

Light Sensor Storyboard

Let's get 0 to 5 lights to light up depending on the brightness.

NAMING SECTION:

1. Based on the variables declared in this section (see below), which component on the Circuit Playground do you think is the light sensor?

```
int lightSensor = A5;  
int brightness = 0;
```

2. Which variable above do you think we will use to hold the value from the light sensor?

3. SETUP SECTION: Circle the line below that sets the variable "lightSensor" to INPUT.

```
void setup() {  
  CircuitPlayground.begin();  
  pinMode(lightSensor, INPUT);  
  Serial.begin(9600);  
}
```

4. Open Light_Sensor_Starter.ino. Experiment with the light sensor. What's the biggest number you can get? What's the smallest number you can get? Fill in the blanks below to define ranges of numbers for each light pattern:

brightness is greater than or equal to _____
10 lights turn on

brightness is greater than or equal to _____ and less than _____
8 lights turn on

brightness is greater than or equal to _____ and less than _____
6 lights turn on

brightness is greater than or equal to _____ and less than _____
4 lights turn on

brightness is greater than or equal to _____ and less than _____
2 light turns on

brightness is less than or equal to _____
0 lights turn on

BUILDING BLOCKS SECTION:

5. In this section there are already functions defined for you:

FUNCTION	BEHAVIOR
<code>light0();</code>	0 lights on
<code>light2();</code>	2 lights on
<code>light4();</code>	4 lights on
<code>light6();</code>	6 lights on
<code>light8();</code>	8 lights on
<code>light10();</code>	10 lights on

ACTIVITY SECTION:

6. Complete the `loop()` function to call the functions from the BUILDING BLOCKS SECTION above for the conditions you specified in #4.

```
void loop() {  
  // read the value from the sensor:  
  brightness = analogRead(lightSensor);  
  Serial.println(brightness);  
  delay(100);  
  
  //your code goes here:  
}
```

7. Copy your code into your program, test, and debug.

8. In your own words, describe how your program chooses which light pattern function to call in the loop() function: