



## CODE SCHOOL: TOP SECRET COMMUNICATIONS DURING WWII

### Codes and Ciphers

A **code** is a word or message that is replaced with an agreed code word or symbol. A **cipher** is when each letter in an alphabet is replaced with another letter, number, picture, or other symbol. Ciphers always have **key** that is shared among those sending and receiving the message. A coded message would be like saying, "The eagle has landed!", while a cipher may look like this: 8-5-12-12-15. In the cipher, each letter of the alphabet has been replaced by its corresponding number (A = 1). Do you know the message?

### Communications during Wartime

Humans figured out how to send secret messages a long time ago. The Greeks used something we now call the Caesar cipher (the alphabet is shifted so each letter is replaced by a different one), while Spartans used a device called a scytale (where a message was written on a piece of paper and would be read using a special rod).



Scytale

During World War II, militaries needed to send messages across the globe as quickly as possible, meaning they were often relying on communication through radios. This left any military easily exposed to having messages intercepted. Both Allied and Axis powers developed difficult codes and ciphers to send their top-secret messages.

### Navajo Code Talkers

One incredible example of transmitting secret messages was through the US's use of the Navajo language. More than 400 Navajo Indians served as code talkers, communicating secret messages for the U.S. Marines. These Navajo servicemen were specially trained to use their own language to communicate during battles throughout the Pacific campaign.

The Navajo code used their own Navajo words to stand for English words. For example, the English word "air" was translated into the Navajo word for air. If an English word did not exist in the Navajo language, they would use Navajo words to symbolize the English word—submarine became besh-lo, meaning iron fish. The code talkers had to memorize a dictionary of hundreds of code words.

Because other countries had not studied the Navajo language, they were not able to figure out the Navajo code. In fact, of the many codes used during World War II, the Navajo code was the only one that was never successfully broken!



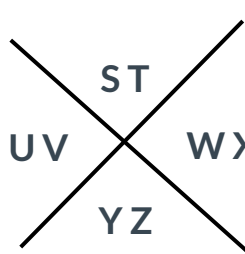
# WAR AT HOME

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## THE PIGPEN CIPHER

The Pigpen cipher begins with two grids with each letter of the alphabet to create your key:

A	C	E
B	D	F
G	I	K
H	J	L
M	O	Q
N	P	R






Each letter is represented by the part of the “pigpen” that surrounds it. If it is the second letter in the box, then it has a dot in the middle:

A =       I =       S =   
B =       J =       T = 

Example: SECRET CODE = 

Try decoding these Pigpen messages on your own:

-  =
-  =
-  =

Now try to encode your name in Pigpen:

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