raft
RESOURCE AREA FOR TEACHING
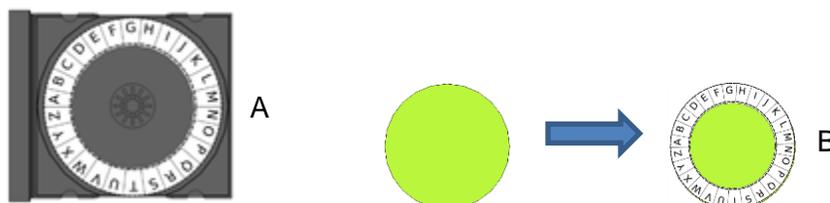# MAKER JOURNAL

Name:_____   Date:_____

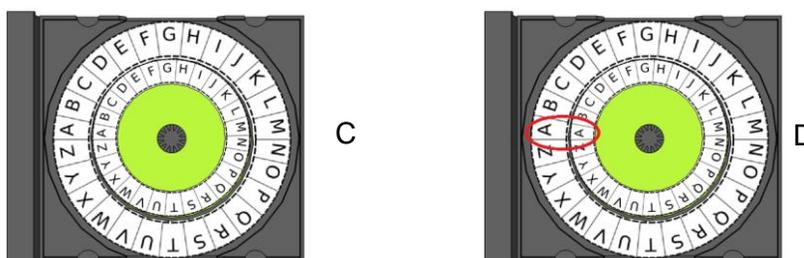Project/Unit: A Glimpse into Cyber Security   Lesson: 5

Follow the instructions below to assemble and use the Caesar Cipher.

1. Cut out the ring templates from the black line master sheet.
2. Tape or glue large template onto media tray (A) and small template onto 3-inch circle (B).

3. Cut a center hole into circle and position onto media tray (C).
4. Align the A's on the templates (D)

5. The small ring contains the plaintext letters to be encoded. The large ring contains the cipher text (encoded plaintext letters). To **encode** messages, shift the inner ring according to the secret key. Read from the inner ring to the outer ring. For example, if the key is 2 then you would shift the inner ring two letters to the right. The letter "A" on the inner ring becomes "C" on the outer ring. To **decode** messages, the shift happens the same way except now you read from the outer ring inward ("C" becomes "A" in the above example).

6. Remember, secret keys can be positive or negative. For positive keys you shift the inner ring to the right (clockwise). For negative keys the inner ring is shifted to the left (counter-clockwise). Caesar Cipher keys are always whole numbers.

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Use the Caesar Cipher to decode the messages below. The secret key for each message is given.

Write the decoded messages on the lines provided.

"F UJSSD XFAJI NX F UJSSD JFWSJI" – Benjamin Franklin, [key: 5]

" _____ "
_____

"LKB PJXII PQBM CLO JXK, LKB DFXKQ IBXM CLO JXKHFKA" – Neil Armstrong, [key: −3]

" _____ "
_____

"NWPLC PJPD QFWW SPLCED NLY'E WZDP" – Eric Taylor ("Friday Night Lights"), [key: 11]

" _____ "
_____

Create and encode a new message below. Then, share with another group and let them try to crack the message!

_____

Reflection: What role does cryptography play in cyber security efforts?