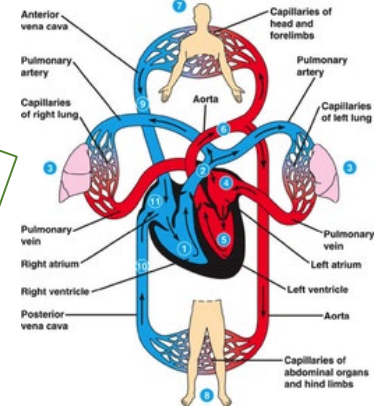


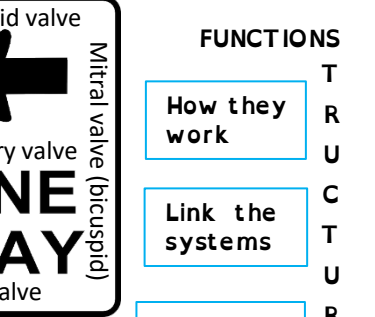
Useful websites:
www.bbc.co.uk/bitesize
<https://www.livescience.com>
<https://www.bhf.org.uk> www.nhs.uk
www.bupa.co.uk
www.thebnsnetwork.org
www.healthline.com
<http://www.cliffsnotes.com>
<http://www.webmd.com/>
<https://tinyurl.com/ybl8yn87>

VENA CAVA (superior) – head, arms & upper body



DIAGNOSIS

VENA CAVA (inferior) – lower body



Tricuspid valve
 Mitral valve (bicuspid)
ONE WAY
 Aortic valve

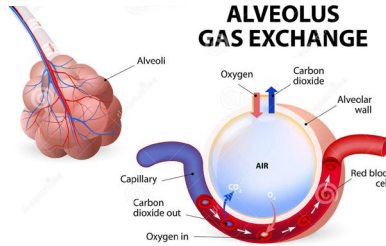
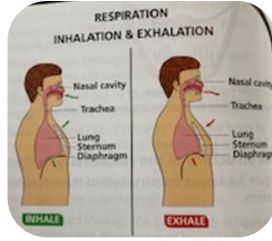
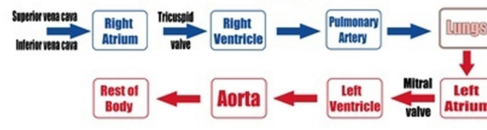
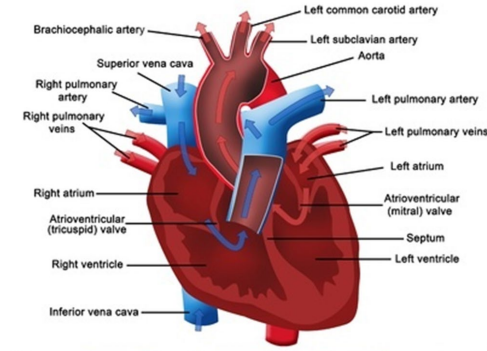
FUNCTIONS
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How they work

Link the systems

Illustrate & written content

CIRCULATION OF BLOOD THROUGH THE HEART

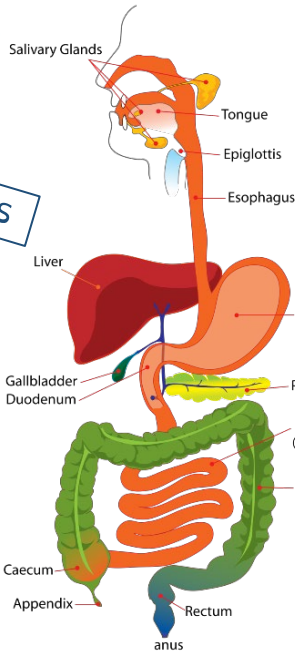


How to calculate BMI:
 $BMI = \frac{\text{weight (kg)}}{\text{height (m)}^2}$

RO23 - KNOWLEDGE ORGANISER



DISORDERS



INGESTION – food taken into body through mouth

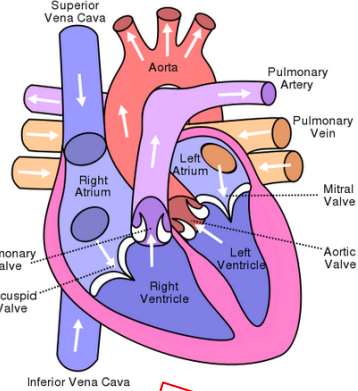
DIGESTION – physical & chemical breakdown of food (chewing & enzymes).

ABSORPTION – food passes through intestine walls into bloodstream.

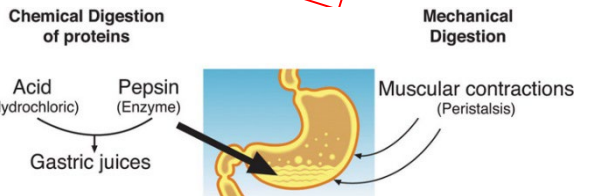
ELIMINATION – undigested waste is removed from body.

Cardiovascular system
 Deoxygenated blood
 Oxygenated blood
 Valves
 Cartilage
 Thorax
 Sternum
 Intercostal muscle
 Diaphragm
 Cardia
 Sphincter
 Enzymes
 Carbohydrates
 Disorder
 Symptoms
 Diagnosis
 CT & MRI scans
 IBS
 Stools
 NSAIDs
 Helicobacter pylori

KEY TERMS

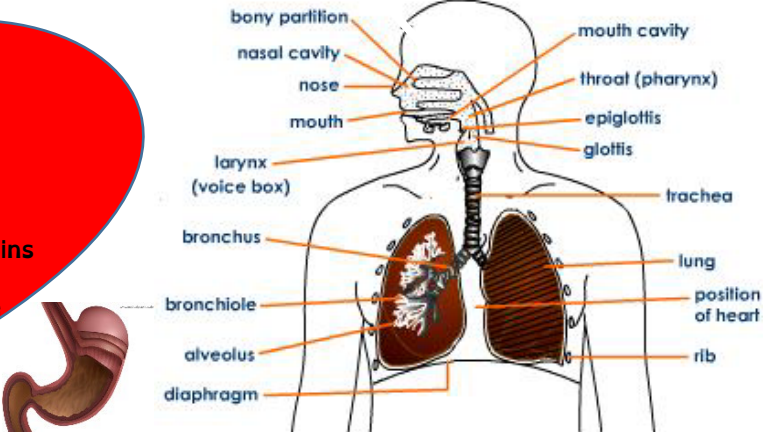


SYMPTOMS



FACTS:

- Its size is about that of a fist.
- Its weight is about 250-300 g.
- The heart beats about 60-100 times a minute.
- Capillaries join arteries and veins together and this is where the oxygen and carbon dioxide are exchanged.



ARTERIES	VEINS
Blood is carried away from the heart.	Blood is carried towards the heart.
The blood being carried is oxygenated.	The blood carried is deoxygenated.
The blood flows quickly under high pressure.	The blood flows slowly under low pressure.
The blood flows in pulses.	The blood flows smoothly with a squeezing action.
The artery walls are thick, elastic and muscular.	The vein walls are thin and have little muscle.
Arteries do not have valves, except at the base of the large artery leaving the heart.	Veins have valves.
The internal diameter is small.	The internal diameter is large.
An artery cross-section is round.	A vein cross-section is oval.
Diameter of 0.5mm-8.5mm	Diameter of 0.5mm-2mm.

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DISORDERS

SYMPTOMS

DIAGNOSIS

BIOLOGICAL EXPLANATION:
Walls of arteries become blocked with fatty deposits (atherosclerosis).

Angina

Breathlessness
Nausea
Dizziness
Chest pain
A feeling of tightness in chest (may spread to arms, neck & jaw)



Heart attack

Light-headedness
Feeling weak
Sweating
Shortness of breath
Chest pains that can radiate from chest to jaw, neck, arms & back

ECG
Echocardiogram
Chest x-ray
Blood tests
Pulse rates
Blood pressure



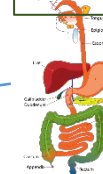
BIOLOGICAL EXPLANATION:
When arteries become completely blocked. Can permanently damage heart muscle. If not treated straight away can be fatal.

Breathlessness (even when resting)
Raised heart rate
Feeling tired most of the time
Swollen ankles & legs

BIOLOGICAL EXPLANATION:
Heart becomes too weak to pump blood around. Can cause fluid to build up in lungs making it increasingly difficult to breath.

Heart failure

Medical history & examination
X-rays
BMI
Blood test
Ultrasound
Gastroscopy (using an endoscope)



IBS

Stomach pain & cramping
Bowel habit changes-diarrhoea &/constipation
Bloating & swelling
Feeling bowels haven't emptied fully after going to toilet
Excessive wind (flatulence)
Mucus passing from anus

BIOLOGICAL EXPLANATION:
Food moves too quickly - diarrhoea as not enough water's absorbed by intestines
Food moves too slowly - constipation as too much water is absorbed in intestines making faeces hard
Absorption of bile is sometimes a cause.

Ulcers

Burning/gnawing pain in abdomen
Loss of weight & appetite loss
Feeling & being sick
Indigestion & heartburn
Can bleed & lead to vomiting or passing sticky tar-like stools.

BIOLOGICAL EXPLANATION:
Gastric ulcers - open sores on lining of stomach
Duodenal ulcers - small intestine just beyond stomach
Bacteria or NSAIDs break down stomach defence against acids that digest food & allow stomach lining to become damaged & an ulcer to form

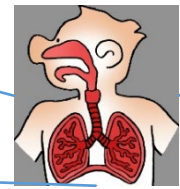
Heartburn

Burning sensation in chest-worse after eating
Acid reflux
Bad breath, sore throat, pain when swallowing
Bloating & belching; vomiting

BIOLOGICAL EXPLANATION:
Sphincter (bottom of oesophagus) weakened & doesn't fully close
After food allowed in stomach by oesophagus, sphincter doesn't close properly
Allows stomach acid to leak back into oesophagus

Recurring episodes of breathlessness; tightness of chest & wheezing
Asthma 'attacks' requiring inhaler to open airway
Allergic reaction (e.g. sore eyes, runny nose, skin reaction, etc.)

Asthma/allergies



Pneumonia

Can develop over 24-48hrs or slower over several days
Dry cough or production of thick yellow, green, brown or blood stained phlegm/mucus
Rapid shallow breathing/breathing difficulties
Rapid heartbeat
Fever, sweating & shivering
Loss of appetite & general unwell feeling

BIOLOGICAL EXPLANATION:
Inflammation & swelling of tissue in one or both lungs. Alveoli become inflamed & fill with liquid - harder for lungs to work & get oxygen into bloodstream.

Chronic obstructive pulmonary disease (inc. chronic bronchitis & emphysema) - COPD

Shortness of breath
Yellow sputum
Persistent cough
Frequent chest infections
Symptoms get worse over time

BIOLOGICAL EXPLANATION:
Airways inflamed & narrowed. Air sacs become permanently damaged & increasingly difficult to breath out.
Currently no cure for COPD but sooner treatment begins less chance of severe lung damage.

MRI & CT scans
X-rays
Lung function tests (spirometry & peak flow)

