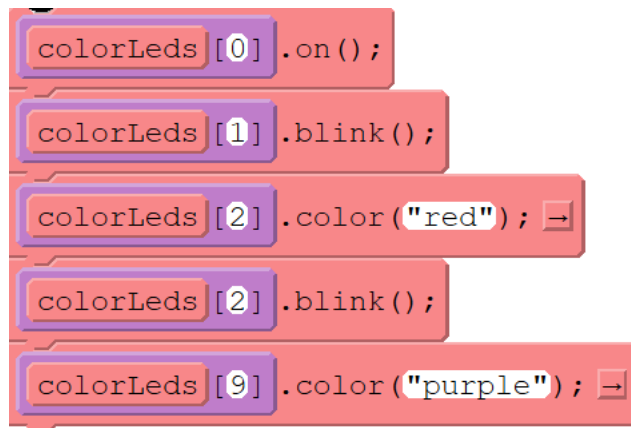
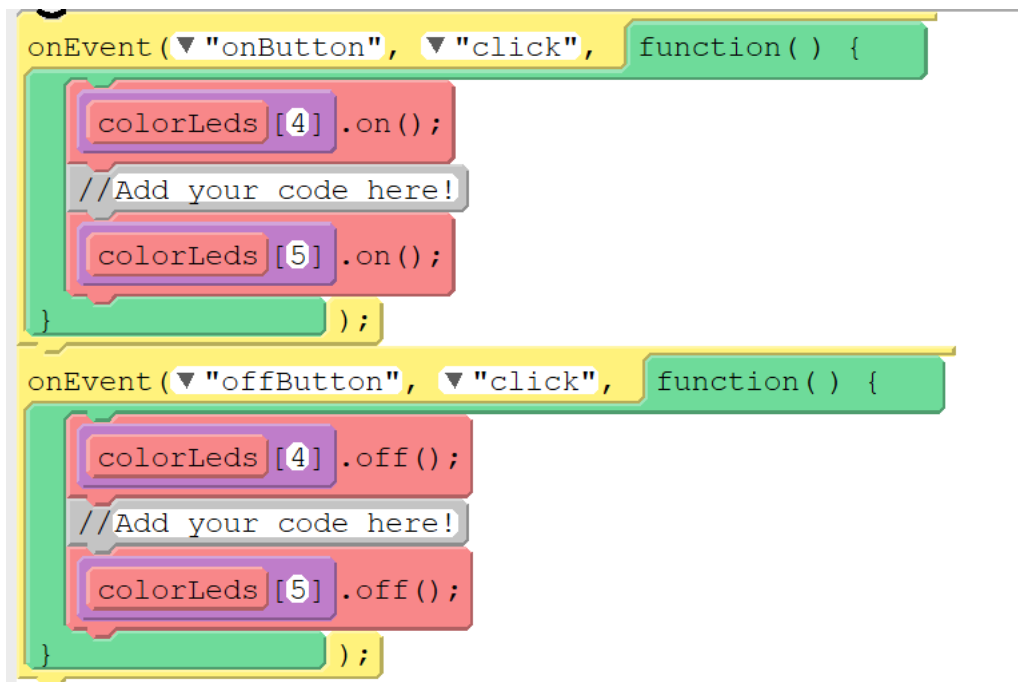


Lesson plan – 7

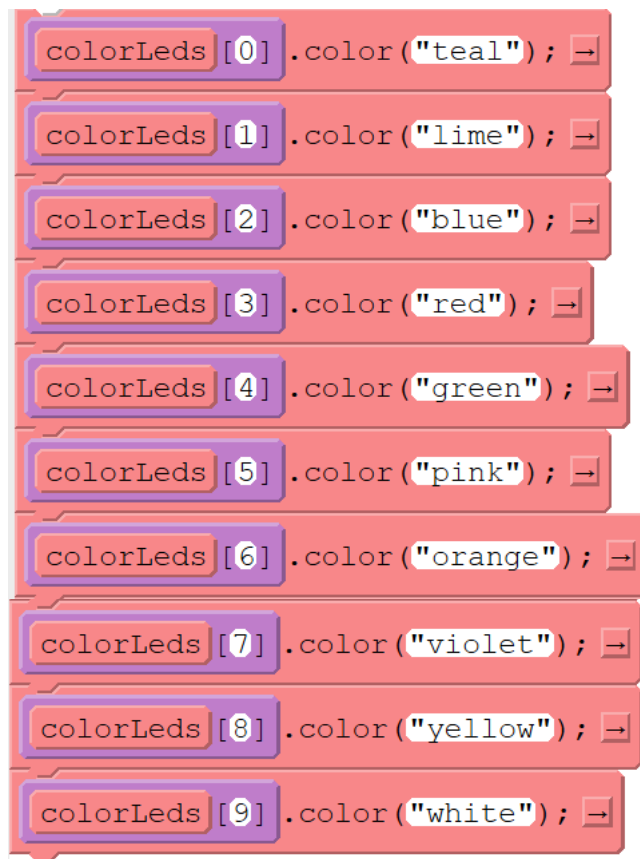
Level 1



Level 2

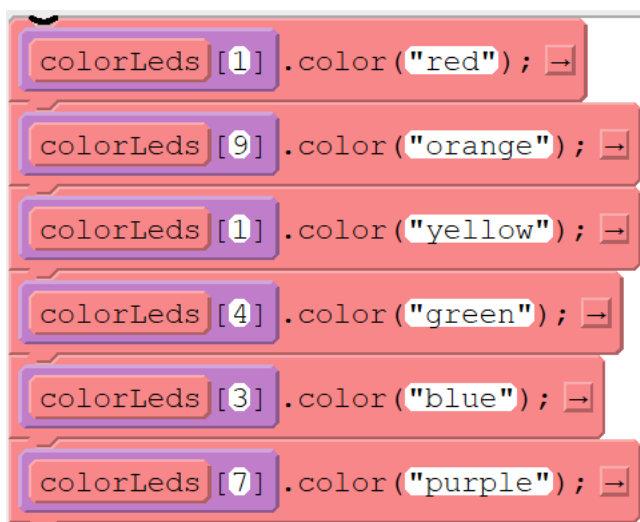


Level 3



```
colorLeds [0] .color ("teal");  
colorLeds [1] .color ("lime");  
colorLeds [2] .color ("blue");  
colorLeds [3] .color ("red");  
colorLeds [4] .color ("green");  
colorLeds [5] .color ("pink");  
colorLeds [6] .color ("orange");  
colorLeds [7] .color ("violet");  
colorLeds [8] .color ("yellow");  
colorLeds [9] .color ("white");
```

Level 4



```
colorLeds [1] .color ("red");  
colorLeds [9] .color ("orange");  
colorLeds [1] .color ("yellow");  
colorLeds [4] .color ("green");  
colorLeds [3] .color ("blue");  
colorLeds [7] .color ("purple");
```

Level 5

```
onEvent(▼ "bright", ▼ "click", function() {  
  colorLeds[0].intensity(100);  
  colorLeds[1].intensity(100);  
  colorLeds[2].intensity(100);  
  colorLeds[7].intensity(100);  
  colorLeds[8].intensity(100);  
  colorLeds[9].intensity(100);  
});
```

```
onEvent(▼ "medium", ▼ "click", function() {  
  colorLeds[0].intensity(50);  
  colorLeds[1].intensity(50);  
  colorLeds[2].intensity(50);  
  colorLeds[7].intensity(50);  
  colorLeds[8].intensity(50);  
  colorLeds[9].intensity(50);  
});
```

```
onEvent(▼ "dim", ▼ "click", function() {  
  colorLeds[0].intensity(10);  
  colorLeds[1].intensity(10);  
  colorLeds[2].intensity(10);  
  colorLeds[7].intensity(10);  
  colorLeds[8].intensity(10);  
  colorLeds[9].intensity(10);  
});
```

Activate

```
//set rainbow lights
colorLeds[2].color("red");
colorLeds[1].color("orange");
colorLeds[0].color("yellow");
colorLeds[9].color("green");
colorLeds[8].color("blue");
colorLeds[7].color("purple");
```

Activate Wi

Level 6 (a)

```
onBoardEvent (▼ toggleSwitch, ▼ "open", function() {
  colorLeds[0].color("red");
  colorLeds[1].color("red");
  colorLeds[2].color("red");
  colorLeds[3].color("red");
  colorLeds[4].color("red");
  colorLeds[5].color("red");
  colorLeds[6].color("red");
  colorLeds[7].color("red");
```

Activate Wi

```

    colorLeds[8].color("red");
    colorLeds[9].color("red");
  }
  onBoardEvent(▼buttonL, ▼"down", function() {
    colorLeds[0].color("pink");
    colorLeds[1].color("red");
    colorLeds[2].color("violet");
    colorLeds[3].color("blue");
    colorLeds[4].color("green");
    colorLeds[5].color("brown");
    colorLeds[6].color("yellow");
    colorLeds[7].color("orange");
    colorLeds[8].color("whit");
    colorLeds[9].color("pink");
  });

```

Art

Level 6(b)

```

onEvent(▼"led0Button", ▼"click", function() {
  colorLeds[0].toggle();
  //Toggle LED 0
});

onEvent(▼"led1Button", ▼"click", function() {
  //Toggle LED 1
  colorLeds[1].toggle();
});

```

```
onEvent(▼ "led2Button", ▼ "click", function(●) {  
  //Toggle LED 2  
  colorLeds[2].toggle();  
});
```

```
onEvent(▼ "led3Button", ▼ "click", function(●) {  
  //Toggle LED 3  
  colorLeds[3].toggle();  
});
```

Activate Winc

```
onEvent(▼ "led4Button", ▼ "click", function(●) {  
  //Toggle LED 4  
  colorLeds[4].toggle();  
});
```

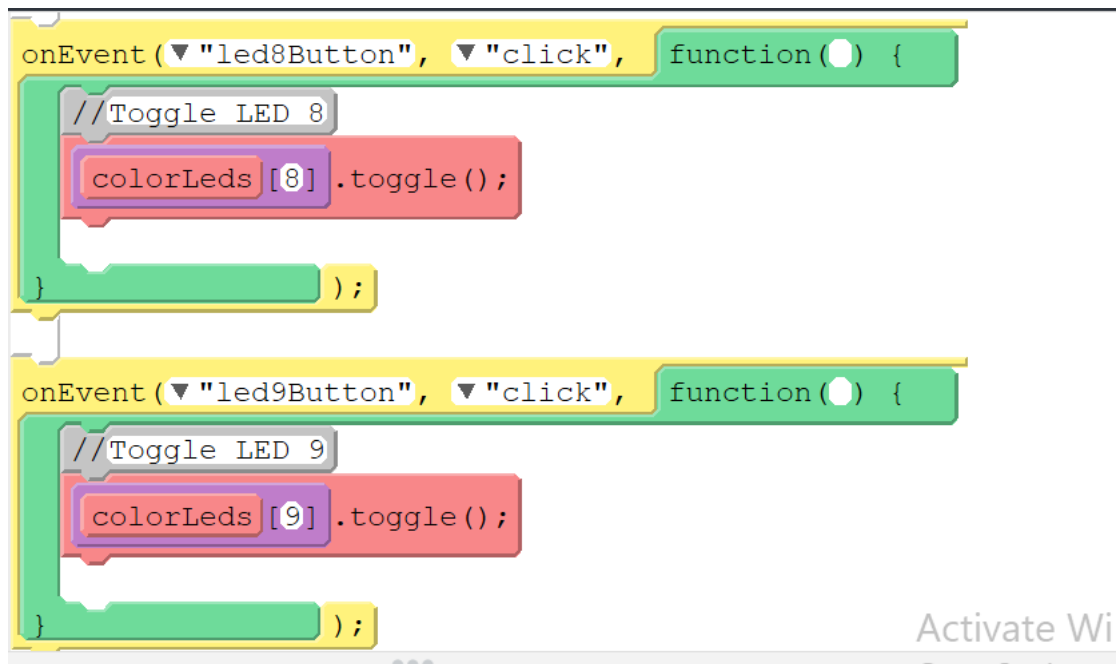
```
onEvent(▼ "led5Button", ▼ "click", function(●) {  
  //Toggle LED 5  
  colorLeds[5].toggle();  
});
```

Activate

```
onEvent(▼ "led6Button", ▼ "click", function(●) {  
  //Toggle LED 6  
  colorLeds[6].toggle();  
});
```

```
onEvent(▼ "led7Button", ▼ "click", function(●) {  
  //Toggle LED 7  
  colorLeds[7].toggle();  
});
```

Activate Wind



Level 7



```

    colorLeds[7].color("green");
    colorLeds[7].intensity(55);
    colorLeds[8].color("blue");
    colorLeds[8].intensity(30);
    colorLeds[9].color("red");
    colorLeds[9].intensity(5);
  }
//2) When the user clicks the button, a light pattern appears
onEvent(▼ "redbutton", ▼ "click", function() {
  colorLeds[0].color("yellow");
  colorLeds[0].intensity(5);
  colorLeds[1].color("orange");
  colorLeds[1].intensity(30);
  colorLeds[2].color("pink");
  colorLeds[2].intensity(55);
  colorLeds[3].color("yellow");
  colorLeds[3].intensity(80);
  colorLeds[4].color("orange");
  colorLeds[4].intensity(100);
  colorLeds[5].color("pink");
  colorLeds[5].intensity(100);
  colorLeds[6].color("yellow");
  colorLeds[6].intensity(80);
  colorLeds[7].color("orange");

```

```

    colorLeds[7].intensity(55);
    colorLeds[8].color("pink");
    colorLeds[8].intensity(30);
    colorLeds[9].color("yellow");
    colorLeds[9].intensity(5);
  }
};

```

Level 8(a)

```

onEvent(▼"screen1", ▼"mousemove", function() {
  var light = randomNumber(0, 9);
  (colorLeds)[light].toggle();
  //1) When the mouse moves on the screen, a random LED toggles
});

```

level 8(b)

```

var LED = 0;
// Track the index of the current LED with a variable
onEvent(▼"toggle_button", ▼"click", function() {
  //toggle the current led
  colorLeds[LED].toggle();
  //increase the led counter
  LED = LED + 1;
  // Make the led counter loop back to the beginning
  if (LED > 9) {
    LED = 0;
  }
});

```

Level 8(c)

```
onEvent (▼ "excitedbutton", ▼ "click", function(●) {
```

```
  colorLeds [0] .color ("yellow"); ➡
```

```
  colorLeds [1] .color ("yellow"); ➡
```

```
  colorLeds [2] .color ("yellow"); ➡
```

```
  colorLeds [3] .color ("Yellow"); ➡
```

```
  colorLeds [4] .color ("yellow"); ➡
```

```
  colorLeds [5] .color ("yellow"); ➡
```

```
  colorLeds [6] .color ("yellow"); ➡
```

```
  colorLeds [7] .color ("yellow"); ➡
```

```
  colorLeds [8] .color ("yellow"); ➡
```

```
  colorLeds [9] .color ("yellow"); ➡
```

```
};
```

```
onEvent (▼ "calmbutton", ▼ "click", function(●) {
```

```
  colorLeds [0] .color ("green"); ➡
```

```
  colorLeds [1] .color ("green"); ➡
```

```
  colorLeds [2] .color ("green"); ➡
```

```
  colorLeds [3] .color ("green"); ➡
```

```
  colorLeds [4] .color ("green"); ➡
```

```
  colorLeds [5] .color ("green"); ➡
```

```
  colorLeds [6] .color ("green"); ➡
```

```
colorLeds[7].color("green");  
colorLeds[8].color("green");  
colorLeds[9].color("green");  
}  
);  
onEvent(▼ "anxiousbutton", ▼ "click", function(●) {  
colorLeds[0].color("red");  
colorLeds[1].color("red");  
colorLeds[2].color("red");  
colorLeds[3].color("red");  
colorLeds[4].color("red");  
colorLeds[5].color("red");  
colorLeds[6].color("red");  
colorLeds[7].color("red");  
colorLeds[8].color("red");  
colorLeds[9].color("red");  
}  
);
```

Activate W

Level 8(d)

The image displays two Scratch code blocks for Level 8(d). The first block is an 'onEvent' block for the 'northButton' click event, which contains a loop of ten 'colorLeds' blocks, each setting a color to 'blue'. The second block is an 'onEvent' block for the 'eastButton' click event, which contains a loop of seven 'colorLeds' blocks, each setting a color to 'green'. The code is written in a Scratch-like block-based language.

```
onEvent (▼ "northButton", ▼ "click", function ( ) {  
  colorLeds [0] .color ("blue") ;  
  colorLeds [1] .color ("blue") ;  
  colorLeds [2] .color ("blue") ;  
  colorLeds [3] .color ("blue") ;  
  colorLeds [4] .color ("blue") ;  
  colorLeds [5] .color ("blue") ;  
  colorLeds [6] .color ("blue") ;  
  colorLeds [7] .color ("blue") ;  
  colorLeds [8] .color ("blue") ;  
  colorLeds [9] .color ("blue") ;  
}  
);  
  
onEvent (▼ "eastButton", ▼ "click", function ( ) {  
  colorLeds [0] .color ("green") ;  
  colorLeds [1] .color ("green") ;  
  colorLeds [2] .color ("green") ;  
  colorLeds [3] .color ("green") ;  
  colorLeds [4] .color ("green") ;  
  colorLeds [5] .color ("green") ;  
  colorLeds [6] .color ("green") ;  
})
```

Activate Wi

Activate \

```
colorLeds [7] .color ("green");  
colorLeds [8] .color ("green");  
colorLeds [9] .color ("green");  
}  
onEvent (▼ "southButton", ▼ "click", function ( ) {  
colorLeds [0] .color ("pink");  
colorLeds [1] .color ("pink");  
colorLeds [2] .color ("pink");  
colorLeds [3] .color ("pink");  
colorLeds [4] .color ("pink");  
colorLeds [5] .color ("pink");  
colorLeds [6] .color ("pink");  
colorLeds [7] .color ("pink");  
colorLeds [8] .color ("pink");  
colorLeds [9] .color ("pink");  
}  
onEvent (▼ "westButton", ▼ "click", function ( ) {  
colorLeds [0] .color ("red");
```

Activate Wind

```
colorLeds [1] .color ("red");  
colorLeds [2] .color ("red");  
colorLeds [3] .color ("red");  
colorLeds [4] .color ("red");  
colorLeds [5] .color ("red");  
colorLeds [6] .color ("red");  
colorLeds [7] .color ("red");  
colorLeds [8] .color ("red");  
colorLeds [9] .color ("red");  
}  
onEvent (▼ "offButton", ▼ "click", function ( ) {  
  colorLeds [0] .off();  
  colorLeds [1] .off();  
  colorLeds [2] .off();  
  colorLeds [3] .off();  
  colorLeds [4] .off();  
  colorLeds [5] .off();  
  colorLeds [6] .off();  
  colorLeds [7] .off();  
  colorLeds [8] .off();  
  colorLeds [9] .off();  
})
```

Level 8(e)

```
onEvent (▼ "onbutton", ▼ "click", function(●) {  
  colorLeds [0] .intensity(5);  
  colorLeds [1] .intensity(5);  
  colorLeds [2] .intensity(5);  
  colorLeds [3] .intensity(5);  
  colorLeds [4] .intensity(5);  
  colorLeds [5] .intensity(5);  
  colorLeds [6] .intensity(5);  
  colorLeds [7] .intensity(5);  
  colorLeds [8] .intensity(5);  
  
  colorLeds [9] .intensity(5);  
  playSound (▼ "sound://category_music/birthday_kazoo_negative_game_cue_1.mp3"  
);  
}  
  
onEvent (▼ "offbutton", ▼ "click", function(●) {  
  colorLeds [0] .off();  
  colorLeds [1] .off();  
  colorLeds [2] .off();  
  colorLeds [3] .off();  
  colorLeds [4] .off();  
  colorLeds [5] .off();  
  colorLeds [6] .off();  
  colorLeds [7] .off();  
  colorLeds [8] .off();  
  colorLeds [9] .off();  
  stopSound (▼ "sound://category_music/birthday_kazoo_negative_game_cue_1.mp3"  
);  
}
```

Activate Wind