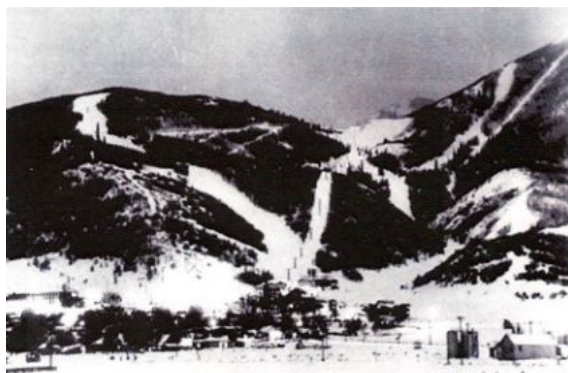


2.0 Utah, This is the Place!

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.



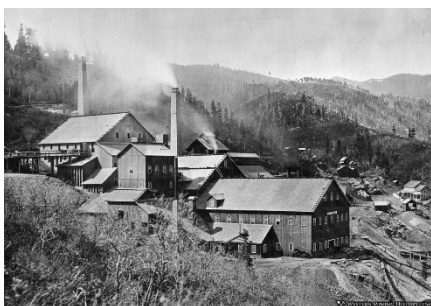
Jumper in 'V' position

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**.

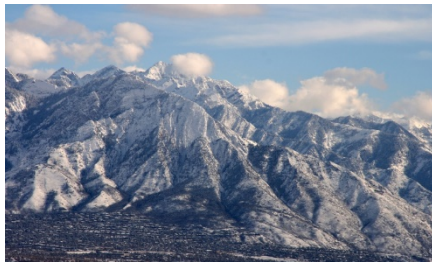


Alf Engen performing a *gelandesprung*,
1946

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.



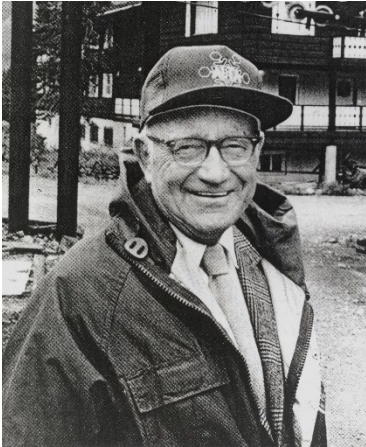
Alf Engen receiving the American Ski Trophy

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.