

## Secret Message Activity



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

After you have finished solving this:

1. Write a message (with the same code) that would be more difficult to solve:

2. Now, write a new code that would make any message would be more difficult to solve:

1. Would it be easier or harder to figure out the code if the secret message was longer?
2. How could you send a better secret message using this code?
3. How could you change this secret code to make it better?

Answer key:

1.

I AM GOING TO TELL YOU A JOKE  
THE JOKE IS VERY FUNNY  
I KNOW YOU WILL WANT TO FIGURE IT OUT  
YOU WILL TELL IT TO ALL OF YOUR FRIENDS  
THE JOKE IS ABOUT COMPUTERS

WHAT DO YOU CALL A COMPUTER SUPERHERO  
A SCREEN SAVER

DID YOU THINK THAT WAS FUNNY?

2. Mostly rhetorical ...

3.

- a. I, A
- b. Lots of them ...
- c. I AM (and fill in all of the other places where those symbols appear)
- d. ...
- e. Fill in all snowflake symbols as T
- f. Here's the key, but they shouldn't be able to figure all of this out

☎	21	O
❄	18	T
⌘	17	E
◆	14	U
✋	13	I
⊗	12	L
just yet ✋	12	A

- g. Same as f
- h. THAT (figure out the H, fill it in everywhere)
- i. WHAT (figure out the W, fill it in everywhere)
- j. WAS (figure out the S, fill it in everywhere)
- k. TO (figure out the O)

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- l. Nothing yet
- m. WI\*\* ---> WINN? WISS, WILL → figure out the L and fill it in everywhere
- n. Starts with TH → THE → figure out the E, fill it in
- o. WA\*T → try out letters that are not yet figured out, look at list of four-letter words, the only one that fits is WANT → fill in the Ns
- p. Word is: \*O but can't be S or T, so maybe it's DO! Figured out the D, fill it in. (There are also other words it could be, like NO, but context should make it clear that those don't work, and I removed them from the list of two-letter words to make it easier)
- q. DID
- r. THIN\* → try out remaining alphabet letters or try googling words that start with thin, answer is THINK, fill in the Ks
- s. YOU (the italicized you was also a hint, but they should be able to figure this out based on what three letter words make sense)
- t. YOUR, fill in the Rs
- u. This really is mainly solved by now. What words end with RIENDS to figure out the F? Other words you could hint are:
  - \*om\*uter(s), \*all, s\*reen (C)
  - \*i\*ure, \*unny (F)
  - \*om\*uter(s), su\*erhero (P)
  - \*oke (J)
  - \*i\*ure, \*oin\* (G)
  - sa\*er, \*ery (V)

4.

*Maybe harder by hand, but with a computer ... the longer the message, the more clues you have and the more likely that the message follows typical patterns of English.*

5.

*Choose words that don't start with T.*

*Choose words that don't include the letters E, T, A, O, or I ... or generally are different from typical patterns in English (or whichever language you are using).*

*Don't use spaces.*

*Keep your message short.*

*Don't use repeated letters at all.*

*Use txt l4ngu4g3 Or other tactics to dlsquis3 your message (and still translate it with the code).*

6.

*Don't have a 1-to-1 mapping of characters.*

*For instance, maybe use a symbol like \_ to represent two letters like TH.*

*Or allow two symbols like \* and & to both represent A.*

*Or use the same symbol like # to represent similar-sounding letters like C and K.*

*Or ... encryption!*

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Originally used at the CSE Open House 2017

Reuse with acknowledgement is encouraged

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*[TODO: a short & sweet explanation of why/how encryption works to overcome some of these problems.]*