

## Week 8 - 555 Timer Chip

### Week 8 Details

Research all about the 555 Timer chip and two types of LEDs and breadboarded a typical circuit to flash an LED at 0.5Hz, 1Hz, 4Hz. Use worksheet in this folder.

**Your final calculations using measured values should be within 10% of the frequency. Your duty cycle must be between 30% and 50%.**

List at least 3 online references to information and how to hook up the 555 timer. There are many YouTube videos on 555 timers.

There is a datasheet at [Ivytechengineering.com](http://Ivytechengineering.com) under Parts Info, Linear Series, then the LM555.

1. Find formula online to set frequency and use Excel to calculate values needed for the 3 frequencies using standard values of caps and resistors. Or, consider using a variable resistor for one of the resistor values.
2. Use an oscilloscope to verify all 3 frequencies by calculating the frequency from the period. Count divisions; do not rely on the built in scope freq measurement utility.
3. Learn about common cathode and common anode LEDs and how to drive them and why current limiting resistors are needed.
4. Record all measurements on worksheet and answer all questions.

Take pictures for your lab notebook and update as needed.