Name _____

The Dance of Planets: How Gravity Shapes Their Orbits Around the Sun

Open-Ended Response Questions

1. Imagine a planet with twice the mass of Earth. How would its orbit around the Sun be affected by its greater mass? Explain.

2. If a planet were to suddenly lose all its inertia while in orbit, what would happen to it? Explain the consequences.

3. Discuss the significance of Kepler's laws of planetary motion in our understanding of planetary orbits and the development of modern astronomy.

4. What would happen to a planet's orbit if the gravitational force between it and the Sun were suddenly weakened? How might this affect the planet's path around the Sun?