Q'S GADGET LAB: MAKER PROJECT

SPY DECODER WHEEL

YOUR MISSION:

Encode and decode secret messages!

WHAT YOU NEED:

- Spy Decoder template or poster board or heavy paper (card stock)
- Colored pencils or crayons
- Scissors
- a pencil
- a ruler
- a paper fastener
- a fine-tip permanent marker

HOW TO MAKE IT:

1. Cut out the circles from the spy decoder template OR cut out 3 disks from poster board or heavy paper. Below is the sizing requirements for each disk:

   - A 3.25 inch diameter circle
   - A 2.5 inch diameter circle
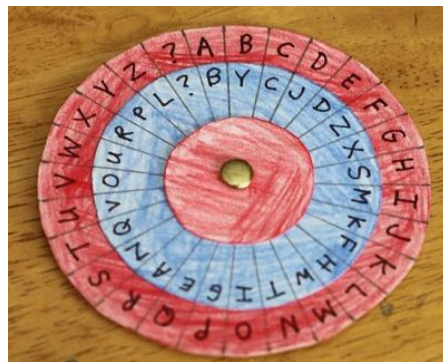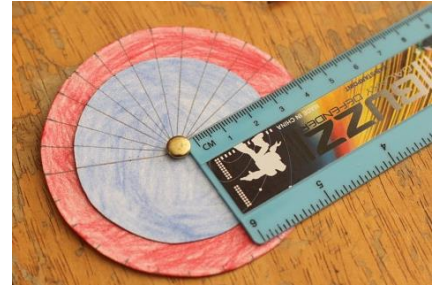   - A 1.5 inch diameter circle

   NOTE: The size of each disk is very important

2. Color your disk with colored pencils (optional).

3. If not using the template, make small pencil marks 3/8" apart on the outside edge of the largest disk. You should end up with 27 sections.

4. Pole a hole through the center of all three disks. Attach the largest and middle disk with the paper fastener (with the middle disk stacked on top of the larger disk).

5. Use the ruler to draw a straight line from the paper fastener to each edge mark (detail is important – each section should be equal in size or your decoder will be difficult to use).

6. Write the alphabet on the outside disk and put a ? in the 27th section. For the middle disk you can either write the alphabet in order or mix it up.

7. (Only if you did not use the template: Remove the fastener and stack the smallest disk on top of the 2 circles. Reattach the paper fastener.)
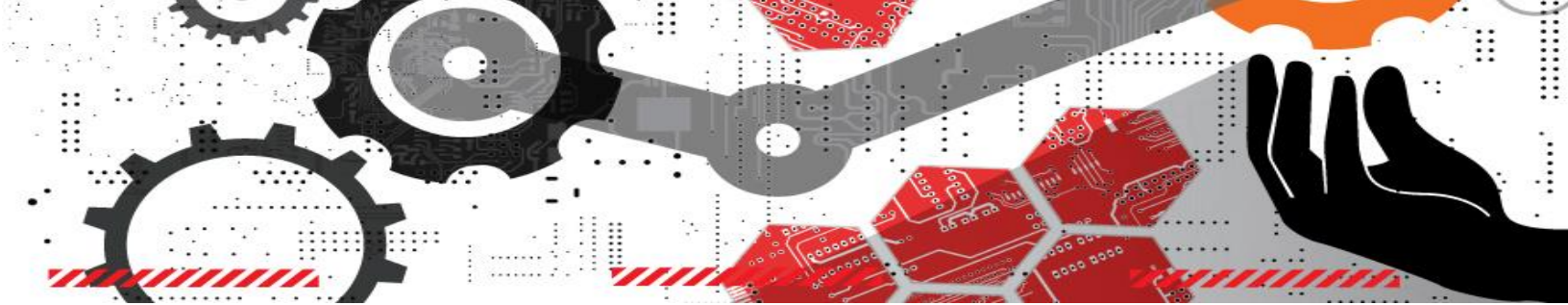

HOW IT WORKS:

First, set the key (A = ? or whatever key you choose).

To write a message, find the letter you want on the outside disk and write down the corresponding letter on the middle disk.

To read the message, find the letter on the middle disk, and write down the corresponding letter from the outside disk.

CIPHER WHEEL TEMPLATE

✂ Cut disks out