

# Lesson: Blink a LED

## **Big Picture**

This lesson will introduce students to the micro:bit microcontroller and Makecode. The students will create a program that will blink a LED on and off. The LED should be on for one half of a second and then off for one half of a second. The LED will blink continuously until the micro:bit is turned off.

## **Objectives**

Students will be able to:

- Define Input
- Define Process
- Define Storage
- Define Output

## **Alabama Standards Alignment**

6th grade: Computational Thinker #6

7th grade: Computational Thinker #5 and #8

8th grade: Computational Thinker #2 and #3

## **Preparation**

Choose a presentation method:

- Instructor can walk the students through using the student tutorial handout.
- Students can work at their own pace using the tutorial handout. You may also post the video and tutorial locally and allow students to choose.

## **Materials Required**

Each student (or pair of students) requires:

- Tutorial handout
- micro:bit kit
- USB cable
- Internet connected computer with modern browser

## **Vocabulary and Concepts**

Input – Data is entered into the computer (text, sound, video, taps and swipes)

Process – Data is transformed into information

Storage – Data or information is recorded for retrieval

Output – Information is produced by the computer (print, display, sound, video)

## **Teaching Guide**

### Getting started (10 mins)

Tell the class that they will create a micro:bit program to blink an LED light today.

Before they start programming, everyone needs to learn the new vocabulary terms.

### Activity (40 mins)

The class is now ready to create their micro:bit with the sensor. Use your chosen method to demonstrate how to complete the activity. Make sure students are getting the light to turn on, wait, turn off, wait, and repeat until the microcontroller is turned off.

### Wrap Up (5 mins)

Review the 4 vocabulary words.

Input: Data is entered into the computer (text, sound, video, taps and swipes)

Process: Data is transformed into information

Storage: Data or information is recorded for retrieval

Output: Information is produced by the computer (print, display, sound, video)