Label The Principles of Motion

Instructions: *Note the abbreviations in front of each principle of motion below. Mark the site where these principles occur on your marble track drawing or tag the marble track model, using sticky notes,*

A-Acceleration is when a marble is speeding up or slowing down.

CV-Critical Velocity is the Kinetic Energy (KE) a marble will need to successfully complete the marble launch.

LM-Linear Motion is when a marble is moving in a straight line, either with constant velocity or accelerating.

M-Momentum, different from speed, describes the amount of energy-force a marble has in motion.

R-Release Point is the highest point on the marble track, where the Gravitational Potential Energy (PE) is the greatest.

F-Friction is a resistance force working in the opposite direction of the marble in motion, creating drag as it rolls on the track.

P-Parabolic Curve is the arching path of a marble in trajectory motion (flight) caused by competing forces of gravity and acceleration.

KE - Kinetic Energy is the energy a marble has because it is moving. The faster a marble is moving, the more KE it possesses.

C-Circular Motion is when a marble is following the profile of a circle, constantly changing direction from a straight path.

B-Banking describes how raising the outside rail on a curved path prevents a fast marble from flying off the track.

CF-Centripetal Force is the inward force a marble experiences in circular motion from the outside rail pushing it toward the center of the curve. In Latin Centripetal means, "center seeking".

I - Inertia is the tendency of a marble to not want to change its direction, speed or position. It wants to go straight or stand still.

T-Transfer of Energy occurs when marbles collide. One marble stops rolling, and its KE passes to the other marble(s), which starts moving.

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