

Make It@Home: Cipher Disk

A. Materials

1 Tack 1 Small Cipher Disk 1 Large Cipher Disk 1 Small Eraser Scissors

B. Directions

1. Download and print the Cipher Disk.pdf document.
2. Cut out the two cipher disks.
3. Put the smaller disk on top of the larger disk and stick the tack thru the center of both disks.
4. Stick the sharp end of the tack into the eraser. This will prevent you from sticking yourself while turning the disks to make your ciphers.

C. Encrypting A Code

1. Pick a letter from the smaller disk on top - this will be used as the **KEY** that will be shared between you and your friends to encrypt and decrypt the message. Once you have picked a letter from the smaller disk, line it up with the "A" from the larger disk.

Example Key:

LARGE DISK: A

SMALL DISK: M

KEY = A:M

2. Begin encrypting each letter of your secret message. Find the first letter of your message on the larger disk and write down the cipher letter which appears underneath it on the smaller disk. In the example below, A=M, B=L, C=K, etc.

LARGE DISK: ABCDEFGHIJKLMNOPQRSTUVWXYZ
SMALL DISK: MLKJIHGFEDCBAZYXWVUTSRQPON

3. Continue finding each letter until your message has been encrypted. Once you are finished, send your friend the encrypted message and KEY separately.

PLAINTEXT: MAKING CODES IS FUN
CIPHERTEXT: AMCEZG KYJIU EU HSZ

***NOTE:** Make sure your friend knows the KEY so they can use their Cipher Disk to break the code. For a super secure cipher, create a new KEY every time you send a message OR change the KEY every time you encrypt a letter.*

