

Lung Respiration Demonstration Apps

LD-1N

M60-4330-W0

Instruction manual



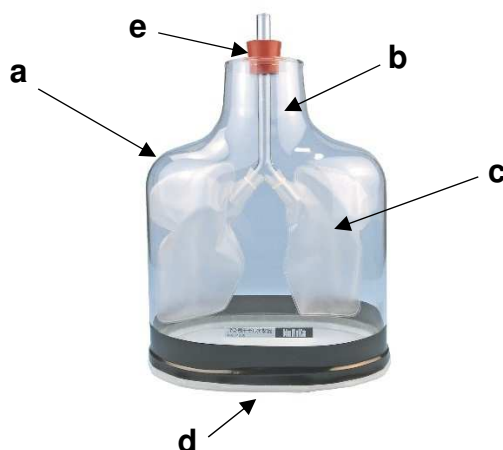
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Description

This Lungs Demonstration Model is designed for teachers to demonstrate a mechanism of human pulmonary respiration and consists of Thoracic cavity (Chest cavity), Trachea, Bronchus, Lungs, and Diaphragm. These components are made of plastics, glass, flexible PVC film, and rubber film (see Specification).

Pressing and/or releasing the diaphragm (rubber-film) into the thoracic-cavity (plastic body) makes the lungs (PVC bags) expand and shrink by air from outside. Consequently, the motion of PVC bags (the lungs) inside the plastic body can demonstrate and explain the mechanism of human pulmonary respiration.

Specification



a: Thoracic cavity (Chest cavity) (Plastic body) b: Trachea and Bronchus (Glass tube)
 c: Lung (PVC bags) d: Diaphragm (Rubber-film) e: Rubber plug
 Size: 250 x 160 x 355mm

Procedure for demonstration

A: Preparation (Inflation of the lungs)

1. As a preparation step, push the diaphragm (d: the rubber film) into the thoracic cavity (a: the plastic body) to get air inside the lung (c: the PVC bags) out. The air inside the lungs get out from the trachea and bronchus (b: the glass tube) to the outside, then the pressure inside of thoracic cavity increases.
2. Keep the position of the diaphragm as it is and remove a rubber plug of the trachea and bronchus from the thoracic cavity, the pressure inside the thoracic cavity decreases and becomes same as atmospheric pressure. Then release the diaphragm to its original position. Finally, put the rubber plug back to the thoracic cavity and close it.

B: Demonstration

1. Check the condition of the lungs whether they inflate or not. If not, go back to step A: Preparation step and inflate the lungs.
2. Hold a neck of the plastic body of the thoracic cavity with one hand, touch the bottom of the diaphragm with another hand.
3. Press the diaphragm from the bottom into the thoracic cavity. So that the air inside the lungs goes out and the lungs shrinks. Then release the diaphragm to let it go back, so that the air goes into the lungs from outside and the lungs inflate.
4. Repeat this process to show that the lungs are changing (inflating and deflating) with the motion of the diaphragm and to demonstrate the mechanism of the human pulmonary respiration.

Note: If you pull the diaphragm down from the thoracic cavity, even though it looks like the lungs are inflating correctly, this is not correct demonstration of the mechanism of human pulmonary respiration.

**Replacement Parts:**

- M60-4330-W1 Replacement Rubber Film (Diaphragm)

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