**Gravity, Inertia and the Orbital Motion of Earth**

**(Tutorial Interactive)**

Name: Class: Date:

*Complete the on-line, interactive tutorial about gravity, inertia and how Earth orbits the sun. Complete the*

SIMULATION 1: Spaceship and Neutron Star

What happens when the spaceship comes to close to the neutron star?

Using the words “gravity” and “inertia” explain why this happens.

SIMULATION 2: Earth’s Critical Speed

What is the speed Earth needs to achieve circular orbit around the sun (critical speed)?

What happens to the earth when the speed is GREATER than its critical speed?

What happens to the earth when the speed is LESS than its critical speed?

SIMULATION 3: Sun and Three Orbiting Planets All Travel at Same Speed

Run the model. What happens to the point (A) closest to the sun?

Determine the critical speed for point A to orbit the sun.

Reset and run the model again, And, what happens to the point (C) furthest from the sun?

Determine the critical speed for point C to orbit the sun.

If this system simulates what happens with our solar system, would you say that the critical speed of Venus (A) is faster or slower than that of Earth? What about Mars (C)?

SIMULATION 4: Multiple Points Connected by Springs

What happens to points A and C that is different from the how they moved in Simulation 3?