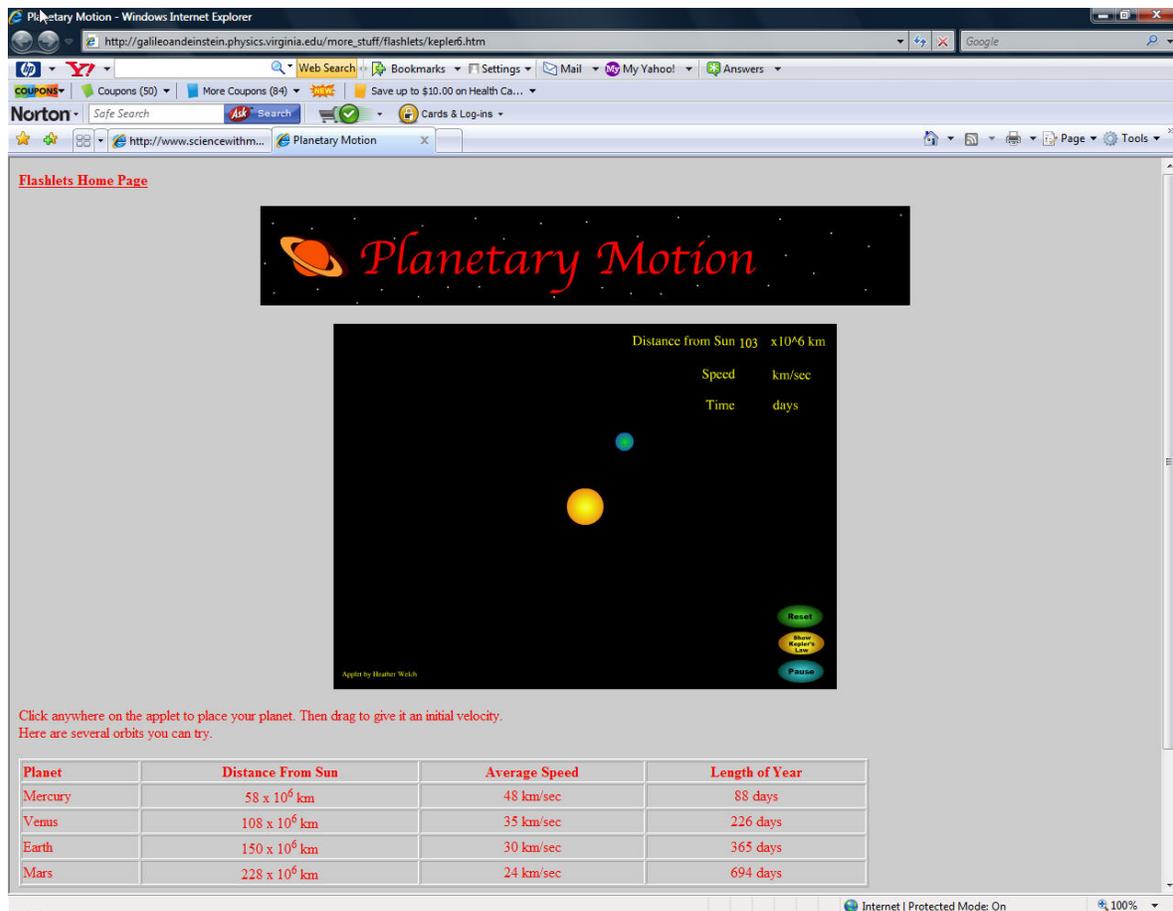


# Planetary Motion

[http://galileoandstein.physics.virginia.edu/more\\_stuff/flashlets/kepler6.htm](http://galileoandstein.physics.virginia.edu/more_stuff/flashlets/kepler6.htm)

**Directions:** Working in groups (3-4 students), go to the above internet site. Once you are at the site, each student should take turns trying to get the planet in orbit around the sun. This will require you to manipulate the speed and angle at which the Earth moves towards the Sun. Ultimately, you are trying to get the Earth to move around the Sun so that it takes 365 days for one complete revolution. Be sure to notice what happens when the Earth does not move towards the Sun at the correct angle or speed.



Flashlets Home Page

**Planetary Motion**

Distance from Sun 103 x 10<sup>6</sup> km  
Speed km/sec  
Time days

Reset  
Show Kepler's Law  
Pause

Applet by Heather Walsh

Click anywhere on the applet to place your planet. Then drag to give it an initial velocity.  
Here are several orbits you can try.

Planet	Distance From Sun	Average Speed	Length of Year
Mercury	58 x 10 <sup>6</sup> km	48 km/sec	88 days
Venus	108 x 10 <sup>6</sup> km	35 km/sec	226 days
Earth	150 x 10 <sup>6</sup> km	30 km/sec	365 days
Mars	228 x 10 <sup>6</sup> km	24 km/sec	694 days

## Additional Links:

<http://dan-ball.jp/en/javagame/planet/>

<http://www.arachnoid.com/gravitation/>

<http://burtleburtle.net/bob/physics/solar.html>