**Circulatory and Immune Systems**

Intro:

* The body responds to stresses by trying to maintain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Three things which need to stay in balance are \_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_ , \_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Three systems which help the body stay in balance are \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_ systems

Blood Circulation:

* The purpose of the circulatory system is to \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and nutrients around the entire body.
* Oxygen allows\_\_\_\_\_\_\_\_\_\_\_\_\_ to live, which allows tissues and organs to live.
* The heart \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ blood which returns to it.
* Blood also carries vitamins, \_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, and white blood cells all around the body.
* The smallest blood vessels are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 Blood is made of four things:

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* Platelets produce cells which stick together to \_\_\_\_\_\_\_\_\_\_ the hole of a wound. They cast a \_\_\_\_\_\_\_ over the opening. They also make blood vessels \_\_\_\_\_\_\_\_\_\_\_ to reduce blood flow.
* Red blood cells are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the protein which carries oxygen on RBCs.
* RBCs are made within the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* RBCs which experience deficiency in carrying oxygen causes \_\_\_\_\_\_\_\_\_\_\_\_.
* White blood cells are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Overproduction of WBCs can cause \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The four major blood types are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* These are made from \_\_\_\_\_\_ possible genotype pairs (alleles).

The Heart:

* The heart is made of \_\_\_\_\_\_\_\_\_\_\_\_\_\_, involuntary muscle with tough fibers.
* Blood pumps away from the heart in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and towards the heart in \_\_\_\_\_\_\_\_\_\_\_\_.
* The main artery of the heart is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The main vein dumping blood back into the heart is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* The top two quadrants of the heart are the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ while the bottom two chambers are the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Which are stronger, thicker, and hold their shape better? Veins or arteries?
* Your \_\_\_\_\_\_\_\_\_\_\_\_ is your number of heartbeats per minute, while your \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the force exerted on the artery walls as blood pushes through.
* \*The first part of the heartbeat is the blood filling the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, where the mitral/tricuspid valves close. The second part is the blood filling the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, where the aortic/pulmonary valves close.
* \*Two electrical \_\_\_\_\_\_\_\_\_\_\_\_\_\_ shock the heart to start/end the contractions.
* \*The heart \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ when its nodes’ electrical firing gets disrupted.
* Heart disease is a narrowing of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ due to blood clots or deposits.
* A \_\_\_\_\_\_\_\_\_\_\_\_ occurs if a blood clot breaks free and travels to the brain.
* A heart attack is caused by not enough \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ getting to the heart.

The Immune System:

* Blood and lymph rush to a site, carrying white blood cells, which causes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Lymph carries T-cells and B-cells which are called\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Lymph nodes filter and clean \_\_\_\_\_\_\_\_\_\_\_\_\_\_ out of the lymph
* Antibodies are \_\_\_\_\_\_\_\_\_\_\_\_\_\_ that fight germs; produced by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ fight germs directly (“eating them” etc)
* Lymphoma is cancer of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- while Myeloma is cancer of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Allergies are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ responses to things which are not normally \_\_\_\_\_\_\_\_\_\_\_\_\_
* Two medications used to stop an allergic response are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Autoimmune diseases are caused by the body attacking its own \_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as harmful, which then causes tissue damage and swelling.

Drawings: