Vocabulary: Air Track

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- Air track – a triangular track that is perforated with holes that emit air.

    o One or more gliders can float on a cushion of air as they move over the air track.

    o An air track is used to study motion with minimal friction.

- Approach velocity – the rate at which two objects are approaching one another.

    o For objects moving on the same track, the approach velocity is equal to the difference in the objects' *velocities: approach velocity* = $v_1 - v_2$.

- Conservation of energy – the principle that the total energy in a closed system remains constant.

- Conservation of momentum – the principle that the total *momentum* in a closed system remains constant.

- Elasticity – a measure of how much *kinetic energy* is preserved in a collision.

    o The symbol for elasticity is *k*.

- Kinetic energy – energy of motion.

    o Kinetic energy is represented by the symbol *KE* or simply *K*.

    o The formula for kinetic energy is $KE = mv^2 / 2$.

- Momentum – a measure of how difficult it is to stop a moving object.

    o Momentum is represented by the symbol *p*.

    o Momentum is the product of an object's mass and velocity: $p = mv$.

    o If mass is measured in kilograms (kg) and velocity is measured in meters per second (m/s), the units of momentum are kilograms-meters per second (kg•m/s).

- Separation velocity – the rate at which two objects are moving away from one another.

    o For objects moving on the same track, the separation velocity is equal to the difference in the object's velocities: *separation velocity* = $v_2 - v_1$.

- Velocity – the speed and direction of a moving object.

    o Motion to the right is considered positive and motion to the left is negative.