**Simple hydraulic press**

The principle of the hydraulic press is illustrated by the following model. Half fill a cylindrical jar with water. Pour melted paraffin wax on the surface to form a piston, holding a piece of glass tubing in the wax as it cools. When the wax is solidified it forms a watertight piston. Gently blow down the tube, and the plug will be raised. Considerable weights placed on the piston can be lifted in this way.

![Image of a hydraulic press](image1)

**A model hydraulic ram**

Hydraulic rams are sometimes used to raise water from a low level to a higher level. They are operated by a flowing stream of water. You can make a model hydraulic ram. You need a soda water bottle from which the bottom has been removed. Fit the bottle with a one-hole rubber stopper carrying a short length of glass tubing. Connect this to a glass or metal T-tube which has a piece of rubber tubing on one end and a jet tube connected to it with a rubber tube as shown in the diagram. Fill the bottle with water and pinch the tube at the end. Let the water run from the end of the tube. Stop the flow suddenly by quickly pinching the tube, and note the height to which the water squirts from the jet tube. Let the water flow and stop alternately, and you have a working model of the hydraulic ram.

![Image of a model hydraulic ram](image2)