Crack a Code

Cryptography is the process of creating written or generated codes that allow information to be kept secret. When you take a message and turn it into a code, you encrypt it. When you turn the code back into a readable message, you decrypt it. A **cipher** hides or disguises a message. Plain text is information that can be read by anyone. A cipher is used to turn plain text into ciphertext. The hidden message is unreadable to anyone except to those who know the special key.

Crack a Cipher Message

A **substitution cipher** is a form of cryptography. In a substitution cipher, each letter is replaced or "substituted" for another letter. The **key** is used to tell us how many letters to move, before starting the beginning of the alphabet. Look at the example shown below of how the key is used in a substitution cipher:

Key: 4

Alphabet																									
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
				A	B	C	D																		

0

1 2 3 4

The letter **A** goes in this spot, **B** in the next space, then **C, D**, and so on.

Since the key is **4**, you would start by counting **four** spaces over to the right, starting from 0. You can then begin to write in the letters beginning with A. Look at the example of the completed table below.

Alphabet																									
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
W	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

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** Once you have reached the end of the table, go back to the beginning of the table, and continue to fill in the remaining spaces, until all the empty spaces are filled.

Use the key and alphabet table below to decode the message. Write the decoded message into the space provided below.

Key: 2

Alphabet																									
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

0

Use the substituted letters filled into the alphabet table, to decode the message below.

Encrypted message:

E T A R V Q I T C R J A   K U   H W P

___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___   ___ ___   ___ ___ ___