Solid and fluid mechanics set, straight ramp, manual stopwatch
EQ005AN

Function

Intended for experimental study, physics laboratory and carrying out physics experiments on: Kinematics. Determination of the final velocity of a projectile in a horizontal launch. The range, uncertainty and speed of a horizontal launch. Dynamics. Knowing the fixed pulley, a simple machine. Knowing the movable pulley, a simple machine. The golden law of mechanics. The exponential hoist, a simple machine. The parallel notebook, a simple machine. The characteristic stretching curve of a helical spring and a rubber belt, elastic hysteresis. Hookes law in a helical spring. Elastic deformation and plastic deformation. The association of helical springs in series. The association of helical springs in parallel. Static. Equilibrium conditions for a suspended rigid body. What is meant by polyhedron geometric solid. Homogeneous body. Regular and irregular body. What is meant by a rigid body. The equilibrium conditions of an extended body. The barycenter, center of gravity. Stable balance. The unstable balance. The Indifferent balance. The conditions of stable, unstable and indifferent static equilibrium for a supported spherical rigid body. The force diagram. Energy Conservation. Mechanical work, potential energy and kinetic energy in a mass and helical spring system. Elastic potential energy and kinetic energy, the energy of movement. The principle of conservation of mechanical energy in a mass and oscillating helical spring system. Determining the values ¿¿of potential energy, kinetic energy and velocity at a given position on the trajectory in an oscillating spring mass system. Horizontal launch, range, uncertainty and amount of horizontal movement. Decomposition of the two-dimensional movement into two rectilinear movements. Measurement inaccuracy, measurement deviation,

range measurement uncertainty. Measuring the height of fall and determining the amount of time the projectile spends in the air, flight time. The horizontal component of velocity. The amount of horizontal movement. The conservation of the amount of horizontal movement. Hydrostatic. Difference thrust meter. The hydrostatic buoyant force, a quantity with direction, direction and module, value. Scalar and vector quantities. Measuring forces. The mass of a body, a scalar quantity, does not change. Weight is a force, a vector quantity, it has module, direction and direction. A bodys weight can change. The relationship between the apparent decrease in the weight of a body immersed in a liquid and the buoyancy. Determining the value, direction and direction of the buoyant hydrostatic force. Archimedes principle, buoyancy and its relationship with the volume and density of the displaced liquid. The principle of the impenetrability of matter. Determining the weight of the volume of liquid displaced. The relationship between buoyancy and the weight of the volume of liquid displaced. The relationship between buoyancy and volume, the density of the displaced liquid and the acceleration due to gravity. The relationship between buoyancy and the volume and specific weight of the liquid displaced. Wave. The simple pendulum and its laws. The ideal simple pendulum. Elongation and amplitude in the movement of a simple pendulum. The period and frequency as a function of the amplitude of the simple pendulum maintaining the same length. Building the simple pendulum. The law of pendulum isochronism. Determining the average period and frequency for different amplitudes. Tables and graphs. Observing the oscillating movement, MHS, in a mass and helical spring system. Dynamic determination of the elastic constant in an oscillating mass and helical spring system, MHS. The value of the elasticity constant, not considering the mass of the spring. Dynamic determination of the elastic constant, considering the mass of the spring, etc.

Knowledge areas

Physics