EQ077F2

Function

Intended for experimental study, laboratory of natural sciences, physics, chemistry and biology for carrying out experiments on: Matter and energy. The melting of ice, the change from solid state of water to liquid state. The general properties of matter. The specific properties of matter. Burning a candle produces light and heat. A simple machine called a fixed pulley. Force applied to a spring and the elongation suffered. Differentiation between force and pressure. The Magdeburg hemisphere experiment and atmospheric pressure. What is meant by Magdeburg hemispheres. Reducing the internal pressure to the discs. Balancing the pressure inside the disks with atmospheric pressure. The free surfaces of a fluid within communicating vessels. Thermoscope. The difference between thermoscope and thermometer. The difference between heat and temperature. The physical states of water. The solidification of water, obtaining colored ice. Boiling and condensation of water. The means of heat propagation. Kinematics. Referential, position, movement and trajectory. A simple machine called a moving pulley. Dynamics. Frictional forces and Newtons first law of motion. The coil spring and Hookes law. Association of helical springs in series. Determination of spring constant of helical springs in series. Energy conservation. Work and energy in a system of mass and oscillating helical spring, conservation of mechanical energy. . Static. Experimental determination of the mechanical advantage of the inclined plane. Equilibrium of a piece of furniture on an inclined plane. Hydrostatic, etc.

Knowledge areas

Key Experiments

Fusion, the change from solid to liquid state
The specific properties of matter
Some transformations of energy: the candle produces light and heat when burning
The experiment of the Magdeburg hemispheres and atmospheric pressure
The thermoscope and thermometric scales
Boiling and condensation of water
The movement and the trajectory.
The frictional forces and Newton´s first law of motion
The experimental determination of the mechanical advantage of the inclined plane
The equilibrium of a moving object on an inclined plane
The experimental proof of buoyancy
Electrical conductors and electrical insulators
The links in series, in opposition and in parallel between cells
Permanent magnets, temporary magnets and the electromagnet
Pulse, frequency and wavelength of a spring
Producing and identifying the waves on a long spring
The standing wave in a long spring
How to separate heterogeneous mixtures through magnetic separation. Part II of V
How to separate homogenous mixtures using paper chromatography. Part I of II
How do you list the properties of substances by electrical conductivity?
Classification of inorganic reactions – How does the reaction of hydrogen displacement (simple exchange) occur? Part III of IV
Classification of inorganic reactions – How does the formation of precipitates (double exchange) occur? Part IV of IV
Inorganic chemical functions – How to obtain an acid oxide. Part II of III
Inorganic chemical functions - How do acids and bases behave in relation to different indicators? Part I of II
Construction of three-dimensional organic structures.
Organic functions - Alcohol - Water absorption
Are all circulatory systems equal?
How do you use the biological microscope?
Are we all equal?
What is the probability? E rule and OU rule in genetics.
How to use the insufflation bulb