## Materials:

- String (cut long enough to go around the wrist)
- Three colors of beads (2 colors for the message and one color for "spacer")
- Binary decoder



## Directions:

1. Choose your three-letter secret message (ex., your initials or name abbreviation)!
2. Use a binary decoder to identify the binary translation for your message.
3. Select two bead colors and arrange them in the decoded binary pattern.
4. Double knot one end of the string.
5. String beads together and create the band!
6. Tie at the other end of the band to make sure it stays together.


Take it a step further! Continue learning about how bits and bytes encode letters, words, and information by visiting: https://web.stanford.edu/class/cs101/bits-bytes.html

## BINARY DECODER

A ㅁㅁㅁ뭄ㅁ뭄B ■ $\square \square \square \square \square \square$C ■ ロ■ ■ாロロ
N ■■■ $\square \square \square \square$
O ■ ■■ ..... $\square \square \square \square$
P $\square \square \square$ ■■■
Q $\quad \square \square \square$ ..... $\square \square \square$
E ■ ロ■■ ■■ロ
H ■ $\square$ ■ $\square$ ■I ■ロ■■ $\square \square \square$W ■ $\square \square \square \square \square \square$
V ■ㅁㅁ

U ■ $\square \square$

U ■ $\square \square$

U ■ $\square \square$  $\square \square \square \square$  $\square \square \square \square$  $\square \square \square \square$
T ■ ㅁㅁ
T ■ ㅁㅁ
T ■ ㅁㅁ ■ㅁㅁ ■ㅁㅁ ■ㅁㅁ
S ■ ■ $\square$
S ■ ■ $\square$
S ■ ■ $\square$ $\square \square \square \square$ $\square \square \square \square$ $\square \square \square \square$
R 둠 
$\qquad$
틈믐
틈믐K ■ $\square \square \square \square \square$L ■ロロா $\square \square \square$
M ■ ロ■ $\square \square \square$

## X ㄸㅁㅁ무뭄

Y ■ $\square \square \square \square \square \square$


