Teaching Astronomy concepts using PhET Interactive Simulations

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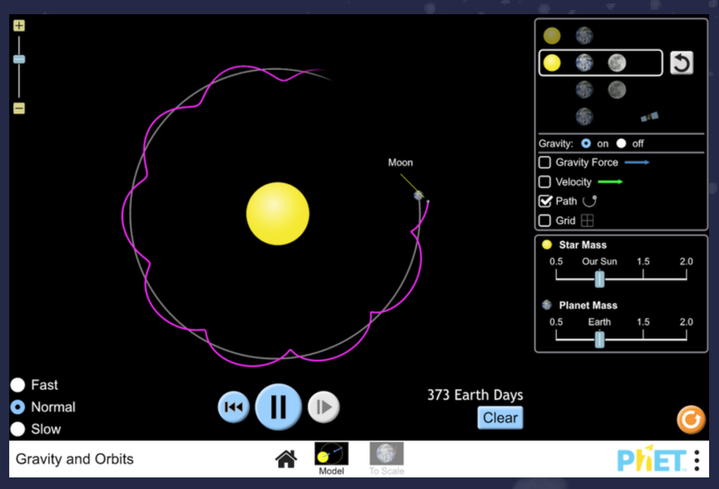
What is PhET?

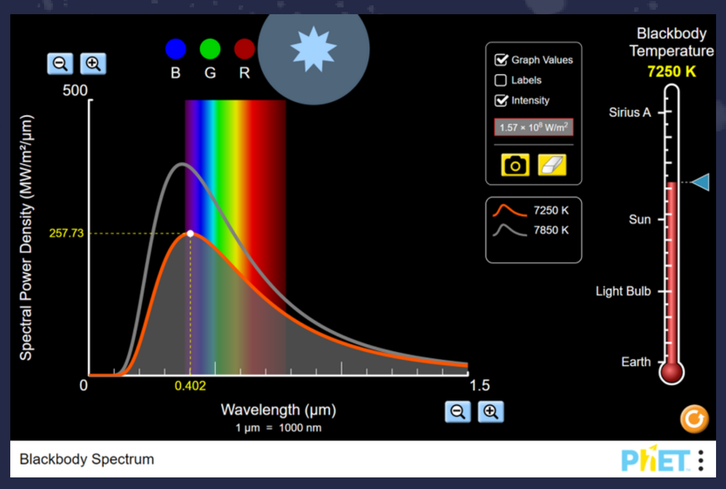
Founded by Nobel Laureate, Carl Wieman, PhET (Physics Education Technology) is a project developed at the University of Colorado Boulder that offers free, interactive, research-based science and mathematics simulations. Initially focused on physics, PhET Interactive Simulations has expanded to cover a wide range of topics, including astronomy, chemistry, biology, earth science, and mathematics, making these subjects more accessible and engaging for students and educators alike.

- **160+** science simulations
- Teaching activities (example)
- Offline access
- Accessibility features
- Global community
- All for **FREE**

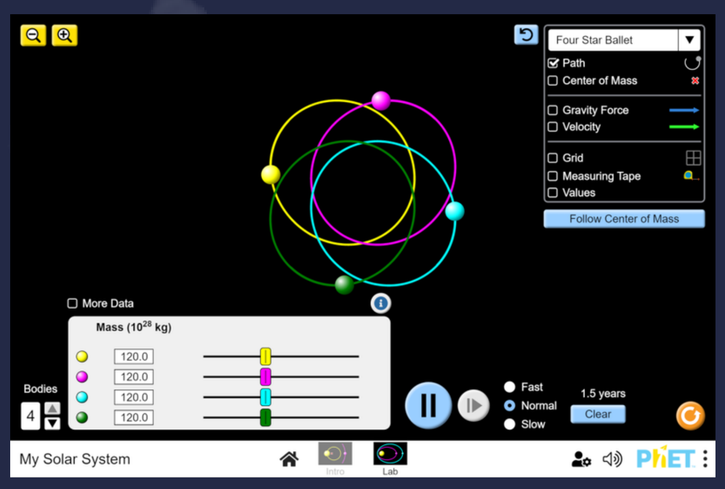
Astronomy Simulations



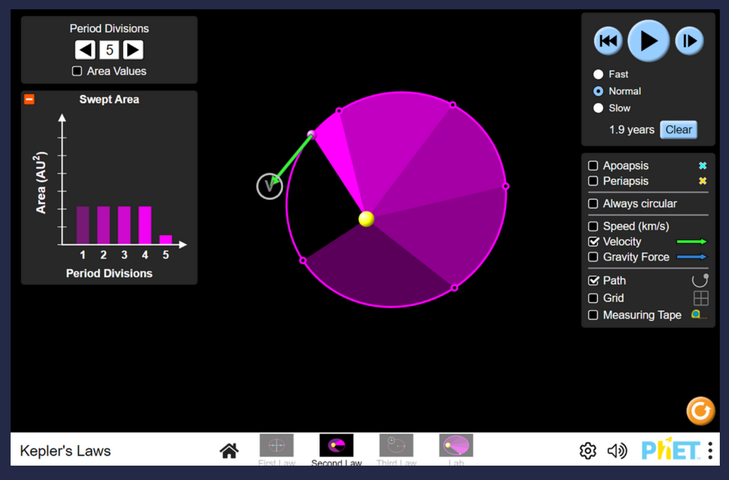
Gravity and Orbits
Explore the variables that affect the Earth's orbit. What is the biggest orbit you can build?



Blackbody Spectrum
Discover the relationship between the temperature of a blackbody and its spectral radiance.



My Solar System
Interact with the position, mass, and velocity of up to four astronomical objects. Try to build a stable system!



Kepler's Laws (Prototype)
Connect astronomy and math while playing with orbits, graphs, areas, and more! Colle the evidence needed to describe Kepler's Laws.

More astronomy PhET sims:

- Build an Atom
- Build a Nucleus
- Gravity Force Lab

Why use PhET Simulations for teaching?

- Engaging and **interactive** learning experience
- Simplifies complex concepts for **better comprehension**
- **Enhances retention** and understanding of key principles
- Encourages **exploration** and **experimentation**
- Promote the development of deep **conceptual knowledge**, **inquiry skills**, and **critical thinking.**
- **Adaptable** to different teaching styles and environments

Learn more about how to integrate PhET sims in your class with our **Teacher Resources er sim** (you need to register to PhET) and **Virtual Courses.**