

# A MODEL ELEVATOR

## Materials needed:

- A wooden board
- Metal coffee tins
- A small cardboard or wooden box
- Pieces of string
- Long nails
- A piece of modelling clay
- Hammer

## Procedure:

A working model of an elevator can best illustrate changes in the direction of forces. It can easily be made from simple materials. For the rotating drums or sheaves, metal coffee tins will do. With a hammer and large nail, punch

holes in the exact center of the bottoms and lids. Replace the lids and mount the tins on opposite ends of a board, taking care that they both turn easily.

For the elevator car use a small cardboard or wooden box. Attach pieces of string to both ends of the box and wind them around the sheaves as shown. A piece of modelling clay can be used for a counter-weight and should just balance the weight of the car. Operate the elevator by turning the sheave that has the double turn of cord. A model of this kind is very similar to real elevators, but the sheave of a real elevator is turned by an electric motor.