (long-haired South American mammal of the camel family) and vicuñas (a South American mammal with a silky fleece). In the

years around 500 B.C. weaving achieved full development and garments from that time can be appreciated in museums. There were various types of looms; the most common is the backstrap loom still being used even in our day. Another type was the horizontal loom formed by four stakes and employed for large pieces. Fixed looms, can be vertical or horizontal. In addition, there were numerous textile techniques like brocade (to weave fabric with a raised design), tapestry (fabric with woven design), double cloth and gauzes, which for their beauty and the perfection of their execution are exhibited in museums. The Inca state needed a great number of garments for its organizational system and invented a way to obtain them instituting the Aclla Huasi or feminine workshops where the mamaconas (female workers) dedicated themselves to manufacturing fine and coarse garments and prepared drinks for celebrations and offerings. The institution of reciprocity demanded a great number of fine garments to give to the lords involved in the system. An Inca textile specialty was the manufacture of the so-called tocapu, which consisted of small figures of a large pattern with certain drawings repeated;

Information from: <http://incas.perucultural.org.pe/english.histec8.htm>

Definitions from: Encarta Dictionary



Today, cotton is the best selling fiber in the world. Currently, cotton accounts for a 61.5% share of the total retail market for apparel and home furnishings, excluding carpet in the U.S. In 2000, cotton consumption in men's apparel reached 76%. Currently, the average consumer uses about 37 pounds of cotton each year – 50% more cotton today than they did ten years ago. Information from: <http://www.cottonboard.org/index.asp?Cat=&sub=&cid=357>

Other resources on cotton and wool in US: www.cottoninc.com;

http://agecoext.tamu.edu/publications/ag_news/2000/feb/02-14-00.htm; www.midstateswoolgrowers.com

For directions on how to make cardboard looms and woven bags go to www.art-rageous.net/Weaving.html or another resource on weaving in the classroom see www.princetonol.com/groups/iad/lessons/middle/middle8.html

AGRICULTURE

Potatoes and farming practices of the Incas – Potatoes have been one of our most important food staples for the past millennium. They were first cultivated in the Andes Mountains of Peru and Bolivia and they formed the basis of the Inca diet. See website www.potandon.com/ss_potatoes_history.htm

Origin of the potato – The Andean Mountains of South America is the birth place of the Irish white potato. The potatoes are still produced today as they were in the times of the Incas. The potatoes are spread on the ground on frosty nights. During the day they are covered with straw to protect against the burning rays of the sun. This way they turn completely white. After exposure to the frost, woman and children trample on them to get rid of moisture and wear away the peel. Then they are put in a stream of running water for a few weeks in order to wash out the bitter taste. Then they are dried out for two weeks. These potatoes can be stored for up to four years. <http://putnam.k12.il.us/Potatoes.htm>

Agriculture and nourishment – Acquired techniques and knowledge were really impressive. Some poor lands, as it happens today, were cultivated alternating crops and some times they were left to "relax"; that means that they were not cultivated for determined periods in order to allow them recover naturally their mineral richness. Obviously, working conditions were very hard because just human strength was used. The most symbolic farming tool they used was the Taqlla or Chakitaqlla which is a foot-plow consisting of a wooden stick having a metal or another harder wood head. That tool is introduced into the earth with a hard kick and the help of arms and the whole body; it removes the soil when taken out. Another very diffused tool was the star-shaped or round stone club used as bend or hammer to wear clods away. www.qosqo.com

For further reading: <http://library.thinkquest.org/C005446/Food/English/inca.html>
http://extension.usu.edu/aitc/resources/elementary/index_elementary.html

SUNDIALS

[Http://kids.msfc.nasa.gov/Earth/Sundials/SundialMake.asp](http://kids.msfc.nasa.gov/Earth/Sundials/SundialMake.asp) is the source where I found how to make a sundial. This site has a step by step that shows us what we need, and how to use it. This site also has a location finder so that you can know your longitude and latitude, which are both needed for the time.

As a teacher, we will need to know how to tell time on a clock, and teach our students how to read the sundial. All a sundial does is cast a shadow on the number to tell us what time it is. We need to know if we are on the south or north side of the equator because time will vary and they need a different handout. Also, know what time of year you are in so that you can take into account daylight savings time.



Sundials are perhaps the most ancient of scientific instruments, and the earliest known form of time-keeping. They probably started life as poles in the ground with the direction and length of the shadow giving an approximate time of day.

This is an example of a sundial in Peru, its name is Intihuatana, the hitching post of the sun, and is possibly the last remaining seasonal sun dial located there.

UNIT PLANNING CHART

<p>Teachers: Amber Dea, Charlotte Hauver, Lisa Mackley, Mandy Salin, Wendy Hall</p>	<p>Unit Issue: How are we today in Utah similar to the Incas in South America?</p>	<p>Social Skills:</p> <ul style="list-style-type: none"> • Cooperative group work. • Communication • Respectful group discussion 	<p>Social Studies:</p> <ul style="list-style-type: none"> • Compare Monarchy vs. Democracy • Road systems • Compare population • Communication • Sundials – Tell time • Clothing and food • Dance • Pottery – tell stories • Rope Knotting.
<p>Art:</p> <ul style="list-style-type: none"> • Create their own pottery that reflects a part of their history out of clay and paint. • Sundials • Basket weaving 	<p>Teacher Resources:</p> <ul style="list-style-type: none"> • www.crystalinks.com/incan.html • www.sundials.co.uk/projects.htm#edial • Hands-On Latin America • The White Rock – An Exploration of the Inca Heartland. • Inca Religion and Customs Conquest of Incas. 	<p>Read Alouds:</p> <ul style="list-style-type: none"> • Inca Town by Fiona McDonald • Short Stories- www.andes.org/c/hickens.html • Secret of the Andes 	<p>Student Reading/Literature:</p> <ul style="list-style-type: none"> • The Moon was Tired of Walking on Air • Miro in the Kingdom of the sun • Inca Ice Maiden • The Llamas Secret: A Peruvian Legend • Black Rainbow: Legends of the Incas • The Incas
<p>Oral Language:</p> <ul style="list-style-type: none"> • Learning Quechua • Make up own words out of brainstormed nature words 	<p>Written Language:</p> <ul style="list-style-type: none"> • Short story from an Incan child's point of view • Pen pals in South America • Journals 	<p>Outcomes/ Unit Goals:</p> <ul style="list-style-type: none"> • Learn about and understand lifestyle of the Incas including culture, food, communication • Students will use a sundial and understand importance of communication • Students will identify similarities in our cultures 	<p>Music:</p> <ul style="list-style-type: none"> • Songs in Quechua- www.andes.org/songs.html • Spanish songs written on transparency and students sing along reading the words. Then present English song. • Pan pipe

Science: <ul style="list-style-type: none"> • Season comparison • Temperature • Barrel Chests • Amount of Oxygen • Advanced medical procedures • Agriculture 	Math: <ul style="list-style-type: none"> • Money • Sundials – time • Message runners – communication, measurement • Food – measuring activity 	Technology: <ul style="list-style-type: none"> • Brainteaser quiz • Record local weather and compare to South American weather • Sundials vs. watch • Movies 	Physical Education/ Movement/Health: <ul style="list-style-type: none"> • Dances – www.andes.org/dances.html • Mummies • Food – guinea pigs, dogs. www.fact-index.com/i/in/incan_empire.html#food • Runner – communication activity
Assessment: <ul style="list-style-type: none"> • Write their own short stories including as many details and facts they've learned through the unit. • Brainteaser quiz www.nationalgeographic.com/ngkids/games/brain-teaser/inca/inca.html • Journals • Discussions • KWL • Written Questions • Carrying out their government in class 	Culmination Activity/ Unit Projects: <ul style="list-style-type: none"> • Brochures for South America • Play telephone game across a field in groups of four • Government within the class 	Field Trip/ Guests: <ul style="list-style-type: none"> • USU Native American Club members • Parents • USU Art Museum • Sock Factory • Local Politician • A local vegetable garden 	Accommodations for Learners <ul style="list-style-type: none"> • Students who speak Spanish can choose words they know in a Spanish song or tell about the song to the class • Visual resources • Hands-on activities with modeling how the activities are done.

ORGANIZATION AND SUBJECT MATTER OVERVIEW

The content in our Unit Planning Chart is organized by topics: government, communication, weather/climate, agriculture, textiles, economy, art, and music. We chose to outline our unit this way because one topic leads into the other. Each lesson for four weeks takes about an hour or more. To begin each day, you should start by collecting weather and climate data in the local area and in the Andes area. Before each lesson begins, read a chapter of “Secret of the Andes” by Ann Nolan Clark out loud to the students. Classroom will need to be organized by groups and making sure each student knows they are to contribute to discussions and group activities. Students will need a safe environment like always to be willing to discuss their thoughts about the Incas and to share their projects that they made with their class. This is a fun unit that can be very beneficial for the students to really see similarities and differences between themselves and other people around them. The following is a chart that lists what we plan to do during our unit.

How are our lifestyles today in Utah, similar to the ancient Incas of South America?	Week #1	Week #2	Week #3	Week #4
Week's focus/topic/content	Government: democracy in US, monarchy in Inca civilization. Weather (collect data)	Communication: oral, art, music. Agriculture: food, land, farming techniques	Agriculture: food, quipu knots, climate. Textiles: basket weaving, clothes	Weather: seasons, analyze climate and altitude, sundials.
National Standard(s) Met	I Culture a. explore and describe similarities and differences in the ways groups, societies, and cultures address similar human needs and concerns; c. describe ways in which language, stories, folktales, music, and artistic creations serve as expressions of culture and influence behavior of people living in a particular culture; d. Compare ways in which people from different cultures think about and deal with their physical environment and social conditions. VI Power, Authority, & Governance c. give examples of how government does or does not provide for needs and wants of people, establish order and security, and manage conflict.			
State Standard(s) Met	3rd Grade: Standard 2: Students compare the indigenous people of the local area with the Inca of South America. Objective 2: Compare the Inca of South America to the indigenous people of the local area. - Compare the environment of the local area with that of the Andes of South America. - Compare the local community with the community of the Inca.			
Monday's Learning Activity	Introduce Incas Unit. Read aloud <i>Secret of the Andes</i> by Ann Nolan Clark for 10 min a day, journal reflection. Start recording weather in Utah and Andes Mountains.	Discuss different means of communication. Relay race played outside to communicate messages like the Inca chasqui. (PE)	Discuss climates and different growing environments. Discover similar crops that both grew i.e. squash, peanuts, beans, corn, potatoes.	Finish weaving their bags. Discuss street marketing.
Tuesday's Learning Activity	Discover US government. Have political speaker come in and talk to the class.	Communication centers: art, music. See Lesson plan 2.	How did they keep track of their food production and make quipu knots.	Start their own "street market" within the classroom. See Lesson plan 4.
Wednesday's Learning Activity	Discover Incan government. Compare and contrast different forms of government.	Communication centers: finish painting pottery and writing poems. See Lesson plan 2.	Look at clothes, bags, rugs, dolls from Inca people and Utah people. Discuss similarities and differences with materials used. See Lesson plan 4.	Making Sundials (see Lesson plan 5) Start recording sundial and clock time.
Thursday's Learning Activity	Set up US government within classroom. Give students situations in Lesson plan 1 and discuss.	Potato Mystery (see Lesson plan 3).	Introduce and discuss looms. Start working on their own loom. See Lesson plan 4.	Discuss what happens at different times of the day as a child in Utah and as an Incan child. Analyze data on time.
Friday's Learning Activity	Set up Incan government within classroom. Give students situations in Lesson plan 1 and discuss.	Discover tools and techniques the Incas used to farm and compare them with farming in Cache Valley. Have a local farmer as a guest speaker.	Discuss patterns. Start weaving bags using the loom they made.	Write story from an Incan child's point of view about your favorite time of day. Analyze data collected on weather.

GOALS AND OBJECTIVES

Unit Theme: How are our lifestyles today in Utah similar to the ancient Incas of South America?

NCSS Standards:

- 1a. Explore and describe similarities and differences in the ways groups, societies, and cultures address similar human needs and concerns.
- 1c. Describe ways in which language, stories, folktales, music, and artistic creations serve as expressions of culture and influence behavior of people living in a particular culture.
- 1d. Compare ways in which people from different cultures think about and deal with their physical environment and social conditions.
- 6c. Give examples of how government does or does not provide for needs and wants of people, establish order and security, and manage conflict.
- 8a. Identify and describe examples in which science and technology have changed the lives of people, such as in homemaking, childcare, work, transportation, and communication.

Utah State Standards:

3rd Grade

Standard 2: Students compare the indigenous people of the local area with the Inca of South America.

Objective 2:

- Compare the Inca of South America to the indigenous people of the local area.
- Compare the environment of the local area with that of the Andes of South America.
- Compare the local community with the community of the Inca.

Unit Goal:

Learners will be able to identify similarities and differences between Inca and American culture such as their government, communication, agriculture, textiles, economy, weather, and music.

Learning activity objectives:

Communication through Inca art and Quechuan music: Given clay, soap, and Quechuan music, the learners will create their own art and listen to music, in order to understand that stories are told through art and music that reflect the culture in which they are from. By completing the activities and engaging in discussions, students will see similarities between Inca art and American art in that they both tell stories and reflect their culture.

Making Sundials: Given the materials in this activity, the students will create a sundial in order to compare the time on the classroom clock to the time on the sundial. They will chart this information on a classroom chart and we will discuss what it means.

Government Simulations: Given a written simulation, students will carry out government procedures in order to show an understanding of the US and ancient Incan government structure and laws.

Weaving: The students will make their own looms, and weave with yarn to create their own bags. The students will also be able to understand where clothes come from, and be able to compare the similarities and differences between our textiles and the textiles of the Incan culture.

The Potato Mystery: Given clues about Incan agricultural practices, climate, and culture students will learn that the Incas were the first people to grow potatoes. From the clues students will also begin to build background knowledge on the growing environment in the Andes and tools and techniques used to grow potatoes and farm other produce.

LEARNING ACTIVITIES BANK

LESSON PLAN 1

Title of lesson: Government Simulations

Teacher: Mandy Salin

Date: October 20, 2004

Time Allotted: 2 days

Grade Level: 3rd

Number of Learners: Whole-Class

Unit theme: How are our lifestyles today in Utah similar to the ancient Incas of South America?

Standards met:

I. Culture: a. explore and describe similarities and differences in the ways groups, societies, and cultures address similar human needs and concerns.

VI. Power, Authority, & Governance: c. Give examples of how government does or does not provide for needs and wants of the people, establish security and order, and manage conflict.

Goal: Learners will be able to identify similarities and differences between Inca and American culture such as their government, communication, agriculture, textiles, economy, weather, and music.

Objective: Given a written simulation students will carry out government procedures in order to show an understanding of the US and ancient Incan government structure and laws.

Materials: Written simulation of the teachers choice (time period specific)

Motivation: Teacher will ask the students if they have ever thought about being in a governmental position, or if they have ever wondered how things are handled through the government. Teacher then tells the students that they will have the opportunity to see how each of the governments that they have been studying work together to solve issues.

Procedure: Students will elect people to certain positions in the US government. They are chosen this way because the US is a democracy. The teacher draws out of a hat to select the people for positions in the Incan government. They are selected this way because the Incas were under a dictatorship. This is a whole class project. Teacher or students will choose which type of government they want to imitate first. Teacher will read the situation out loud to the class. Then open it up to the class to discuss and debate what the outcome of the situation should be.

**Teacher does have overall say and can interject at any time necessary.

After students come up with a solution they will switch to the opposite government and be given a different situation, read by the teacher, to debate next.

This will go on for the allotted time then the teacher will bring it all together at closure.

Accommodations: Students with disabilities will be accommodates by having a peer buddy work with them through the debates and simulations.

Closure: Teacher will ask the students what their thoughts are on what happened today. Teacher will lead the students in a discussion of the benefits and downfalls of each type of government. Teacher will ask students to summarize the differences and similarities in the two governments.

Assessment/Evaluation: Teacher will evaluate through the simulations and write notes on the comments of students during debates.

Extensions: Other situations can be added and the students can make up their own if time permits.

Teacher Reflection:

LESSON PLAN 2

Title: Communication through Inca Art and Quechuan Music

Teacher: Amber Dea

Date: beginning of 2nd week

Time Allotted: 1 hour 30 min

Grade Level: 3rd

Number of Learners: varies

Unit Theme: How are our lifestyles today in Utah similar to the ancient Incas of South America?

Standard Met: (NCSS 1c) Describe ways in which language, stories, folktales, music, and artistic creations serve as expressions of culture and influence behavior of people living in a particular culture.

Goal: Learners will be able to identify similarities and differences between Inca and American culture such as their government, communication, agriculture, health, weather, and music.

Objectives:

1. Given clay, soap, and Quechuan music, the learners will create their own art and listen to music, in order to understand that stories are told through art and music that reflect the culture in which they are from.
2. By completing the activities and engaging in discussions, students will see similarities between Inca art and American art in that they both tell stories and reflect their culture.

Materials: Center 1 – clay, toothpicks, dental floss, bowl, water, paint, paint pallets, paint brushes, rolling pin, the book called *Aztec, Inca, Maya* by Elizabeth Baquedano. Center 2 – soap, trays, paper clips, toothpicks, Popsicle sticks, grapefruit pick, and book called *Hands-On Latin America*. Center 3 – computer, printed lyrics in Quechuan and English (from website), Quechuan music website – www.andes.org/songs.html, list of reflection questions (listed in Procedures).

Motivation: Tell students to communicate with each other for 1 minute in different ways that they can think of.

Procedures:

1. Brainstorm or discuss ways that people communicate with each other—talk, write, face expressions, singing, dancing, art
2. Talk about what communication means—expressing a feeling, telling a story
3. Show a picture of an art piece in *Aztec, Inca, Maya* by Elizabeth Baquedano. Ask them what story it's trying to tell about their culture.
4. Explain the different centers.

Center 1: Pottery: make a piece of pottery that will tell a story. It can be an Inca story or your own story. You can use Inca books for references. Model how to roll coils to make a round bowl or cup. Smooth the coils out with your fingers. Model how to flatten the clay with a rolling pin and cutting it with dental floss. Water can be used to rewet the clay if it gets too dry. Today they'll make the pottery and let it dry overnight. Tomorrow, they'll have time to paint their pottery and write a 4-line (or more) poem to represent what their piece of art means. Designate a place for the pottery to dry. Remember to put names on them.

Center 2: Soap Carving: Each child gets one bar of soap. Show some examples of some figures they can try to carve from *Hands-On Latin America*. They can make a small figure or statue that's in the Inca book or one that means something to them. Have them sketch it out before they begin. Explain the best way to carve soap is to carve a little at a time. If they carve a big chunk out of the soap it make end up breaking. They can also write a 4-line poem about their soap carving and what it means.

Center 3: Quechuan Music: While they listen to the song in Quechuan around the computer, they can read the lyrics in English. Discuss the reflection questions within their group. Reflection questions can be typed out such as—What stories are being told through their music? What does this say about their culture? Think of some music that you like to

- listen to. What does this say about our culture? If time permits, have them start to write a song that reflects their culture.
5. Talk about safety with your students and model how to use the carving tools. Use your best judgment about how mature your class can be with the sharper objects. Divide students into 3 groups and switch after 20 minutes.

Accommodations: Model what is supposed to be done in each center especially for the Second Language learners. If writing isn't a strength for some students, let them make up a song or use pictures to represent what it means.

Closure: Have a discussion about how different types of art communicate to us. How do statues tell stories in our lives? Lincoln Memorial, Statue of Liberty, Mount Rushmore, Joseph Smith, Ellen Eccles Jones, etc. How does music tell a story? Country, Jazz, Rap, Classical. How does pottery tell a story? Colors we use, plain vs. intricate, serves its purpose. Our art communicates a story and reflects our culture just like the Inca's art does.

Assessment: Observe them working in their centers and listen to their conversations. Ask them questions about what their piece of art represents. The closing discussion will give you an idea of what students learned from this activity. After having the closing discussion, they can write in their journal about three things that they learned about communication through art and music.

Extensions: Tomorrow they'll need to finish painting their pottery and writing their poems. Art should be displayed somewhere in the school or classroom. Students will participate in a Communication Relay Race, where students are chasqui that run and pass information on to another person like the game *Telephone*. It will be played outside.

Teacher Reflection:

LESSON PLAN 3

Title of Lesson: Our potato mystery!

Teachers: Wendy Hall

Date: 10/26/04

Time Allotted: 60 minutes

Grade Level(s): 3rd

Number of Learners: whole class (25)

Unit Theme: How are our lifestyles today in Utah, similar to the ancient Incas of South America?

Standard(s) Met:

National: Culture Ia. Explore and describe similarities and differences in the ways groups, societies, and cultures address similar human needs and concerns. Id. Compare ways in which people from different cultures think about and deal with their physical environment and social conditions.

State: Standard 2: Students compare the Inca of South America to the indigenous people of the local area.

Objective 2: Compare the environment of the local area with that of the Andes of South America.

Compare the local community with the community of the Inca.

Goal: Learners will be able to identify similarities and differences between Inca and American culture such as their government, communication, agriculture, textiles, economy, weather, and music.

Objective: Given clues about Incan agricultural practices, climate, and culture students will learn that the Incas were the first people to grow potatoes. From the clues students will also begin to build background knowledge on the growing environment in the Andes and tools and techniques used to grow potatoes and farm other produce.

Materials Needed: 5 envelopes with 5 clues inside (3 puzzle pieces, 2 written). Five flat laminated maps of the world indicating where potatoes have been and are grown. One potato (painted rocks) and one X to use as markers. Tape. Potato log-“We chose _____, because _____” and “We didn’t choose _____, because _____”. Before students come to class set up five (numbered 1-5) stations around the room. Place one envelope, one map, tape, markers and potato log at each station.

Examples of the written clues: potatoes point of view.

I was grown in a place where most families were farmers.

I was grown in the top levels of a terraced farming system.

I originated on steep mountainous slopes.

I could withstand the cold.

I was grown at high elevations.

Other vegetables were grown on terraces beneath me.

To prepare the land for potato planting my farmers uses a Taqlla or Chakitaglla.

I was irrigated with aqueducts that carried water very long distances.

I liked the water from the springs, rivers and lakes that were found in my region.

I had to be domesticated.

I was grown on steep mountain slopes but there are very diverse climates surrounding me.

My people grew at least 200 varieties of potatoes.

I was freeze-dried and could be stored for up to 4 years.

To keep track of how many potatoes were grown the farmers used quipus.

Motivation: I don’t know about you but some times I get the biggest craving for French fries. I always wondered why they were called French fries, do they come from France? (See if students believe they come from France) What does a French fry come from any way? (Students let me know it comes from a potato) Oh a potato-surprised! I love potatoes. Where do potatoes come from? I wonder who grew the first potato. Do you have any ideas? Write all of the students’ ideas on the board under “we think potatoes came from” Do we know for sure that potatoes came from any of these places? Well then this is a mystery. (10 min)

Procedures:

- Class don’t you think we should find out who grew the first potato? (Yes! All excited)

- Well I have a secret to share with you. Last night I found five strange envelopes in my mail box. Each envelope had 5 clues in them, some clues were parts to a puzzle and some were written clues. It also had these maps (show maps) of the world indicating some of the places where potatoes have been grown or are grown today. I think these clues might help us solve our mystery. I didn't have time to go through them all on my own so I was hoping you could help me put our clues together? (Yeah!)
- If you look around the room you will notice 5 stations. Each station has one envelope. At each station you will find directions on what to do with your envelope: review these with the class (keep at each station for students to review if needed). Directions: Open your envelope and pass out the clues. Each member gets one clue. Every one with a puzzle piece will put the puzzle together and tape it. Every one with a written clue will read this to the group. Explain that as they read their clues they should be looking at the map to see which areas could relate to the clues. Use your clues to help you decide as a group where the first potato was grown. Everyone must agree on the location you choose. Once you have decided where potatoes have come from places your potato marker on that spot. You will also have an X marker. Use this to mark a place you don't think potatoes could have come from. Last you will fill out the potato log: "We chose _____, because _____" "We didn't choose _____, because _____". Be very careful with your clues these will be used throughout the week. (20minutes)
- Have students count off by fives; their number is the station they will go to (give 30 sec. to find their station and a seat). Once every one is at their stations they can begin solving the mystery.
- As students work at their stations walk around to write down students' conversations as they decide where potatoes may have come from; ask them to explain why they are looking at one area and not another, get a feeling for students rational. Get ideas about what students know and don't know about their clues, are they familiar with the words, are there words they don't know. This is also a good time to assess the clues given: were they clear, informative, lead students to a correct or reasonable answer. Also offer guiding questions as needed i.e. well if this says they were grown in colder places would they have originated in the Bahamas? Look at your map; are there places you think may have colder climates?
- Once students have completed their task (stay at station) have each group read their potato log. Ask "how did your clues help you come to this decision." After each group shares their decision if any one had the correct answer let them know. If no one has come up with the correct answer have each station read their clues to the entire class. "Do we know now?" If not tell one person from each group to bring their taped together puzzle to a desk in the middle of the room. Each smaller puzzle will work together to create a larger puzzle which tells students the answer. Have them do this even if they come up with the answer in their groups. (10-15 min)

Closure: "So who do we have to thank for French fries?" "The Incas" Did our clues tell us something about how the Incas grew their potatoes? (Tools, land use, climate) This week we are going to learn more about how the ancient Incas farmed. Do you think we use similar techniques to grow our food? We know we both farmed potatoes, what other kinds of food do you think the Incas may have grown that we grow today? Put your written clues safely in the envelopes we will use them later in the week. Hang up the puzzle picture/answer somewhere in the room.

Extension: This will lead into the study for the rest of the week on Inca agricultural practices/crops/growing climate and the similarities to Utah agriculture practices/crops/growing climate. The clues used for this lesson will have underlined words that have to do with farming: environments, tools, climates, tracking systems for production. These can be used to guide teaching and background knowledge on Inca farming which can then guide research on how we farm in Utah and what we grow etc.

Accommodations: Having clues written and pictured can be one accommodation for ESL students, lower readers, students with more sever disabilities. Also students can help each other read the written clues if there are words they don't know. Working in groups also is a way to accommodate learners of all levels.

It can also help set a pace for students who are fast or slow finishers. No one is done until everyone is done.

Assessment/Evaluation: Observation: The teacher will assess as she walks around the room noting students' conversations. Did students reasoning make sense as they were figuring out where potatoes may have originated? Ex: Ask students to tell you why they have decided that a potato could not have originated in Antarctica? Are students questioning the underlined key words on the clues that are unfamiliar to them? Are students using the pictures on the puzzle to guide thinking? Written: The potato log, "We chose _____, because _____", will also give an idea of why students chose one place or another. The "because" will provide insight on students' conceptions/misconceptions about farming, climates, cultures, etc. Journal/Final Project: As the week goes on students will track (in a compare and contrast journal) things they are learning about Incan and Utahan agricultural practices. This can then be used in a final project showing what students have learned via: skit, poem, story, painting, research paper, book etc. (lesson 3)

Teacher Reflection: Did this activity keep its focus. How well did this lesson fit into the unit? How did students respond in the groups, were the clues informative, helpful, meaningful, etc. Is this a good lesson plan to lead into the weeks' study on Incan and Utahan agriculture? Were the materials appropriate, did it take to much/not enough time? Were all students accommodated and actively participating; if not what changes need to be made? Did students enjoy the activity and did their responses reflect new knowledge?

LESSON PLAN 4

Title of Lesson: Weaving

Teacher: Lisa Mackley

Time Allotted: One week

Grade Level: 3rd and up

Number of Learners: varies

Unit Theme: How are our lifestyles today in Utah similar to the ancient Incas of South America?

Standard Met: (NCSS 1a) Explore and describe similarities and differences in the ways groups, societies, and cultures address similar human needs and concerns.

Goal: Learners will be able to identify similarities and differences between Incan and American culture such as their government, communication, agriculture, textiles, economy, weather, and music.

Objectives: The students will make their own looms, and weave with yarn to create their own bags. The students will also be able to understand where clothes come from, and be able to compare the similarities and differences between our textiles and the textiles of the Incan culture.

Materials needed:

- ✓ 4x5" pieces of cardboard with shallow notches cut ¼" apart on the top edge, and a small notch cut on the far right of the bottom of the cardboard. (Depending on the grade level, students could start with a bigger piece of cardboard and be allowed to make measurements and cuts in the loom.)
- ✓ Yarn (to cut down on cost, you can ask the students to bring in yarn, and share different colors between the students. Just be conscious of those students that don't have enough resources to buy their own yarn.)
- ✓ Large dull needles for each student.

Motivation: I will bring in a lot of materials, such as clothing, bags, dolls, etc. that I bought in Ecuador, I will also bring in regular clothes that the kids might wear today, bags, socks, etc. to help them to connect the differences and similarities between the two cultures. I will let the students feel the different items and talk about the things they see. We will then discuss the topics of cotton, wool, and different materials that these items were made of, alpaca, llama, etc.

Procedures:

1. I will begin by asking the students if we could make a bag out of a piece of cardboard, I will hold up the cardboard and let them think about it and answer the question.
2. We will then discuss what looms are for, and different vocabulary that is used in weaving, such as "warp" and "beat". I will have pictures of some different kinds of looms for the children to see, and we will talk about what can be made from looms.
3. I will then show the students what we are going to make with our looms, and demonstrate how to warp the yarn across the cardboard.
4. Then I will hand out their pieces of cardboard to them (already cut), and demonstrate again the process of warping as they begin to do it with me.
5. I will make sure everyone has this concept down by going around the room and checking if there are any questions, or if it doesn't look right, I will give them some extra help. (It would be good at this point to have an aide to help the students with any problems).
6. After everyone has his or her warp done, I will begin again by demonstrating the weaving process. They will get out their yarn and I will pass around the needles, making sure they know that they each only get one, so to be careful not to lose it.
7. We will begin weaving, and I will continue to observe them until each child understands the procedure. I will remind them to beat the yarn to make sure there aren't any gaps in the weave.
8. This could be a project they work on over a long period of time, during breaks, or extra time in class, or time allotted to the students to work on their projects.

9. When finished weaving they will slip the yarn off the notches at the top, and remove the cardboard, then they will have to weave in loose pieces, and turn it inside out. They can also make a border at the top to make it look better, or add a braided drawstring to their bag.

Accommodations: Since this activity is very visual, the students that are second language learners should do very well with this project. If there are students who need extra help, I will be going around the room making sure that everyone understands the basic directions, and what they are supposed to do. If there are students who get done quickly with this project, they can either look to see if others in the class need help, or they could design their own loom, and make a different item from ideas that were presented in class.

Closure: I will ask the students for ideas about what different things we could make, or how we could make our looms different to change the style of the bag, or how we could change the design of our bags. We could then talk about why weaving would be important to the life on an Incan, i.e., clothing, economy, etc, and why clothing is an essential part of our lives as well.

Assessment/Evaluation: I will observe the students as they work on their bags to see if they understand what they are doing. I will also write notes on the comments that the students make in our class discussions.

Extension: As the students finish their projects, they will be given the option of creating their own looms, and weaving another project. (This will be done on their own time, since not all students will participate) We could set up a “class market” and have the students that work on the extra projects be the sellers of the market, and the other students will come and buy it. They will have to know how much money it was to make their project, and how much they will expect to receive for this item. I would teach them about bartering in the market, and some of the characteristics found in a street market. We could also go to the sock factory and take a tour to see how manufacturing of textiles works today in our society.

Teacher Reflection:

LESSON PLAN 5

Title: Making Sundials

Teacher: Charlotte Hauver

Time Allotted: 45 minutes

Grade Level: 3rd

Number of Learners: varies

Unit Theme: How are our lifestyles today in Utah similar to the ancient Incas of South America?

Standards Met: (NCSS 1a) Explore and describe similarities and differences in the ways groups, societies, and cultures address similar human needs and concerns.

(NSCC 1d) Compare ways in which people from different cultures think about an ddeal with their physical environment and social conditions.

(NCSS 8a) Identify and describe examples in which science and technology have changed the lives of people, such as in homemaking, childcare, work, transportation, and communication.

Goal: Learners will be able to identify similarities and differences between Inca and American culture such as their government, communication, agriculture, textiles, economy, weather, and music.

Objectives: Given the materials listed below, the students will create a sundial in order to compare the time on the classroom clock or watch to the sundial time. They will chart this information on individual charts, the classroom chart and then we will discuss what we learned.

Materials Needed: Scissors, sundial handout, latitude of location (Logan location: 41.747025 N, 111.822613 W), class chart paper, individual chart paper, compass and the sun

Motivation: As the question: If we didn't have clocks, how would we tell time?

Procedures:

- Brainstorm ideas as a group of how the ancient Incan civilization was able to tell time.
- Talk about sundials and how they are used.
- Give directions and model how to make their sundial. (Directions on the hand out)

Part I: Gnomon

- a. Cut out your gnomon (it's in the lower left corner of the handout)
- b. Cut the three dotted lines at one end of the gnomon
- c. Fold the gnomon in half and then fold the folded gnomon in half

Part II: Sundial

- a. Cut along the dotted lines on each end of the sundial page **but don't cut all the way across. Stop at the stop marks.**
 - b. Fold the remaining dashed lines. - - - - -
 - c. Fold each ramp side along the line which is closest to your latitude. (You can look on the website <http://kids.msfc.nasa.gov/Earth/Sundials/SundialMake.asp> to get this information. Click on download Northern Hemisphere to get sundial handout.
 - d. Tape the folded ramps to the back side of the folded paper so that the side labeled "ramp" is vertical.
 - e. Depending on the time of the year, you tape the gnomon on different sides of the sundial face. If it is after the Spring Equinox, you tape it on the numbered side. If it is after the Fall Equinox, you tape it on the back or un-numbered side.
 - f. When taping the gnomon on, you match the tabs with the sundial face
 - g. Aim your sundial North
- Pass out handout
 - Students create their own sundials to measure time
 - Students will measure time with their sundials and write down the time on their individual chart paper

Accommodations: When students are finishing their own sundials, there will be some that finish early.

When students finish, they can look around and see if others need help cutting or putting their sundial

together. If there is no one that needs help, the students can start their story of a person who lived in the ancient Inca civilization and how time affected them

Closure: For the end today, we will get them thinking about how important time is to us and to the Incas.

We will also talk about what they noticed and their findings of the day. We will compare how accurate time is when it is measured on the sundial as opposed to the clocks we use on a regular basis.

Assessment/Evaluation: We will have a classroom chart, but each student will also have a chart to plot down their own time. By looking at their chart, the students will explain to each other how a sundial works and how it tells time. I will walk around and write notes on what they are saying.

Extension: This will be an ongoing process where the students can chart their measurements from the sundial on the classroom chart. They can compare the sundial time with the classroom clock. They can also think of other places to get time from so they can compare the differences. The students can write about how they think they could tell time when it is cloudy or write a story about their favorite time of the Incan day.

Teacher Reflection:

ASSESSMENT

For our assessment we are going to use a variety of methods to make sure we have an understanding of what the students need to know and what they have learned as we finish up the unit. As a pre-assessment we will give students a handout with a list of vocabulary words pertaining to our unit. We will read these aloud and have students mark a plus if they know the word and its meaning, a check if they have heard of it but do not know what it means, and a minus if they have never heard of it at all. Some examples of vocabulary words could be: ancient, Incas, government, democracy, monarchy, textiles, weaving, agriculture, farming, communication, etc. Once we have reviewed this list we will fill out the “what we know” section of our KWL chart.

Next we will introduce our unit theme and tell students we will be covering topics including government, textiles, agriculture, communication, and time. We will then brainstorm with the class to fill out the “what we want to know” section of our KWL. This chart will remain hanging in the classroom for students to reflect on and revise as needed. The students will have filled out the “what we have learned” section by the end of the unit. At this point the whole class will review the chart and have a class conversation about all the information that has been covered.

Observations will also be a large part of student assessment. We will take notes on what students are saying in their conversations and group work. We can also ask probing questions during each lesson and record student comments concerning differences and similarities between the Incas and us. This will help us to see clearly whether or not students are grasping some of the main concepts we are trying to address.

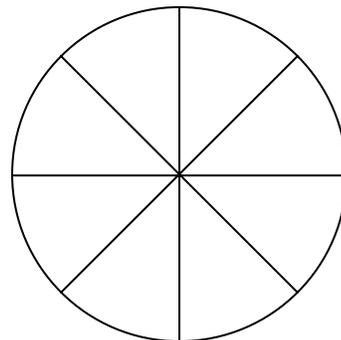
Another way we will be assessing students learning will be through a simulation of governments. Students will solve problems using the two government systems of the Incas and our own. Depending on how they solved the problems, you can assess student’s understanding of these complex government systems.

Students will also be creating an Inca unit journal that allows them to reflect on what they learned each day about the Incas and their similarities/differences compared to us today. This can then be used in a final project showing what students have learned via: skit, poem, story, painting, research paper, book etc.

Small quizzes can tell you what they learned at the end of each day, and guide what may need to be taught the following day. Some examples of quiz questions could be: What type of government was used in the Incan culture? List two agricultural practices we use today that were also used by the Incas, etc.

A data disk can help them see the similarities of the Incan and American cultures. Each section will be titled with one of the following: government, communication, time, agriculture, textiles, art, etc. Then have them list things they learn about each topic and similarities they find between Incas and themselves.

DATA DISK



APPENDICES

Websites:

www.crystalinks.com/incan.html
www.sundials.co.uk/projects.htm#edial
www.andes.org/chickens.html
www.andes.org/songs.html
www.andes.org/dances.html
www.fact-index.com/i/in/incan_empire.html#food
www.nationalgeographic.com/ngkids/games/brainteaser/inca/inca.html
<http://kids.msfc.nasa.gov/Earth/Sundials/SundialMake.asp>
www.incaconquest.com
www.nationalgeographic.com/mummy
www.angelfire.com-incamusic
www.cottonboard.org
www.cottoninc.com
http://agecoext.tamu.edu/publications/ag_news/2000/feb/02-14-00.htm
www.midstateswoolgrowers.com
www.pincetonol.com/groups/iad/lessons/middle/middle8.html
www.art-rageous.net/Weaving.html
<http://incas.perucultural.org.pe/english/histec8.htm>

Movies:

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Davies, Nigel. The Incas/Davies. Niwot, Colo.: University Press of Colorado, c1995
Von Hagen, Adriana. The Cities of the Ancient Andes. New York, N.Y.: Thames and Hudson, c1998

Books:

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Betanzos, Juan de. *Conquest of Incas*. Austin: University of Texas Press, 1996.
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Clark, Ann Noland. *Secret of the Andes*. New York, Viking Press, 1952.
Cobo, Bernabe. *Inca Religion and Customs*. Austin, Tex., University of Texas Press, 1990.
Daltroy, Terence N. *The Incas*.
Kurtz, Jane. *Miro in the Kingdom of the sun*. Boston: Houghton Mifflin Co., 1996.
Malpass, Michael Andrew. *Daily Life in the Inca Empire*. West Port, Conn.: Greenwood Press, 1996.
McDonald, Fiona. *Inca Town*.
Merrill, Yvonne Y. *Hands on Latin America: Art Activities for All Ages*.
Palacios, Argentina & Reasoner, Charles. *The Lamas Secret: A Peruvian Legend*
Thompson, Hugh. *The White Rock – An Exploration of the Inca Heartland*.
Von Hagen, Adriana. *Discovering the Inca Ice Maiden: my adventures on Ampato*. New York, N.Y: Thames & Hudson, c1998.