Name _____

Gravity Scenario: What Would Happen? Answer Key

1. It will rise for a short time, slow down due to the Moon's weaker gravity, then fall back to the surface at one-sixth the acceleration of Earth's gravity.

2. The wrench will continue orbiting alongside the satellite because it's in free fall around Earth, not drop straight down.

3. Your weight would be greater because a planet twice Earth's size has stronger gravity (due to greater total mass), pulling you down with more force.

4. Jupiter's gravity will bend the comet's path, possibly pulling it into a new orbit or slingshotting it away at a different angle and speed.

5. Without orbital motion to counteract Earth's pull, the station will begin accelerating toward Earth and eventually re-enter the atmosphere.

6. Yes, the light's path will bend due to gravitational lensing caused by the black hole's extreme warping of space-time.

7. Weaker — being farther from Earth's center slightly reduces gravitational pull compared to sea level.

8. Mars's gravity will slowly accelerate the asteroid, increasing its speed and pulling it toward the planet's surface or into orbit.