



ALF ENGEN SKI MUSEUM FOUNDATION
JOE QUINNEY WINTER SPORT CENTER



ALF ENGEN SKI MUSEUM FIELD TRIP

TEACHER'S GUIDE

Alf Engen Ski Museum Foundation Mission Statement

To preserve the rich history of skiing in the Intermountain Region by providing a world-class facility, which highlights the many contributions made in ski area development, athletic competition, snow safety, ski innovation, and ski teaching methods.

The specific goals to accomplish this mission include:

- Providing an educational, and entertaining interactive presentation of materials that are related to the core curriculum of schools in the state of Utah.
- Providing a rich assortment of interactive displays, which allow visitors to gain insight into many of the ski legends and ski pioneers who played key roles in the development of winter sports throughout the Intermountain area.
- Providing a vast assortment of historical artifacts which increase the public's overall awareness of our skiing heritage.

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The Alf Engen Ski Museum Foundation was established in 1989 for the purpose of constructing a modest ski museum in honor of ski legend, Alf Engen. With the selection of Salt Lake City to host the 2002 Olympic Winter Games, the museum concept was dramatically expanded to include a Salt Lake 2002 Olympic gallery and other features, which would transform the modest ski museum concept into a winter sports cultural center.

In recognition of a lead gift from the S.J. and Jessie E. Quinney Foundation and the life-long friendship of U.S. Ski Hall of Fame members, Alf Engen and Joe Quinney, the Engen Foundation board of trustees unanimously agreed that the facility should be named the Joe Quinney Winter Sports Center with the Alf Engen Ski Museum as the primary attraction.

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1.0 Introduction to Teachers

Utah Winter Sports: Field Trip

The Alf Engen Ski Museum welcomes you and your class as you prepare to visit us at the Joe Quinney Winter Sports Center located at the Utah Olympic Park in Park City, Utah. We think you'll be amazed at all you will learn! Have fun as you prepare your students for this hands-on educational experience by using the pre-visit activities in this book, all based on Utah State Core Curriculum concepts.

While at the Alf Engen Ski Museum, search for the answers to our "Utah Winter Sport Secrets" challenge, and watch your students gain a deeper understanding of the importance of science, social studies, and language arts in the world of sports. After your visit, reinforce what your students have learned with the post-trip activities found in this book. We are excited to have you and your students participate in the Alf Engen Ski Museum experience!

Utah Olympic Park

A tour of the park will take you to the track where Olympians competed in bobsledding, luge, and skeleton. You will see where medals were won and Olympic heroes were made.

Your visit may include watching young people training to be ski jumpers, learning tricks on the trampoline, ski jumping, and performing freestyle aerials into a swimming pool.



The Alf Engen Ski Museum

The Alf Engen Ski Museum was built to preserve the rich history of skiing in Utah. Displays focus on the development of skiing, changes in athletic competition, snow safety, ski innovation and ski instruction.

While at the Museum you will:

Watch an introductory film showing how skiing has changed over time and the influence of early skier Alf Engen.

Participate in the interactive displays found in the Alf Engen Ski Museum.

Tour the Utah Olympic Park and see several Olympic venues.

During a class visit to the Alf Engen Ski Museum and through pre-field trip lessons, students will have authentic learning experiences that reflect Utah's fascinating and ever-changing history.

Through this unit of study students will:

- Improve literacy and comprehension through the reading and study of the pre-field trip background information.
- Learn and experience numerous Utah State Core Curriculum requirements in science, social studies, and language arts.
- Relate how Utah's winter sports industry reflects and influences Utah's economy.
- Discuss ways in which Utah's natural resources are valued.
- Explore the history of Utah skiing and the history of Park City.
- Read and discuss the biographical sketches of local sports legend Alf Engen and philanthropist and ski area developer Joe Quinney.
- Review how technology, immigration, historical changes, economic values, weather, tourists and local leaders have played an important role in the growth of the winter sports industry in Utah.

Teacher Field Trip Information

- No food or drink is allowed in the museum area.
- We request students not bring back- packs or other personal belongings (headsets, electronic games etc.)
- Maximum number of students for each field trip is 65-70
- Before arriving at the Utah Olympic Park, please divide your students into two even groups.
- Plan to spend two and a half hours at the Park, including one hour in the museum.
- Upon arrival, students will first view the introduction film, then half of the students will tour the venues while the other half tours the museum. After approximately one hour the two groups will switch places.
- Please provide an adult chaperone for every 5 - 8 students.

How to Use this Book

The Alf Engen Ski Museum Activities Book was written by teachers for teachers with the goal of providing high-interest lessons that teach Utah Core Curriculum concepts and directly correspond to the field trip experience. Through these lessons, students will experience the relevance of what they learn in class to the real world, particularly the world of winter sports.

The Activities Book is divided into several areas. The first section pertains to "Secrets" or background reading material for the students use in classroom reading instruction. Copy this material for each student.

This information will increase the educational value of the field trip experience. The reading section can be used to strengthen reading comprehension, to learn vocabulary and spelling words and as a component of classroom social studies instruction.

Please read the lessons carefully as there are many pre- and post-visit activities. Lessons are centered around four key areas: Science and Technology, History, Economics, and the Water Cycle. At the end of the activities, you will find additional readings, a glossary, and Scavenger Hunt questions.

We hope that you and your students enjoy your experiences at the Alf Engen Ski Museum!

Information about the Alf Engen Ski Museum at the Joe Quinney Winter Sports Center is available on our website, www.engenmuseum.org.

Reference to Alf Engen scrapbooks held in the J. Willard Library can be found at www.lib.utah.edu.

The Utah Ski Archives, www.skiarchives.org

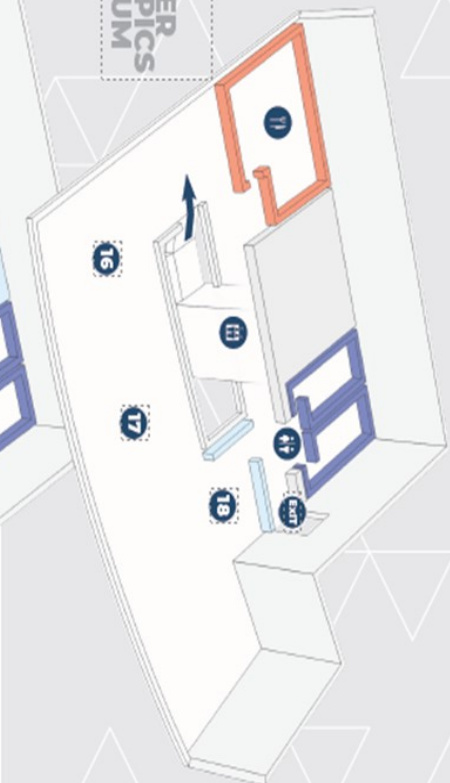
Park City Historical Society & Museum, www.parkcityhistory.org

KEY

- I** INFORMATION
- RES** RESERVATIONS
- GS** GIFT SHOP
- C** CAFE
- REST** RESTROOMS
- E** ELEVATOR
- EX** EXHIBIT

L2

2002 WINTER OLYMPICS MUSEUM



L1

ALF ENGEN SKI MUSEUM



1. VINTAGE SKI FASHION/DIVERSITY AND INCLUSION
2. INTERMOUNTAIN SKI HALL OF FAME MUSEUM THEATER
3. JOE QUINNEY CORNER
4. THE GREATEST SNOW ON EARTH
5. MOUNTAIN SPORT SIMULATOR
6. TAKE FLIGHT SKI JUMPING
8. ALF ENGEN: KING OF THE HILL
9. EVLUCTION OF SKIS
10. UTAH SLOPES
11. AVALANCHE: BRUTE FORCE
12. AVALANCHE: PHOTOBOOTH
13. PINBALL SLOLOM
14. STEIN ERIKSON
15. HOMETOWN HEROS

SECOND FLOOR:

16. 2002 UTAH WINTER OLYMPIC GAMES
17. FREESTYLE SKIING
18. PARALYMPICS /CURLING/HOCKEY

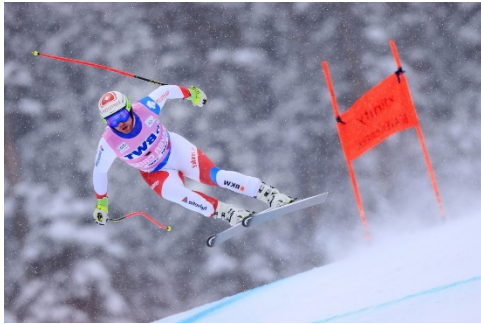
Alf Engen Ski Museum 3419 Olympic Parkway, Park City, UT 84098 (435) 658-4240 www.engenmuseum.org



1.1 Teacher's Background Guide to Different Kinds of Skiing

Although many teachers and students know of the various kinds of skiing, this guide is designed to help students become familiar with recreational and competitive skiing they will encounter at the Alf Engen Ski Museum. The two basic categories of skiing are Nordic and Alpine. The Nordic events were developed in the northern Scandinavian countries. The Alpine events were developed by the middle European countries.

ALPINE EVENTS



Downhill

Skiing is often referred to as "downhill" skiing. Downhill racing, however, is a specific type of ski competition, started in the mid-1800s, in which the athlete skis down a course of a few control gates at a high rate of speed. A few modern downhill racers have been clocked at well over 100 miles per hour! The winner of a downhill competition is the racer who has the fastest time while staying on the race course.



Slalom

Slalom is a form of skiing in which agility and quickness are the keys. The slalom skier must navigate through a series of closely set poles, or "gates", as he or she skis down a course. The competitor who skis through all the gates with the fastest time wins the competition. Hundredths of seconds may separate one competitor's time from another.



Giant Slalom

Giant slalom is a recreational as well as competitive form of skiing that involves skiing through gates at a relatively high rate of speed. A giant slalom skier goes faster than a slalom skier, but not as fast as a Downhill racer. The secret to a successful giant slalom run is to minimize the amount of snow that is "kicked up" by the skis. Strength and agility are the keys to successfully running a giant slalom race.



Super G

Super G is a combination of downhill and giant slalom and is among the most dangerous and demanding forms of competitive skiing. Super G involves skiing through a series of gates at a high rate of speed and requires great strength and agility.

NORDIC EVENTS



Ski Jumping

Ski jumping began in Norway in 1843 and was introduced in the United States in the late 1800s. To ski jump, the athlete needs a steep hill, a "take off" at the bottom of the hill which helps propel him/her into the air, and a landing hill. In a competition, the jumper is allowed one trial jump, which is not scored, and two official jumps. The jumper is judged on the distance traveled in the air and on jumping form. He/she begins with 20 points per jump and points are deducted to

determine the score. The score in a competition is the total point value of the two official jumps.



Cross-Country

Cross Country is the oldest and most utilitarian form of skiing. It has been used as a method of transportation in northern countries for centuries. In fact, pictographs dating from 2000 - 2500 B.C. show figures on skis, holding long poles. Cross-country today is both a recreational and competitive form of skiing. Recreational skiers enjoy "touring" on cross-country skis, while competitors' race on a course made up of approximately 1/3 uphill skiing, 1/3 downhill skiing, and 1/3

flat land skiing. The competitor with the fastest time wins. Stamina and endurance are keys to cross-country skiing.



Biathlon

Biathlon is a form of cross-country skiing in which the athlete also competes in rifle shooting during the race. Long used for military purposes, the first recorded competition involving the skills used in modern biathlon was held in 1767 in Norway. Biathlon competitors must shift from skiing to firing a rifle at a small target 50 meters away. The athlete must fire five shots within thirty seconds from the time he skis to the firing line and drops his ski poles. For every shot that misses the target,

one minute is added to the biathlete's running time.

Recommended reading for those wishing additional information about Utah's ski history:

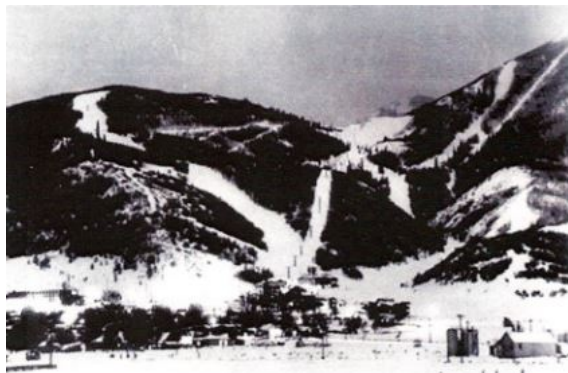
Skiing in Utah: A History; Alexis Kelner, 1980

For the Love of Skiing: A Visual History; Alan K. Engen, Gibb Smith Publishers, Salt Lake City, Utah, 1998

First Tracks: A Century of Skiing in Utah; Alan K. Engen and Gregory C. Thompson; Gibb Smith Publishers, Salt Lake City, Utah, 2001

2.0 Utah, This is the Place!

Did you know that Utah is **famous**? Before 2002, the beautiful mountains and valleys of the **Wasatch Front** were a secret unknown to most of the world. But secrets are hard to keep, especially when Salt Lake City was selected to host the 2002 Olympic Winter Games.



During the Games, millions of people either visited or watched the events in Utah and became familiar with names of such places as Soldier Hollow, Snowbasin, and Park City.

These mountain venues hosted exciting outdoor snow events and people from all over the world discovered that Utah was THE PLACE for world class winter sports.

Salt Lake City and its surrounding ski areas are now household names, but do you think the world knows all the secrets of our mountains? No! Only a few know the stories of the people, weather, **geography**, and inventions that make Utah's winter sports venues as **famous** as they are today.

You have the chance to become an expert! Your class will be visiting the Joe Quinney Winter Sports Center and the Alf Engen Ski Museum at the Utah Olympic Park in Park City, Utah. Read carefully and you will learn secrets that will help you enjoy your trip!

2.1 Secret #1: How Does Science Help Ski Jumpers?

Have you ever wondered how big a role science plays in sports, especially winter sports?

Science plays a very important part for those who ski, ski jump, skate, snowboard, and more. For example, every time a ski jumper goes down the in-run, **gravity**, **friction**, **lift**, and **drag** play important roles in letting them "fly" and in bringing them back to earth.

Two of the most important scientific elements involved in skiing are the forces of **gravity** and **friction**. **Gravity** pulls objects toward the center of the earth. Even though a skier is going down the slope, it is **gravity** that is causing him/her to accelerate. The skier can help a little by pushing, but on any steep hill, **gravity** is the important force.

Friction is generated between the ski and the snow as the skier goes down the hill. This is a good thing, and the experienced skier uses the forces of **friction** to turn, slow down, and (most importantly) to stop. **Friction** can be reduced by having smooth surfaces on the bottom and sides of the skis. This will help the skier go faster when he or she wants. Adding wax to the bottom of the ski can help to reduce **friction** as well. **Friction** is also created between the skier and the millions of **air molecules** he or she pushes out of the way while moving down the hill.

When the wind is blowing hard, or the skier is going fast, this force can be significant. It certainly is for the ski jumper trying to go as far through the air as he/she can. The type of **friction** caused by a body moving through the mass of air is called "**drag**." You might notice **drag** when you are on a skateboard or a bike, or when walking into a strong wind.

Ski jumpers experience **drag** all the time. Even being slowed down by the wind for a second can make a difference where a jumper finishes in **competition**. So how do ski jumpers fight **drag**? For the **air resistance** type of **drag**, they wear tight fitting clothes with slippery surfaces. Additionally, the jumper

will get in a crouching position to present the smallest area of his or her body to the wind as is possible, while keeping balanced and being prepared to push off the in-run at the correct takeoff point.

When the jumper reaches the bottom of the slide, called the in-run, he/she 'leaps' into the air and changes position to meet the new conditions. Now it is air, or **air resistance**, that slows the jumper rather than **friction** between skis and snow. Although slowed by **air resistance**, the skier can now move into a position that allows the body and skis to form a shape that act like the wing of an air- plane.

The curve of the ski jump helps keep the jumper from going straight down, guiding him/her off of the hill at a shallower **angle**. Good jumpers can further delay their return to earth by creating **lift**. To do this, the skier wants the air below his/her skis and body to reach the back of the skis on as short a path as possible, while the air going above should take the longest **route** possible.

Since the air above and the air below must get to the back of the skis at the same time, the air above must go faster, since it has further to travel. When that happens, the **air molecules** above are farther apart (less dense) and the skier is pushed up just like a gliding airplane. It takes a great deal of skill to be able to get the maximum **lift** possible while still maintaining control so that a smooth landing can be made.



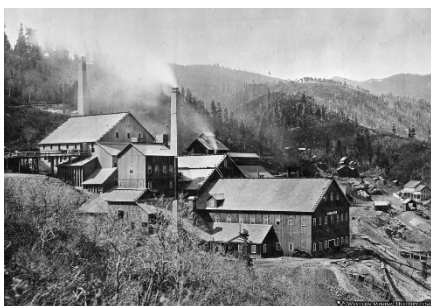
Jumper in 'V' position

Additionally, rules are in place and the judges make sure that the skier does not go too far and land on the flat part of the hill. Until about 1985, most ski jumpers kept their skis in a parallel position like railroad tracks. But in 1985, a Swedish jumper changed his style and jumped with his skis in a V position. Soon others copied his style. Scientists used wind tunnels and super computers experiments to see if this new way was better. They found that the V-shape gave the jumpers more **lift** and greater distance.

Eventually, the forces opposing the glide will bring the skier back to the hill. Proper **techniques** and equipment can minimize the effects of **friction** and **drag** and use the force of **lift** to allow the jumper to go farther than anyone else in the **competition**; after all that is the whole idea! However,

for earth-bound humans, **gravity** always wins. But then, **gravity** is ready for the skier's next jump.

2.2 Secret #2: How Did Utah Become THE PLACE for Winter Sports?



Park City, Utah 1890s

To find this answer, let's begin with some history of Park City. In 1847, pioneers under the leadership of **Brigham Young** traveled to the Salt Lake Valley using the **route** now known as **Emigration Canyon**. Parley P. Pratt arrived with the early group of pioneers. Travel through **Emigration Canyon** was very difficult, so Parley looked for an easier way for the settlers to enter the valley. He found an easier **route** for travelers which became known as "Parleys Canyon". Pratt received permission to charge a **toll** to those entering the valley from the mountains and from those traveling west to the gold field of California.

In 1862, during the **Civil War**, a **militia** under the command of **Colonel Patrick Edward Conner**, **established** a United States military post in the Salt Lake area, which was named Fort Douglas. Many of the men in the **militia** had experienced the excitement of the California and Nevada gold and silver mines where skis were used for transportation and lively **competitions**. While at Fort Douglas, Conner

encouraged his men to search for **precious** metals. They often traveled on skis to look for the metals during winter. Conner's soldiers found silver in "Parleys Park City" and **established** "Flagstaff," the area's first silver mine. The city's name was shortened to Park City. This **boomtown** had **saloons**, silver mines, hotels, a hospital, a jail, schools, homes, and miner shacks.



Kearns home is now the Governor's Mansion

Did all the miners become rich? No! Most left empty handed, but a few lucky men struck silver! Thomas Kearns, David Keith, and John Judge made millions with the Mayflower and Silver King mines in Park City. The beautiful homes of many Park City **millionaires** can still be seen in downtown Salt Lake City!

The mining city of Park City was **incorporated** in 1884. By 1889, the population was over 5,000. Park City was one of the first cities in the state to have electric lights. Skis were an important means of transportation in the early mining towns, with miners using skis could not last. Citizens battled heavy snows and a flu epidemic. Although Park City had

many productive mining years between 1901 and 1920, the end of the silver boom forced many people to leave the area.

As Scandinavian and Other immigrants moved to Utah, they brought their knowledge of skiing with them. Through their influence, mountain clubs were formed, and the art of ski jumping was introduced to Utah. Starting in 1915, ski jumping **competitions** were held throughout northern Utah. The first jump was built near the present site of the University of Utah!

In the late 1920s, ski enthusiasts began riding a train called the "Snow Train" to Park City. A rope tow helped these skiers get up the hill in the area that is now Deer Valley resort.



Having fun on the "Snow Train", late 1930s

1930, two jumping hills were built, Becker Hill in Ogden and Ecker Hill near Park City. Alf Engen and his brothers, Sverre and Corey, won many **tournaments** in Utah and became local legends on New Year's Day the next year, Alf Engen set two world ski jumping records at Ecker Hill.

In the late 1930s, more and more people wanted to try skiing rather than watching others ski jump. "Downhill" or **Alpine skiing** started to become very popular in Utah. Soon Utah had its first Alpine **competition** and the opening of Utah's first ski resort, Alta. Other ski resorts soon opened, and Utah gained **recognition** for its winter sports. **Military battalions** came to the Wasatch Mountains to train for winter warfare during World War II, and ski schools were formed.

After World War II, more people began to realize the fun of winter sports. During the 1950s and 60s, Alta became the center for national Alpine and **gelande** ski **tournaments**.

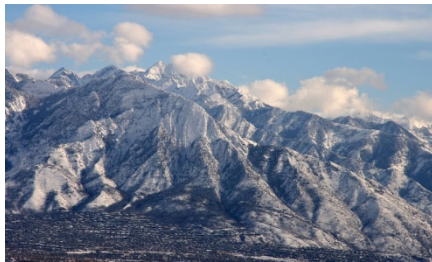


Alf Engen performing a gelandesprung,
1946

In 1958, United Park City Mines could see that the mining business had dried up and looked to skiing as a resource. During the 1960s, people in the ski industry began developing a ski resort, complete with gondola, chairlift, and rope tows, at Park City.

Skiing continued to grow and became even more popular. Today, 14 ski resorts serve Utahns and tourists from all over the world. From its early days, as a means of transportation, skiing has become a world-class sport. Utah's mountains, weather patterns, access, ski tradition, and innovative leaders created the perfect site for the 2002 Olympic Winter Games.

2.3 Secret #3: How Could a City in the Desert Host the Olympic Winter Games?



Wasatch Mountains

Do you think it is strange the Olympic Winter Games could be held in a desert **climate**? Usually, we think of a desert as a very dry place with cactus, lizards and little water. Although Utah is a very dry state, the Salt Lake Valley is fed by seven canyon streams. Where does all this water come from?

The Utah desert **climate** combines unusual conditions of **geography** and weather that provide water for the mountains and valleys of the **Wasatch Front**.

The Olympic Winter Games were held in the Wasatch Mountains that border **communities** along the **Wasatch Front**. As storm clouds move from west to east, the high peaks of the Wasatch Mountains create a barrier. Storms release their **moisture** in the mountains in the form of rain or snow. The Great Salt Lake adds moisture to the air that increases the possibility of storms. During most winters, the mountains become covered with snow as cold weather storms move across the **continent**.

Lucky for skiers, large amounts of snow, called snowpack, are stored on mountains during cold weather. In the springtime this snow begins to melt. Water flows through the streams and is stored in **reservoirs**. This way the valley **communities** have a source of fresh water throughout the year.

2.4 Secret# 4: Does Utah Have Skiing Legends? Yes!



Alf Engen 1940s

Alf Engen was born in a small **Norwegian** town on May 15, 1909. Who could have guessed that 90 years later, he would be named the "Athlete of the Century" for the state of Utah -- a place half a world away from his birthplace?

Alf's father built his first pair of skis and soon Alf and his younger brother were skiing to school. They built small "take-offs" that allowed them to jump over neighborhood fences and arrive at school in quick order.

Life changed and times became hard when the boys' father died in 1918. Nine-year-old Alf left school and went to work to help support his mother and younger brothers, Sverre and Corey. Even though he had to work hard, Alf still found time for skiing and became a well-known ski jumper in Norway.

In 1929, Alf immigrated to the United States. He eventually brought his family to America, where all three Engen brothers became **famous**! They won awards for world class ski jumping, **participated** in Hollywood movies and brought **enthusiasm** and **expertise** to the sport of skiing.

Alf influenced the sport of skiing in the United States and the rest of the world. He won the United States ski championship in jumping, cross-country, downhill, and slalom events 16 times. Alf once broke the world record in ski jumping twice in one day!

Although Alf was one of the best ski jumpers in the world, he was not allowed to compete on the U.S. Ski Team. In 1935 he appeared on a Wheaties cereal box whose slogan was "Breakfast of Champions." Although he received no money for this **endorsement**, officials considered this to mean that Alf was a **professional**. Since only **amateurs** could participate in the Olympics, Alf was not allowed on the 1936 team, and World War II caused the **cancellation** of the 1940 and 1944 Olympic Games. Finally, Alf **participated** in the 1948 Olympic Winter Games by serving as the coach for the United States Ski Team.

Alf's Contribution to Skiing



Rope tow at Alta, 1960s

Alf was **instrumental** in the design of many of Utah's ski resorts. He planned and laid out over 30 ski areas during the 1930s and 40s, including Utah's Alta and Snowbasin; Idaho's Bogus Basin and Magic Mountain; and Wyoming's Jackson Hole and Snow King Mountain.

Alf enjoyed all types of skiing and teaching others what he knew. Because of his mastery of skiing deep powder snow, Alf was known as the "Father of the American Powder Technique." Many of his teaching concepts are used today.

One of Alf's most important contributions was as a founder of the Deseret News Ski School, which started in 1948 and continues today. Over the years, thousands of people have been introduced to

skiing through this school. Alf directed the Alf Engen Ski School at his beloved Alta for 40 years, retiring at the age of 80.

Recognition

It is estimated that Alf won more than 500 trophies, medals and **plaques** for his skiing and jumping skills.



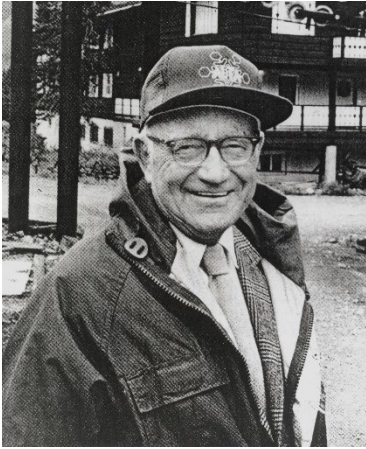
Alf Engen receiving the American Ski Trophy

He was named "Skier of the Century" in 1950, and a "Founder of American Skiing" in 1996. He was **inducted** into the Helms Hall of Fame in 1954, the National Ski Hall of Fame in 1956, the Utah Sports Hall of Fame in 1970, and the **Professional** Ski Instructors of America- **Intermountain** Division Hall of Fame in 1989. One of his most unusual awards came when he was selected, **post-humously**, as "Utah's Athlete of the Century" in December 1999. This honored Alf as the sports figure who made the greatest impact on the state of Utah during the **Twentieth Century**.

Alf died in July 1997 at the age of 88. He **adored** children and although he was a world champion, Alf considered his greatest accomplishment to be a teacher of skiing. Alf had a great love and compassion for all people and the outdoors. He spent his happiest times at Alta, which he called, "the most beautiful office in the world."

Alf wanted everyone to share the wonder and beauty of our mountains and enjoy the sport of skiing. This quote best summarizes Alf's love for his sport and adopted home: "Have some fun now...I hope to see all of Utah on skis myself. I have loved it so much! I like to share the pleasures of skiing and to be out in these beautiful mountain ... " Utah was lucky this great man decided to make our state his home!

Joe Quinney: Ski Industry Pioneer



S. Joe Quinney at Alta, circa 1975

A pioneer is a person who steps out and goes places others have not dared to go or does things others have not thought of doing. S.J. "Joe" Quinney was such a person. Born in Logan, Utah in 1893, Joe became a well-known Utah lawyer and business- man who made many important contributions to the arts, education, and skiing. He was born with an adventuresome spirit and a love of the outdoors. As a little boy, Joe would take his fishing rod and go up Logan Canyon by himself to fish. Some- times he would be gone for days, all the while enjoying the beauty of his mountain surroundings.

Joe attended Utah State Agricultural College (now Utah State University) where he was an excellent student and manager of the debate team. After graduation, he attended Harvard University where he received his law degree. While at Harvard, Joe married Jessie Eccles.

After graduation from Harvard and serving for a short time as a clerk during World War I, Joe and Jessie returned to Utah where he began to practice law. In 1940, Joe became a founding partner in the Salt Lake City law firm Ray, Quinney and Nebeker.



S. Joe Quinney and Alf Engen, 1976

During the 1930s, Joe's young son David began skiing and Joe decided he, too, would try this new sport. During the 1920s and 1930s, skiing was becoming popular because of the interest in ski jumping. Joe Quinney soon met and became friends with many of the **Norwegian** jumpers who had started the Utah Ski Club in 1915. Joe became a member of this club and began promoting the ski jumping **competitions**. Through his involvement in the Ecker Hill **competitions**, Joe met Alf and Sverre Engen and they became lifelong friends. Joe was president of the Utah Ski Club from 1935-1938. Under his direction the 1937 National Ski Jumps at Ecker Hill were the "biggest and the best" sporting event held in Utah up to that time. Joe's goal was to make, "Utah the winter sports center of the nation."

As Joe and Jessie's two children, David and Janet, became involved in ski racing, Joe became more interested in **alpine skiing**. Alf Engen recommended several places for the U.S. Forest Service to develop as ski areas near Salt Lake City, and Alf and Joe agreed that the slopes around the one-time mining town of Alta would be an ideal spot. Joe's law firm worked with the Alta United Mines Company to turn the surface rights of much of the Alta area over to the U.S. Forest Service so that a ski area could be built at Alta on leased U.S. Forest Service land.

Joe and his fellow ski promoters agreed to form a corporation called the Salt Lake Winter Sports Association, which later became Alta Ski Lifts Company. The promoters donated a total of \$10,000 to build a single chairlift at Alta. This chairlift was the second in the United States, with the first being built at Sun Valley, Idaho.



Collin's Chair Lift at Alta, 1947

In 1939-40 Alta had 265 paying customers who paid \$.25 for a single ride and \$1.50 for an all-day pass. Joe Quinney was the force behind the development of Alta into a ski area and he soon became known as "Mr. Ski Business." In 1975, Joe was selected to be in the National Ski Hall of Fame for his important contributions to skiing.

Joe and Jessie Quinney gave many generous gifts to the community. They made contributions to help build classrooms and a library for the College of **Natural Resources** at Utah State University; funded scholarships for students; and supported the cultural arts. Joe served in the Utah State Legislature for one term (1921-1922).

Always a hard worker, Joe continued to practice law until his death at age 90. As one writer stated, "Men such as Joe Quinney were the backbone, heart and minds of skiing." Without their support and tireless efforts, skiing in Utah would not have developed into the important industry it is today.

3.0 Pre-Visit Lessons

3.1 A Brief History of Skiing in Utah

Cart Title: History

Core Connection

Fourth Grade Social Studies Standard I: Students will understand the relationship between the physical geography in Utah and human life.

Fourth Grade Language Arts Standard 7: Comprehension; Students understand, interpret, and analyze narrative and informational grade level text.

Summary: Students will trace the history of skiing from the turn of the century to the present day in Utah and develop a comic strip based on their knowledge.

Lesson Learning Objectives:

1. Students will assess prior knowledge of Utah's ski history.
2. Students will learn about important events in Utah's ski history.
3. Students will sequence events in Utah's ski history in chronological order.
4. Students will create a comic strip based on historical events.

Materials: A Brief History Handout (See Secret #2), KWL chart, plain white paper folded into 6 or 8 squares, colored pencils or crayons.

Time Approximate: 15 minutes for KWL and 45 minutes for the rest of the lesson.

Instructions:

1. Use the KWL chart (K- What I Know, W-What I want to learn, L- What I have learned) to brainstorm prior knowledge of Utah's ski history. This can be done individually, in groups, or as a class. Save this for completion after the museum visit.
2. Tell students they are going to make a comic strip from the reading they are about to do.
3. Students read "A Brief History" (Secret #2)
4. Have students fold a plain white sheet of paper into 6 or 8 squares (frames).
5. Have the students select 6-8 ideas to illustrate from the reading in sequential order. Draw one idea per box. Make sure the events are illustrated in sequential order.
6. Students present their illustrations to class.
7. Option: have students in small groups combine their cartoons. Students cut out their illustrations and glue them to a larger piece of paper to create a larger cartoon. Groups present final cartoon to the class.
8. Return to the KSL charts and complete. Correct any prior misconceptions.

Extensions:

Social Studies/Art: Students create a ski resort, including such things as a map of the runs, cost of tickets, food service, and environmental restrictions. Draw and write the descriptions of the resort, individually or in small groups.

Language Arts: Create a narrative story with a fictional character. Choose a period of ski history and include actual events from that time period.

KWL CHART

Directions: For each column of the chart, list ideas or facts about Utah’s ski history.

K

What you **K**now

W

What you **W**ant to know

L

What did you **L**earn

--	--	--

3.2 Comparing the Lands

Cart Title: History

Core Connection

Fourth Grade Social Studies Standard 2: Students will understand how Utah's history has been shaped by many diverse people, events, and ideas.

Fourth Grade Math Standard 5: Students will interpret and organize collected data to make predictions, answer questions, and describe basic concepts of probability.

Summary: Students will be comparing the size of China, Japan, Norway, and Sweden to the United States and Utah. Students will evaluate geographical information and contributions of people from the Scandinavian countries.

Lesson Learning Objectives:

1. Students will compare the sizes and geography of Norway, Sweden, Japan, China and Utah to the United States.
2. Students will research and analyze the contributions of Scandinavians to Utah's history and culture.

Materials: world map, discussion questions, scissors, atlas for each student, map worksheets 1 and 2, colored pencils, glue

Time Approximate: 30 minutes. Some of the following instructions will require more time to be completed out of class and shared.

Instructions:

1. Use the world map or globe to refer to the locations of Norway, Sweden, Japan, China, the United States, and Utah.
2. Show various precipitation maps of Norway, Sweden, Japan, and China to the students and compare the snowfall between these countries.
3. Using an atlas, have the students draw the mountain ranges on the countries.
4. Have students color the countries on Map Worksheets 1 and 2 each a different color.
5. Cut out each country.
6. Have students label and glue the countries of Norway, Sweden, Japan, and Utah to the United States.
7. Lay the colored cut out of China on top of the United States. Ask students how the size of China compares with that of the United States.
8. Have students complete the discussion questions in small groups. Discuss this question as a class: All of these countries have mountains and snow. Why was it that only the Scandinavians brought skiing to the United States?
9. Discuss with class the reasons people came to Utah from other countries.
10. Assign students in groups to research one of the following topics: places, events, celebrations, and other contributions made by people from Norway and Sweden. They will share this information with the class.

Compare the Land Discussion Questions

Directions: Using their social studies textbook, Internet, atlas, etc. have students find the correct answers to the following questions:

1. Which of these countries has the most people living in it? Give a reason for your answer.
2. Which country is the largest in square miles?
3. How much larger is Norway than the state of Utah in square miles?
4. Is Sweden larger or smaller than Norway?
5. Looking at the world map and the location of Norway and Sweden, do you think it is warmer or colder in those countries than it is in Utah? Why?
6. Which of Japan's islands is most likely to have ski resorts? Why?

Extended Questions

7. What are some of Utah's physical features? How do they differ from those of Norway and Sweden? How are they the same?
8. How do the physical features of Utah differ from those of China and Japan? How are they the same?

Map Worksheets

Scale: 1 inch equals 500 miles approximately



Norway

Area: 125,181 sq miles (324,220 sq km)

Population: 4,503,440

Capital: Oslo

Language: Norwegian

Geography: Norway is located on the western part of the Scandinavian Peninsula. It is located near the North Sea and the Norwegian Sea. 70% of Norway is uninhabited due to mountains, glaciers, rivers, and the deep fjords that cut into the coastline.



Sweden

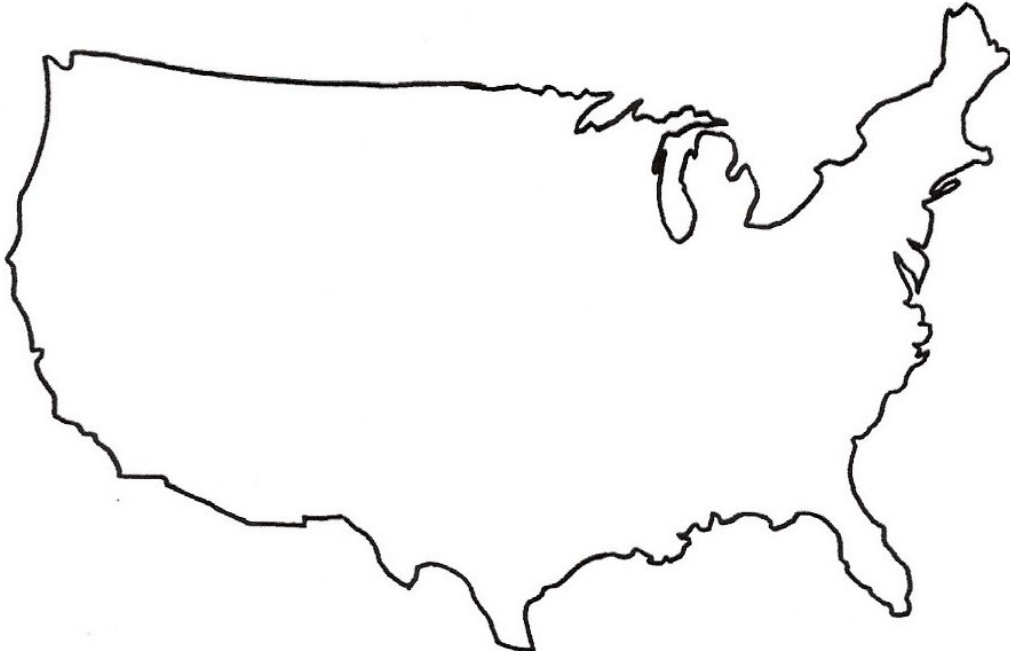
Area: 173,731sq miles (449,964 sq km)

Population: 8,875,964

Capital: Stockholm

Language: Swedish

Geography: Sweden is located on the eastern part of the Scandinavian Peninsula. It has mountains and lakes in the north and forests, valleys, and plains in the south. Sweden has a rocky coastline with many islands bordering the country.



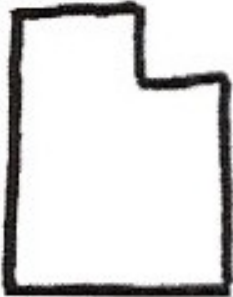
United States

Area: 3,537,441 sq miles (9,161,972 sq km)

Population: 281,421,906

Capital: Washington D.C.

Language: English



Utah

Area: 82,168 sq miles

Population: 2,233,169

Capital: Salt Lake City

Language: English



China

Area: 3,705,386 sq miles (9,596,960 sq km)

Population: 1,273,111,290 Capital: Beijing

Language: Standard Chinese or Mandarin

Geography: China is a country and a continent that is slightly smaller than the United States. It has a varied landscape consisting of mountains, high plateaus, and deserts in the west and plains, deltas and hills in the east.



Japan

Area: 145,882 sq miles (377,835sq km)

Population: 126,771,662

Capital: Tokyo

Language: Japanese

Geography: Japan is an Archipelago or island chain that extends more than 1,744 miles Northeast to Southwest in the Pacific Ocean. The four main islands are Honshu, Hokkaido, Kyushu, and Shikoku. Japan is a geologically active region with approximately 1,000 earthquakes per year.

MAP OF THE WORLD



3.3 Nordic Skiing

Exhibit Title: Cross-Country Skiing & Ski Jumping

Core Connection

Fourth Grade Language Arts Standard 1: Oral Language - Students develop language for the purpose of effectively communicating through listening, speaking, viewing, and presenting.

Fourth Grade Language Arts Standard 8: Writing - Students write daily to communicate effectively for a variety of purposes and audiences.

Summary: Students will demonstrate their understanding of two Nordic skiing components, cross-country and ski jumping, by completing a "compare and contrast" chart. Students will then evaluate and choose which of the two types of skiing they would most like to try.

Lesson Learning Objectives:

1. Review two components of Nordic skiing: cross-country and ski jumping. (Information found in "Teacher's Background Guide.")
2. Compare and contrast the aspects of cross-country and ski jumping.
3. Students illustrate what they have learned about cross-country and ski jumping.
4. Students will evaluate and select which of the two components of Nordic skiing they prefer and orally present their views to the class.
5. Based on new information, students will write a persuasive essay on which component of Nordic skiing they prefer.

Materials: copy of "Nordic Events" page found in "Teacher's Background Guide" for each student, art and writing paper crayons/markers

Time Approximate: Two 45-minute class periods.

Instructions:

1. As a class, read and discuss the information on the "Nordic Events" page.
2. Pass out art paper and have students draw pictures of athletes cross-country skiing and ski jumping.
3. Write a sample chart on the board. Students copy this chart on writing paper and record what they feel are the positives and negatives of each event.
4. Divide students into small groups according to the event they prefer. Each group will prepare a presentation using their illustrations to persuade their classmates to their point of view.
5. After hearing all of the presentations, students write a short persuasive essay about the event they prefer.

Example:

	Cross-Country	Ski Jumping
Why I would like:		
Why I would not like:		

3.4 Fly Like an Eagle

Exhibit Title: Skiing the Sky

Core Connection

Fourth Grade Language Arts Standard 6: Vocabulary - Students learn and use grade level vocabulary to increase understanding and read fluently.

Fourth Grade Language Arts Standard 7: Comprehension - Students understand, interpret, and analyze narrative and informational grade level text.

Summary: Students will demonstrate their understanding of the scientific principles of ski jumping and label a diagram of the various parts of a ski jump.

Lesson Learning Objectives:

1. Students gain an understanding of the scientific principles involved in the sport of ski jumping.
2. Students learn new vocabulary words by reading informational text.
3. Students will label diagrams of the various parts of a ski jump.

Materials: copy of "Secret #1: How Does Science Help Ski Jumpers?" for each student lesson worksheets

Time Approximate: 45 minutes

Instructions:

1. As a class, read and discuss the information in "Secret #1: How Does Science Help Ski Jumpers?" Introduce and explain new vocabulary words during reading.
2. Show the pictures of the two different skiing styles and discuss with class. Using the information from the pictures and the article, have students complete the "Fly Like an Eagle" and "Predictions" worksheets. Students may work in small groups.

When worksheets are completed, discuss results as a class.

Flying Like an Eagle: Then and Now



Alf Engen showing his world record ski jumping style, circa 1935. Ski jumpers of the past kept their skis together and used their arms for balance during the jump. They also flew much higher off the ground than do modern jumpers. Also, note the clothing Alf is wearing - sweater, cap, baggy pants - and compare that with the clothing worn by the modern-day jumper.



Today's ski jumpers use the "V" formation to get the most lift possible during their time in the air. They also follow the contour of the hill and are only about ten feet off the ground during their jump. This change in hill construction has allowed women to become ski jumpers because the landing is much softer than it was in the past. The aerodynamic suit allows the jumper to go farther in the air and the helmet provides safety in case of a fall. Ski jumping today is a much safer sport than it was when Alf Engen was jumping.

Fly Like an Eagle

Directions: Each picture illustrates the different phase of a ski jump. Define the terms below, then label each picture with the correct term. Practice these positions at home so that you can fly like the best.

In-Run _____

Take-of _____

Flight (V Formation) _____

Telemark Landing _____



1. _____



2. _____



3. _____



4. _____

Predictions

Directions: Using the list of materials below, choose which items would cause the least amount of friction and which would cause the most. Then, on the lines below, explain why you chose those materials.

Wood

Fiberglass

Steel

Aluminum

Rubber

Plexi-Glass

Cardboard

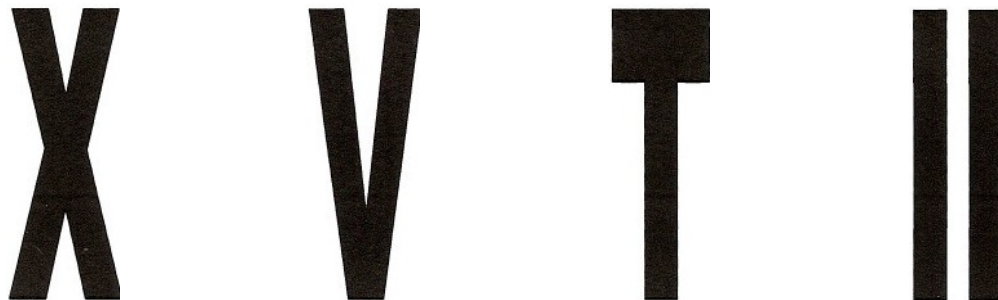
Leather

Causes least amount of friction

Causes most amount of friction

Explanation:

Which symbol represents the BEST way an athlete should position the skis while "flying"?



Why?

4.0 Pre- and Post-Visit Lessons

4.1 Heroes and Legends

Exhibit Title: The King of the Hill

Core Connection

Fourth Grade Language Arts Standard 6: Vocabulary - Students learn and use grade level vocabulary to increase understanding and read fluently.

Fourth Grade Language Arts Standard 8: Writing - Students write daily to communicate effectively for a variety of reasons.

Summary: During their visit to the museum, students will hear Alf Engen referred to as both a "hero" and a "legend." They might hear about the "legacies" the early ski pioneers left behind. The focus of this lesson is to provide students with the understanding of the difference in meaning between these words and to identify present day heroes and legends. Students and teacher will work together to produce a book entitled, "Our Heroes and Legends." For more background, please refer to "Secret #4: Does Utah Have Skiing Legends? Yes!"

Lesson Learning Objectives:

4. Prior to visiting the museum, students will understand the definitions of, and the differences between, a "hero," a "legend," and a "legacy."
5. Students will identify heroes and legends in present day society and write a
6. paragraph about a hero of their choice, including the legacy this hero will leave behind.
7. Students will learn categorization skills as they define reasons people are
8. considered to be heroes and sort the student paragraphs according to these reasons.
9. Students and teacher will work as a class and in small groups to write and revise chapter introductions for the book.
10. After the visit to the museum, students will write a paragraph about Alf Engen, validating the reasons he is both a hero and a legend.

Materials: paper and pencil, crayons or colored pencils pictures brought by students, cardstock for book cover, books of community helpers and/or sports figures provided by teacher

Time Approximate: 55 minutes pre-visit
40 minutes post-visit

Teacher background:

The terms "hero" and "legend" are often used interchangeably, but there is a difference in definition between them. Since sports are of high interest to many students, these terms become familiar to children and should be properly understood. Heroes are most seen as individuals who perform extraordinary feats or acts of great bravery. A person who enters a burning building to save another is a hero; a sports star who displays extraordinary skill to win a competition may be viewed as a hero by his or her fans. Heroes are recognized for specific deeds or accomplishments and earn a great of admiration

from others for those deeds and accomplishments. Heroes become legends when they do such extraordinary things over a long period of time that they rise above other "heroes" in the same field and become looked upon as "icons". Legends can also be people who have never been considered "heroes" but whose names and reputations have given them instant recognition for their actions. For instance, Al Capone and Butch Cassidy are legendary outlaws.

Pre-visit activity:

Instructions:

1. Discuss with students the definition and characteristics of "heroes" and "legends."
2. Have students bring pictures of people they consider heroes. These can be people in their everyday life or celebrities they admire.
3. Provide students with pictures or books of community helpers, sports figures, etc. from the school library.
4. Have students share their pictures and tell why they consider their selection to be a hero. Write these characteristics on the board.
5. Using pictures of community helpers, discuss those often considered to be heroes. Write the reasons on the board.
6. Evaluate the characteristics listed on board and divide into specific categories. (Heroes who save lives, heroes who overcome adversity or illness, etc.)
7. Have each student write a short paragraph about the hero they selected, clearly defining why they consider this person to be a hero.
8. When students have completed their writing, have them read their paragraphs to the class. As a group, students determine which category fits each hero and paragraphs are grouped together by category. (Legends would be a separate category if students have identified any of their choices as such.)
9. After all paragraphs have been categorized, divide students into groups. The number of groups will be determined by the number of "hero" categories. Each group writes an introduction for a chapter in the "Our Heroes" book based on their category of hero and decides how to present the paragraphs and any visual aids they will include in that chapter.
10. When groups are finished, the teacher reads the introductions to the class for revisions or changes.
11. Each group then prepares the final copy of their chapter.

Post-visit activity:

Instructions:

1. Upon returning to class, discuss why Alf Engen is both a hero and a legend.
2. The teacher writes these reasons on the board. As a class, group reasons into paragraph topics and compose the final page for the book together.
3. The teacher compiles the chapters, along with the "Alf" page and binds them into book form.

4.2 Creating a Legacy

Exhibit Title: The King of the Hill

Core Connection

Fourth Grade Social Studies Standard 2: Students will understand how Utah's history has been shaped by many diverse people, events, and ideas.

Fourth Grade Language Arts Standard 8: Writing - Students write daily to communicate effectively for a variety of reasons.

Summary: Students will see many items specifically about Alf Engen at the museum. One of the most interesting exhibits is the trophy case with many of Alf's awards. The purposes of this lesson are to increase students' awareness of their own accomplishments, to introduce students to the contributions Alf made to the community, to relate Alf's philosophy about life to the numerous trophies he won, and to understand ways in which each person creates his or her own legacy. Students will write one composition before their visit to the museum and a second upon their return to school.

Teacher Background:

When visiting the "King of the Hill" display, students will see trophies of all types: spoons, boots, a watch, a baton, and even a fighter jet model, to name a few. Yet, to Alf, the most important accomplishment was not the trophies he won, but the many people he brought into the sport of skiing through his years of teaching at Alta, Utah. This lesson is centered around a world champion's belief that personal character is a person's greatest legacy.



Lesson Learning Objectives:

1. Students will use two different styles of graphic organizers to plan and compose two papers.
2. Students will increase skills in writing by following the steps in the writing process.
3. Students will evaluate their own and a partner's writing by using a rubric focusing on three of the six writing traits.
4. Students will identify personal accomplishments and evaluate why these accomplishments gave them a sense of pride.
5. Students will observe, compare, and judge which of the trophies in the "King of the Hill" display are the most unusual and/or interesting to them and predict which were possibly the most meaningful to Alf.
6. Students will understand the concept of "leaving a legacy."
7. Students will evaluate their own talents and how they could effectively use these talents to contribute to the community.

Materials: paper and pencil, copies of graphic organizers #1 and #2 for each student copies of writing rubric for each student

Approximate Time: For each composition:

15 - 20 minutes group discussion/instructions

15 minutes completing graphic organizer

30 minutes writing

Total: 60 - 65 minutes (Allow two class periods for each writing activity. Some instructional activities may require additional time if students do not have experience using the six traits of writing or evaluation rubrics.)

Instructions:

Pre-visit activity

1. As a class, discuss accomplishments that can give people a sense of pride. Write these on the board for student reference. Discuss how one feels when proud of an accomplishment.
2. Give students a few minutes to quietly think of things that have made them feel proud. Have them choose one to be the topic of their paper.
3. Explain the writing activity: Students will describe an event or accomplishment that has given them a great sense of pride. Focus will be on the following writing traits: organization of ideas, word choice and voice. (If students have not had experience using these traits, additional instruction will be needed.)
4. Explain the rubric that will be used for evaluation of the writing. (If students have not previously used rubrics to score their own writing, this will require additional instruction.)
5. Provide students with the graphic organizer as a pre-writing activity, explain and give students time to complete the organizer.
6. Give students time to write their compositions.
7. When finished, have students evaluate and score their writing by using the rubric. Collect and save to use in post-visit activity.

Post-visit activity

1. After visiting the museum, discuss with class how they would feel to have won all of the different trophies they saw in the "King of the Hill" exhibit.
2. Discuss as a class which trophy might have given Alf the greatest sense of pride and why. Ask students which trophy would give them the greatest sense of pride to win and why.

3. Discuss with students the meaning of the word, "legacy" and how the concept of "leaving a legacy" relates to each person, not just the famous.
4. Share this quote of Alf Engen with the students, either by writing on the board or preparing an overhead transparency:

"What's another gold medal? I have lots of gold medals to hang on the wall Sure, I'd like people to remember what I did in the sport of skiing, but what's more important to me is to be remembered for the person I am inside. My greatest accomplishments have come not as a world champion ski jumper, but as a teacher who helped others enjoy and love the sport of skiing."
5. Have students share their previous compositions about the accomplishment that have given them a sense of pride.
6. Discuss ways individuals can make a difference to others in the community by sharing their interests or talents.
7. Review the scoring rubric; students will use the same rubric used the pre-activity to score this writing exercise.
8. Students will organize their writing by using graphic organizer #2. This organizer helps students identify ways in which they can use their talents and interests to fill a need in the community.
9. Students will write a paragraph about each subtopic, then select one need they could fill, identify the resources they would use and the steps they would take to accomplish the task.
10. Students will write a draft of their paper, use the rubric to score the draft, trade papers with a partner, have the partner score the paper using the rubric and make suggestions for improvement.
11. Students will revise the paper, write the published copy and hand in the paper.
12. Possible publishing suggestions: Display the papers on a bulletin board under the title, "Ways to Help Our Community"; bind papers together in a class book and have students read their page of the book to the class; submit papers to a legislative representative to show how students feel they can contribute to the community.

GRAPHIC ORGANIZER #1 (Sequence)

Pre-Writing Activity: A Sense of Pride

I felt proud of myself when I _____

It all started out when _____

Setting (describe where this happened):

Describe the people involved:

How did you feel?

What happened? _____

Setting (describe where this happened):

Describe the people involved:

How did you feel?

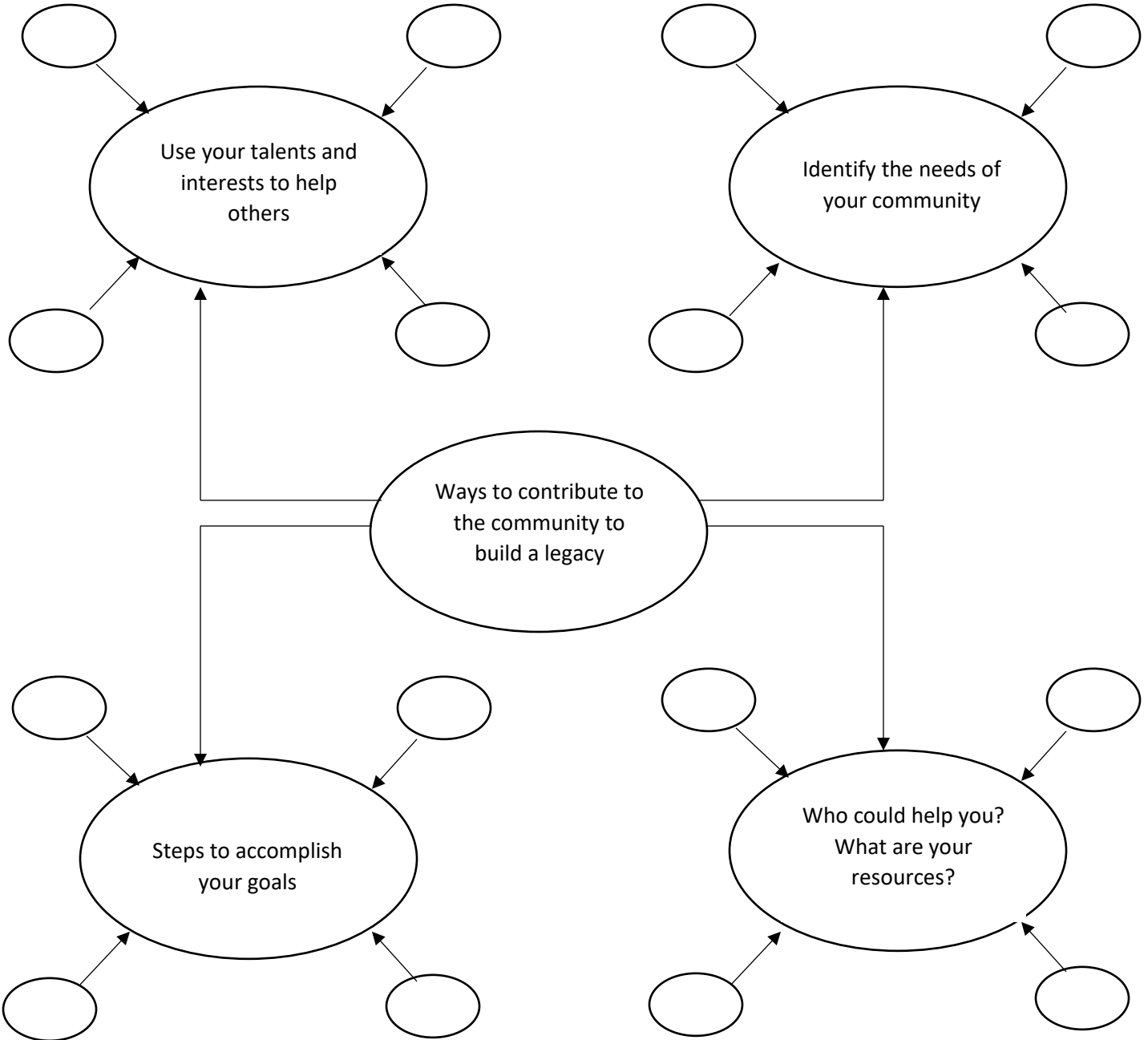
Finally, what happened to give you a sense of pride in this situation?

Setting (describe where this happened):

Describe the people involved:

How did you feel?

GRAPHIC ORGANIZER #2



Writing Traits Scoring Rubric
 Organization, Voice, and Word Choice

Student name _____

My Score _____

	5 Excellent	3 Good	1 Needs Work
Organization	Ideas are well organized and follow the theme. The reader can move through the text easily and with full understanding.	Ideas are organized, but some details don't follow the theme or main idea. The reader can move through the text with little confusion.	The writing lacks a clear sense of direction. Ideas, details, or events seem strung together in a loose or random fashion; there is no clear structure.
Voice	The writer speaks directly to the reader in a way that is individual and interesting.	The writer seems sincere but not fully involved in the writing. The result is pleasant and friendly, but the reader does not feel that he gets to know the writer as an individual.	The writer seems indifferent or distanced from the topic and/or the audience.
Word Choice	The words carry the meaning of the writer in a clear, interesting, and natural way. The writer uses a variety of good descriptive words.	The words carry the writer's meaning, though there aren't many clear and interesting words. Few descriptive words are used.	The writer struggles with a limited vocabulary and has a difficult time finding the words to carry the meaning of the text.
Score			

4.3 Evolution of Grunge and Snowboarding

Exhibit Title: Snowboarding

Core Connection

Fourth Grade Language Arts Standard 6: Vocabulary - Students learn and use grade level vocabulary to increase understanding and read fluently.

Fourth Grade Language Arts Standard 7: Comprehension - Students understand, interpret, and analyze narrative and informational grade level text.

Summary: Grunge is a term with several meanings and characteristics. It is often associated with snowboarding. On their visit to the museum, students will observe a section that shows examples of snowboarding and grunge. This lesson will introduce the definitions and history of grunge and snowboarding to the students and allow them to evaluate and apply the information to what they see in winter sports.

Lesson Learning Objectives:

1. Students will access prior knowledge of the term "Grunge."
2. Students will read a brief description of the evolution of grunge and snowboarding and write down new information.
3. Students will read the selection and analyze the purpose of the piece.
4. Students will create a picture showing what they think a snowboarder looks like dressed in grunge and compare their prediction to what they see at the museum.
5. Students will predict the future of snowboarding in Utah.

Materials: "Evolution of Grunge and Snowboarding" worksheet for each student, colored pencils or crayons

Time Approximate: 35 minutes

Instructions:

Prior to your visit

1. Inform students that when they visit the Alf Engen Ski Museum and will see a section highlighting snowboarding and grunge. Write the term "grunge" on the board and have students brainstorm what they think or know about the term. List their responses.
2. Have the students read the "Evolution of Grunge and Snowboarding" article and complete the questions on the worksheet.
3. Students will create their own short definition of grunge from what they learned in the reading. Have students compare their individual definitions with each other.
4. The students will then draw clothing that matches their definition of Grunge. Compare their pictures with other students. Collect the drawings.

Back in your classroom

1. Pass out the students' pictures of the clothing that they drew before their visit.
2. Have the students compare their pictures to what they saw at the museum. What were the likenesses and differences in the clothing, headgear, etc.?
3. Based on their reading and visit to the museum, have the students predict what they think will happen to snowboarding in Utah in the future.

THEN



Early 1970s Snowboarding Clothing

NOW



Present Day 'Grunge' Clothing

The Evolution of Grunge and Snowboarding



Grunge

Grunge has its roots in both Seattle, Washington and in the music world. It began as a combination of heavy metal and punk music during the early 1990s. This style of music soon became popular among teens. The music became known as "alternative" music. This movement soon spread across the United States and has stayed popular through the 1990s.

Grunge has also become associated with baggy and torn clothes, t-shirts with band names or sayings on them, different styles of hats, and skateboards and loud music. Some people even say Grunge has its own language. Followers of the Grunge Movement began to take their style of clothing and music to the mountains in the winter. Many of these people also took up snowboarding.

Snowboarding

Snowboarding is said to have started as early as 1929. M.J. "Jack" Burchett cut out a plank of plywood and tried to secure his feet to the wood with clothesline and horse reins. Thus, he developed one of the first "snowboards". The next big improvement in snowboards would not come until 1965.

In 1965, Sherman Poppen from Muskegon, Michigan invented "The Snurfer" as a toy for his daughter. He made the "Snurfer" by binding two skis together and putting a rope at the tips, so the rider could hold it and keep it steady. Four years later, Dimitrije Milovich started making snowboards. He came up with his idea after sliding down some hills on a cafeteria tray. His boards were a combination surfboard and skis. In 1972, Milovich started a company called "Winterstick." His kind of snowboard became known as a "Winterstick." Snowboarders today often call their boards a "Winterstick".

During the 1980s, snowboard designers began to use more ski technology as snowboards grew in popularity. New snowboard companies and magazines for snowboarders were started in the 1980s.

In 1998, snowboarding became an official Olympic winter sport in the Nagano, Japan Olympics. The popularity of snowboarding continues. In the year 2000, snowboarding was the fastest-growing sport in the United States (followed by skateboarding). Snowboarding parks are found at many ski resorts where snowboarders can practice their technical jumps and tricks.

The Evolution of Grunge and Snowboarding Worksheet

Write two facts that you have learned about grunge from this reading:

1. _____

2. _____

Write two facts that you have learned about snowboarding from this reading:

1. _____

2. _____

Why do you think that this article was written?

Write your own definition of Grunge. Limit it to two sentences.

Grunge: _____

Clothing:

When a person dressed in grunge hits the slopes, what do you think they wear?

Why do you think people wear grunge when snowboarding?

Use another sheet of paper for this part. Based on your definition, the reading, and your class discussion, draw or design grunge clothing that a snowboarder might wear. Make sure to include all the following: Snow pants, coat, gloves, and headgear. You may add anything extra to illustrate your definition.

5.0 Anytime Lessons

5.1 Utah Ski Resorts

Cart Title: From Silver Ore to White Gold

Core Connection

Fourth Grade Social Studies Standard 1: Students will understand the relationship between the physical geography in Utah and human life.

Fourth Grade Social Studies Standard 2: Students will understand how Utah's history has been shaped by many diverse people, events, and ideas.

Fourth Grade Math Standard 5: Students will interpret and organize collected data to make predictions, answer questions, and describe basic concepts of probability.

Summary: Students will determine, from the map, the location of ski resorts along the Wasatch Front and their proximity to Salt Lake City. Students will review the statistics from various Utah ski resorts to compare features of the resorts. They will choose their favorite resort, based on the information in the table and its location and provide reasons for their choice.

Lesson Learning Objectives:

1. Students will gain experience in analyzing a map and drawing conclusions about the relative locations of the various ski areas and their proximity to Salt Lake City.
2. Students will gain experience in reading a table.
3. Students will compare and contrast the features of the various ski resorts as shown on the table.
4. Students will determine which resort they feel is the best value for the options it offers.

Materials: copy of map for each student OR copy of map to use with document camera, copy of "Ski Resorts" table and accompanying worksheet for each student

Time Approximate: 55 minutes

Instructions:

1. Ask students what they think makes one ski resort more popular than another. Write student responses on board and discuss.
2. Using the map, show locations of ski resorts along the Wasatch Front and discuss the importance of location to a resort's popularity. (Proximity to a big city and airport, etc.)
3. Distribute "Ski Resorts" table to students and discuss the various categories. Why would each play a part in a consumer's choice of a resort?
4. Distribute worksheet to each student and discuss answers when completed.

Ski Resorts

Resort Name	Year Opened	Price per Day	# of Runs	Inches of Snow/year	Skiable Acres
Alta	1938	\$64	115	547	2,200
Beaver Mountain	Mid-1940s	38	30	400	664
Brian Head	Early 1960s	45	63+	400	640
Brighton	1939	58	66+	500	1,050
Canyons (Park West)	1997 1968	75	163	355	3,700
Deer Valley (Snow Park)	1980s 1946	83	99	300	2,026
Park City Mountain Resort	1963	83	107	360	3,300
Powder Mountain	1972	56	114	500	5,500
Snowbasin	1940	63	113	400	3,300
Snowbird	1971	62	85	500	2,500+
Solitude	1958	61	64+	500	1,200
Sundance (Timp Haven)	1968 Mid-1940s	45	42	300	450

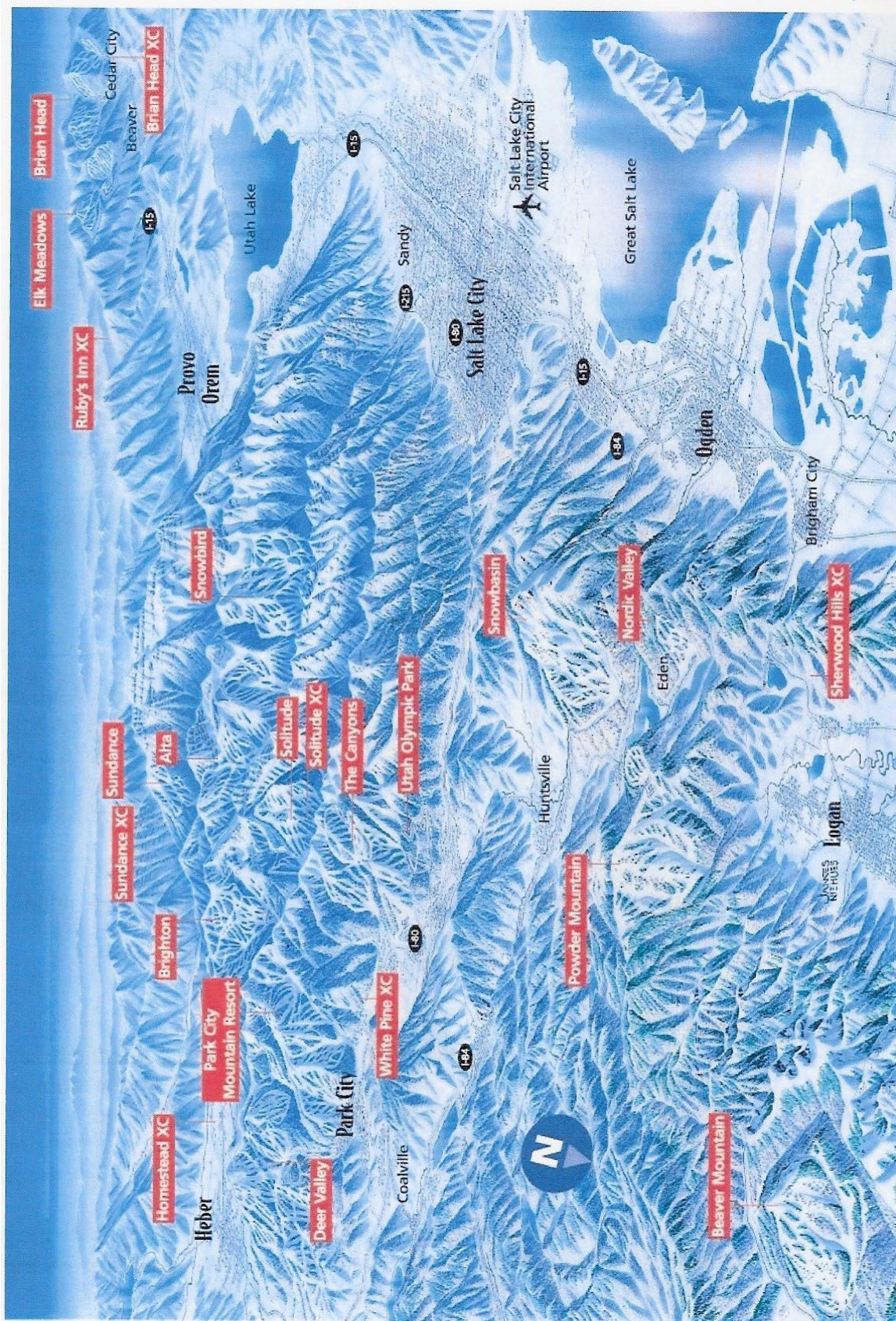
Prices 2008-2009

*The first two columns show areas that have changed ownership and/or name as well as the area's original opening year and the year the change took place.

Which Ski Resort Would You Choose?

Use the map and the "Ski Resorts" table to answer these questions.

1. What is the oldest ski resort in Utah?
2. Which two ski resorts get the least average amount of snow per year?
3. Which resort gets the most amount of snow?
4. Which resort would be best for someone who likes to ski a lot of different runs in a day?
5. Where does it cost the least amount for an adult lift ticket?
6. Which resort has the most amount of area to ski in?
7. If an adult wanted to spend less than \$60 to go skiing for a day, how many areas could he or she choose from?
8. How much would an adult spend to ski one day at Alta and one day at Snowbird?
9. How much more does a ticket at Deer Valley cost than a ticket at Powder Mountain?
10. Circle the two resorts that are located in the same canyon. (Use the map for this one!)
Alta The Canyons Snowbird Solitude
11. Which resort is closest to Cedar City, Utah?
12. Which resort would you recommend to someone visiting Utah for a ski trip? Why?



Courtesy of Ski Utah

5.2 Alpine Racing

Exhibit Title: Alpine Skiing

Core Connection

Fourth Grade Language Arts Standard 6: Vocabulary – Students learn and use grade level vocabulary to increase understanding and read fluently.

Fourth Grade Language Arts Standard 7: Comprehension – Students understand, interpret, and analyze narrative and informational grade level text.

Fourth Grade Language Arts Standard 8: Writing – Students write daily to communicate effectively for a variety of purposes and audiences.

Summary: Alpine skiing has developed into a popular sport and recreational activity. Alpine racing is especially exciting and includes five different events. Through the use of the following activities, students will understand the elements of, and the differences between, various Alpine events. Students will write a new article using the information and vocabulary they have learned in the lesson.

Lesson Learning Objectives:

1. Students will define vocabulary associated with Alpine skiing.
2. Students will read the information in this lesson and then
3. compare the similarities and differences between downhill and slalom using a Venn diagram.
4. Students will imagine either a slalom or downhill race and write a news article it, using the information from the lesson articles and appropriate vocabulary. Students should be encouraged to use descriptive adjectives and adverbs as these races are very exciting.

Materials: copy of “Alpine Ski Racing” information page for each student copy of Venn diagram for each student, writing paper

Time Approximate: 55 minutes

Instructions:

1. As a class, read and discuss the “Alpine Ski Racing” information page. Students should be encouraged to compare and contrast the various events.
2. Students complete the Venn diagram.
3. Brainstorm with class a list of descriptive adverbs and adjectives that could be used in a news article about a ski race.
4. Students choose which of the two disciplines they want to use as a basis for their news article and write a short, descriptive article about a ski race.

Alpine Ski Racing

Alpine ski racing is among the most exciting of all skiing events. It includes five men's events and five women's events: downhill, slalom, giant slalom, super-g, and combined. The rules are the same for men and women in these events, but the women's race courses are usually shorter than the men's. Alpine racing involves making fast turns through gates to get the fastest overall time down one or two runs of a race course. Today's Alpine racers wear helmets to prevent head injuries. In all Alpine events, skiers are times to one hundredth of a second. Let's learn about each of these events.

Downhill

Downhill ski racing is the fastest Alpine event and can be very dangerous. Competitors get only one run and the skier with the fastest time wins. Racers wear skintight, elastic one-piece suits with padded forearms. They carry poles that are bent to fit around the body. Downhill racers fly down the mountain at 60-80 miles per hour. Some racers have been timed at almost 100 miles per hour! A few gates are used to control speed and give direction. Racers must go between the gates or they are disqualified.

Slalom

Slalom races are the shortest race but are considered to require the most technical skill. The course is made of close together turns, or gates, formed by alternating pairs of red and blue poles. Slalom tests the racers' balance, speed, and agility as they race through breakaway poles in the competition. Today's slalom racers wear plastic "armor" on their arms, legs, and hands that protects them from injury when they hit the poles. Each racer makes one run. The course is then reset on the same slope, but with the gates in different positions. Skiers qualifying for the second run race again on the same day. The winner is the skier with the fastest combined times of the two runs.

Giant Slalom

Giant slalom (GS) races are similar to slalom races, but there are fewer gates and the courses are longer. A giant slalom racer needs to make wider turns than the slalom skier to get through the course. Because of having to go through gates, giant slalom, like slalom, is considered a technical sport.

Super-G

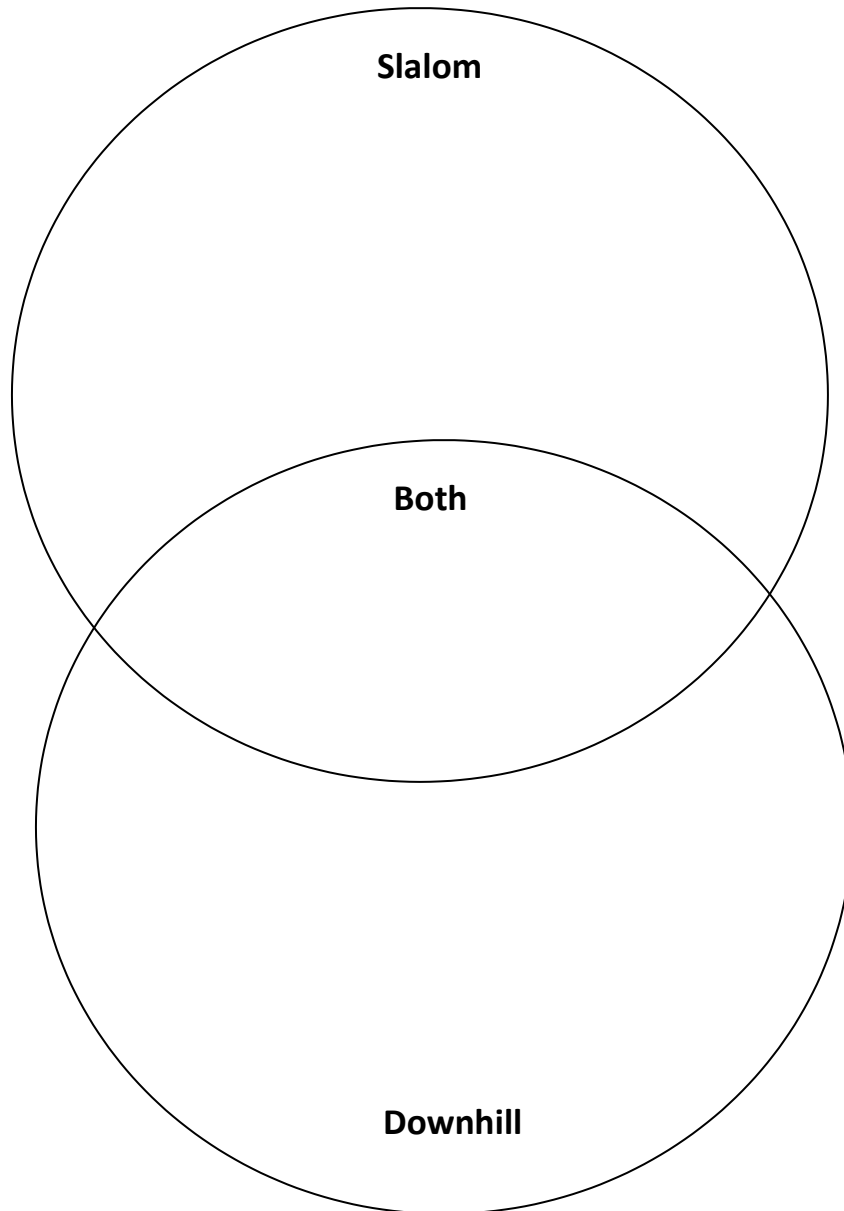
Super-G is short for super giant slalom. This race is the closest to a downhill race, though the course for super-g is shorter than the downhill course. The skier with the fastest time in one run is the winner.

Combined

Combined events include one downhill run followed by two slalom runs on a single day. All of a racer's times are added together and the fastest total time determines the winner. The downhill and slalom races in a combined competition are run on different, shorter courses than the regular downhill and slalom races.

Comparing Downhill and Slalom Racing

Directions: Compare and contrast downhill and slalom ski racing on the Venn diagram. In the area marked "Both," list the ways these two events are alike. Keep in mind the race courses, speed, style, and equipment.



5.3 Location, Location, Location

Cart Title: Water Cycle

Core Connection

Fourth Grade Science Standard 2: Students will understand that the elements of weather can be observed, measured, and recorded to make predictions and determine simple weather patterns.

Summary: Students will use a graph and actual data to help compare the amount of precipitation at the Salt Lake International Airport versus Alta Ski Resort.

Lesson Learning Objectives:

1. Students will compare the different amounts of precipitation at two locations.
2. Students will interpret weather data and hypothesize why the two areas have different total amounts of precipitation.

Materials: Precipitation graph, crayons or colored pencils

Time Approximate: 30 minutes

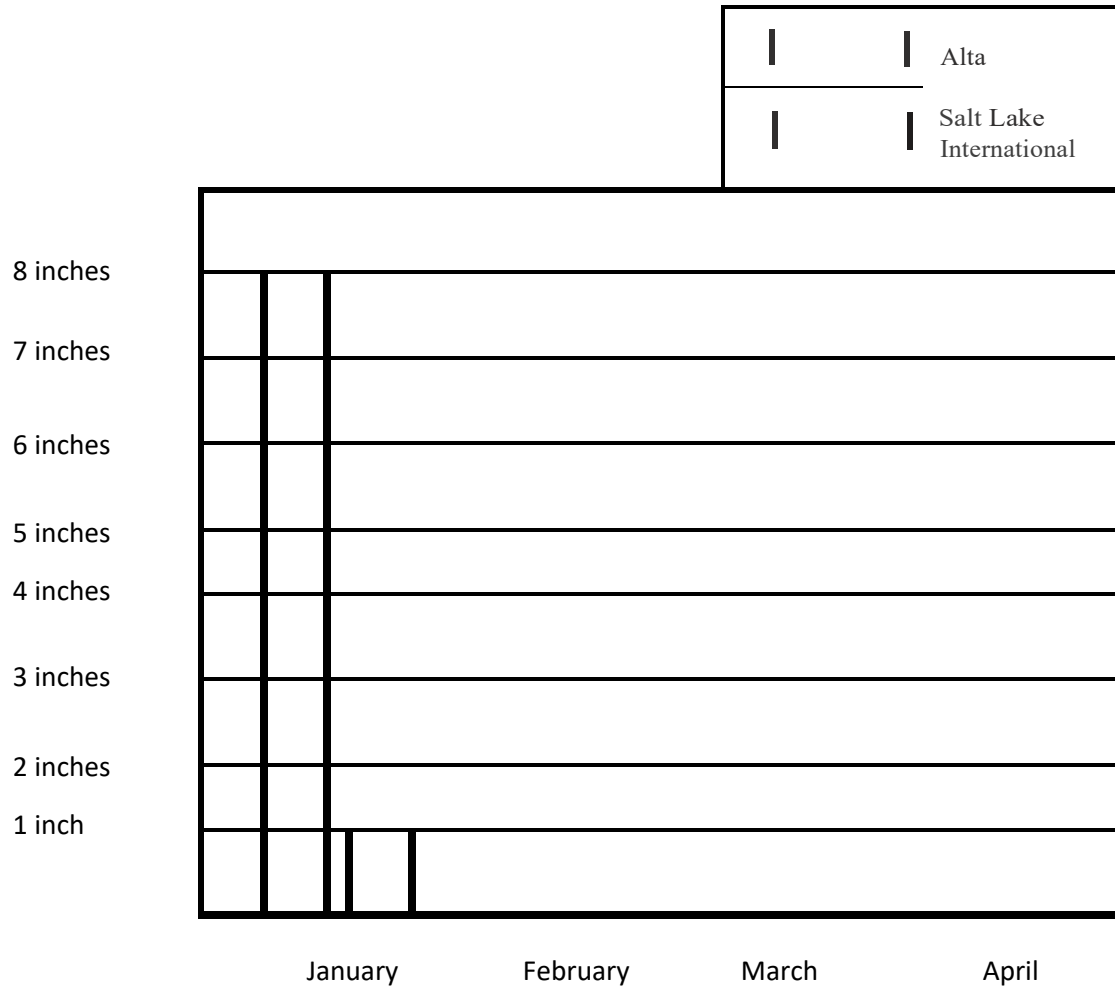
Instructions:

1. Have students color the key at top of graph page and complete the graph page.
2. Discuss the following with class:
3. What are some possible reasons these two locations have different amounts of total precipitation?
4. In which month do you find the greatest difference between the two locations?
5. Based on your graph, can you predict what the precipitation for both locations will be in January of next year? Why or why not?

Extensions:

Have students measure precipitation at their homes over the period of three to four weeks. They will bring this information back to the classroom to use in making a cumulative chart. Are there differences in the amounts of precipitation the students' records? Are these differences due to the same factors that cause the differences between precipitation totals at the airport and Alta? Have students research other resorts to find out what their precipitation total is for a specific time period and compare their findings with the totals at the Salt Lake International Airport and Alta Ski Resort. Make a graph or chart showing the differences in precipitation between the different resorts.

PRECIPITATION GRAPH



Make a bar graph for the data listed below using different colors for each location. Complete the legend.

Data: The amount of water for each location.

Alta	January	8 inches
	February	7 inches
	March	7 inches
	April	5 inches

SLC Airport	January	1 inch
	February	1 inch
	March	2 inches
	April	2 inches

5.4 Be A Weather Forecaster

Exhibit Title: KSL Weather Display

Core Connection

Fourth Grade Science Standard 2: Students will understand that the elements of weather can be observed, measured, and recorded to make predictions and determine simple weather patterns.

Fourth Grand Language Arts Standard 8: Writing - Students write daily to communicate effectively for a variety of purposes and audiences.

Summary: Students will observe and record their local weather for a week and predict the weather for the day of the field trip to the Alf Engen Ski Museum.

Lesson Learning Objectives:

1. Students will learn to use appropriate instruments to measure temperature and barometric pressure daily.
2. Students will record observations on a chart.
3. Students will interpret and evaluate results of observations.
4. Students will make predictions based on collected data.

Materials: "Weather Instruments" worksheet, daily weather chart

Time Approximate: 5 - 15 minutes per day

Instructions:

1. Note to the teacher: Review and discuss with the students the various types of weather instruments. Tell the students that they will be using instruments to predict the weather for the field trip.
2. Have the students observe the weather conditions over a one- or two-week period and record the information on the chart provided.
3. Review the information recorded from the previous week or two and predict what the weather might be on the day of the field trip. Explain reasons for prediction.
4. After your visit to the museum, compare the students' forecasts with the actual weather on the day of the field trip. Have students write a paragraph describing the similarities and differences between the two.

Weather Instruments

Below are four weather instruments that are used to gather information for weather forecasters. These are just a few of the instruments that forecasters use in their work.



Anemometer: A device used for measuring how fast the wind is blowing. This instrument can tell you the direction from which the wind is blowing.



Barometer: An instrument for measuring the pressure of the air in the atmosphere. High pressure means great weather, while low pressure is a sign of rain. Very low pressure indicates an approaching storm.



Rain Gauge: A tool used for catching and measuring rain or snow. A rain gauge like this one is usually placed in the ground outside, in an open area where it can easily catch rain.



Thermometer: An instrument used for measuring the temperature of the air. There are two scales for measuring air temperature - they are Celsius and Fahrenheit. Air temperature is affected by wind and the amount of sun shining.

5.5 Walter Molecule Introduces the Water Cycle

Cart Title: Water Cycle

Core Connection

Fourth Grade Science Standard I: Students will understand that water changes state as it moves through the water cycle.

Objective 1: Describe the relationship between heat energy, evaporation and condensation of water on Earth.

Objective 2: Describe the water cycle.

Summary: Cart Four at the Museum focuses on the water cycle and presents the lesson through an animated computer program and a three-dimensional cut away model. The computer program follows the adventures of Walter Molecule as he changes from one form of water to another.

Lesson Learning Objectives:

1. Students will explain the water cycle as depicted in the program.
2. Students will describe the effects of sun and temperature on the process.

Materials: paper/pencil

Instructions:

1. After returning to the classroom, divide students into groups representing each phase of the water cycle and pictorially explain the process.
2. Bring the class back together and have them place the processes in the correct order and explain what their phase does as well as the effects of the sun and water on the process.

Time Approximate: 50 minutes

Extension: Select one or more of the extension activities that follow.

Weather/Water Cycle Extension Activities

1. Write your own story

Students are to create a story about the water cycle. They should identify a main "character" and have this character travel. Students should then work together to edit and finalize their stories.

Using a variety of art supplies students should create a picture depicting a part of the story.

2. Create a class mural

Make a water mural that depicts the many ways in which the water cycle affects our everyday life. Be sure to include examples from your own neighborhood and community. Students may cut out pictures from magazines or draw their own.

3. "3 Ps" for surface tension

You will need a penny, petri dish, pepper, toothpick, drop of dishwashing liquid, and water. Fill the petri dish nearly full of water. Sprinkle some pepper on the surface of the water. Make a note about what you are observing. Write a hypothesis, an 'if - then' statement, to predict what will happen if you touch the surface of the water with a toothpick that has been dipped in detergent.

How do your findings compare with your hypothesis?

4. Surface and ground water model

You will need a large jar or small aquarium, plastic straw, sand and gravel mix, small pebbles, plastic trees and plants, and water.

Position the gravel in the jar or aquarium at about a 45-degree angle. Slowly add water until it covers about half of the gravel slope. Place the pebbles and plants on the dry half to simulate land. Students should observe that some water is visible (surface water) and some water is only visible through the glass sides of the container (ground water). Use a piece of plastic straw to "drill" a well into the gravel to the water table. Write a hypothesis, an 'if - then' statement to predict what will happen to the ground water if more water is added to the visible pool. Observe. How do your findings compare with your hypothesis? Write a hypothesis, an 'if - then' statement to predict what will happen to the water if more water is added to the dry portion of the gravel.

Observe. How do your findings compare with your hypothesis?

6.0 Additional Reading

Utah's Changing Use of Natural Resources

Utah is rich in many natural resources. People have used these resources for hundreds of years. Some resources are in great demand while others are somewhat forgotten. The importance placed on natural resources changes depending on the needs of the people. For example, do you remember a game you liked to play or something that you enjoyed collecting when you were young? Is it still as important to you today? Old toys have been replaced by games and things you now like better. Changing needs require different resources.

Each group of people living along the mountains of the Wasatch Front have sought different natural resources to meet their needs of income, housing, and food.

Read the following section to identify the needs and wants of people who have used the resources of the Wasatch Front and how those needs have changed.

Early Native Americans who lived along the Wasatch Front valued the natural resources of local plants and animals needed for food, shelter, and clothing. Mountain men prized the beautiful furs that made trapping popular in the mountains long before Utah was a state.

When the Mormon pioneers arrived in the Salt Lake Valley in 1847, they looked to the valley as land where they could settle and grow crops. To them the surrounding mountains provided a water source, safety from their enemies, a route to a new home, and a place for summer picnics.

After the Mormons arrived, the United States government sent military troops to the Salt Lake Valley. To the men stationed at Fort Douglas, the mountains offered the dream of riches. Many began mining for natural resources such as precious metals. The soldiers' success encouraged thousands of people to move to this area hoping to strike it rich. After a few years, the mining industry brought in less and less money as the natural resources became scarce or too expensive to harvest. People moved away and many of the canyon communities became ghost towns. A few hardy souls stayed. They needed a home and enjoyed mountain living.

Aside from being a major source of water in the valleys, the snow on the mountains became a key natural resource for recreation. Soon recreational skiing became a popular activity for people in northern Utah. Ski resorts developed throughout the Wasatch Front. Utah's climate made it possible to train during the winter and the summer. Utah resorts grew to include Olympic training facilities and ski/snowboard runs. To attract athletes from all over the world, Utah also sponsored major ski competitions.

Student Activities: Utah's Changing Use of Natural Resources

Who has used the resources of the Wasatch Front?

Assign Reading #1

Ask students to list all the people in the reading whose needs were met by Utah's natural resources.

What did each group need?

Use the above list and write the needs and wants of each group of people.

How did the use of resources change?

Ask students to create a timeline using a note card for each group of people listing in the reading. On each note card list the approximate time period, the valued resources and the groups of people who value the resource. Place the note cards in chronological order.

Discuss the ways in which needs and wants change.

What resources do you value?

Encourage a discussion of supply and demand. Ask students to write down products and possessions that they have valued over time. List the products and discuss how trends encourage young people to purchase and value similar items.

You may wish to graph student possession trends.

Predicting the Future

Is it possible to predict the future? Economists attempt to predict future trends and needs. Their predictions affect many areas of everyday life, from futures trading on the stock market, to the types of cars and clothing sold each year.

After a student discussion of the reading, ask students to make predictions as to how the resources of the Wasatch Mountains might be used in the future. How might the ski resorts change? What future effects might result from the 2002 Olympic Winter Games? What resources might have the most value in the future? Students may wish to write a news article describing their predictions.