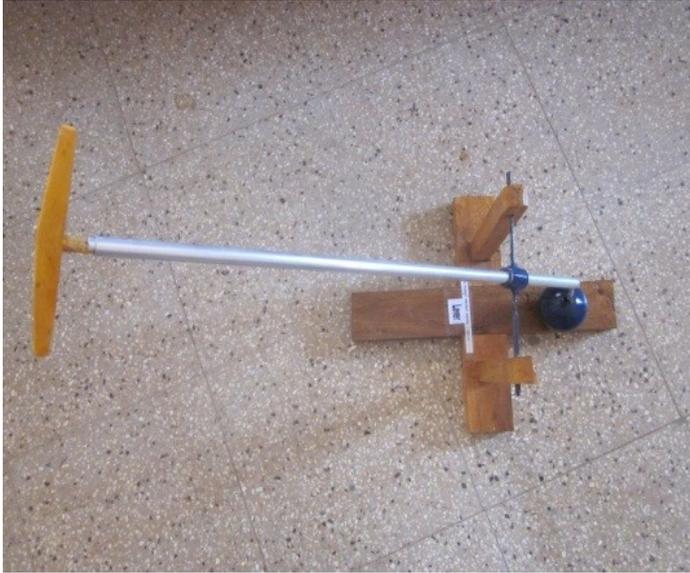


GRAMABANDHU TRUST, CHAMARAJANAGARA

Sl. No.	Name of the model	Description
1	Light kit 	<p>This model elucidates the concepts of:</p> <ol style="list-style-type: none"> 1. Propagation of light 2. Parallel rays 3. Convergent rays 4. Divergent rays 5. Laws of reflection 6. Dispersion of Light 7. Refraction of Light
2	Metal expands on heating 	<p>This model shows very clearly the expansion of the metal wire, when the wire is heated.</p> <p>Here a copper wire is fixed to an end with a nail. Then it is passed through a plastic pulley and has then been tied up to a rubber band and fixed. The plastic pulley has a small stick which moves (with the pulley) on a graph sheets pasted below it exaggerating any deviation caused because of the any angular movement of the pulley.</p> <p>When candle flame is held to the copper wire, it expands pulling the plastic pulley. When the pulley rotates, the stick attached over it moves correspondingly over the graph sheet and show the deviations because of the expansion of the metal clearly.</p>

3

The Simple Lever



The lever is a simple machine consisting of a beam of adjustable length made of two concentric pipes one sliding inside the other and pivoted at a fixed hinge or fulcrum. A heavy load can be attached at one end. The lever can be used to lift a large load over a small distance vertically at one end by exerting only a small force (effort) over a greater distance at the other. This is possible because the condition for equilibrium is:

$$\text{Load} \times \text{Load Arm} = \text{Effort} \times \text{Effort Arm}$$

The ratio of the load to the effort is called 'mechanical advantage' and is greater than 1.

Here a small child can pull the handles provided at one end of the device to lift a very heavy mass attached to the other end resting on the floor and can vary the length of the handle and see for himself/herself how the length of the handle is affecting the efforts he/she puts to lift the load.

4

Simple Camera



The rectangular box you are seeing is a simple Camera. On one end of the box, a convex lens is fixed. Opposite to the convex lens, there is a screen made up of grounded glass.

The light passing through convex lens forms an image on the screen. This is the principle of a Camera. In the sophisticated Cameras a high quality image is produced. This image is captured on the photo films prepared with silver salts. However, in the recent days digital Cameras are in use.

5

Solar Energy into Electric energy



This model exhibits the conversion of solar energy to electrical energy in a instantaneous way.

Here two wires are taken out of the small solar panel and are attached to a plastic fan trough a motor.

When the solar panel is held in the bright sun light, instantaneously the fan starts to rotate showing clearly the conversion of the solar energy into electrical energy.

6

Magnetic & Non-magnetic substances



Today magnets are used in a variety of equipment. All magnets produce magnetic field around them.

In this science model the shaving blade is a magnetic substance and is attracted by the magnet. The magnetic lines of force pass through the Non-magnetic barriers like glass, Aluminium, Copper etc. and attract the blade. However, when the Iron and Nickle barriers comes in between magnet and the blade, the blade falls down. Iron is a magnetic substance; it reacts with magnetic lines of force. As a result the magnetic lines of force do not traverse the iron and Nickle barrier. The magnetic lines easily pass through non-magnetic substances and attract the blade.