How do gravity and inertia work together to keep the planets in orbit around the sun?

A) Gravity pulls the planets toward the sun, while inertia keeps them moving forward in a straight line.

B) Gravity pulls the planets away from the sun, while inertia keeps them moving in a circular path.

C) Gravity pulls the planets toward the sun, while inertia keeps them moving in a circular path.

D) Gravity pulls the planets away from the sun, while inertia keeps them moving forward in a straight line.

Solution

Answer: C) Gravity pulls the planets toward the sun, while inertia keeps them moving in a circular path.

This is known as the principle of centripetal force, where the gravitational force provides the centripetal force necessary to keep the planets in orbit around the sun. The inertia of the planets causes them to continue moving in a straight line, but the gravitational pull of the sun alters their path and causes them to move in a circular orbit.