PROFESSIONAL

GEOLOGIST

INSTRUCTIONS:

Goal of the Project:

In Class 24, you learned how to create various bodies and assign different properties to them.

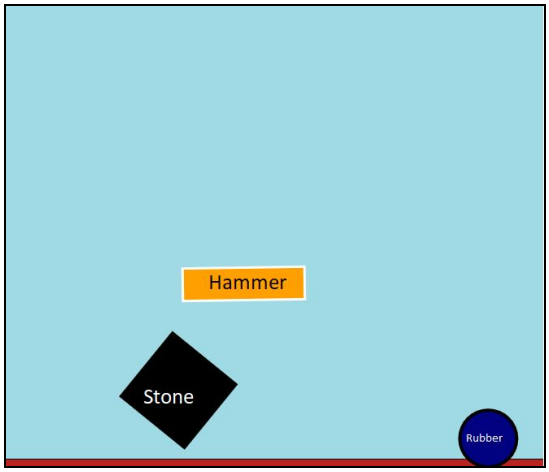
In this project, you will apply what you have learned in the class to achieve the following goals.

Main Goal	• Create a wide size canvas. • Create a plane to keep different bodies on it. • Create a hammer, stone, and rubber body.
Additional Goal 1	• Create multiple sand particles. • Create an iron body.

Story:

Franky is a geologist and he always tries to search for different bodies. And now he wants a virtual game in which using a hammer he can identify different bodies with their mass, friction, etc. Here you have to create hammer, stone, and rubber bodies.

See a video of this in action here.



***This is just for your reference. We expect you to apply your own creativity in the project.**

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Getting Started:

1. Use the template on GitHub, available for download on this link.
2. **Unzip** this folder.
3. Rename the unzipped folder as **Project 24.**
4. **Import** this folder **into the VS Code**.
5. Start editing your code in **sketch.js**.

Specific Tasks to Achieve the Main Goal:

1. Create a blueprint for the **Hammer class**.
    - This object will be the moving object in the game.
    - Write the code to move the hammer using mouse movement.
    - For this project, a rectangle will suffice.
    - Make sure you set the **density** of the paper to **2** as shown below.

```
var options = {
  'density':2,
  'friction': 1.0,
  'restitution':0.5
};
```

2. Create a blueprint for the **Plane**, on which different bodies will be placed.
3. Create a blueprint for the **Stone class**.
    - The stone class will be similar to the box class that you have created in class activity of C24 (Angry Birds Game).
    - Assign a heavy density and mass to the Stone body.
4. Create a blueprint for the **Rubber class**.
    - For this rubber body, a circle will suffice.
    - Make sure you set the low **density and** high **friction** as shown below.

```
var options={
    restitution:0.3,
    friction:5,
    density:1
}
```

5. Make sure the project works before you submit it.

*Refer to the images given above for reference.

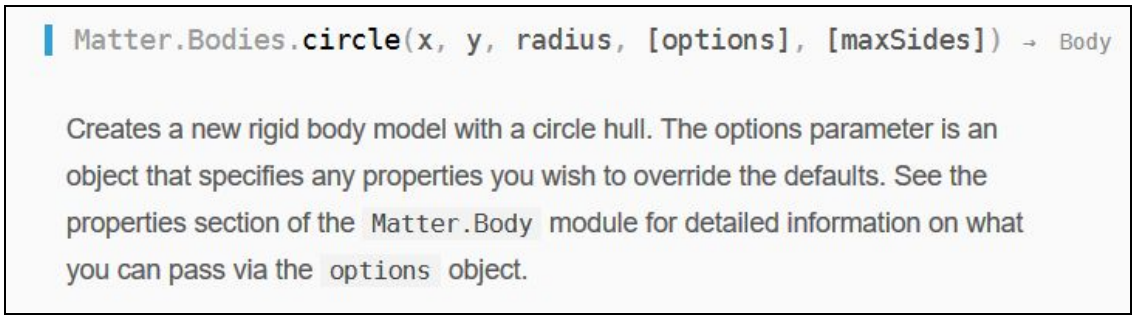
Submitting the Project:

1. **Upload** your completed project to your own GitHub account.
2. Enable **GitHub** pages for the repository.
3. Copy and paste the link to the GitHub pages in the Student Dashboard against the correct class number.

Hints for the Main Goal:

1. The rubber body will have a circular body.
    - Remember, in p5.js use the ellipse method to create the circle. See this link.

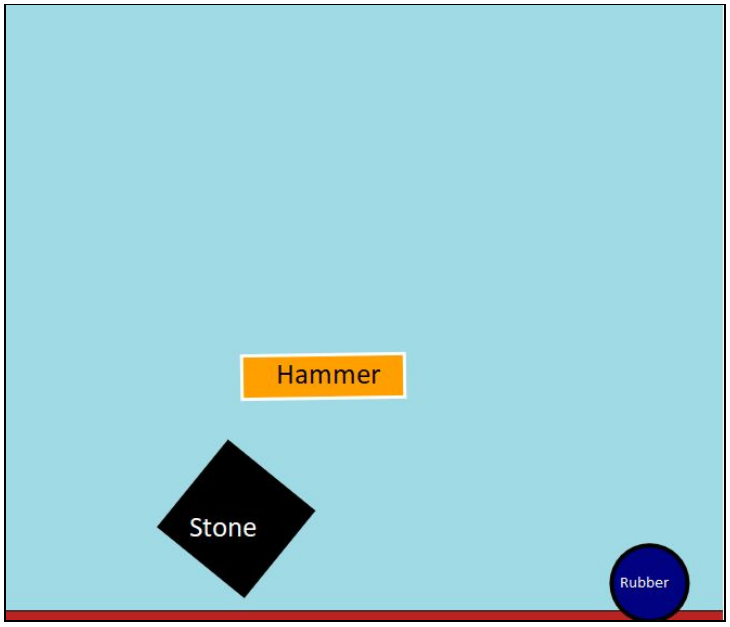
2. In Matter.js use the **Matter.Bodies.circle** to create a circular body.
    - See this link for more information.

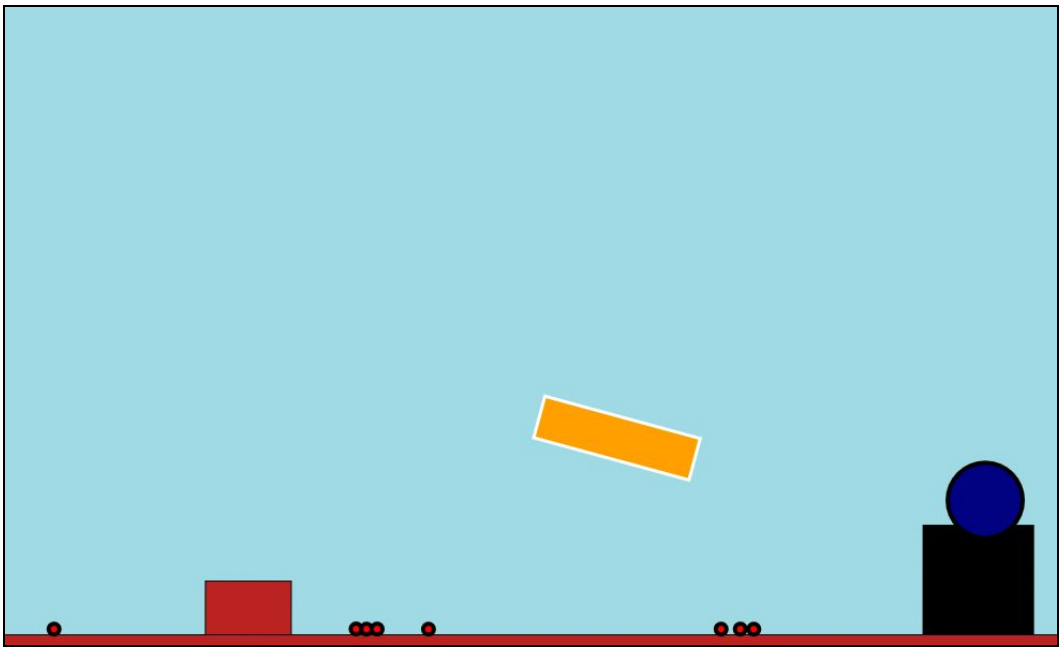


3. Circles in p5.js and circles in matter.js behave a little differently. p5.js expects the third parameter to be a radius, but matter.js will expect a diameter. Make sure you do this correctly.

Additional Goal 1:

Here you have to add two more bodies i.e. sand and iron.





Specific Tasks to Achieve Additional Goal 1:

1. Create a blueprint for the **Sand class**.
    - For this sand, a circle will suffice.
    - Create multiple sand objects.
    - Make sure you set the **less mass, high friction, and restitution** as shown below.

```
var options={
    restitution:1.3,
    friction:5,
    density:1
}
```

2. Create a blueprint for the **Iron class**.
    - This class will be similar to the Stone class.
    - Assign a heavy density and mass to the Iron body.
3. Make sure the project works before you submit it.

***Update** all the changes made to the project and **SUBMIT** the shareable GitHub link in the Student Dashboard Projects panel against the correct class number.

REMEMBER... Try your best, that's more important than being correct.
After submitting your project your teacher will send you feedback on your work.

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