EQ077C

Knowledge areas

Math & Science Fundamentals

Key Experiments

The touch of each of us
Water is necessary for the germination of seeds
Force, mechanical deformation, plastic deformation and elastic deformation
Sunrise and sunset in the North Pole
Sunrise and sunset in Fort Yukon - Alaska - USA, Arctic Circle
Sunrise and sunset in Havana, Cuba
Sunrise and sunset in Macapá - Amapá, Brazil
Sunrise and sunset in Ubatuba - São Paulo, Brazil
Sunrise and sunset in Porto Alegre - Rio Grande do Sul, Brazil
Sunrise and sunset at Amundsen Scott Station - Antarctic Circle
Sunrise and sunset in your city
The construction of a sundial
The phases of the Moon
The operation and use of the compass
Identifying objects by the sound
The shape of objects
The vertical position of objects

The arrangement of objects on flat surfaces
The solids, liquids and gaseous bodies
The energy of moving air
The horizontal surface of still water
Melting of ice, fusion may be faster or slower (do it on a sunny day)
Condensation of water
Bass and treble
Separating objects with the use of a magnet
The light, the transparent, translucent and opaque means
Producing oxygen by a chemical reaction
The decantation and filtration, two steps for the purification of water
The experiment of the Magdeburg hemispheres and atmospheric pressure
Inflating a balloon, reducing the external pressure
The leveling of liquid surfaces in open communicating vessels
The thermoscope and thermometric scales
Vision defects, correction of hyperopia and myopia with lenses
Electrification by friction, the principle of conservation of charge, law of charges
Influence of the minimum launch time in a looping
The frictional forces and Newton´s first law of motion
The equilibrium of a moving object on an inclined plane
Archimedes´ principle
Fusion, the change from solid to liquid state
Dilation, the increase in the volume of water when freezing
The general properties of matter
The specific properties of matter
The moving water and some consequences
Some transformations of energy: the candle produces light and heat when burning
Noting the compressibility and the elasticity of air
Inertia, one of the general properties of matter - Newton´s first law
Pascal´s law, the hydraulic lift
Difference between heat and temperature
The physical states of water
Boiling and condensation of water
The principles of geometrical optics
The composition of colors in a Newton Disk
Electrical conductors and electrical insulators
The links in series, in opposition and in parallel between cells
The mapping of the magnetic field of a magnet, magnetism
Permanent magnets, temporary magnets and the electromagnet
The operation of a hydroelectric plant and the blackout
Pulse, frequency and wavelength of a spring
Producing and identifying the waves on a long spring
The standing wave in a long spring
Sound, a longitudinal mechanical wave
The Doppler effect, with tuning fork
The power of a generator
Some measuring instruments - How do you compare volume measurement scales? Part I of II
Condensation, the change from gaseous to liquid state
The determination of the density of a liquid by an aerometer
How do you perform the separation of heterogeneous mixtures by simple filtration? Part I of V
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?
How to identify homogenous and heterogeneous systems
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 do acids and bases behave in relation to different indicators? Part I of II
Inorganic chemical functions – How to obtain an acid oxide. Part II of III
Inorganic chemical functions – How to obtain a basic oxide. Part III of III
Chemical kinetics - Catalyst
Construction of three-dimensional organic structures.
Organic functions - Alcohol - Water absorption
How do you classify the invertebrates?
Are all circulatory systems equal?
How do you use the biological microscope?
Becoming familiar with a biological microscope
Are we all equal?
How are chromosomes divided?
What is the probability? E rule and OU rule in genetics.
Am I color-blind?
How does natural selection occur?
How is a gene selected in a population?