

The Deconstruction of a See-through Calculator

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The item we chose to explore for this assignment is a see-through calculator. We chose it because we could see the parts and thought it would be fascinating to see how they worked as part of a whole.



Figure 1: Front of calculator



Figure 2: The see-through parts of the calculator.

As we deconstructed the calculator, we saw several identifiable parts. The first was the battery. We removed the battery before we began deconstruction.



Figure 3: The back of the calculator has been removed. The battery has been removed and we can see two red wires connected to the circuit board.

As we removed it, we noticed it was directly linked to two red wires. The two red wires were connected to the circuit board of the calculator. The keyboard sensors were connected to the display of the calculator and the processor chip. When noticed that when you press the keypad, the keyboard sensors recognize what your pressing, which is then displayed on the calculator display. All these parts allow the calculator to work properly.

All of the identifiable parts play key roles for the calculator to work properly. The role that the battery plays is to provide energy to the calculator so you could see the numbers and calculations. The red wires are hot wires, positive wires, they send positive currents. The positive currents when connected with energy, go off. One wire with energy sends some energy to the other wires. Sometimes red wires are called switch power wires. The role of the processor chip is to recognize the button or an input via the circuit path and holds its binary value. It is the brain of the calculator which is a central processing unit. It is a little silicon microchip. The keypad presses against the keyboard sensors and it allows you to see the numbers displayed on the display. All of these parts play important roles together and individually to make the calculator work properly.

Deconstructing the calculator was a lot of fun and very informative. We learned that for a calculator to work properly, many parts have to function together. We learned that reverse engineering can help us learn why some parts are part of the calculator. It also helps us understand that the parts work together to get the calculator to work properly. Even though we do not use this type of calculator daily, it was a fun way to discover that things we use in our daily lives are made with thought and take lots of time to put together. It was very educational to research what the different parts do for the calculator. We also learned that our team works well together. We have five members and each one played a different role in deconstructing, researching, and writing.



Figure 4: The Laserbots taking apart the calculator.

Complete Parts List

- Battery
- Wires
- Screws
- Keyboard sensors
- Keypad
- Processor chip
- Display screen



Figure 5: Many parts of the calculator.