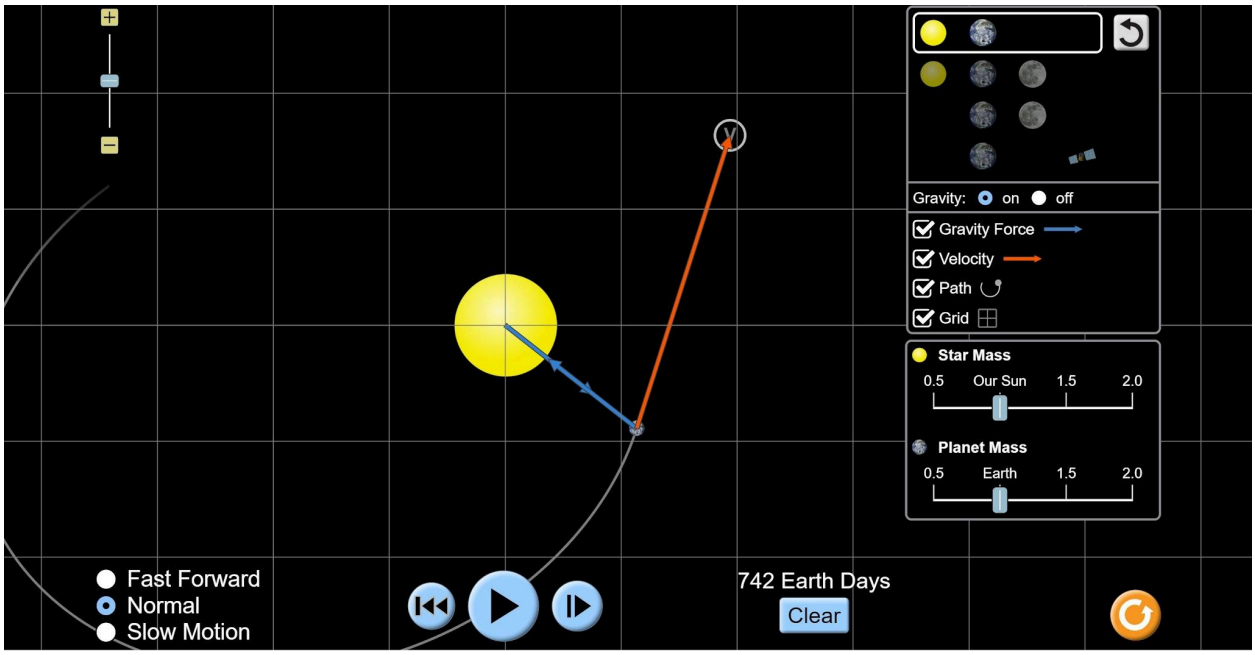
Gravitational Force and Orbits Lab



Use the **PhET Simulation**. Make sure to click **Gravity Force**, **Velocity** and **Path** and make sure **Gravity** is checked **On**. Run several simulations, changing parameters as you go.

1. What direction is the gravitational force of the orbiting objects?

2. What direction is the velocity of the orbiting object?

3. If you turn gravity **off**, what happens? Why does this happen?

4. If you increase the mass of the Sun, provide an explanation of what happens to the Earth .

5. If you decrease the mass of the Sun, provide an explanation of what happens to the Earth .

6. If you increase the mass of the Earth, and drop the mass of the Sun, what happens?

7. Move the satellite closer to the object it is orbiting and further from the object it is orbiting. Describe what happens and explain why this happens.

8. Do you think changing the mass of the satellite ONLY will change the orbit?
(Choose one) **Yes** **No**

9. Change the mass of the satellite only. Explain what happens.

10. Invent a previously untried set of changes to make something interesting happen. Describe what you did, and what the effects were.