Erasmus+
2020-1-SK01-KA201-078297

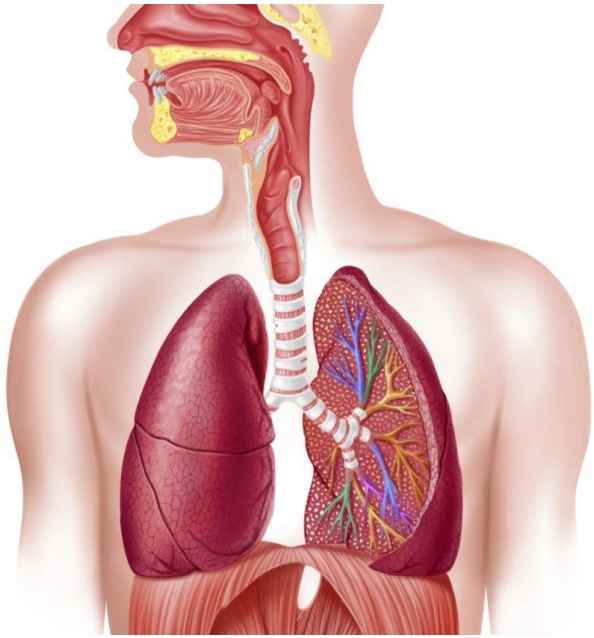
ALIVE

Respiratory system

The importance of the respiratory system and its individual parts

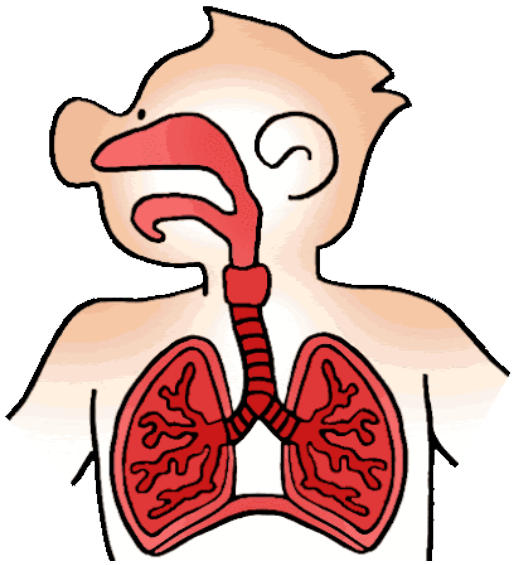
WHAT IS RESPIRATORY SYSTEM

- It ensures the exchange of respiratory gases between the body and the environment
- Oxygen uptake and carbon dioxide removal
- The main part is the lungs

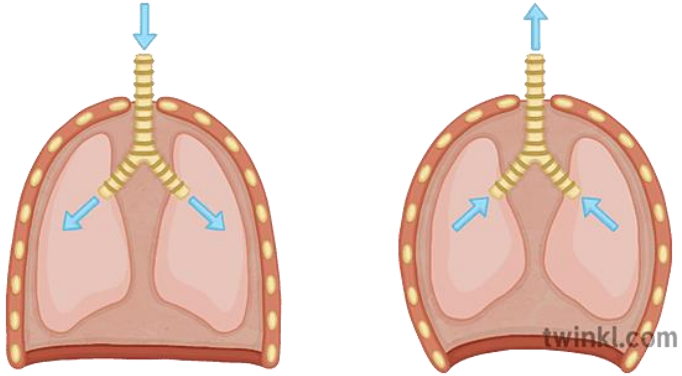


BREATHING

- The basic manifestation of life
- Oxygen and carbon dioxide exchange
- Absorption of oxygen from the external environment and excretion of carbon dioxide from the body



BREATHING



- Alternation of inhalation and exhalation - intercostal muscles and diaphragm
- Diaphragm - the muscle that separates the thoracic and abdominal cavities – it participates in breathing movements - it contracts and relaxes
- Hiccups - A sharp, sudden contraction of the diaphragm, which occurs when quickly swallowing food or drink. The contraction of the diaphragm quickly closes the glottis and creates a hiccough sound

INHALE AND EXHALE

❑ Inhale

- The process in which the chest cavity enlarges as the diaphragm descends and the intercostal muscles stretch forward
- An active process in which air is forced into the lungs

❑ Exhale

- The process in which the chest cavity shrinks as the diaphragm rises and the intercostal muscles relax
- A passive process in which air is forced out of the lungs

EXTERNAL AND INTERNAL BREATHING

❑ External (pulmonary) respiration

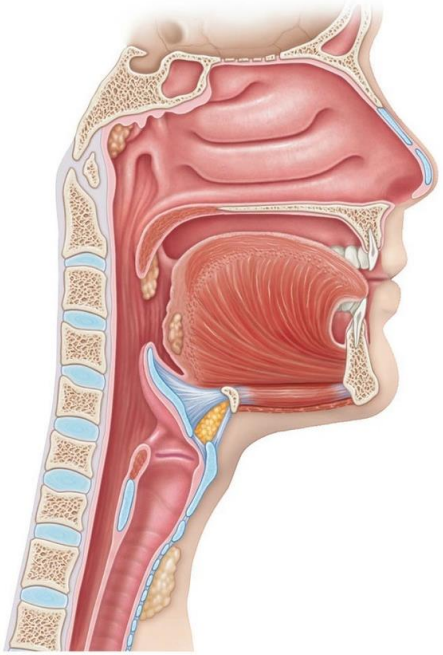
- Exchange of respiratory gases from the air between the external environment and the lungs
- Oxygen enters the lungs from the air and carbon dioxide leaves the lungs

❑ Internal (tissue) respiration

- Exchange of respiratory gases between cells and blood
- The blood brings oxygen from the lungs to the cells and removes carbon dioxide from them to the lungs

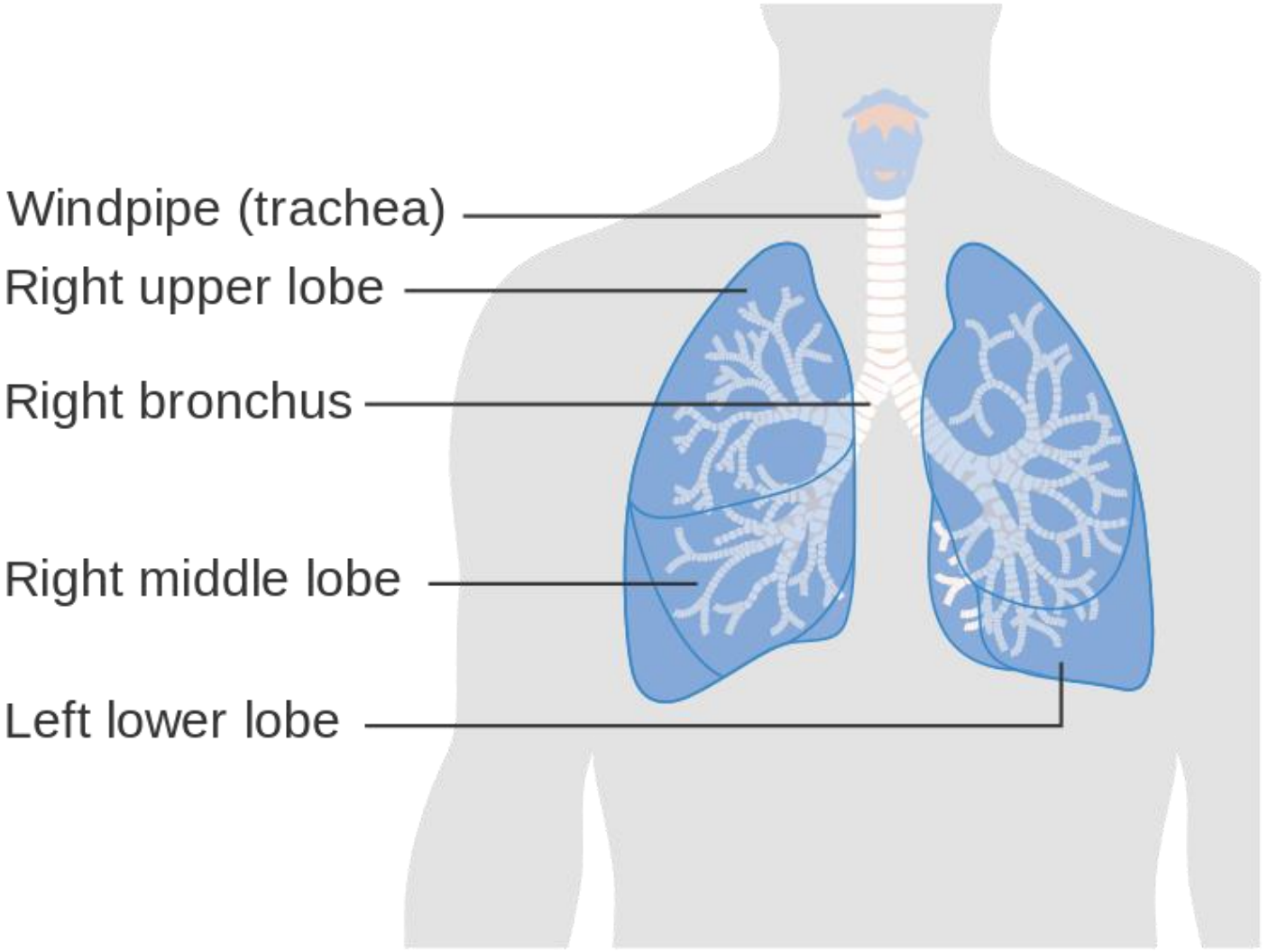
UPPER AIRWAYS

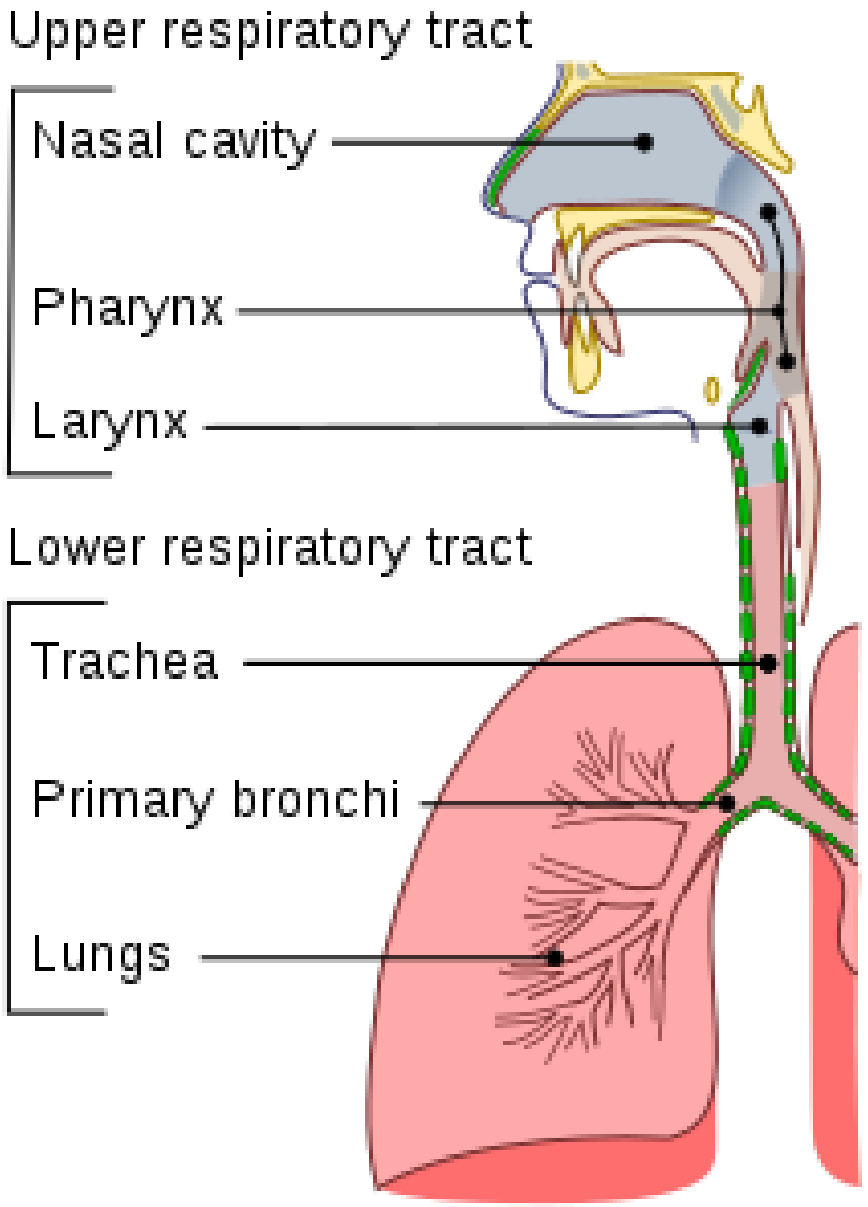
- Respiratory tract – the nose
- Nasal cavity - it ensures heating and humidification of the air and it is lined with a moist mucous membrane that traps dust
- Nasopharynx
- Laryngeal valve – prevents food from entering the respiratory tract



LOWER AIRWAYS

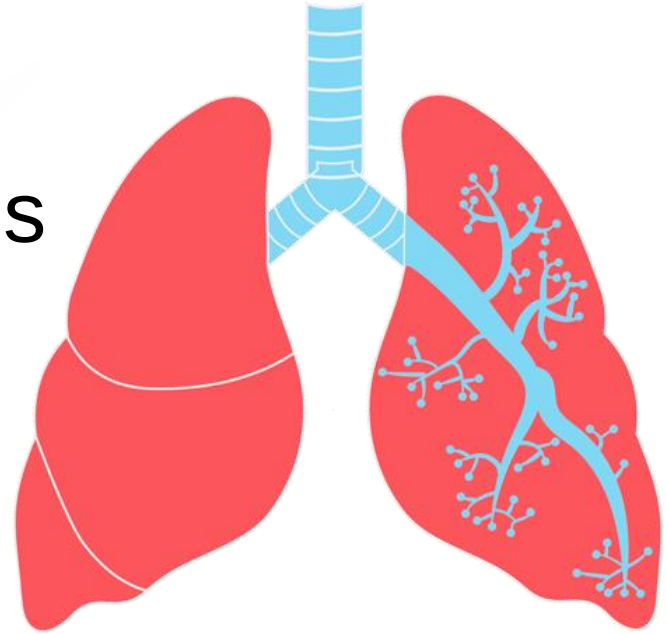
- Larynx
- Trachea
- Bronchi
- Bronchioles
- Lungs




Upper respiratory tract
Nasal cavity
Pharynx
Larynx
Lower respiratory tract
Trachea
Primary bronchi
Lungs

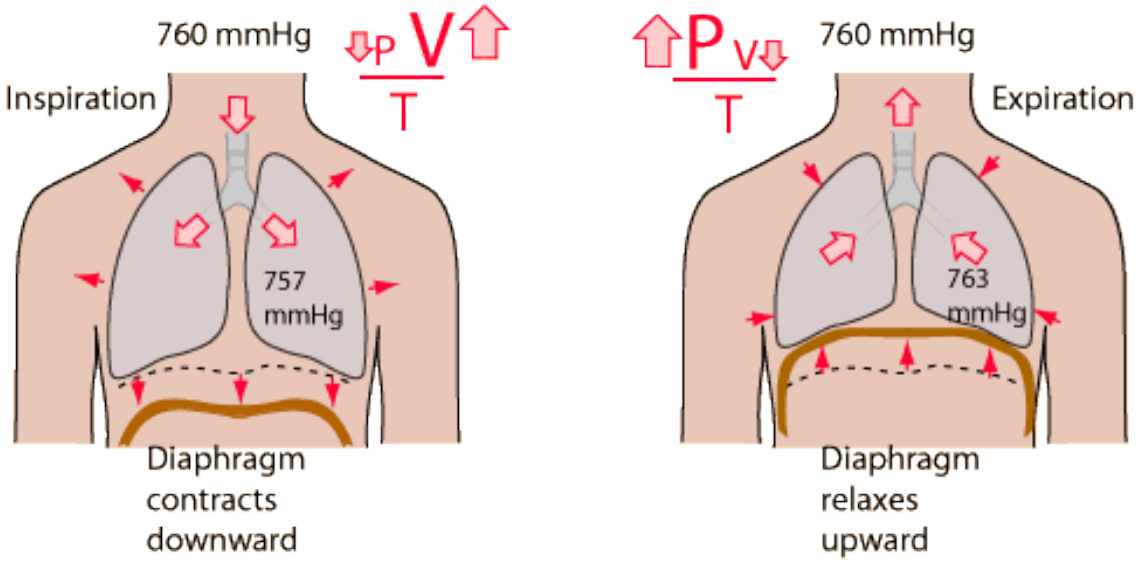
LUNGS

- A pair organ stored in the thoracic cavity
- Protected by chest
- Covered with the visceral membrane – pulmonary pleura
- They allow the constant exchange of gases between blood and air



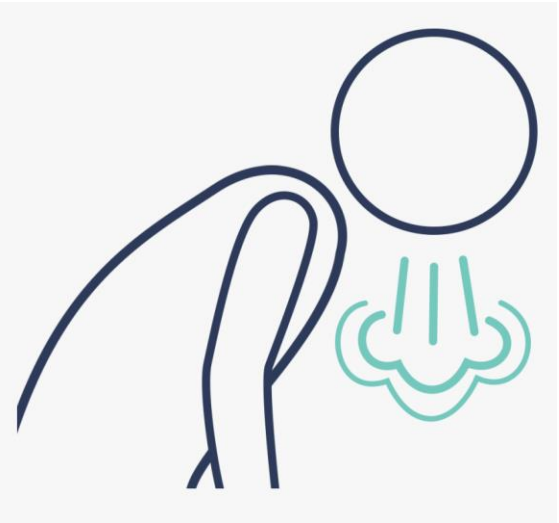
LUNG VENTILATION

- Minute tidal volume
- Vital capacity of the lungs – the amount of air exhaled during maximal exhalation after maximal inspiration



DEFENSIVE RESPIRATORY REFLEXES

- Defense against the presence of solid particles, irritants
- Cough – irritation of the mucous membranes of the larynx, trachea and bronchi
- Sneezing – irritation of the nasal mucosa - the muscles involved in breathing contract and forcefully push air from the nose to the mouth at once, clearing the airway



PICTURES – USED SOURCES

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