



# Going Deeper: PhET Interactive Simulations

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# Outline

Course Planning: Sims and instructional strategies

Get to know a sim (10 min)

Learning goals and instructional strategy (5-10 min)

Write clicker question(s) or interactive lecture demo, OR

Write (part-of) an activity (25 min)

Share out & Reflect (25 min)

Workspace

Find our resource spaces

<https://tinyurl.com/2018nfw-phet>

# Course Planning

Browse PhET website (focus on HTML sims)

Match up topics/concepts you teach with sims

Think a bit about how you might use each:

pre-class assignment?

in lecture concept test or interactive lecture demo?

in-class activity?

homework?

lab?

# Plan a sim use

Pick a sim (preferably in HTML)

Play with the sim. Get to know its affordances.

Brainstorm learning goals it could help you address

Decide on a learning goal and instructional approach

Draft your  
ideas

Clicker Question / Concept Test

Interactive Lecture Demonstration

In-class Activity / Lab

# Clicker Question Tips

## Strategies:

1. Predict an outcome of an “experiment” with the simulation (e.g., what will happen if? Which change in the sim setup would result in the desired behavior?)
2. Rank cases (e.g. which bulb will be brightest).
3. Compare contrasting cases (e.g., two different waves)
4. Interpret different representations (e.g. graphs, pictures, vectors).
5. Connect to real-world applications

[https://phet.colorado.edu/files/guides/UG\\_Phys\\_Guide-Lecture-Overview\\_en.pdf](https://phet.colorado.edu/files/guides/UG_Phys_Guide-Lecture-Overview_en.pdf)

# Activity Writing Tips

## Strategies:

1. Keep it short.
2. Start with open exploration time.
3. Avoid explicit directions.
4. Give open-ended challenges.
5. Build on students' prior knowledge, and connect to the real world.
6. Make use of sim features and examples.
7. Help students check their understanding.
8. Scaffold with “concept” tables

<https://www.physport.org/recommendations/Entry.cfm?ID=93339>



Share out

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