



## Set (Mechanics 1)

SCN-F001

### Function

Intended for experimental study, laboratory of natural sciences and carrying out experiments in natural sciences on: Dynamics. The coil spring and Hookes law. Temporary deformation, elastic deformation. Permanent deformation, plastic deformation. Building table and graph. Determining the spring constant of elasticity. Hookes law. Association of two helical springs in series. Determining the spring constant of two springs in series. Association of two helical springs in parallel. Determining the spring constant of two springs in parallel. Energy conservation. Work and energy in a mass and helical spring system, conservation of mechanical energy. The energy exchanges that occur in a mass and oscillating spring system. The work done by a force acting on a body that causes a displacement in the body. The elastic potential energy. Hydrostatic. Buoyancy, experimental proof. Determining, by difference, the buoyant force acting on a body submerged in a liquid. Archimedes principle, buoyancy and its relation to the volume and density of the displaced liquid. The principle of the impenetrability of matter. How to fix the volume difference. Measuring forces with the dynamometer. Calculating and determining the buoyant hydrostatic force characteristics. Determining the weight of the volume of liquid displaced. The ratio of buoyancy to weight to the volume of liquid displaced. Archimedes principle, Archimedes theorem. Absolute density (specific mass) and relative density. The specific weight. The relationship between specific weight and absolute density. The relationship of buoyancy to volume, the density of the displaced liquid, and the acceleration due to gravity. The relationship of buoyancy to the volume and specific weight of the liquid displaced. Determining the density

of an irregular solid using buoyancy. Absolute density (specific mass) and relative density. undulatory. The MHS in an oscillating mass and helical spring system.

## **Knowledge areas**

Physics - Math & Science Fundamentals - Compact Kits

## **Level**

High school

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