One of the favorite activities for students in the Native Voices Gallery at the Natural History Museum of Utah is the language station. Here students get a chance to listen to familiar words in the Native languages of Utah. This lesson will help students understand how language can show how tribes are related, and how important it is for people to maintain the languages.

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>6th-12th Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Length</td>
<td>2 class periods of 30-45 minutes 1 class period of sharing time</td>
</tr>
<tr>
<td>Materials</td>
<td>Device to watch PBS, YouTube  Copy of outline of Utah and <em>The Code Couldn't Be Broken</em> article</td>
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</table>

**UT Standard 1.5:**
Students will describe the cultural change and continuity of at least one of Utah’s current sovereign nations as it has responded to changing political, social, and economic forces. Students will use a variety of resources that may include written primary and secondary sources, oral histories, photographs, artifacts, and art. (economics, civics)

**UT Standard 3.2:**
Students will use primary sources and/or oral histories to analyze the impact of a national/global event such as World War I, the Spanish flu epidemic, the Great Depression, World War II, and Japanese American internment on an individual or community in Utah. (history)

**UT Standard 4.4:**
Students will use data and other evidence related to a cultural, ethnic, or religious group in Utah to interpret the group's historic/current conditions and experiences. (history, geography)
Have you ever heard someone speak in a movie, and although you know that they were speaking English, you had a hard time understanding them? Often, the sounds of the words are slightly different, or they use terms that you don’t use, like using the word *boot* for the part of a car you would call *trunk*. Still, there are enough similarities that you know that you speak the same language and you can mostly understand them.

Sometimes languages are different, but enough alike that it is easy to see how they are related. Perhaps in the past, the people spoke the same language, and time and distance have caused the languages to diverge. Modern German and English are two such languages. Both were once a dialect of an earlier German language, and because of this they have many similarities. Here are two questions, the first in English and the second in German. Can you see the relationship?

**Where is that – Wo ist das**

Before DNA testing became available, scientists used the similarities or differences between languages to try to determine how people migrated throughout the world. Today, there are five Native American tribes that live in Utah, and four of them speak Native languages that fall into the *Uto-Aztecan* category. These are the Shoshone, the Goshute, the Paiute, and the Ute tribes. Why do you think this category of language is called Uto-Aztecan? Look up Uto-Aztecan to see if your idea was correct.

The Navajo language, which is spoken by an estimated 170,00 people, speak a language that is in the category *Athabaskan*. It is believed that Athabaskan language originated in the far north eastern part of the North American continent, in what is now Canada and Alaska. What do you think that this might mean about the Navajo people?
What Languages do the Native People of Utah speak?

Different bands of four of the five tribes in Utah speak Uto-Aztecan Languages. Where do you think that the "Uto" part of that language name came from? Where do you think the "Aztecan" part came from? From this name, what part of the world do you think you will find speakers of these languages? Check online to see if you were right.

One branch of the Uto-Aztecan Language is the Numic branch. There are three sub-branches of Numic Languages, Central, Southern, and Western Numic Languages. Linguists (people who study language) have put them into separate groups because over time the languages, which likely started from a single language, have changed enough that they aren't able to understand each other even if they have similarities.

SHOSHONE AND GOSHUTE
The Northwestern Shoshone people and the two Goshute Tribes (The Skull Valley Goshute and the Confederated Tribes of the Goshute) of Utah speak different dialects of the Central Numic language called Shoshone. They understand each other but there may be differences in the way words are pronounced. There are around 2,000 people who speak this language.

UTE AND PAUITE
The Ute Tribe, the White Mesa Community of the Ute Mountain Tribe, the San Juan Southern Paiute Tribe, and the Paiute Tribe of Utah speak a variation of the Southern Numic Language called the Colorado River Numic. There are around 2,000 people who speak this language.

NAVAJO
The fifth tribe that lives in Utah is the Navajo Tribe. The Navajo people speak a Southern Athabaskan Language. Most Athabaskan language speakers are in the far northern part of the North American continent, covering much of Alaska and a large part of western Canada. Knowing this, what does this tell you about where the Navajo people probably originated?
Navajo has an estimated 170,000 speakers. It is the most widely spoken Native American language north of the United States/Mexico border.
Research online the approximate locations where the five Utah Native tribes live. Remember, some of them have more than one federally recognized band that may live in different areas. Color code them by the language that they speak. Don’t forget to make a map key.
Native Languages Activity

Read the following article, written by Bryan Brown for Junior Scholastic Magazine. As you read it, keep these questions in mind:

Why were the Code Talkers so successful?

Why did it take so long to acknowledge the Code Talkers' contribution to the war effort?

Did you learn anything new or surprising in this article?

Can you think of reasons that it is vital for people to maintain their native languages?
The Code That Couldn’t Be Broken

During World War II, a group of young Navajo men created an unbreakable code that helped the United States defeat Japan and win the war in the Pacific

JANUARY 29, 2018

By Bryan Brown
For 12 years, Sam Sandoval was forbidden to speak his own language. Like many generations of Navajo, he was sent away from his home in New Mexico to a boarding school as a child. He was forced to give up much of his native culture and speak only in English. Sandoval and his friends "used to sneak away and talk Navajo," he says.

Then, on December 7, 1941, Japanese planes attacked the U.S. naval base at Pearl Harbor, Hawaii. The attack killed more than 2,400 Americans. It sent the U.S. into World War II (1939-1945) against Japan and its allies. After Pearl Harbor, Sandoval, like millions of other Americans, signed up to defend his country. He joined the Marines at age 19.

But he would not be an ordinary soldier. To his surprise, the Marines picked him for an experiment. They asked him to help create and use a secret code. It would be based on the Navajo language. Sandoval would become part of a celebrated group of about 400 Navajos known as the code talkers. Their unbroken code helped the U.S. win key battles in the Pacific Ocean (see map, below) and win the war against Japan.

A Code Talker Tells His Story

https://youtu.be/ciFv_ONfwd

A video about the Navajo code talkers

A Complex Language

The U.S. faced huge problems when it entered World War II in December 1941. The Pearl Harbor attack had badly damaged the Navy's fleet of ships in the Pacific Ocean. By the spring of 1942, the powerful Japanese military controlled much of the Pacific. It was threatening Australia, an American ally. And it was moving closer to the U.S. itself.

For the U.S. and its allies, winning the Pacific would be a huge job. Communication was one of the biggest challenges. To send battle plans and control troop movements over thousands of miles of ocean, Marines had to talk by radio. They did that in code so the enemy could not understand. But the Japanese were expert at deciphering codes. They seemed to predict the Americans' every move.
Navajos were asked to use their once-forbidden language to defend the U.S.

In Los Angeles, California, a man named Philip Johnston thought of a solution. He was the son of Christian missionaries who had worked with the Navajo. He had grown up on the tribe’s reservation, a huge 27,000-square-mile area in New Mexico, Arizona, and Utah. Johnston knew how complex the Navajo language was. There was no written version, and few non-natives could understand it. Johnston contacted Marine officers with the idea of developing a code based on Navajo.

Devising the Code

To most Navajos, that idea would have seemed odd and unexpected. Beginning in the 1860s, the U.S. government had spent years forcing Navajo children to attend boarding schools. Those schools were designed to replace their native ways and language with more “American” ones. Later, many Navajo parents chose to send their kids to those schools because they were better than the schools on the reservation.

Now Navajos were being asked to use their once-forbidden language to help protect the U.S. In early 1942, the Marines started a project at Camp Pendleton near San Diego, California. Twenty-nine young Navajo men took part. They were given 211 common terms used in battle. For each, they cre
ated a code word with a unique Navajo spin. *(See "Code of Battle," below.*) For example, they called fighter planes hummingbirds. That was because fighter planes were smaller and lighter than bombers.

Next, the coders increased their word list. They spelled out English words and place names using a code based on Navajo words. For example, they would replace the English letter A with the Navajo for ant: wol-la-chee. In all, their vocabulary would number more than 800 terms.

The Navajos memorized the entire list. That made them incredibly fast in sending messages. In field tests, they could send a four-line message in 20 seconds. (A standard coding machine took 30 minutes.) Best of all, no one except the code talkers could understand the messages—not even other Navajos.

Military officials were impressed. But would the code work on the battlefield?

### Code of Battle

In devising their code, the Navajos used descriptive phrases in their own language as substitutes for common battle terms and other words in English. For example, the code for artillery was *be-al-doh-tso-lani*, Navajo for *many big guns*. Here are some other examples.

<table>
<thead>
<tr>
<th>MILITARY TERM</th>
<th>NAVAJO CODE WORD (translated into English)</th>
<th>PRONUNCIATION OF NAVAJO WORD</th>
</tr>
</thead>
<tbody>
<tr>
<td>fighter plane</td>
<td>hummingbird</td>
<td>da-he-tih-hi</td>
</tr>
<tr>
<td>battleship</td>
<td>whale</td>
<td>lo-tso</td>
</tr>
<tr>
<td>submarine</td>
<td>iron fish</td>
<td>besh-lo</td>
</tr>
<tr>
<td>bomb</td>
<td>eggs</td>
<td>a-ye-shi</td>
</tr>
<tr>
<td>grenade</td>
<td>potatoes</td>
<td>ni-ma-si</td>
</tr>
</tbody>
</table>

*Source: Department of the Navy—Naval Historical Center*

### A Trial by Fire

They soon found out. In July 1942, the Japanese invaded Guadalcanal in the Solomon Islands. That gave them an air base even closer to Australia. That worried U.S. military officials, who organized a hurried invasion of the island. On August 7, the first wave of Marines stormed the beach. It would be a six-month struggle. In November, the code talkers joined them.

The fighting was brutal. Marines trudged through thick jungle. They faced death at every step. Dense jungle tree lines made it hard for U.S. pilots to see where to drop bombs on the enemy or supplies for U.S. troops. The code talkers and their radios were often the only lifeline the Marines had to medicine, ammunition, food, and each other.
Chester Nez was one of the original 29 code talkers. In later years, he wrote about working nonstop for 24 hours at a time, crammed into a foxhole. He described his first radio transmission, when he called in an attack on a Japanese machine gun that had his patrol pinned down.

“A runner approached, handing me a message written in English. [I sent the message to another code talker.] ‘Enemy machine gun nest on your right flank. Destroy.’ Suddenly, just after my message was received, the Japanese gun exploded, destroyed by U.S. artillery.”

Working so quickly with a code the enemy could not crack made the Navajos a powerful new weapon. The Japanese finally retreated from Guadalcanal in February 1943. By then, the code talkers had proved themselves.

Taking Iwo Jima

But the fighting was far from over. The war in the Pacific became a harsh series of battles to control islands that could lead to a possible U.S. invasion of Japan. Sam Sandoval went through training in 1942. Soon he was “in the thick of it,” as he would say. He would see action at Guadalcanal, Bougainville, Peleliu, Guam, and Okinawa. Those were some of the most terrifying battles of the war.

In each battle, the code talkers were essential. One of the bloodiest fights was over the island of Iwo Jima. It began in February 1945. It took the Marines a month to take the island. The battle claimed the lives of some 6,800 Americans and 22,000 Japanese.

“The entire operation was directed by Navajo code,” Signal Officer Major Howard Connor later said. “They sent and received over 800 messages without an error. Were it not for the Navajo code talkers, the Marines would never have taken Iwo Jima.”

Celebrating the Code Talkers

The war dragged on until August 1945. It ended when the U.S. dropped two atomic bombs on the Japanese cities of Hiroshima and Nagasaki. Sandoval still remembers the greatest message he ever decoded, on August 14: “The Imperial forces of Japan have surrendered.”

Soon the code talkers would begin coming home. But they did not benefit from the post-war economic boom like the rest of the U.S. Instead, the Navajos headed back to their reservation. There, jobs and opportunity were scarce.

To make matters worse, the code talkers could not talk about what they had done. The U.S. government had declared their operation top secret. The Navajo code was kept secret until 1968.

“What [the code talkers] did truly represents who we are as Americans.”

Today, more than 75 years after their first mission in 1942, the Navajos are recognized as national heroes. Last November, President Donald Trump honored them in a ceremony at the White House. Code talker Peter MacDonald is now 90 years old. He said that their act of patriotism crossed all boundaries of language and culture. “What we did,” he said, “truly represents who we are as Americans.”

Sandoval is also proud of his service to the country, of being a Navajo, and of his unique part in using a military code that was never cracked by the enemy.

“My many have tried throughout the world to break that code,” he says. “No one can.”
CORE QUESTION: Why might Navajos have found the idea of using their language as a code during World War II to be ironic?