**Knowledge Bowl Machine Troubleshooting Guide**

***Be sure to check the inside of the box for miswiring before replacing any components***

*Note: The wires going into the handheld and bars are redundant in function (ie. there are 2 wires for every task) with color codes marking function of wire.*

**Corrupt Code:**

If the machine has completely erratic behavior (e.g. nothing does the right function, not just 1 thing not working properly) or other attempted solutions do not work, you can reset the code of the machine by plugging it into a computer with Arduino and navigating to the GitHub page at: [**https://github.com/42Firehawk/Arduino-Knowledge-Bowl**](https://github.com/42Firehawk/Arduino-Knowledge-Bowl)or use the included .ino file on the USB this document came from with an Arduino IDE to reset the Arduino Trinket Pro 5V to proper programming. This is done by uploading the program to the Arduino. If the upload doesn’t work, refer to the guide at: <https://learn.adafruit.com/introducing-pro-trinket?view=all#starting-the-bootloader>, as well as, using ‘upload as programmer’, rather than ‘upload’. This is a known bug inherent with the trinket. This will reset the device to its default code state.

**Display issue:**

If the display does not work at all but everything else does (buzzer, bars - except for triggering display, and reset button on handheld) then refer to the soldering guide included for inside the box and check for bad solders. If problem persists, replace the display, which is available at embedded-lab.com.

**Bar issue:**

If a bar isn’t working, there is a wiring diagram for the bar that can be consulted. Be sure to check for anything connecting the two parallel bars that make up a single bar that is metal, as those would hamper their function while present. A metal table cannot be used with these bars. If problem persists, replacing the components inside the bar will fix them.

**Buzzer issue:**

If the buzzer isn’t working, replace it after verifying that the wires are properly connected at both ends. They are simple, cheap, piezo buzzers that can be found online (be sure to get self-oscillating ones as others won’t work). These will likely be the first pieces that wear out.

**Handheld issue:**

If the handheld isn’t working, check the connections for the wires (inside the handheld). If those are properly connected, replace the button(s) that don’t work.