

Name: _____

Codes and Ciphers

In a **code**, each word has another word that stands for it. For example, your code word for "teacher" may be "rabbit." So when a teacher enters the room, you would say, "Rabbit in the room" to warn your friend. To **encode** means to put a message in to code. To **decode** means to use a code to find out the real meaning of a message.

In a **cipher**, it is the letters in a word that are changed. Sometimes the order of letters is moved around or sometimes the letters are replaced by symbols. To **encipher** means to put a message into cipher. To **decipher** means to use a cipher to find out the real meaning of a message.



All messages spies send and receive must be top-secret. Whether you're setting up a meeting spot or passing along classified information, you will be expected to use codes or ciphers to make sure your messages are not read by the wrong people. But beware- the enemy also uses codes and ciphers. Learn all the codes that you can so you can keep your secrets secret and discover your enemies' secrets, too!

Key Detective Terms

Cipher: _____

Code: _____

Decipher: _____

Decode: _____

Encipher: _____

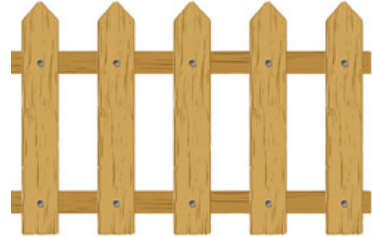
Encode: _____

Name: _____

Rail Fence Cipher

The rail fence cipher dates back to the Civil War. It is written downwards and diagonally, then up again, on successive "rails" or an imaginary fence.

To encipher a message, write your letters on two lines, placing every other letter on the lower line. It helps if you draw the zigzag line in pencil as you write your message. Do not leave any space between words.



Practice

N M E I G O I H
O E T N T N G T

I M E N W T H D
A B I G A C E

Never give up.

You are a great special agent.

Name: _____

Number Shift Cipher

You can also make a shift cipher with numbers instead of letters. Write your key number under the A and replace the letters with the numbers that follow your key number. Put a dash in-between letters and leave a space in-between words. For example, if the key number is 5:

Real:	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
Cipher:	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

Practice

18-25-17-6-9-22 23-12-13-10 7-13-20-12-9-22

24-12-9 19-24-12-9-22 23-13-8-9 15-18-19-27-23

Meet me tomorrow.

Meeting at headquarters.

Name: _____

Mail Code

Codes can often be disguised within an ordinary looking letter or e-mail. It can look quite normal- a bit boring, even. The last word of each sentence makes up the message.

Practice

Dear Darius,
I can't wait until we finally meet. I've been working on my part of the social studies project, but I don't know where your part is at. We should both do research at the library. The teacher said we should finish it tonight. The project page count is eight. Give me a call at seven o'clock.
Your Friend,
Harvey



Mission completed.

Name: _____

Keyboard Cipher

Keyboard Cipher substitutes symbols found on a computer keyboard for letters and numbers.

Real:	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
Cipher:	!	<	"	@	*	/	^	#	?	\	>	&	+	\$	(;	')	:	%	{	_	.	}]	[

Practice

<*.!)* (/ %#* +!\$?\$ <&!">

&*!_* ?% !% %#* %) **

Ciphers are fun.

Meet me behind the library.

Name: _____

N Vwls & Backwards

An easy way to disguise a message is to leave out the vowels (a,e,i,o,u) and/or write the message backwards. When you encode it, it is easiest to first write it without the vowels, then write that backwards.



Practice

vf t yrrbl ht t m tm

dc sdrwkcb dn slwv n ht gndcd bj trg

I love being a detective.

No Vowels and Backward is a cool code.

Name: _____

Greek Square

This code is very old and very hard to break. It was invented over 2,200 years ago by an ancient Greek historian and cryptographer (a person who writes and figures out secret messages) named Polybius. He created a grid that substitutes two-digit numbers for letters. The grid is written with five numbers across and five numbers down. There are 25 spaces in the grid, so I and J share a space and the same number. You will need to use the context of the message to decide if you should use I or J.

	1	2	3	4	5
1	A	B	C	D	E
2	F	G	H	IJ	K
3	L	M	N	O	P
4	Q	R	S	T	U
5	V	W	X	Y	Z

To encipher a message, take the first letter of your word then find the row that it is in. That will be the first digit of the number. Then find the column that it is in. That is the second digit of the number. Use a period to separate letters and a space to separate words. To decipher a message, know that the first digit tells you what row the letter is in, and the second digit tells you what column the letter is in.

Practice

11.22.15.33.44.

45.33.14.15.42.13.34.51.15.42.

Top secret.

Classified Information.

Name: _____

Caesar Cipher

The Caesar cipher is one of the oldest ciphers. It dates back to the Roman emperor Julius Caesar (100-44 B.C.). He used it to make sure his plans to conquer foreign lands were not discovered by his enemies. It's still very useful, because it is easy to remember but looks totally mysterious. In this cipher, the alphabet is shifted three places to the right.

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

Practice

ZLLI ABQBZQFSBP

PBZOBQ JBPPXDBP XOB CRK

I am a real agent.

Do not be discovered.
