BINARY PINS

Binary Code

We are used to representing numbers using ten digits: 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. This is called a base-10, or decimal system. Binary code, however, uses only zeros and ones in a sequence of eight spots. We often refer to these binary, or base-2, digits as "bits." Binary code is used to communicate information between computers, communication devices, and many more modern technologies. It's useful to build into electronic devices because it is a simple system that requires something turn on or off (where 1 is the on state and 0 is the off state).

This activity will allow you to embed your own initials or nickname in this secret code on a safety pin. The binary code for capital letters is found below.

Make a Binary Pin

1. Write down your two or three initials on paper. For example, A B C.

2. Use the key (on back) to write out each letter in binary code.

3. Transform each letter/bit to a colored seed bead. Choose one color bead to represent the white squares (signifying "1") and another color to represent the black squares (signifying "0").

4. String each of your beads for your first initial on one safety pin. About 8 seed beads should fit on one 2" pin (usually called a "size 3" pin). Depending on the size of your seed beads, you could instead use a 1.5" safety pin (size 2) or a 3" safety pin (size 4).

5. Repeat the process with your second initial on a 2nd safety pin, and so on, until your safety pins all have 8 beads on each.

6. Attach your beaded safety pin to your backpack, jacket, shoelaces, necklace or other accessory.

Note: If you move your pins to different articles of clothing and you're worried about the beads coming off of the safety pins, you can slide an extra plastic earring back, or a tiny bit of clear tacky glue right at the top of your 8th bead before attaching.

GET CREATIVE!

Other colors besides blue can be used, so choose your favorite colors to mix it up!

VOCABULARY

Binary
A notation that utilizes only two options for each selection.

Bit
Short for "Binary Digit." It is one digit's location in a binary number.

Code/Coding
Transformation from one representation to another.

Decode
Convert a coded message into something familiar.

Delimeter
A delimiter is one or more characters that separates text strings.

Encode
Convert a familiar message winto code.

BINARY PINS

A ■□■■■■■□	Q ■□■□■■■□
B ■□■■■■□■	R ■□■□■■□■
C ■□■■■■□□	S ■□■□■■□□
D ■□■■■□■■	T ■□■□■□■■
E ■□■■■□■□	U ■□■□■□■□
F ■□■■■□□■	V ■□■□■□□■
G ■□■■■□□□	W ■□■□■□□□
H ■□■■□■■■	X ■□■□□■■■
I ■□■■□■■□	Y ■□■□□■■□
J ■□■■□■□■	Z ■□■□□■□■
K ■□■■□■□□	
L ■□■■□□■■	
M ■□■■□□■□	
N ■□■■□□□■	
O ■□■■□□□□	
P ■□■□■■■■	

■ purple
□ blue