The Fantastic World of Matter

This section focuses primarily on “Physics” and “Chemistry”, looking at topics including “Mechanics”, “Electromagnetism”, “Sound”, “Thermochemistry”, “Modern Physics”, and “Optics”.

Mechanics

This is one of the oldest and most widely-applied areas of physics. Human has discovered long ago that “Energy” may appear in different forms and can be transformed from one kind to another. Thus comes the concept of “conservation of energy”. Subsequent developments in science have expanded this simple concept into many new aspects.

The goal of this area is to exhibit the phenomena of energy transformations in the macroscopic world. The exhibits include “Simple Machines”, “Lever”, “Wheel-and-Axle”, “Elastic Collision”, “Conservation of Angular Momentum” and “Hydrodynamics”.

Electromagnetism

Man has discovered and applied the phenomena of “Electricity” and “Magnetism” for thousands of years, yet it is until Faraday’s research that they were realized to be two phases of the Electromagnetism. Today Electromagnetism has become indispensable in our daily life. The exhibits include “Dancing Foamed Plastic”, “Permanent Magnet”, “Electromagnetic Shielding”, “Dynamo”, “Motor”, “Why You Always Lose”, “Eddy Current”, “Solar Cell”, “Resistance” and “TV and Magnet”.

Sound

Sound is the vibration of substance. The substance can be air, liquid, solid... almost anything you can think of as long as it is not vacuum. This section is designed to be interactive and joyful. The exhibition includes the items “Resonating Bowl”, “Parabolic Reflector”, “Just Say You Love Me” and “What Can You Hear”.

Thermochemistry

Beyond the macroscopic world, there must be some intrinsic theories which may explain the nature of matter and the way matter interact with each other.

This section includes the items “Thermochromic Liquid Crystal”, “Ions”, “Fuel Cell”, “Fantastic Space” and “Mysterious Fluorescence”.

11 Mechanics

33 Electromagnetism

22 Sound

44 Thermochemistry
Modern Physics

Modern physics generally refers to the new physics developed since 20th century. “Quantum Mechanics” and “Relativity” are the two major branches of it. This section succeeds the former sections to investigate the microscopic world of molecules and atoms. The exhibition contains items such as “Radioactive Material”, “α·β·γ”, “Brownian Movement”, “Absorption and Radiation” and “Elementary Particles”.

Optics

Light is the most elementary form of energy. Scientists lead by Issac Newton claimed that light consists of the motion of small particles while scientists lead by Christiaan Huygens declared another different “Wave Theory of Light”. After hundreds-year’s debates, Louis de Broglie concluded with his “Wave-Particle Dualism of Light” in 1923 and became the winner of Nobel Prize of Physics in 1929. The exhibitions of this section include “Interference of Light”, “Finger Print of Atoms”, “Diffraction of Light”, “Moiré Patterns”, “Optical Fiber”, “Pinhole Camera” and “Lens Camera.”