# NEWTON

## 3D Multimedia Lab for Exploring Physics

INTERACTIVE

VIRTUAL

EXPERIMENTS

SIMPLE MACHINES

MECHANISMS

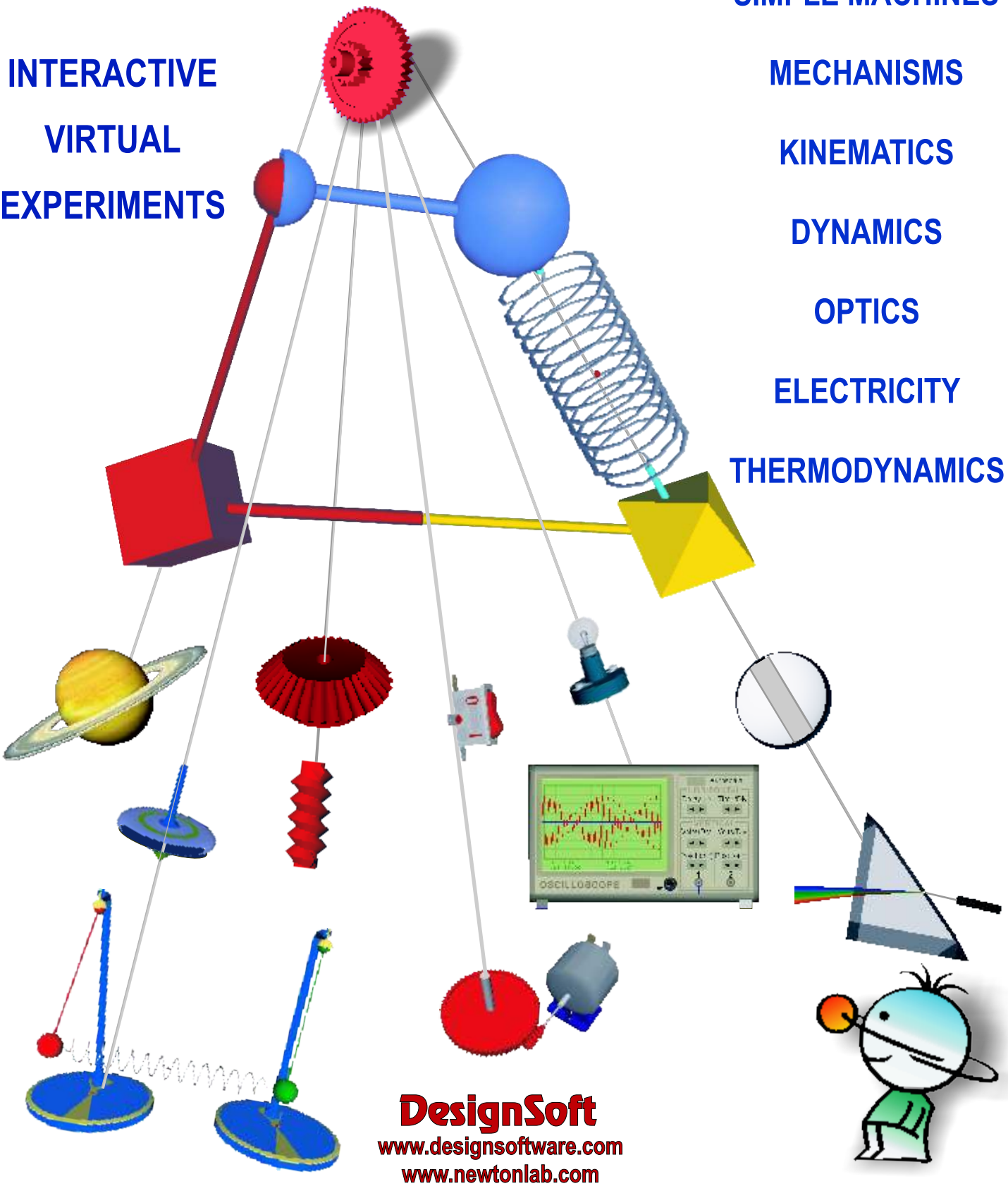
KINEMATICS

DYNAMICS

OPTICS

ELECTRICITY

THERMODYNAMICS

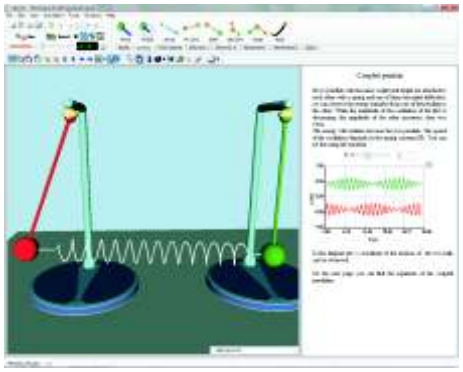
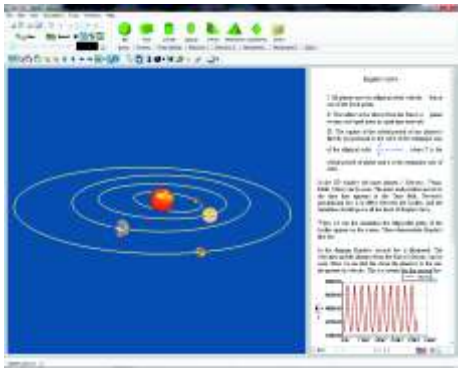
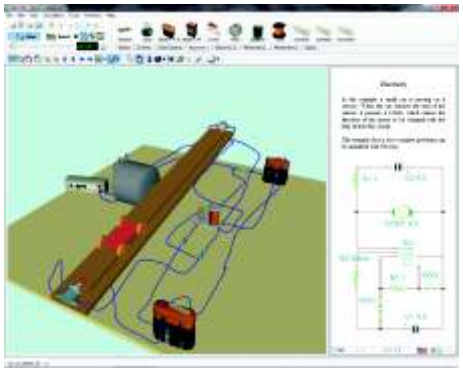



DesignSoft
www.designsoftware.com
www.newtonlab.com

# NEWTON

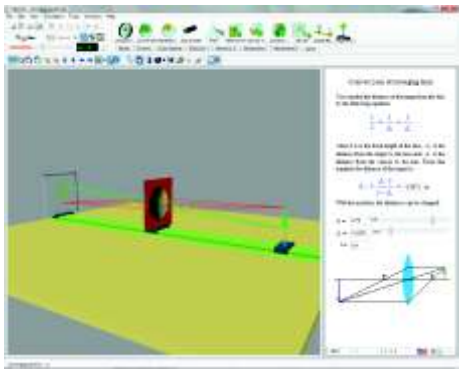
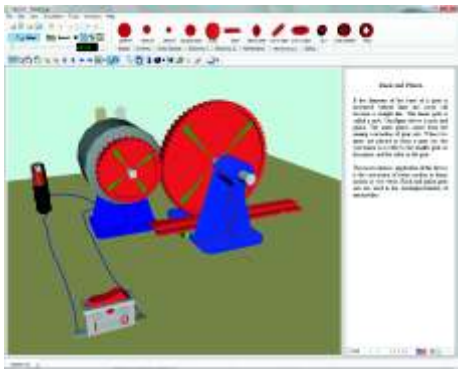
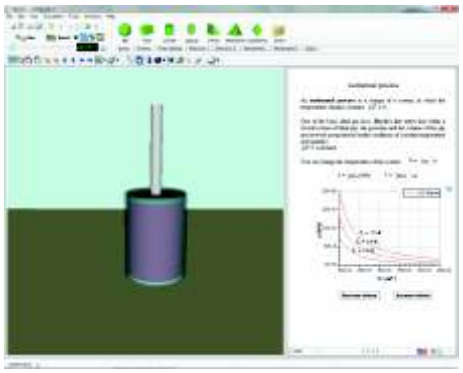
## 3D Multimedia Lab for Exploring Physics

Newton provides a completely new way of learning and teaching physics, the exploration of simple machines, mechanisms, kinematics, dynamics, thermodynamics, electricity and optics on a computer in 3D. The virtual world of Newton is ruled by the simulated laws of physics, allowing you to build, manipulate and investigate your experiments interactively, without the limitations of physical demonstrations.

A unique feature of Newton is that while it shows real world 3D physical experiments, it is still possible to compare and verify the results with classic formulas. This allows students to establish a clear connection between the real world and its mathematical models, and develops their model creating skills. Another novelty of Newton is the possibility of coupled modeling of mechanics, electricity and optics.

When creating experiments in Newton, you can select from a wide range of real world or abstract objects, simple geometrical bodies (brick, sphere, etc.), mechanical, electric and optical parts (gears, resistors, lenses etc.), complex instruments (stands, slope, cars, meters, etc.), constraints (joints and springs), and adjust their physical parameters. In addition you can add virtually any object to Newton using a VRML editor and you may also export your experiments in VRML format.

With the example files included, it's easy to get started. You can alter them and simulate again, and you will see that it's quite simple to create amazing experiments.

When running a simulation, the bodies start moving, guided by the acting constraints, are rotated by torques; and collide with each other as in a movie. Actually, you can set up one or more “cameras” and capture their views of the experiment, storing them in an AVI file.

You can also add descriptions to your examples, with explanatory texts, images, and formulas. Using diagrams, it's easy to measure and evaluate the results of your experiments. Several user-defined curves can be displayed in the same diagram, so it's easy to compare the measured data with the results derived from theoretical calculations.

DesignSoft

www.designsoftware.com www.newtonlab.com