Binary Flashcards, Bracelets, Puzzles

Originally from code.org

- Binary
    - A way of representing information using only two options
    - ON and OFF
- Question: Have you seen the inside of a computer before?
    - What's in there?
    - Show pictures of the inside of a computer
    - Essentially, a slew of wires
- Wires carry information through the machine in the form of electricity
    - The two options that a computer uses for electrical information are "on" and "off".
    - When computers represent information using only two options, it's called "binary".
- We can say that computers "speak" binary
    - Computers translate the instructions they are given into binary, so that they can 'understand' it, and carry out those instructions.
- Two Options
    - This theme of two options doesn't stop when the information gets to its destination
    - Computers also store information using binary
        - Binary is not just "off" and "on"
            - Hard Disk Drives store information using magnetic positive and magnetic negative
            - DVDs store information using either reflective or nonreflective
- Question: How do we convert these things we store in a computer into binary?
    - Let's start with letters
    - Use the binary decoder key
        - Each spot where you have a binary option is called a "binary digit" or "bit" (for short).
    - Question: Does anyone know what a grouping of eight bits is called?
        - A "byte"