

# Using Embedded Simulations in Moodle Courses

Do you want to embed engaging, interactive activities into your Moodle page? Embedded multimedia content such as simulations are a great way for students to see course concepts in action, engage with the material, and review after classes. In this guide, we'll go through how to embed simulations, calculators, and other online tools in Moodle.

## Simulations

In this example, we will use a simulation from **PhET**, a source of free, open source interactive science and math simulations. But the instructions included work for any other HTML embeddable multimedia content.

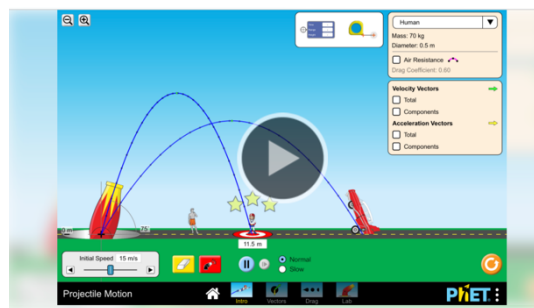
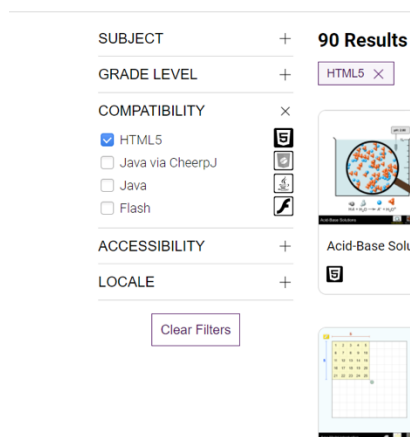
### Finding a Simulation

Access the PhET website (<https://phet.colorado.edu/>) and explore the available simulations. The simulations are classified under five sections:

- Physics
- Chemistry
- Math
- Earth Science
- Biology

In this example, we will access the physics simulations. If you look in the left hand-column, you will see that the simulations are already filtered for HTML 5 content. This is important, as HTML 5 content is compatible with many different operating systems and browsers; it also embeds easily into Moodle.

We will use the Projectile Motion simulation (one of our personal favourites) for our example.



### Projectile Motion



## Copying Embed Code

On the page for your simulation, select the “</>” button to reveal the embed code. Copy the code that pops up (Ctrl+C (Windows) or Command+C (macOS)).



### Embed a running copy of this simulation

[close](#)

```
<iframe  
src="https://phet.colorado.edu/sims/html/projectile-  
motion/latest/projectile-motion_en.html" width="800"
```

Use this HTML to embed a running copy of this simulation. You can change the width and height of the embedded simulation by changing the "width" and "height" attributes in the HTML.

### Embed an image that will launch the simulation when clicked

For our example, we would now have the following code ready to paste in Moodle:

```
<iframe src="https://phet.colorado.edu/sims/html/projectile-  
motion/latest/projectile-motion_en.html" width="800" height="600"  
scrolling="no" allowfullscreen></iframe>
```

## Embedding into Moodle

+ Add an activity or resource

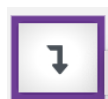
Back in Moodle, click the “**add an activity or resource**” button. If you want to embed a single simulation, select “**page**.” If you want to group a series of simulations together, select “**book**.” Add a name and description then include any instructions that for students in the “Page content” section. For this example, we typed “Try to hit the target! Do you see a relationship between angle and initial speed?” in the page content.



Page



Book



Under the “Page content” section, select the “**show/hide advanced buttons**” button. This will reveal the “**HTML**” [</>] button. After selecting the HTML button, we now see this:

```
<p>Try to hit the target! Do you see a relationship between angle and initial speed?</p>
<p><br></p>
```

Place your cursor after the break point `<br>` and paste the HTML content you copied from the simulations page.

```
<p>Try to hit the target! Do you see a relationship between angle and initial speed?</p>
<p><br><iframe src="https://phet.colorado.edu/sims/html/projectile-motion/latest/projectile-motion_en.html" width="800" height="600" scrolling="no" allowfullscreen></iframe></p>
```

At this point, you should now add a title, which acts as alt text. Not only does this improve accessibility for everyone, it also will show students what should be on the page in case of a technical difficulty. You can include a title by adding **title="Your Title"** in the `iframe` block

```
<p>Try to hit the target! Do you see a relationship between angle and initial speed?</p>
<p><br><iframe src="https://phet.colorado.edu/sims/html/projectile-motion/latest/projectile-motion_en.html" width="800" height="600" title="Projectile Motion Simulation" scrolling="no" allowfullscreen></iframe></p>
```

Make any additional changes you'd like to add for appearance, activity completion and tags. Click *save and display*.

## Aesthetic Changes

In addition to adding alt text to your simulation, there are a number of simple changes you can make to improve the look of the simulation on your page

### Center Alignment

You can ensure the simulation sits in the center of the page by adding **style="text-align: center;"** in the paragraph (`<p>`) tag. To preview what it will look like, click the `</>` button again.

```
<p>Try to hit the target! Do you see a relationship between angle and initial speed?</p>
<p style="text-align: center;"><br><iframe src="https://phet.colorado.edu/sims/html/projectile-motion/latest/projectile-motion_en.html" width="800" height="600" title="Projectile Motion Simulation" scrolling="no" allowfullscreen></iframe></p>
```

## Remove Iframe Border

By default, embedded content in HTML comes with a dark border. To remove it, add **style="border:none;"** in the iframe block.

```
<p>Try to hit the target! Do you see a relationship between angle and initial speed?</p>
<p style="text-align: center;"><br><iframe
src="https://phet.colorado.edu/sims/html/projectile-motion/latest/projectile-motion_en.html" width="800" height="600" style="border:none;"
title="Projectile Motion Simulation" scrolling="no"
allowfullscreen></iframe></p>
```

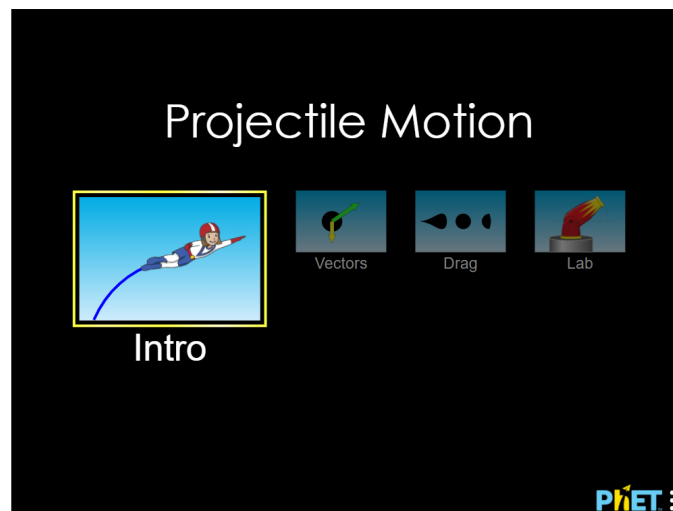
## Final Moodle Page

The Moodle page should now look like this:

Projectile Motion Simulation



Try to hit the target! Do you see a relationship between angle and initial speed?



## Summary

In summary, here are the steps taken to embed a simulation onto a Moodle page.

1. Find a simulation
2. Copy embed code
3. Create new Moodle page
4. Fill in basic info like name & description
5. Page content: Add any instructions
6. Click </> button
7. Paste in embed code after <br>

8. Add in alt text using title="Projectile Motion Simulation" or something
- At this point you're finished - anything else is icing on the cake.
9. Make changes to height and width, if necessary
10. Change alignment to center alignment
11. Remove border using style="border:none;"
12. Add in relevant tags, student self-check activity completion, etc.
13. Show off your simulation!



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