

# Timer

In this lesson we will learn about the function `millis()`. This function gives you the time in milliseconds since the sketch was started and is very useful in creating any sort of timer.

## Tasks

- Use the `text` function to print `millis()` to the screen and see what value it has. You will need to have setup and draw for this. (This value is constantly changing so what you might see is a block of white. Remember how to get rid of trails).
- What we see on the screen is the time in milliseconds. Change this to seconds?
- We are going to create a new **time** variable to store how long has passed. Replace `millis()` with this **time** variable in the text function. In draw let the **time** variable equal `millis()`.
- We don't want the time since the sketch started though. We want the time since something happened. To do this we are going to create a new variable called **start**. Let it equal zero.
- When we want the timer to start we will set it equal to `millis()`. In this example it's going to start when we press the mouse. The code for this is below.

```
if (mousePressed) {
  start = millis();
}
```

- To find out how much time has passed since the timer started we need to subtract the **start** time from `millis()`. We will store this in the **time** variable. As below.

```
time = (millis() - start)/1000;
```

- If everything is done right what you should see is a timer on the screen that resets every time you press the mouse.
- This is a good start but what if we want to do something after a certain length of time? To do this is very easy, we simply write an if statement. Like the one below.

```
if (time == 3) {
  background(255, 0, 0);
  start = millis();
}
```

- This example will flash a red background and then reset the timer. If you have already done the boolean lesson you can combine it with this to do lots of interesting things on a timer.