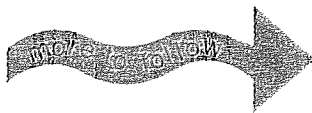


Background Information

On Thursday, September 19, 1991, two hikers in the Alps made a remarkable discovery. Erika and Helmut Simon had been hiking on the border between Italy and Austria. When they roamed off the traditional path, they discovered a small head and shoulders emerging from the ice. At first, they thought it was a doll. But when they noticed a small hole in the back of the neck, they knew it was a human. They wondered if this man had just made his way off the path and froze to death in a storm or if someone had suddenly murdered him from behind.

When they hiked down the mountain, they reported what they had seen to Italian police. The police inspected the site and assumed that it was a recent hiker killed in an accident. The following day, the Austrian police arrived with helicopters and tried to use a jackhammer to dig out the body, which was deeply entrenched in the ice. In the process, they tore the clothes on this person. When their jackhammer ran out of power, they left the scene. In the meantime, the word spread about this body. Hikers and officials made their way to the site and tried to free the body using ski poles and pick axes. One digger found a stick in the ice and used it to try and free the body. He did not know that it belonged to the body stuck there. Other tools were found, including an axe with a metal blade, a stone knife with a wooden handle, a huge bow, and clothes.

A scientist named Dr. Henn was flown to the scene to inspect the body. As he studied the body, he noted that the skin was not waxy, as would be the case with someone who had recently died. Instead, the body appeared to be much like a mummy with dry, yellow skin. It did not take long for him to understand that this was an ancient corpse. Over the past 70 years, the weather had turned considerably warmer, which in turn has caused the glaciers in the Alps to melt. Earlier that spring, clouds of dust from a storm in the Sahara Desert settled on the snow covered mountains. This dust absorbed the heat from the sun and melted the snow around the area where the body was found.

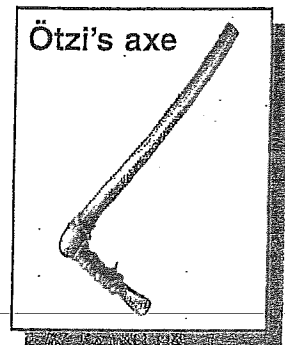


Background Information *(cont.)*

Although he knew it would be best if an archaeologist could inspect the area, he decided to remove the body immediately instead of leaving it there to be damaged by other onlookers. The body was taken to a nearby village and then placed in a coffin. The body was placed in a morgue where it began to grow mold and fungus. The people named the body Ötzi (UTT-zee) because he died near a valley named Ötztal.

Finally, an archaeologist named Dr. Konrad Spindler arrived to examine Ötzi. He sprayed the body with a chemical that killed the mold and placed the body in a freezer. Dr. Spindler inspected the body, but he also looked at the tools found with the body. He was particularly interested in Ötzi's axe. It had a metal blade that he thought to be bronze. Based on Ötzi's axe, he believed that the body was about 4,000 years old, since bronze first came into use then. Dr. Spindler knew that Ötzi was a magnificent discovery. It was the oldest mummy ever found!

The axe blade was tested, and something even more amazing was found out. Instead of being bronze, it proved to be pure copper. Copper was a metal used by blacksmiths 2,000 years before bronze. Ötzi belonged to the Copper Age and was somewhere between 5,000 and 5,500 years old.



The first metal that prehistoric man used was copper. They found it in rocks, and it was in the rocks at the base where Ötzi was found. Back then, they built underground fires to extract the copper from the rocks. They placed the rocks in these fires and used hollowed-out sticks to blow into the fires. The copper melted and separated from the rock when the temperature reached 2,000 degrees Fahrenheit. The melted copper was then poured into molds. When it hardened, it was used to make tools.



Background Information *(cont.)*

Archaeologists had already discovered Copper Age villages across the middle part of Europe. They knew that the people there lived in wood-and-mud houses that were built on stilts along the muddy shores of the lakes. These people had carts with wheels and farmed barley, peas, and flax using plows. Besides farming, they hunted and fished for their other food. Animals like pigs, sheep, goats, cattle, and dogs were raised on their farms. They used the barley to make bread and made butter from the milk their cows produced. They were also traders who bartered limestone jewelry for spices like parsley and peppermint.

Although archaeologists knew how these people lived, they did not know what they looked like until Ötzi was found. His bones told them that he was a short man, about five feet two inches tall. He had a bow that was six feet tall. To string and use a bow this large made it clear that although he was short, he was very strong. When Ötzi was found, his hair had not been preserved, but hairs were found in his clothes. These hairs were curly and brown and had been evenly snipped. Based on this evidence, scientists knew he had curly brown hair and that he had just received a haircut before he died. Ötzi also had some mysterious tattoos on his body. One was on his ankle, another was on his kneecap, and another was on his lower back near his spine. Because these were in places that would have been hidden by his clothing, scientists knew they were not for decoration. Some have thought they were religious symbols or some sort of superstitious belief used to ward off pain.

His teeth showed wear, which showed that he ate grains probably made into bread. Inside his stomach scientists found pollen. Scientists believe pollen had settled on his food and water before he ate it. This particular pollen is found on trees in the Alps near where Ötzi was found. Scientists were also able to reconstruct what Ötzi ate as his last meal, just eight hours before his death: traces of wheat bread, a green herb or vegetable, and meat, were found in his colon. He was about 45 years old, which was very old for people of that time.



Background Information *(cont.)*

The clothes on Ötzi's body also tell a lot about the people back then. Much of his clothing was destroyed when he was dug out from the ice, but enough was left for scientists to examine and draw conclusions. Scientists believe that he wore leather pants along with a jacket made from animal hides. His clothing was stitched together using grass thread. Tied around his neck was a braided grass cape, which looked much like a Hawaiian grass skirt. He might have also worn a fur cap. On his feet were soft leather shoes stuffed with hay to keep his feet warm. A strange leather string with fringes connected to a small white stone disk was found near his body, which leads scientists to believe he could have worn a necklace.

Ötzi also bore a heavy backpack with a wood frame. It was so deteriorated that scientists cannot tell what he carried inside the pack. But they did find a soft leather pouch around his waist with its contents still inside. He carried around two pieces of flint, a four-inch stick that looked like a fat pencil with a pointed edge, a grass string, and a needle-pointed awl.

Near his body lay frozen berries, antelope meat, and two mushrooms strung on a piece of leather. These may have been his snacks. But the mushrooms were known as a type of medicine that fought sickness, so he could have been ill. He had a flint-blade knife inside a grass sheath, which could have been used for cutting up small animals or leather. There were also two strips of felt, which could have been used to start fires. A birch-bark container was used to carry the pieces of felt. Ötzi had a brand new bow that had not even been strung and a dozen arrows, but only two of the arrows were complete with flint tips and feathers.

The question that everyone is asking is, "How did he die?" Theories about Ötzi's death have abounded since he was discovered. At first, scientists believed he was in the mountains with his flock of sheep and he just froze to death. Some thought that he was a hunter caught in a storm and then froze. Some even wondered if he had hurt his arm and could not get to safety. But in 2002, a flint-tipped arrow was discovered in his shoulder just one inch from his lungs. The arrow had entered his body through his back. Based on this new information, some scientists believe he could have died of the wound. If he did die of this wound, who shot him, and why did they shoot him? Even with all the modern technology today, this may never be known for sure. One thing is for sure: there will be more scenarios and theories as scientists continue to study his body.

Death Theory #1: Hypothermia

- * His body was so well preserved that most scientists think that he froze quickly after his death. The cold turned his body into a mummy with yellow, leathery skin.
- * Because the weather can change rapidly in the Alps, some scientists believe that Ötzi could have died of hypothermia. Hypothermia occurs when the body temperature drops significantly. In other words, many think that Ötzi froze to death.
- * Many claim that it is easy to become disoriented in the Alps. Could Ötzi have lost his way and died of hypothermia?
- * Ötzi's muscle tissue was badly decomposed, as was the outer layer of his skin. This can happen when a body is submerged in very cold water. Did Ötzi fall through thin ice into water and was not able to escape?
- * When suffering from hypothermia, sometimes a warm sensation can overcome a person's body. Ötzi was found without his clothes on. Did he remove his clothing as he felt this warming sensation of hypothermia?
- * The hole in the back of the head probably came from a pecking bird.

Directions: Based on this evidence, in the space below, create a scenario about the day that Ötzi died.

Death Theory #2: Robbery

- * Many villagers back then were shepherds. Was Ötzi a shepherd, too? Ötzi had on a cloak and leggings that would have kept him warm in the Alps as he was moving his flock.
- * During that time of year, it was common for shepherds to move their flock to pastures in the Alps. Was Ötzi in the mountains at the time with his flock?
- * Ötzi had pollen in his stomach. This pollen is found in the spring on trees where shepherds commonly led their flocks. Was Ötzi leading sheep through that pass?
- * A one-inch arrowhead made from flint was found in the iceman's left shoulder. The arrowhead tore through the nerves and the blood vessels, shattering his shoulder blade and paralyzing his left arm. There are signs of heavy internal bleeding. Medical examiners have determined that the iceman died probably three hours after he was shot with the arrow and that his death was probably very painful.
- * The robbers saw his flock and wanted it for their own profit. When Ötzi saw the men coming after him, he ran away. Did the robbers pursue him and shoot him in the back with an arrow, kill him, and then take his sheep?

Directions: Based on this evidence, in the space below, create a scenario about the day that Ötzi died.

Death Theory #3: Assassination

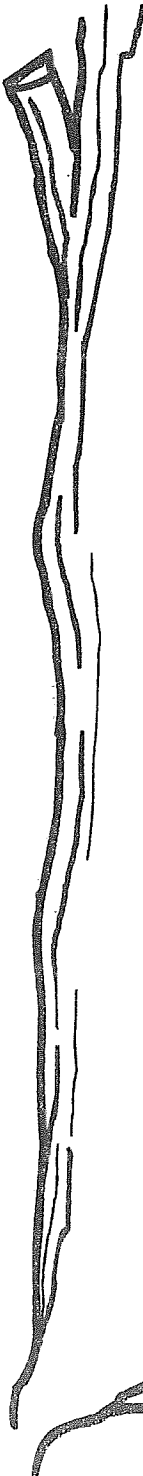
- * Ötzi's joints had very little deterioration, which means he probably did not perform many physical tasks. What kind of job did Ötzi have? Was Ötzi a community or religious leader?
- * Ötzi could have been assassinated in a power-play conflict. He did not suspect the arrow that came from behind. Did some of the village people not like his politics or religious service to the community? Maybe one of his followers had a disagreement with him and murdered him.
- * Ötzi also had some mushrooms known for their medicinal value. Was he a medicine man, like a shaman (religious leader), who used his powers to heal people?
- * Ötzi had mysterious tattoos on his body. Did these markings have religious significance? Was he a shaman or religious leader?
- * Copper axes were valuable and a sign of power. Some say that only a leader would own an axe like this one.

Directions: Based on this evidence, in the space below, create a scenario about the day that Ötzi die

Death Theory #4: Ritual Sacrifice

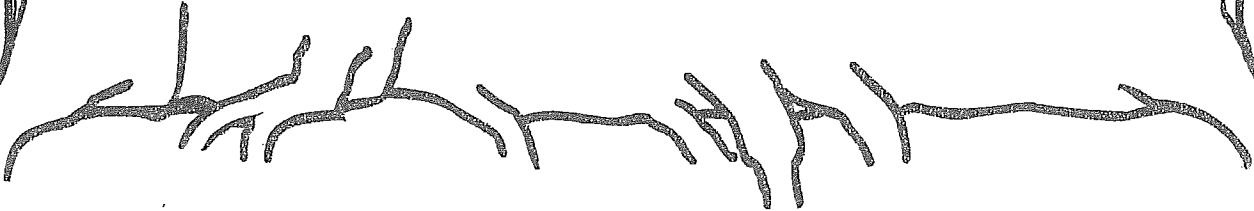
- * Ötzi's arrows in his quiver were broken. Societies back then were known for breaking items in ritual ceremonies. Were his arrows broken in a ritual killing?
- * Ötzi had a very valuable item left with him: his axe. Why was it not stolen? Could it have been placed with his body during a ritual killing? Was it a gift to serve him in the afterlife? Ötzi's possessions were carefully arranged on a nearby ledge. Were these arranged as a part of a ritual killing?
- * The tattoos could have been placed on his body to prepare it for sacrifice. Was he the sacrifice of the community to appease the gods?
- * Ötzi's body was found at a summit, a place with beautiful landscape. Landscape has always had a part in ritual sacrifices. Was it a coincidence that Ötzi was at that particular point on the mountain?
- * Ötzi had on twine-and-grass shoes, which were not practical for hiking in the mountains. He was carried there.

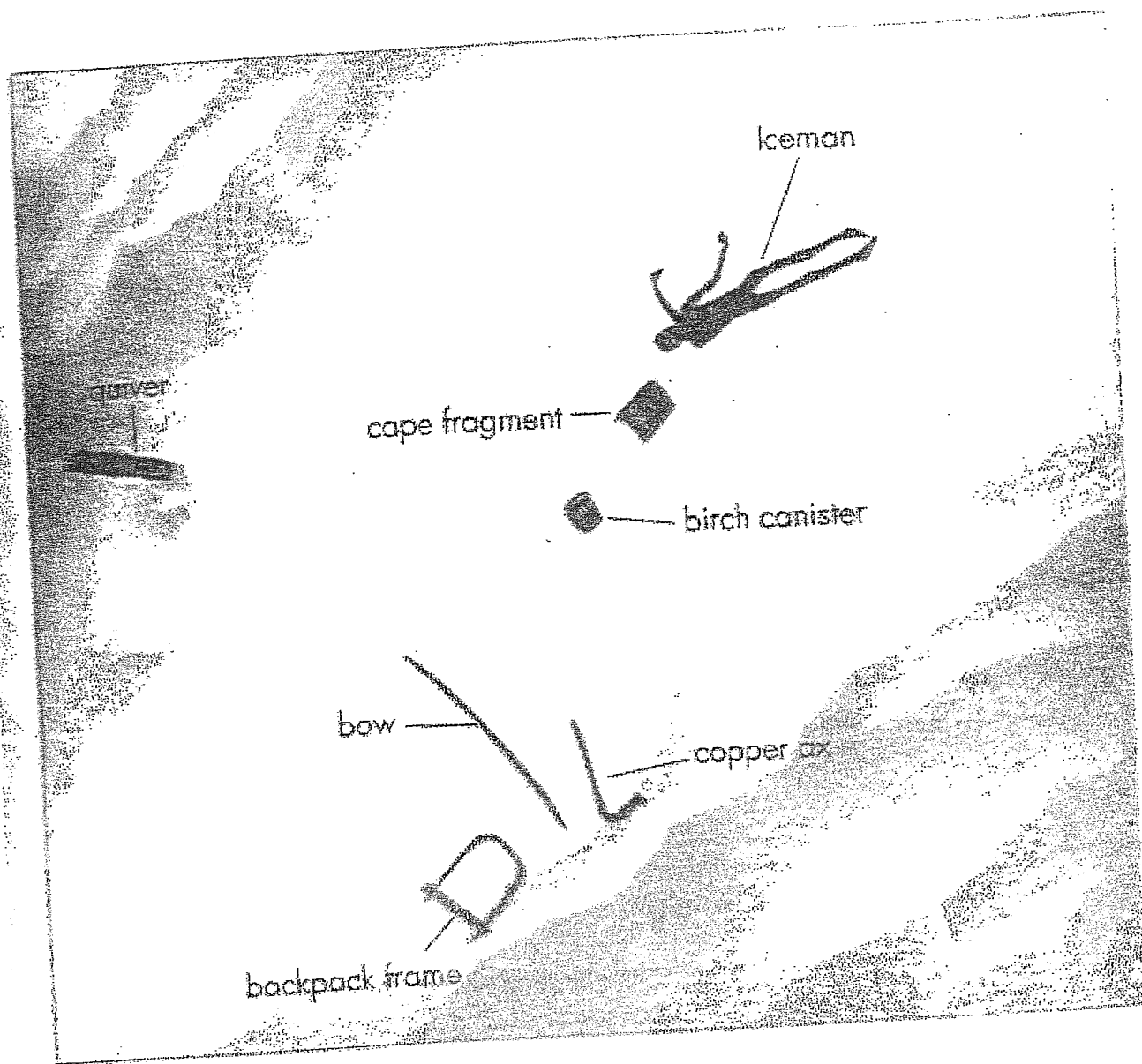
Directions: Based on this evidence, in the space below, create a scenario about the day that Ötzi died.



Items Found at the Scene

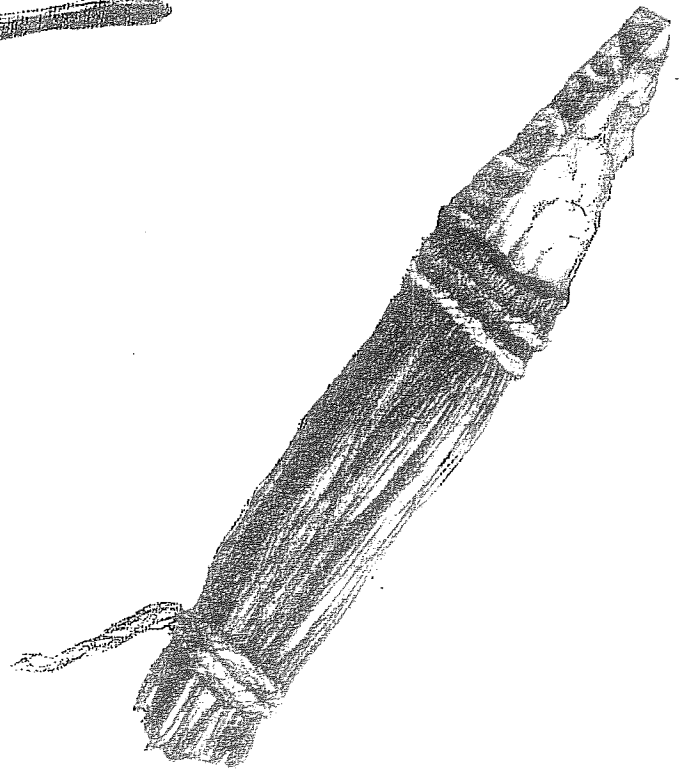
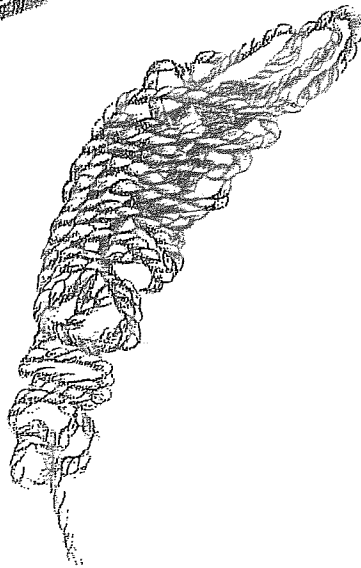
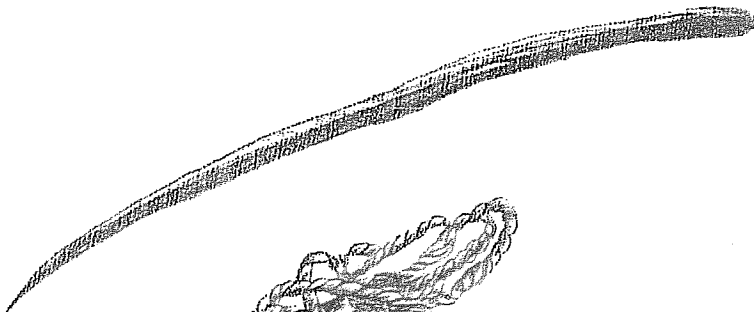
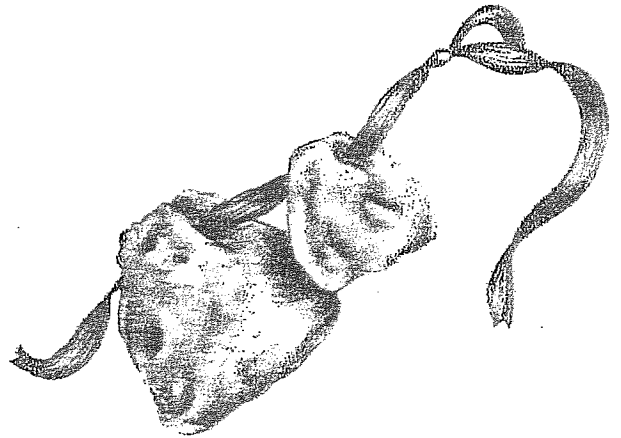
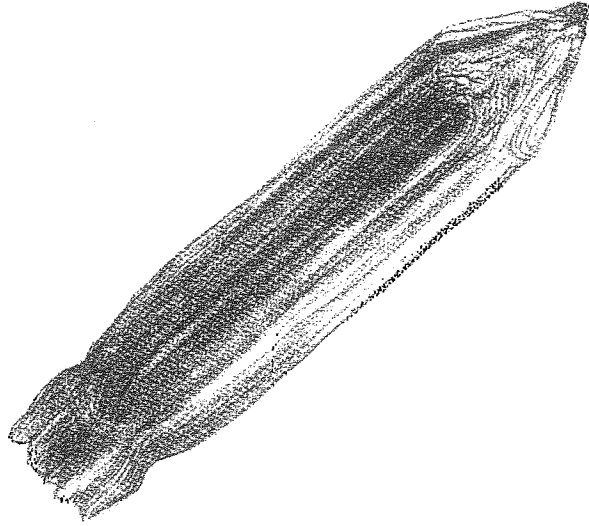


- * bits of leather, fur, and fiber
 - * 1 cap
 - * 1 shoe
 - * 1 bow that is not finished
 - * 1 quiver with 2 finished arrows and 12 not finished
 - * 1 axe with a copper blade
 - * 1 wooden backpack frame
 - * 2 birch-bark containers
 - * 1 flint dagger inside of a woven scabbard
 - * a pouch worn around the waist containing 2 pieces of flint,
1 four-inch-long wooden stick that looked like a fat pencil
with a tip made from a deer antler, grass string, and a needle
made from bone
 - * 1 leather tassel with a marble bead
 - * bits of fiber that resemble a net
 - * berries and pieces of antelope meat
 - * mushrooms threaded onto a leather strip
- 



Pictures at the Scene

Directions: The pictures you took at the scene have been printed below. What are these items? W with your team to try to label the items below.



Pictures at the Scene *(cont.)*

