

To Do To Go: Teens

Try a new To Do To Go activity each month!

Make a Cipher Wheel

Solve the code! Write a secret message!

Cryptography (cryptology) is a study of ways to conduct secure communication. Cryptography has been used from ancient times since there was always a need for keeping certain messages private. One of the more popular substitution ciphers, Caesar cipher, was invented by Julius Caesar as a way to send secret messages to his generals. It is also known as Shift Cipher: it uses the key (number) that shifts plaintext by the key number of letters (example: A becomes D if the key is 3). This key should be kept private between people involved in communication. While this key is simple, it's not very secure!

In modern history, the most famous encrypting example was the Enigma machine which Germany used to encode their messages during World War 2. The British bombe was a decrypting machine envisioned and developed by Alan Turing at Bletchley Park, which had a tremendous impact on ending World War II.

Works Cited: This summary used information from

ROT13. (2021, January 6). In Wikipedia.

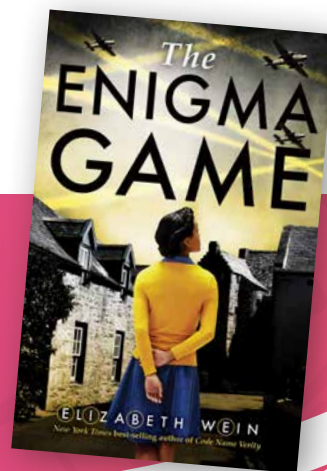
<https://en.wikipedia.org/w/index.php?title=ROT13&oldid=998646046>

Leder, V. (2020, August 13). How to make and Use Cipher Wheel. STEM Little Explorers, Medium.

<https://medium.com/stem-little-explorers/how-to-make-and-use-cipher-wheel-a87de6ffa4c7>

**More books
on the back!**

The Enigma Game
by Elizabeth Wein



SOLVE IT

ROT13 (“rotate by 13 places”, sometimes hyphenated ROT-13) is another common shift cipher that replaces a letter with the 13th letter after it in the alphabet. Use that key to decrypt these codes!

O	B	E	R	Q	V	A	G	U	R	U	B	H	F	R	-	A	B	G	N	A	L	Z	B	E	R

V	O	R	Y	B	A	T	N	A	Q	V	N	Z	T	B	B	Q	R	A	B	H	T	U	

Decrypt these book quotes! The keys are listed above the codes.

Key 6

H	X	G	B	K	J	U	K	Y	T	'	Z	S	K	G	T	E	U	A	'	X	K	T	U	Z

Y	I	G	X	K	J	.	O	Z	S	K	G	T	Y	E	U	A	M	U	U	T	K	B	K	T

Z	N	U	A	M	N	E	U	A	'	X	K	Y	I	G	X	K	J	.

– from *The Hate U Give* by Angie Thomas

Key 19

Q	B	Z	A	I	L	J	H	B	Z	L	F	V	B	J	H	U	'	A	L	E	W	L	Y	P	L	U	J	L	

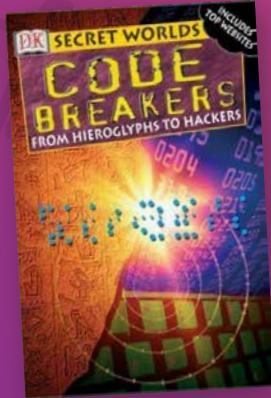
L	C	L	Y	F	A	O	P	U	N	K	V	L	Z	U	'	A	T	L	H	U	F	V	B

Z	O	V	B	S	K	U	'	A	L	E	W	L	Y	P	L	U	J	L	L	H	U	F	A	O	P	U	N	.

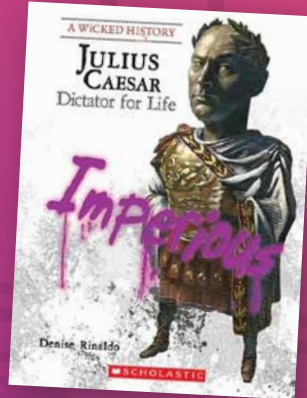
– from *Everything, Everything* by Nicola Yoon

How could we make this cipher even more secure? One way would be to jumble up the alphabet first, before you write it on the two wheels.

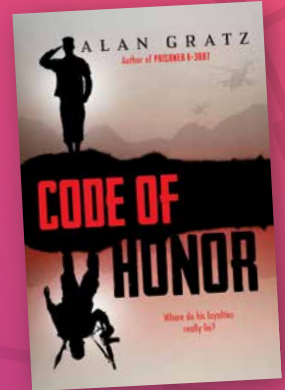
READ ABOUT IT!



**Code Breakers –
From Hieroglyphs to Hackers**



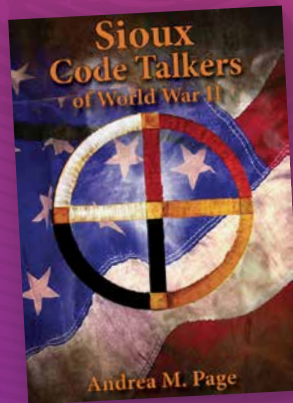
**Julius Caesar –
Dictator for Life**
by Denis Rinaldo



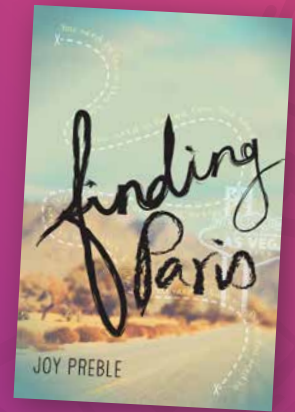
Code of Honor
by Alan Gratz



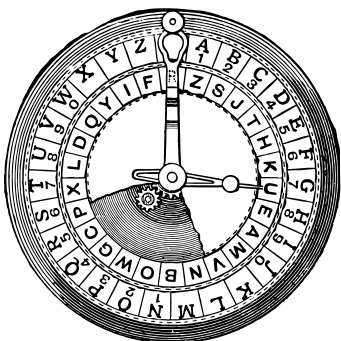
Traitor Angels
by Anne Blankman



**Sioux Code Talkers
of World War II**
by Andrea M. Page



Finding Paris
by Joy Preble



- Answers:
- Bored in the house – not anymore
 - I belong and I am good enough
 - Brave doesn't mean you're not scared. It means you go on even though you're scared.
 - Book Quotes
 - – from *The Hate U Give* by Angie Thomas
 - Just because you can't experience everything doesn't mean you shouldn't experience anything.
 - – from *Everything Everything* by Nicola Yoon