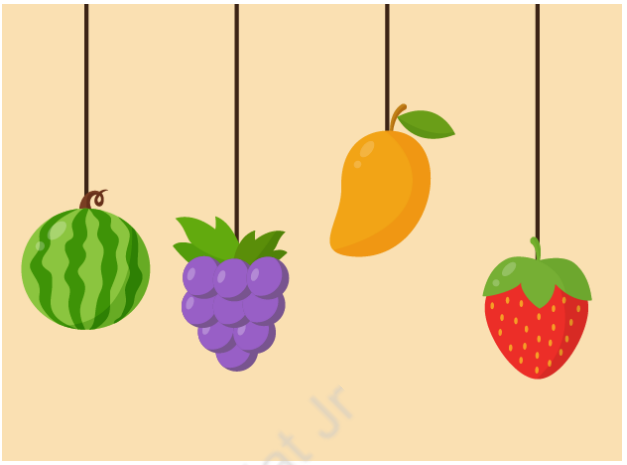
FRUIT HANGING WITH ROPE



What is our GOAL for this MODULE?

In this class, we learned to create a rope body using a physics engine and attach a fruit with the rope.

What did we ACHIEVE in the class TODAY?

- Created the ground body for the game.
- Created a rope body to hang fruit with the rope.
- Created a circle using the **ellipse()** function for the fruit body.

Which CONCEPTS/ CODING BLOCKS did we cover today?

- Creating a rope and a fruit body.
- Constraints
- Composites

How did we DO the activities?

1. Create a new file and name it **ground.js** and add the same in **index.html**.

```
<!DOCTYPE html><html><head>
  <script src="p5.min.js"></script>
  <script src="p5.dom.min.js"></script>
  <script src="p5.sound.min.js"></script>
  <link rel="stylesheet" type="text/css" href="style.css">
  <meta charset="utf-8">

</head>

<body>
  <script src="matter.min.js"></script>
  <script src="p5.play.js"></script>
  <script src="chain.js"></script>
   <script src="ground.js"></script>
  <script src="sketch.js"></script>

</body></html>
```

2. Create a **ground** object using **Ground** class and set their x and y position and **width** and **height** of the ground.

```
function setup() {
  createCanvas(500,700);
  frameRate(80);
  engine = Engine.create();
  world = engine.world;

  ground = new Ground(200,690,600,20);
}
```

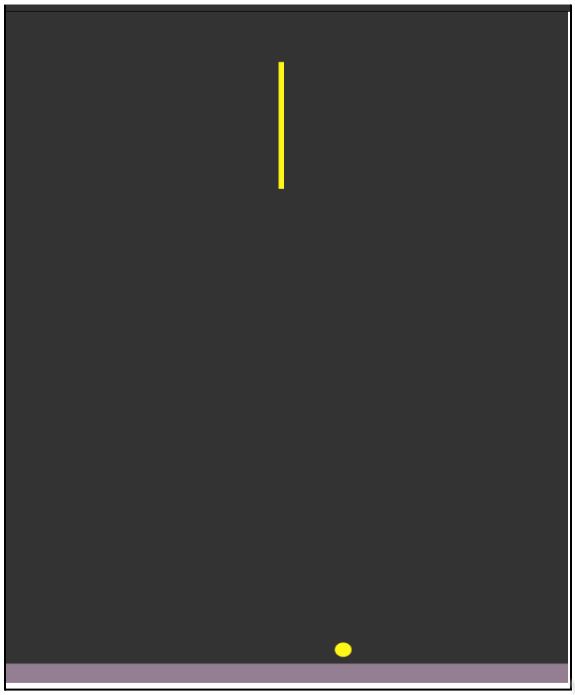
3. Create a **rope** object using **Rope** class and add it to the canvas.

```
let engine;
let world;
var ground;
var rope;

function setup() {
  createCanvas(500,700);
  frameRate(80);
  engine = Engine.create();
  world = engine.world;
  ground = new Ground(200,690,600,20);

  rope = new Rope(6,{x:245,y:30})
}
```

4. Create a circle using the **ellipse()** function to display the body.

```
function draw()
{
  background(51);
  ground.show();
  rope.show();
  ellipse(fruit.position.x,fruit.position.y,15,15);
  Engine.update(engine);

}
```

Output:



5. Now, you need to hang the fruit with our rope. And add **link.js** to script.

```
<!DOCTYPE html><html><head>
  <script src="p5.min.js"></script>
  <script src="p5.dom.min.js"></script>
  <script src="p5.sound.min.js"></script>
  <link rel="stylesheet" type="text/css" href="style.css">
  <meta charset="utf-8">

</head>

<body>
  <script src="matter.min.js"></script>
  <script src="p5.play.js"></script>
  <script src="rope.js"></script>
  <script src="ground.js"></script>
  <script src="link.js"></script>
  <script src="sketch.js"></script>

</body></html>
```

6. Create a **Constraint** to connect two bodies, **bodyA** and **bodyB**.

```
class Link{
    constructor(bodyA,bodyB)
    {
     this.link = Constraint.create(
        {
          bodyA:bodyA.body.bodies[6],
          pointA:{x:0,y:0},
          bodyB:bodyB,
          pointB:{x:0,y:0},
          length:-10,
          stiffness:0.01
        });
        World.add(engine.world,this.link);
    }
}
```

7. Create the object of the **Link** class in the **sketch.js** file and pass the 2 bodies.

```
function setup() {
  createCanvas(500,700);
  frameRate(80);
  engine = Engine.create();
  world = engine.world;
  rope = new Rope(7,{x:245,y:30});
  ground = new Ground(200,690,600,20);
  fruit = Bodies.circle(300,300,20);
  Matter.Composite.add(rope.body,fruit);

  fruit_con = new Link(rope,fruit);

  rectMode(CENTER);
  ellipseMode(RADIUS);
```

What's next?

In the next class, we are going to add the ability to break the rope and make the fruit fall. We will also create our bunny.