Binary

Week 6

Review From Last Week

- What did we do last time?

- What do you wish we had had a chance to do?

- Did you think of any questions after the lesson that you want to ask?

- What was your favorite part of the last lesson?

Binary

Bi-nare-ee

A way of representing information using only two options

Binary

- Look at the board.

- These boxes create a sort of code called Binary.

- When you decode the boxes, you get information.

- Do you know what this means?

Computers

- Have you ever seen inside of a computer?

- Wires carry information through the machine in the form of electricity.

Binary and Computers

- The two options that a computer uses its electrical information are "off" and "on."

- When computers represent information using only two options, it's called "Binary."

- That theme of two options doesn't stop when the information gets to its destination.

- Computers also store information using binary.

Binary

- Binary isn't always off and on.

- Hard Disk Drives store information using magnetic positive and magnetic negative.

- DVDs store information as either reflective or non-reflective.

Binary Bracelets

- How do you suppose we can change the things we store in a computer into binary?

- We start with letters.

Binary

- Each spot where you have a binary option is called a "binary digit" or "bit" for short.

- What is a grouping of eight bits called?

  A byte

- Fun fact: A grouping of four bits is called a nibble.

Binary Letters

- Which letter is this?   ■□■■ ■□□□   G

- Which letter is this?   ■□■□ ■■■□   Q

- Draw the letter J in binary.   ■□■■ □■□■

- Draw the letter Y in binary.   ■□■□ □■■□

Binary Bracelets

1. Find the first letter of your first name in the Binary Decoder Key.

2. Fill in the squares of the provided bracelet to match the pattern of the squares next to the letter that you selected.

3. Cut the bracelet out.

4. Tape the bracelet around your wrist to wear it!

5. Share your bracelet with each other to see if they can figure out your letter.

Binary Decoder Key

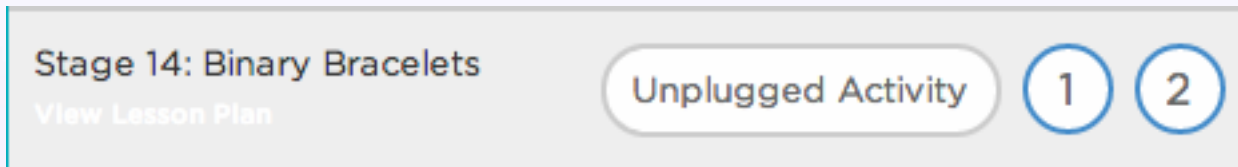| Letter	Binary		Letter	Binary
A	■□■■ ■■■□		N	■□■■ □□□■
B	■□■■ ■■□■		O	■□■■ □□□□
C	■□■■ ■■□□		P	■□■□ ■■■■
D	■□■■ ■□■■		Q	■□■□ ■■■□
E	■□■■ ■□■□		R	■□■□ ■■□■
F	■□■■ ■□□■		S	■□■□ ■■□□
G	■□■■ ■□□□		T	■□■□ ■□■■
H	■□■■ □■■■		U	■□■□ ■□■□
I	■□■■ □■■□		V	■□■□ ■□□■
J	■□■■ □■□■		W	■□■□ ■□□□
K	■□■■ □■□□		X	■□■□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

Flash Chat

- What else do you think is represented as binary inside of a computer?

- How else might you represent binary instead of boxes that are filled or not filled?

- What was your favorite part about that activity?

Binary Assessment

1. Look at the Binary Decoder Key.

2. Decode the message at the bottom of the sheet.

Homework

- Go onto the code.org website in your folder.

- Complete stage 14.

Stage 14: Binary Bracelets
View Lesson Plan
Unplugged Activity (1) (2)

- Go to this website:
http://britton.disted.camosun.bc.ca/binary.swf