



Basic inclined plane

EQ001F

Function

Intended for experimental study, physics laboratory and carrying out physics experiments on: Mechanics of solids. Kinematics. Referential, position, movement and trajectory. The mobile. Trajectory and displacement. The difference between displacement and distance traveled. The Cartesian frame of reference in the plane, Cartesian plane. Scalar magnitude. Vector greatness. The MRU and its characteristics. What is Uniform Rectilinear Motion (MRU). The meeting of two pieces of furniture in MRU with opposite directions. Progressive Uniform Rectilinear Motion (MRU). Progressive MRU (mobile moving away from the origin). Retrograde MRU (mobile approaching the origin). Meeting point solution by superimposing graphics. Percent relative error. Dynamics. Frictional forces and Newtons first law of motion. The force of static friction. The coefficient of static friction. Friction versus Newtons first law of motion. The force of kinetic friction. The determination of friction, static and kinetic coefficients of sliding on an inclined plane. The coefficient of kinetic friction of sliding as a function of the slope angle tangent. The coefficient of kinetic sliding friction for a metallic specimen. The effect of lubricants on the coefficients of static and kinetic friction of sliding. Static. Driving force, resisting force and mechanical advantage of the inclined plane, a simple machine. Measuring mass weights.

Knowledge areas

Physics

Key Experiments

The movement and the trajectory.

The URM and its characteristics

The meeting of two moving objects in URM with opposite directions, on the same trajectory

The frictional forces and Newton's first law of motion

The determination of the sliding static and kinetic friction coefficient

The mechanical advantage of a simple machine, inclined plane

The equilibrium of a moving object on an inclined plane

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