

Keyword

1. Fill in cipher strip with keyword at location of key letter.
2. Continue the alphabet in order, beginning with A, skipping any letter that has been previously assigned. When you reach the end of the strip, wrap back around to the beginning.
3. Use cipher strip to encrypt and/or decrypt messages.

Scientific Information

The modular “wrapping” of the alphabet is less obvious when arranged as a list than when it is on a cipher wheel. Using a keyword and location instead of interchanging the entire alphabet reduces the need to send the entire key along with the message. Inserting a keyword removes “alphabetical order” of a classic Caesar cipher.

Keyword: STEM, Key Letter: J

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Plain
P	Q	R	U	V	W	X	Y	Z	S	T	E	M	A	B	C	D	F	G	H	I	J	K	L	N	O	Cipher

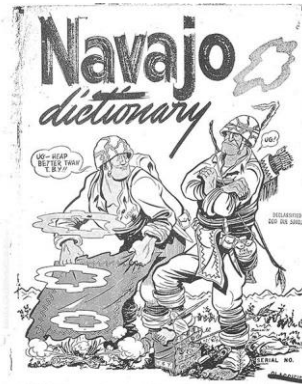
CIPHER: IGAP GHVM

MESSAGE: USNA STEM



Substitution ciphers are easy to break when the letters remain in alphabetical order or when the entire cipher must be sent with the message. Jumbling the letters and using a key makes the cipher more secure against hacking and interception.

NAVY NOTES



During WWII, the US Marines hired native Navajo speakers to incorporate Navajo words relating to implements and strategies of war into military codes. These keywords kept military strategies hidden from the enemy when communications were intercepted.