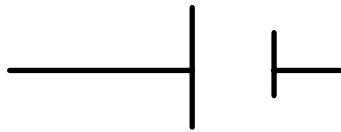
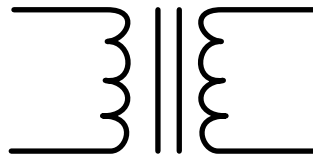


Identify the function of devices on a circuit board.

**CELL**



**TRANSFORMER**



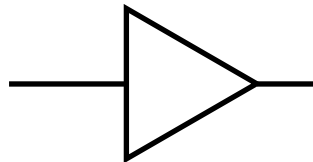
**RESISTORS**



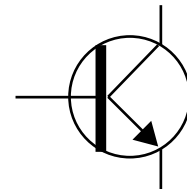
**CAPACITORS**



**AMPLIFIERS**



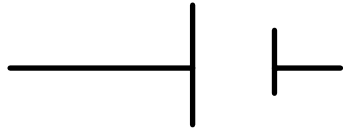
**TRANSISTOR**



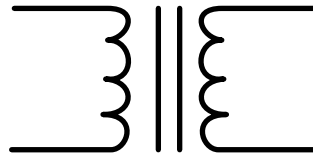
Identify the function of devices on a circuit board.

**CELL**

Supplies energy for the circuit

**TRANSFORMER**

Two or more coils which increase or decrease incoming voltage

**RESISTORS**

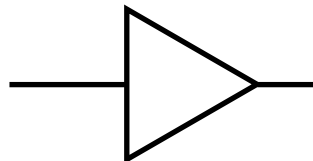
It decreases the current going through the circuit. It becomes hot from wasted heat.

**CAPACITORS**

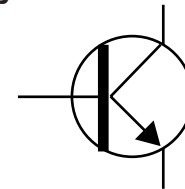
Metal plates connected to one of two wires that store electrical charges until they reach a certain level

**AMPLIFIERS**

Turns weak electronic signals into strong electronic signals able to do more work

**TRANSISTOR**

A small amplifier that decreases the size of the machine since it amplifies many times its own size



**What is A Circuit Board**

We learned in Technology MatchCard #4 that electronics have incoming signals, outgoing signals, and a Signal Processing Unit that acts as the “brains” of the electronics.

A circuit board provides the location for the transmission and alteration of the signals. Before the widespread use of computers, a diagram of the circuit board was drawn by hand. The symbols on this MatchCard were drawn to indicate the location of the:

- Cell
- Transformer
- Resistor
- Capacitor
- Amplifier
- Transistor

**Compare Old and New**

Today computer software is used to plan and diagram the circuit board of electronic equipment. Computer generated diagrams can be very elaborate and colorful, sometimes almost a work of art themselves (if you like computer art, that is.)

Do an internet search to compare the differences between the software generated and older versions of circuit boards.

While the newer ones are obviously much more complex, the same six functions are required to make the circuit board work.

**Build A Circuit**

Nothing teaches circuits better than building circuits yourself. The Snap Circuits kits from Elenco are perfect for kids (labeled for kids from 8 to 108.) Their sturdy pieces are easy to use and snap together. The Snap Circuits Jr. kit is a great place to start and has 100 different circuit building projects for a reasonable price. Extension packs can be purchased to give even greater experience with more advanced circuit building.

## Technology Information Pieces

**Supplies energy for the circuit**

T-4

**Two or more coils which increase or decrease incoming voltage**

T-4

**It decreases the current going through the circuit. It becomes hot from wasted heat.**

T-4

**Metal plates connected to one of two wires that store electrical charges until they reach a certain level**

T-4

**Turns weak electronic signals into strong electronic signals able to do more work**

T-4

**A small amplifier that decreases the size of the machine since it amplifies many times its own size**

T-4

To Make Your **MatchCard** more durable:

1. Put the student MatchCard in a clear plastic page protector.
2. Laminate the information pieces. You can also make them sturdier by covering the paper with transparent tape prior to cutting the pieces out.
3. For more ideas on how to use the MatchCards, and for keeping a notebook for review, see the Instructor's Guide.
4. The complete Technology Unit Study provides the student worksheets, answer key, and teaching activities for this and 5 other objectives. See the website for more information.