Tuesday, December 7, 2021

BREATHING

Breathing is the taking in and out of air.
OR it is when an organism constantly exchanges gases between with surroundings. The respiratory organs are the lungs.

Phases of breathing

i) Breathing in/ inhalation/ inspiration
ii) Breathing out/ exhalation/ expiration

Composition of air breathed in and out.

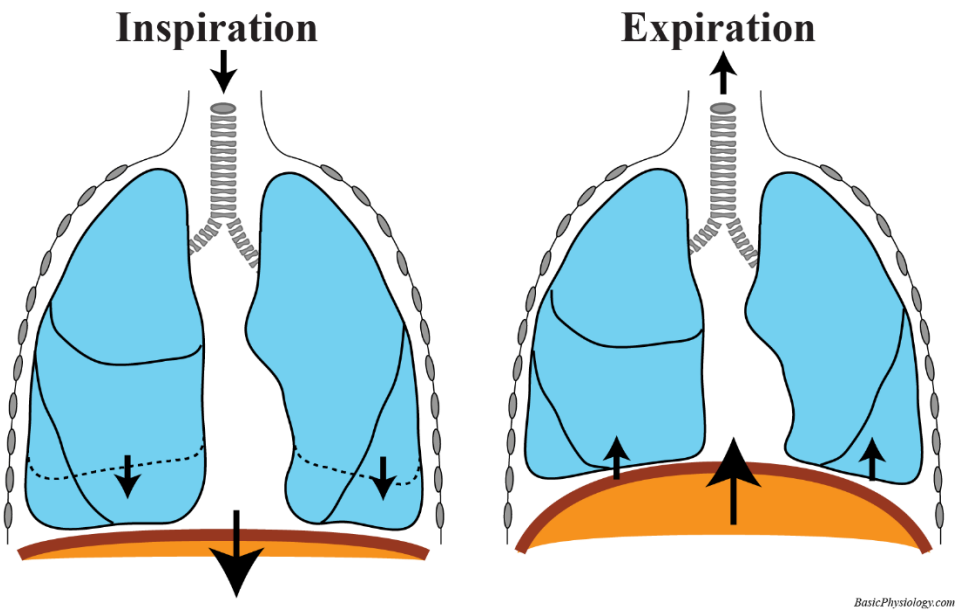
Type of air	**Inspired air**	**Expired air**
Oxygen (O_2)	21%	16%
Carbon dioxide (CO_2)	0.03%	4%
Nitrogen (N_2)	78%	78%
Rare gases	0.97%	0.97%

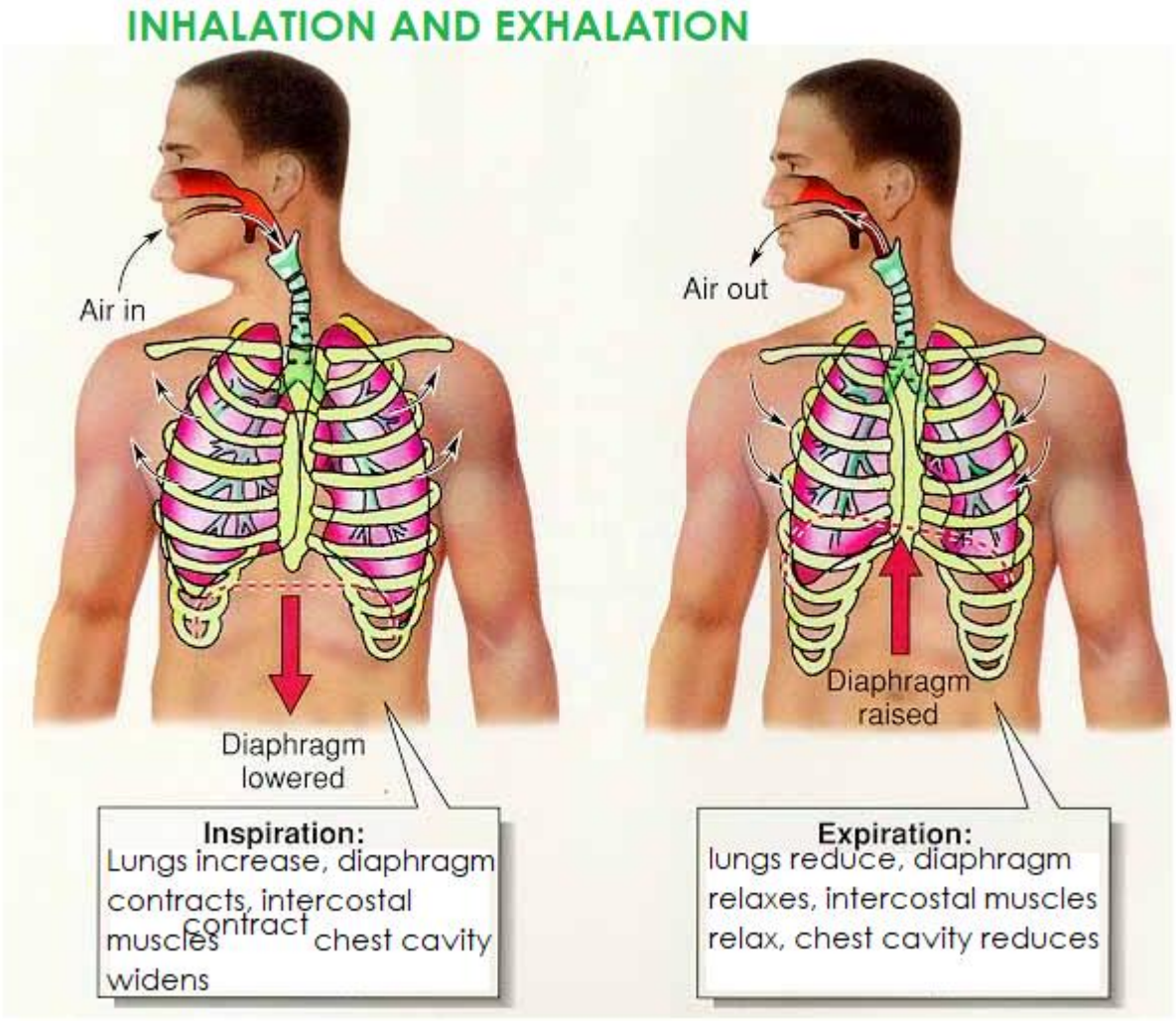
What happens during inspiration (inhalation)

- The volume of lungs increases.
- Diaphragm contracts/ flattens/ becomes depressed/ moves down
- intercostal muscles contract.
- Ribs move upwards and outwards.
- Chest cavity widens

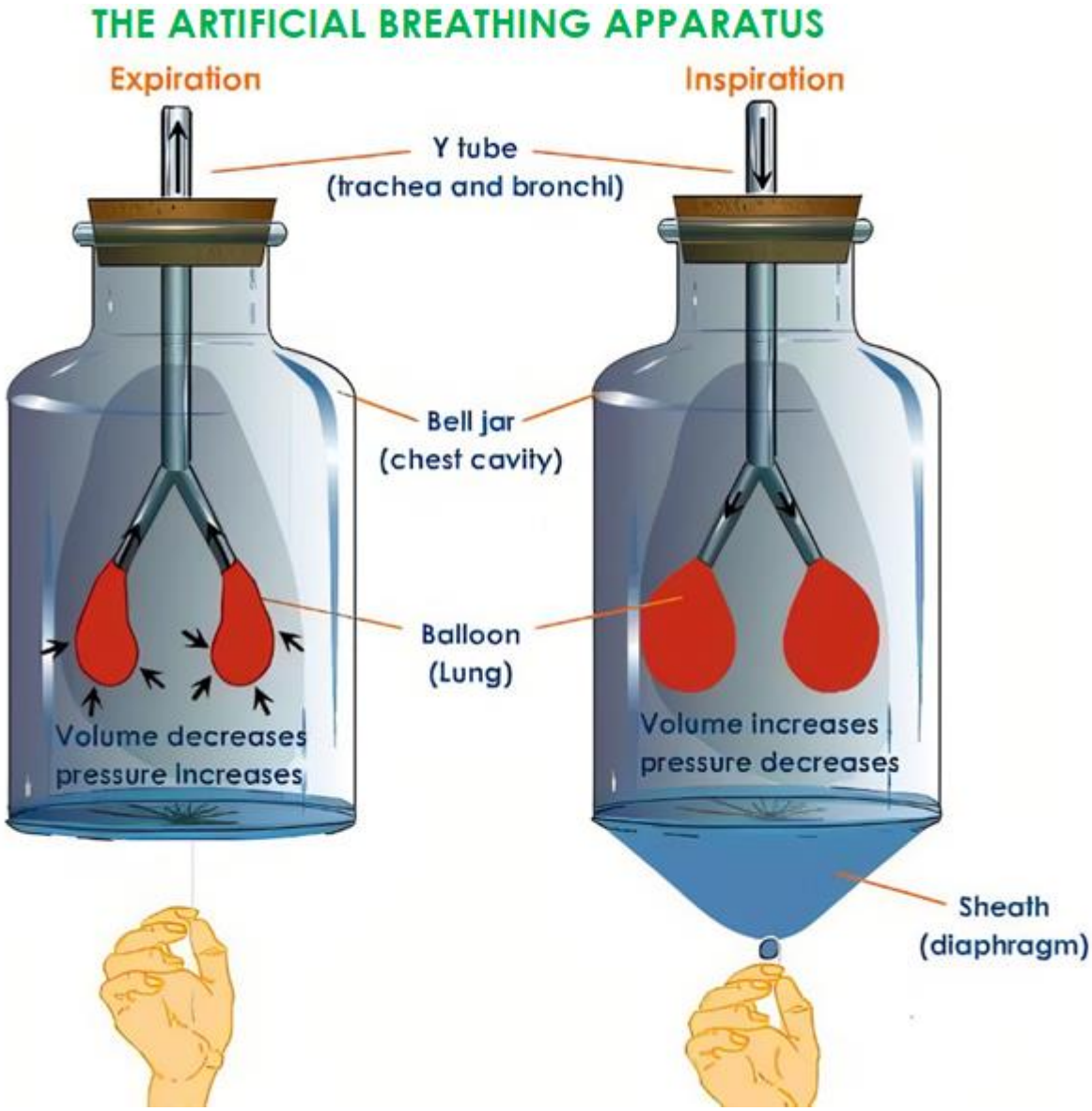
What happens during expiration /exhalation?

- The volume of the chest decreases.
- The diaphragm relaxes/ moves up/ becomes dome shaped, moves upwards
- intercostal muscles relax.
- Ribs move downwards and inwards.
- The lungs reduce in volume





THE ARTIFICIAL BREATHING APPARATUS



Questions

a) What do the following represent?

i) Balloons

ii) Bell jar

iii) Sheath/ polythene

iv) Y-shaped tube

Activity

1. ***What is the difference between breathing and respiration?***
2. ***Differentiate between aerobic and anaerobic respiration.***
3. ***What is the difference between inhalation and exhalation?***
4. ***Where does respiration take place in the body?***
5. ***Give the meaning of gaseous exchange***
6. ***Where does gaseous exchange take place?***
7. ***Why is it not advisable to breathe through the mouth?***

8. *What happens to the following during breathing in (inspiration)?*
    a) *Lungs*
    b) *Rib cage*
    c) *Chest cavity*
    d) *Intercostal muscles*
    e) *diaphragm*
9. *what happens to the following during exhalation/ breathing out?*
    a) *Lungs*
    b) *Rib cage*
    c) *Chest cavity*
    d) *Intercostal muscles*
    e) *diaphragm*

10. *Why is there less oxygen in the expired air than in the inspired air?*
11. *Give the reason why there is more carbon dioxide in the exhaled air than in the inhaled air.*
12. *Why don't the percentages of rare gases and nitrogen change in the inhaled and the exhaled air*