

Binary Bracelets

Brief Overview:

Binary is extremely important to the computer world. The majority of computers today store all sorts of information in binary form. This lesson helps to demonstrate how it is possible to take something that we know and translate it into the language that a computer uses.

Target Grade Levels:

1-5 (K can do this with help)

Time:

45 minutes

Computer Science SOLs:

Target SOLs: K.1, K.2, 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 5.1, 5.2, 5.3

Content SOLs:

Target SOLs:

Objectives:

- Students will:
 - Create a bracelet with their initials in binary code

Materials/ Prep:

- Pipe cleaners
- Pony Bead in multiple colors

YouTube videos to introduce Binary:

K&1: <https://safeshare.tv/x/ss5baa3fbe12246#>

2-5: <https://safeshare.tv/x/ss5baa400ed6477#>

CS Vocabulary:

- Binary: relating to, using, or expressed in a system of numerical notation that has 2 rather than 10 as a base

Credits and Links:

Include other lesson info on following pages

Binary Bracelets

Step 1:

Introduce Binary to students.

Here are some videos that you may want to use:

K&1: <https://safeshare.tv/x/ss5baa3fbe12246#>

2-5: <https://safeshare.tv/x/ss5baa400ed6477#>

Step 2:

Use the planning sheet at the end of this document for students to indicate colors they will use to create their binary bracelet.

Step 3:

String beads on pipe cleaner to create a bracelet showing their initials in binary code.



Name: _____

Your Initials: _____

Your Initials in Binary Code:

_____:

_____:

_____:

Design your bracelet:

0 = _____ color

1 = _____ color

Spacer: _____ color

Character	Binary Code
A	01000001
B	01000010
C	01000011
D	01000100
E	01000101
F	01000110
G	01000111
H	01001000
I	01001001
J	01001010
K	01001011
L	01001100
M	01001101
N	01001110
O	01001111
P	01010000
Q	01010001
R	01010010
S	01010011
T	01010100
U	01010101
V	01010110
W	01010111
X	01011000
Y	01011001
Z	01011010

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