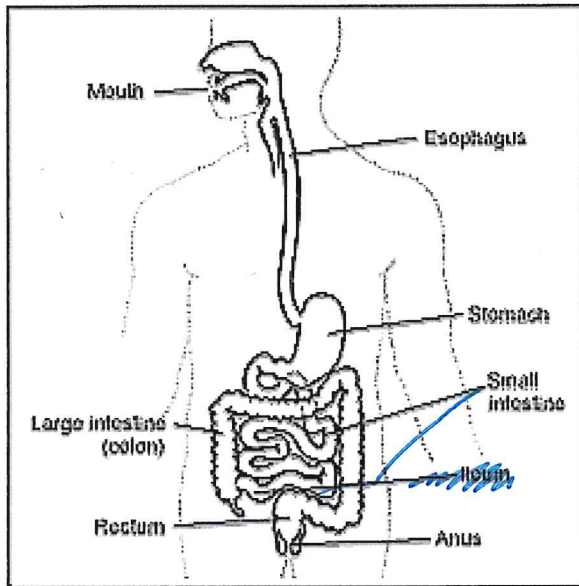


DIGESTIVE SYSTEM

- Function: 1. **Takes in food**
 2. **Digests it**
 3. **Excretes waste**

- Parts: 1. **Digestive tract** 2. **Accessory organs**

Label the diagram below.



Goblet cells: What are they and how do they aid digestion?

These are special cells lining the digestive tract. They secrete mucus which helps protect the tract from digestive enzymes AND helps material to move along smoothly.

Stomach: Identify the 2 main functions of the stomach.

1. **hold food**
2. **churn food**

Accessory Organs:

	Name	Function
1.	Liver, pancreas & gall bladder	Supplying digestive enzymes
2.	Liver	Produces bile – breaks down fats
3.	Pancreas	Produces insulin – regulates blood sugar

Heartburn CAUSES

Eat too quickly, under stress.
Stomach acid up esophagus

SYMPTOMS

Burning sensation in esophagus

TREATMENT

Antacid tablet to neutralize acid

Diabetes: CAUSES

Pancreas creates too little/~~too~~
~~much~~ insulin

SYMPTOMS

Weakness / dizziness ✓

CONTROLLED BY

Diet (for some) ✓
(insulin shots)

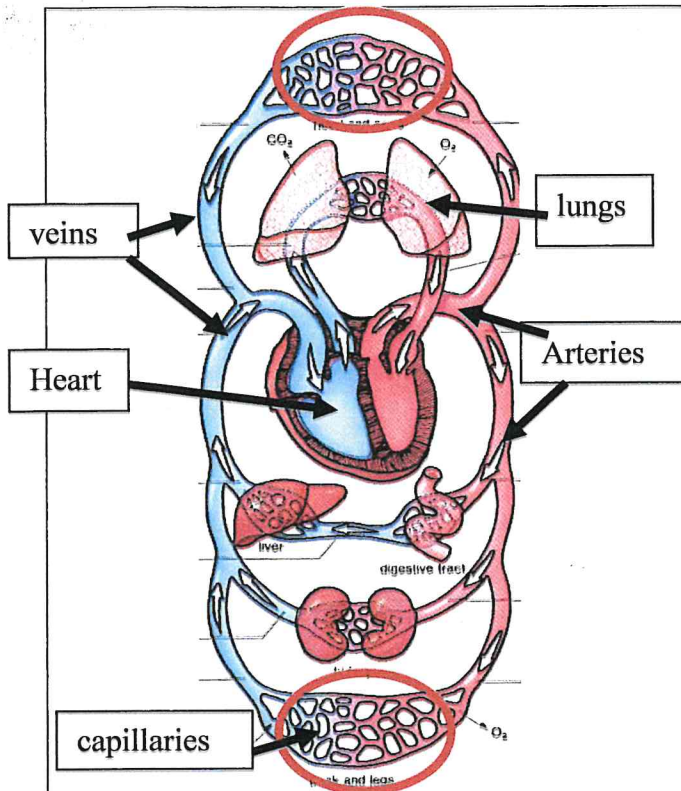
Type I – not making insulin

CIRCULATORY SYSTEM

Function: 1. Transport substances – nutrients TO cells

2. Transport substances – waste AWAY from cells

Parts: 1. Heart 2. blood 3. Blood vessels



Circulatory System

Labelling: Use the diagram provided to:

- shade the oxygen-rich blood red
- shade the oxygen-poor blood blue
- Circle where blood exchanges oxygen and carbon dioxide.
- label: heart, lungs, arteries, veins, capillaries

Define:

Artery: blood vessels that carry blood away from heart

Vein: blood vessels that carry blood to heart

Capillary tiny, thin-walled blood vessel that allows for exchange of gas, nutrients and waste between blood and cell.

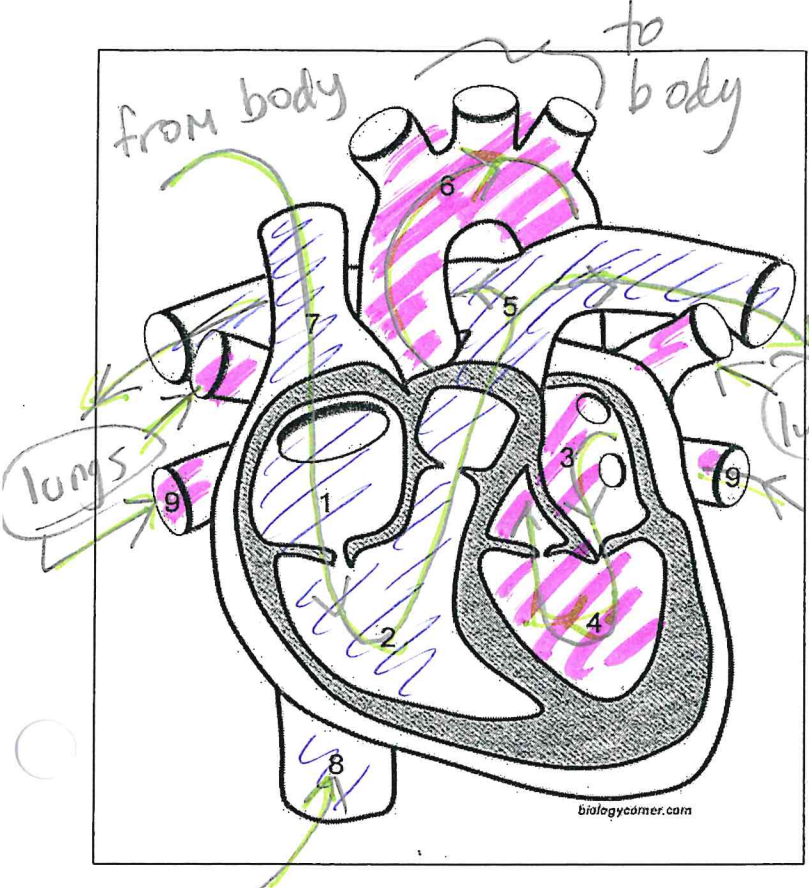
→Blood: Identify the 4 components of blood: Red blood cells, white blood cells, platelets, & plasma * know what they do too.

→Heart: Why are the muscles/nerves of heart covered by epithelial tissue? Reduces friction and protects the heart from damage when lungs expand/contract (protects)

What is special about *cardiac* muscle tissue? All the cardiac muscles contracts at the same time!

What is a coronary artery? An artery that provides blood to the heart.

blood flow → Answers



- PARTS OF THE HEART**
1. Right atrium
 2. Right ventricle
 3. left atrium
 4. left ventricle
 5. pulmonary artery
 6. aorta
 7. superior vena cava
 8. inferior vena cava
 9. pulmonary vein

from body

* All arteries carry oxygenated blood except pulmonary artery.

* All veins carry deoxygenated blood except pulmonary vein

RESPIRATORY SYSTEM

Function: **provides oxygen needed by all cells of body and removes carbon dioxide waste that all cells produce.**

Parts: 1. **nose** 2. **mouth** 3. **Trachea** 4. **bronchi** 5. **Lungs** (side bar_note)

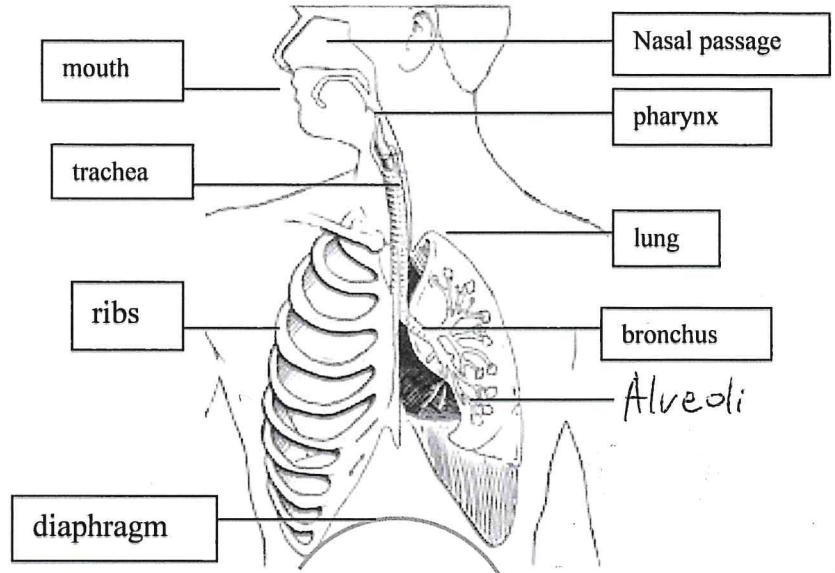
State the special features and functions of the epithelial cells in the trachea and bronchi.

Some cells **produce mucus.**
(Goblet cells)

Other cells have **cilia** (hairlike projections). These help move mucus out and filter out any foreign materials.

.....
1 bronchus, 2 bronchi

Label the diagram below.



Gas Exchange: How do alveoli and capillaries work together?

Alveoli are very small sacs of air that are surrounded by capillaries, which are very thin, small blood vessels. This is actually where O₂ and CO₂ exchange occurs. O₂ leaves alveoli and diffuses into capillaries. CO₂ leaves capillaries and diffuses into alveoli.

Breathing: How does it occur? **Ribs & diaphragm help increase / decrease volume of lungs. As volume increases, air comes into lungs (inhale) ; as volume decreases, air leaves lung (exhale)**

How is it controlled? **Control is involuntary (we don't think about it)**
A part of the brain monitors CO₂ levels. If it is too high, the brain signals for lungs to increase breathing rate. Thus, more O₂ in and more CO₂ out.

Diseases:

	NAME	DESCRIPTION
1.	Tuberculosis	Infectious, bacteria in lungs, fever, cough, chest pain...
2.	Cancers	Often caused by tobacco smoke. Can spread.
3.	SARS	Severe acute resp. Syndrome – flulike, high fever, exhaustion etc.

MUSCULOSKELETAL SYSTEM

- Function:
1. **Supports body**
 2. **Protects delicate organs**
 3. **Makes movement possible.**

- Parts:
1. **Bones**
 2. **muscles**

Skeletal Tissues:

	NAME	DESCRIPTION	FUNCTION
1.	Bones	Hard & dense Calcium and phosphorus minerals help make hard	Supports body Anchor point for muscles.
2.	Ligaments	Tough & elastic	Hold bones together at joints
3.	cartilage	Dense connective tissue – flexible	Strong, flexible, low-friction in between bones @ joints. Prevents damage there.

Muscle Tissues:

	NAME	LOCATION
1.	Skeletal muscle	Around body – muscle tissue - for voluntary movement
2.	Smooth muscle	Mostly in intestines – involuntary movement
3.	Cardiac muscle	Heart muscle! (in heart) - involuntary

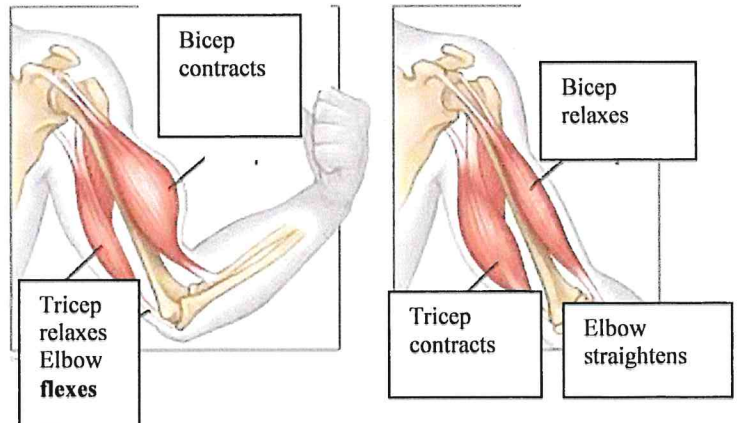
Movement: Label the diagram and use it to answer the question below.

How do muscles and bones work together to allow us to move

Muscles contract (shorten) which pulls on the bone and moves it through the joint.

Muscles are in pairs to joint/limb can move both ways.

Muscles **ONLY** contract. They pull and do not push.



Osteoporosis: What is it? CAUSES?

Loss of bone tissue. Linked to loss of calcium.
Bones are weak / brittle (break easily)

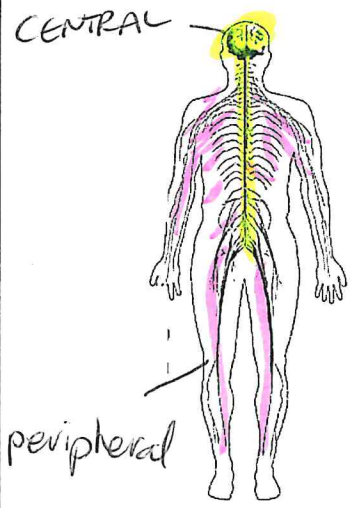
PREVENTION?

Eat foods with calcium / vitamin D (milk)
Also exercise helps increase bone density.

NERVOUS SYSTEM

Function: 1. senses environment
 2. coordinates responses

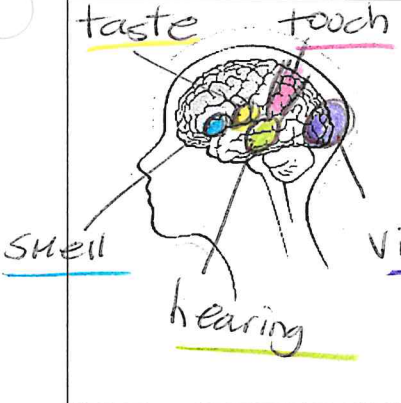
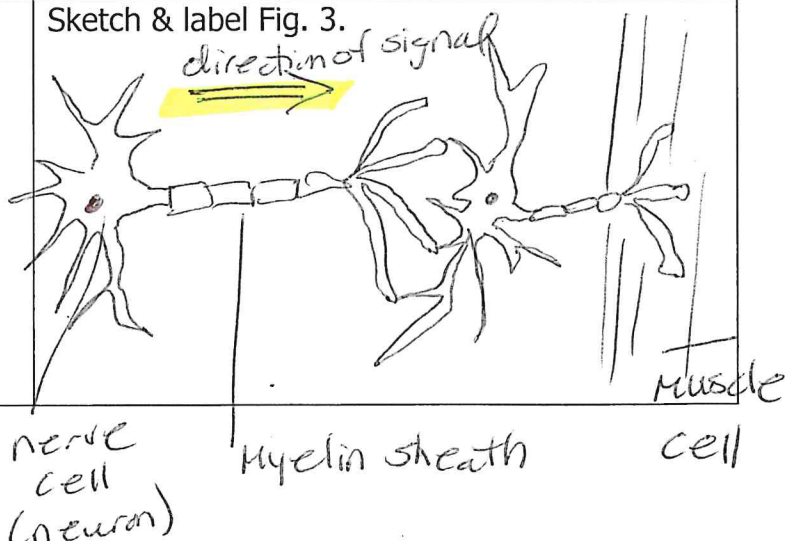
Parts: 1. Brain 2. spinal cord 3. peripheral nerves

	<p>Colour/highlight the central nervous system one colour & label = <u>brain</u> + <u>spinal cord</u> Colour/highlight the peripheral nervous system another colour & label.</p>	<p>What does the peripheral nervous system do?</p> <ul style="list-style-type: none"> ① <u>Gives brain information about environment (internal + external)</u> ② <u>Delivers instructions from brain to body</u> <p>The central nervous system is SO important, it is protected. <u>What protects it?</u> <u>skull</u> & <u>spine guards</u> (vertebrae)</p>
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(Also cerebrospinal fluid)

Nerve Tissue:

What is a neuron? a nerve - communication cell - sends signals

	<p>Label parts of brain responsible for each of your 5 sense:</p>	<p>Sketch & label Fig. 3.</p>  <p style="text-align: center;">nerve cell (neuron) myelin sheath muscle cell</p>
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Diseases/Disorders of Nervous System

Multiple sclerosis

<p>Cause of disease Malfunction of <u>immune</u> system</p>	<p>What happens? Myelin sheath is <u>destroyed</u> + <u>damaged</u></p>	<p>Symptoms? • muscle weakness • slurred speech • difficulty walking</p>
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(∴ nerves don't work as well) Do # 3, 4, 5, 7