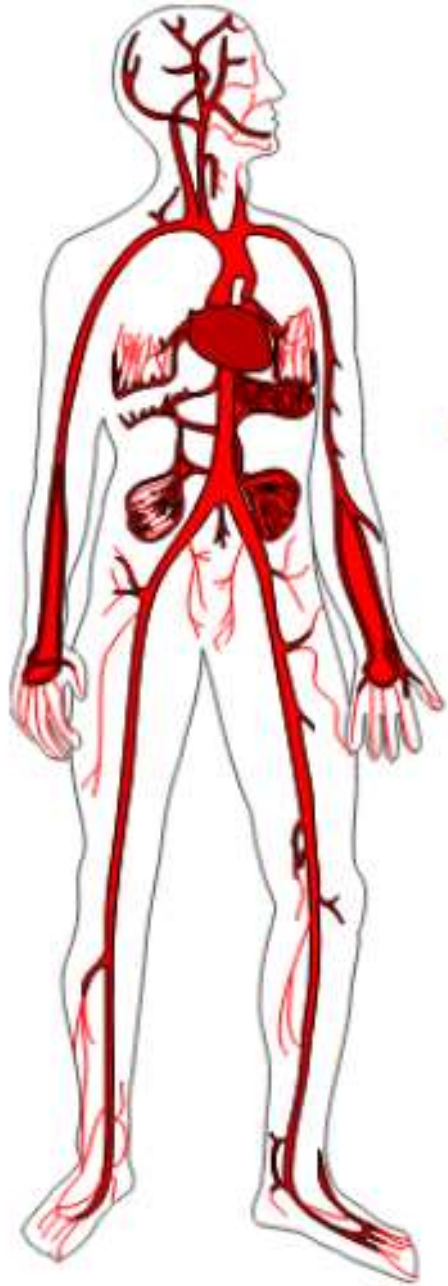


The Circulatory System

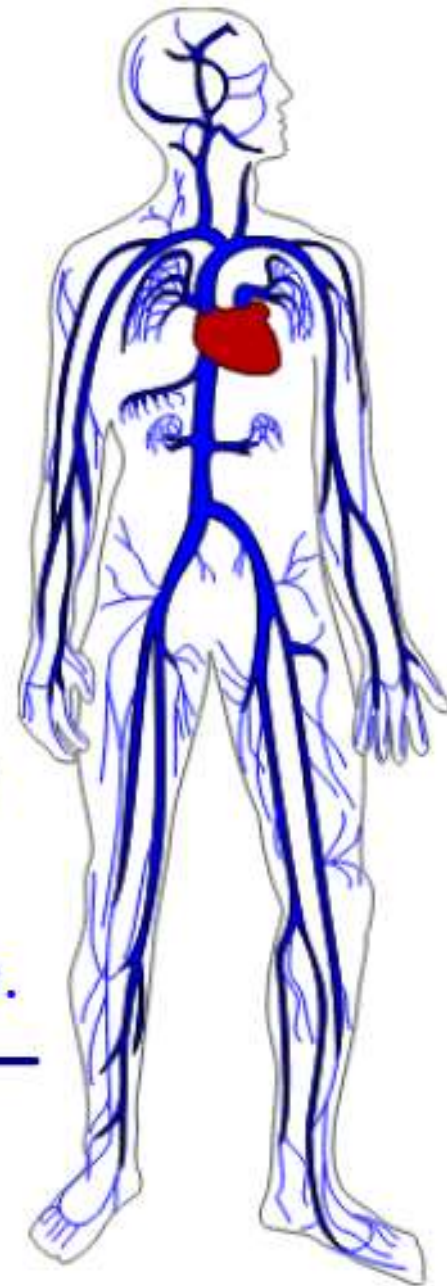
AKA- the Cardiovascular System

pages 546-553

School House Rock!



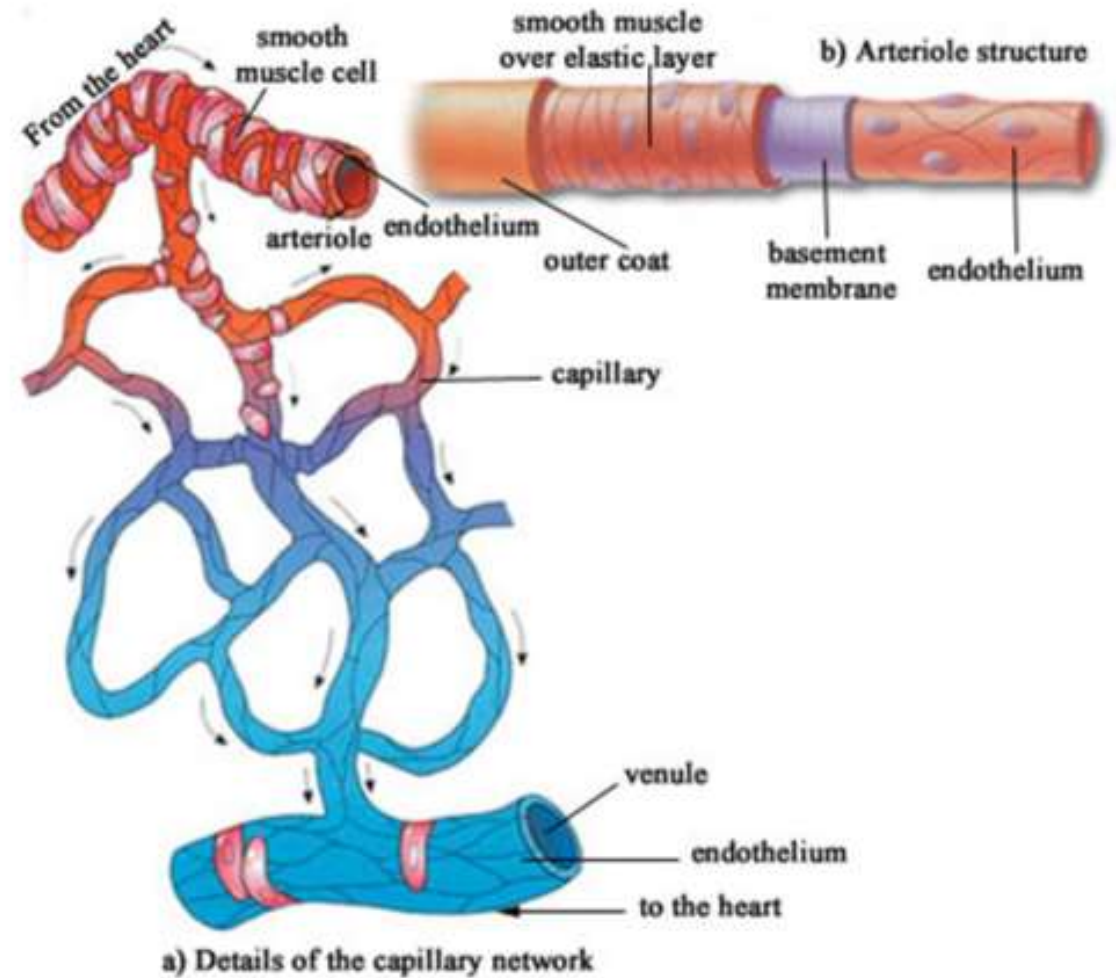
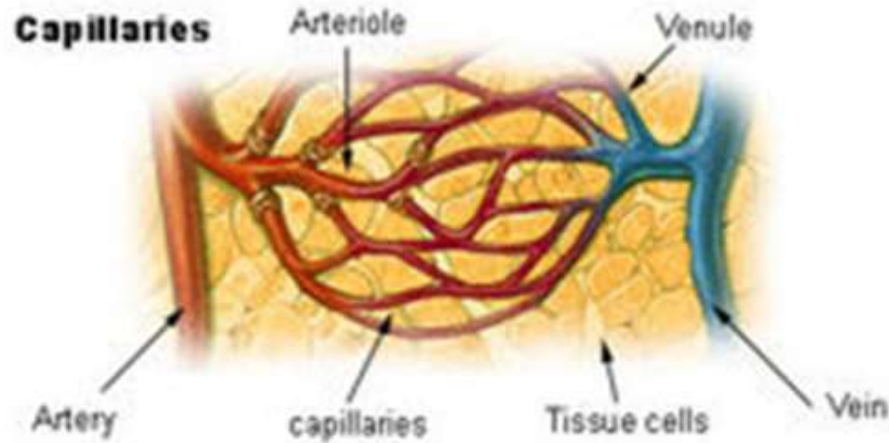
Arteries bring
oxygenated blood
to the body.



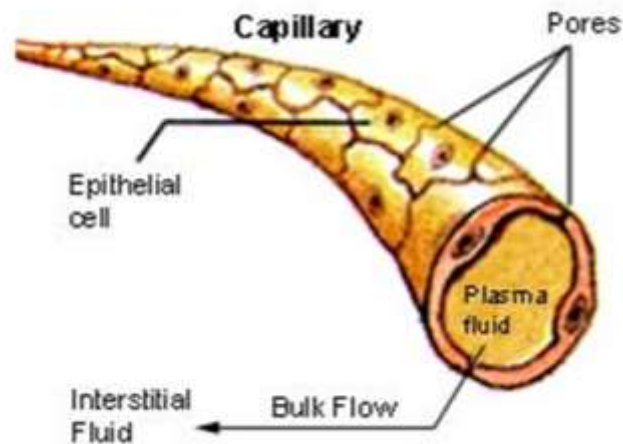
Veins take blood
without oxygen
back to the lungs.



Capillaries

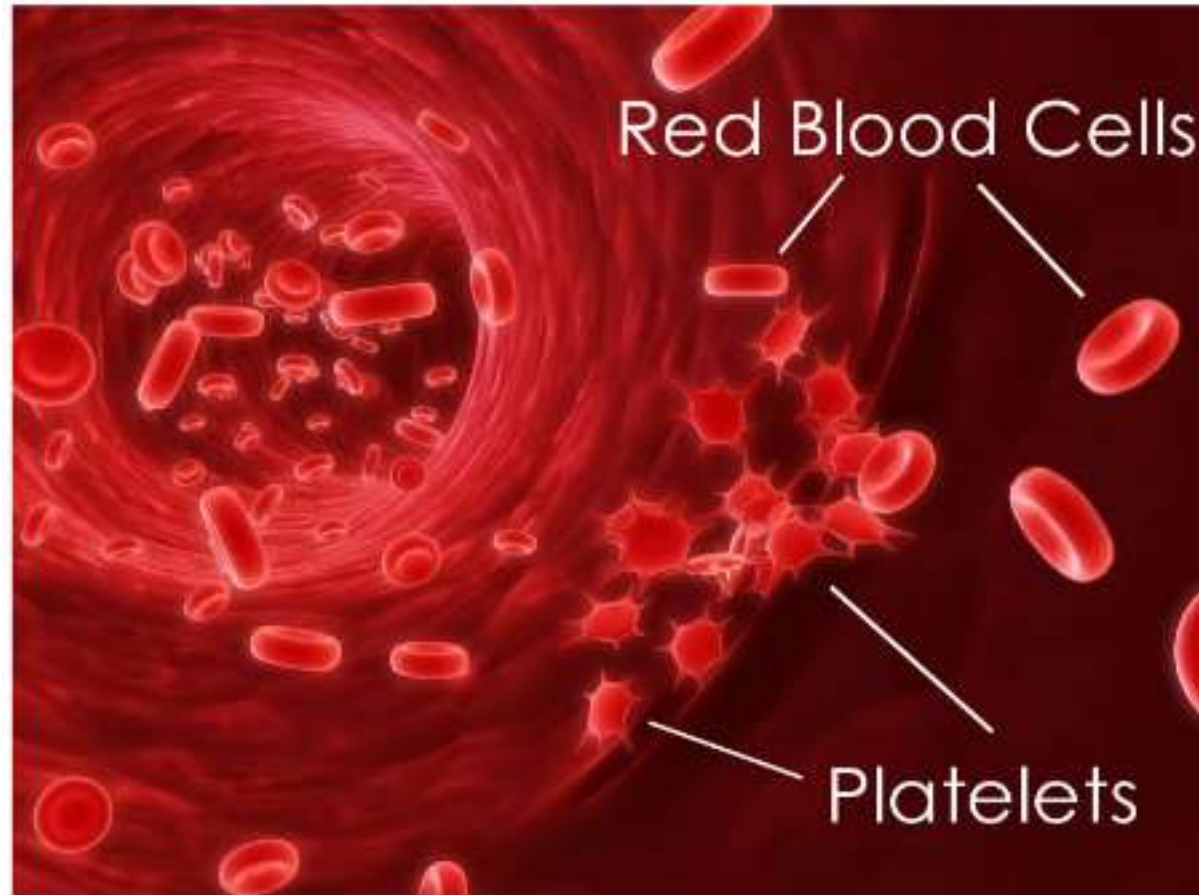


no cell in the body is more than three cells away from a capillary



one strand of hair is 10 times wider than a capillary!

Why do we need **blood** and the **circulatory system**?



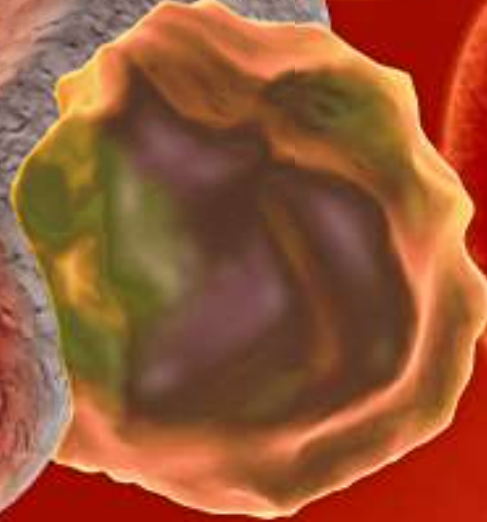
It only takes 1 minute to circulate blood around the body and back again.

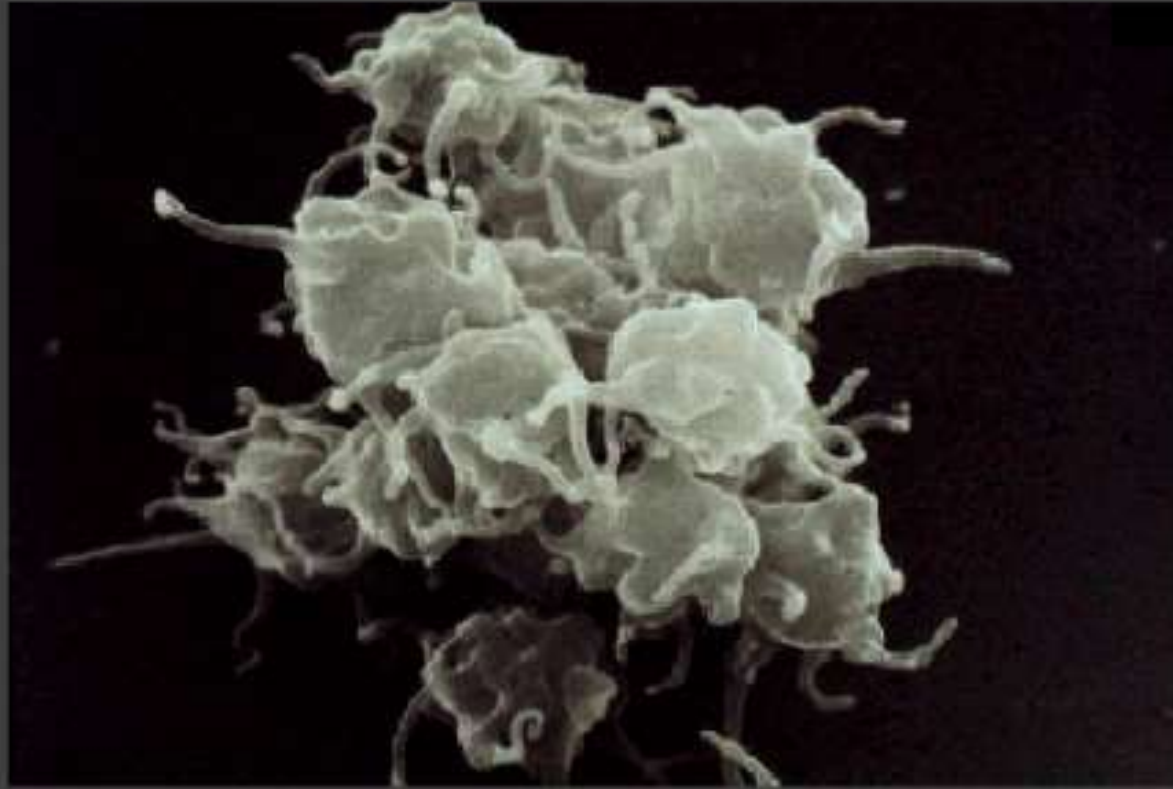
What is blood anyway?

- connective tissue
- cells (red and white blood cells)
- plasma
- platelets

Platelets

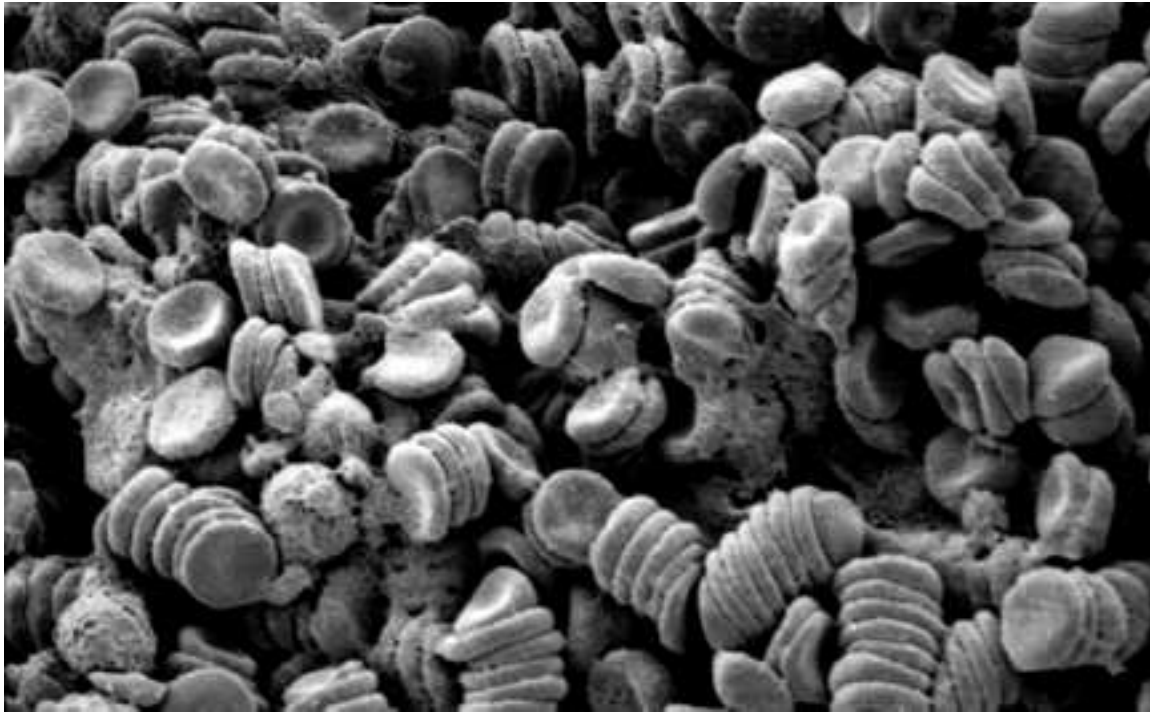
- stay in bone marrow
- break off small pieces
- live 5-10 days
- help clot blood





Platelets

- stay in bone marrow
- break off small pieces
- live 5-10 days
- help clot blood

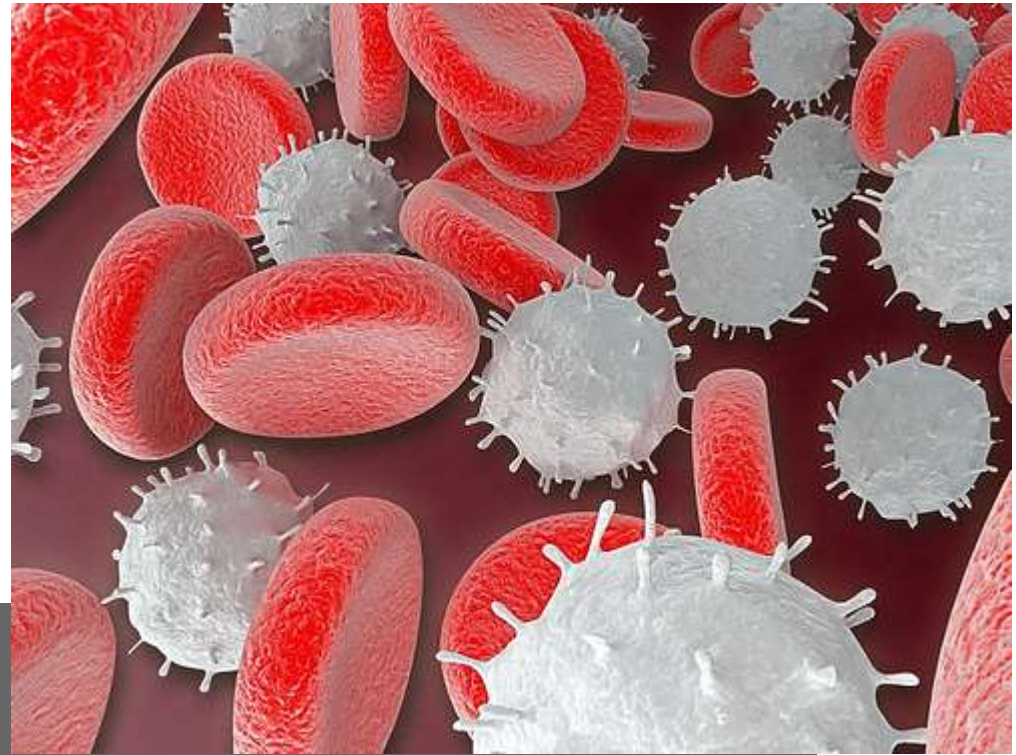


Red Blood Cells (RBC)

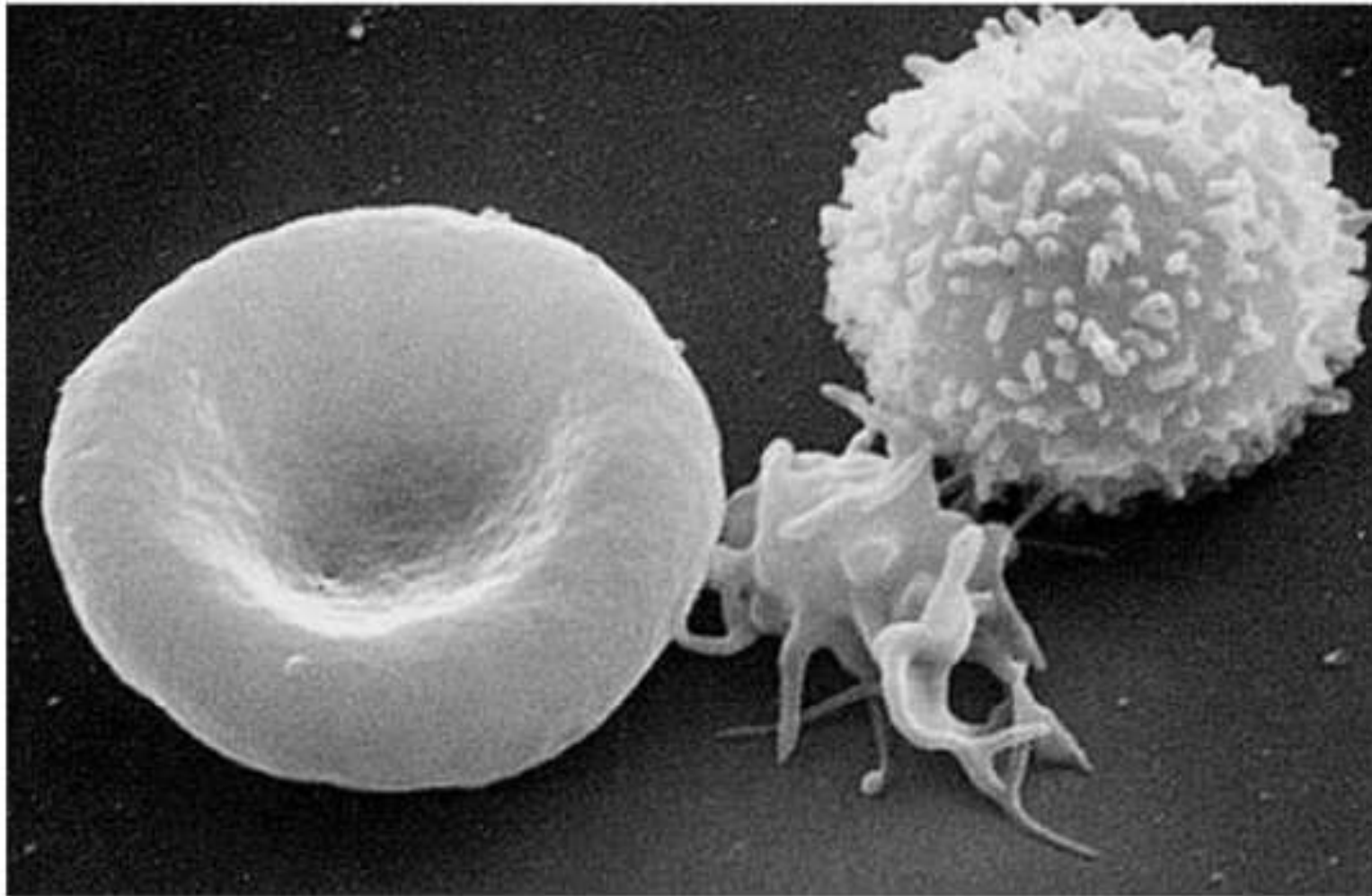
- made in bone marrow
- no nucleus
- live about 4 months
- contain hemoglobin (gets oxygen to stick)

White Blood Cells (WBC)

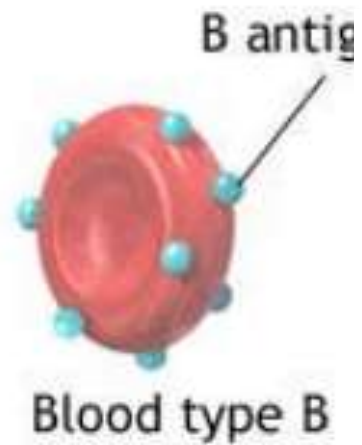
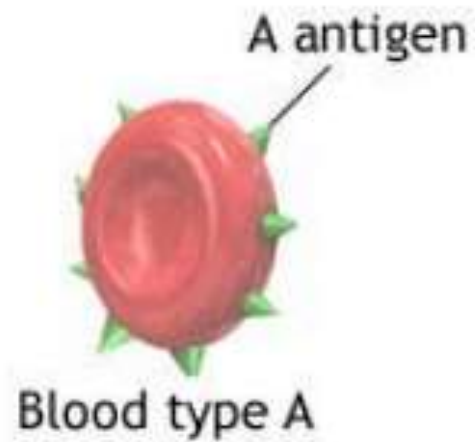
- made in bone marrow
- squeeze out of vessels and search for pathogens
- antibodies- chemicals to destroy germs
- eat dead/damaged body cells



Quiz time! Which is which???

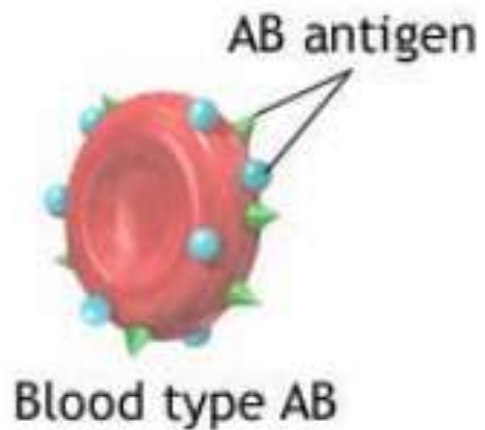


What's your Blood Type?



A

B

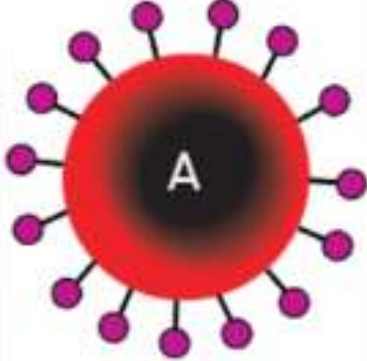
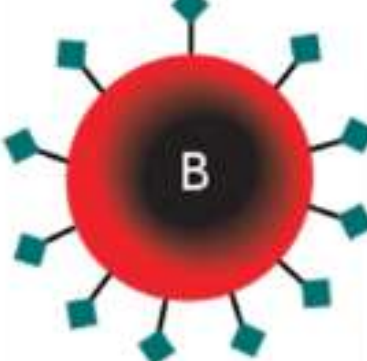
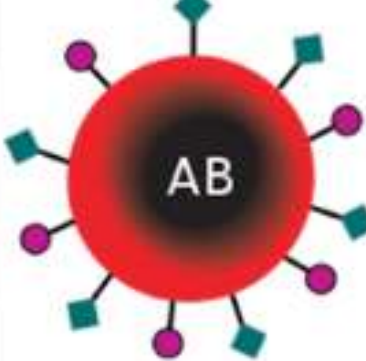









AB

universal recipient

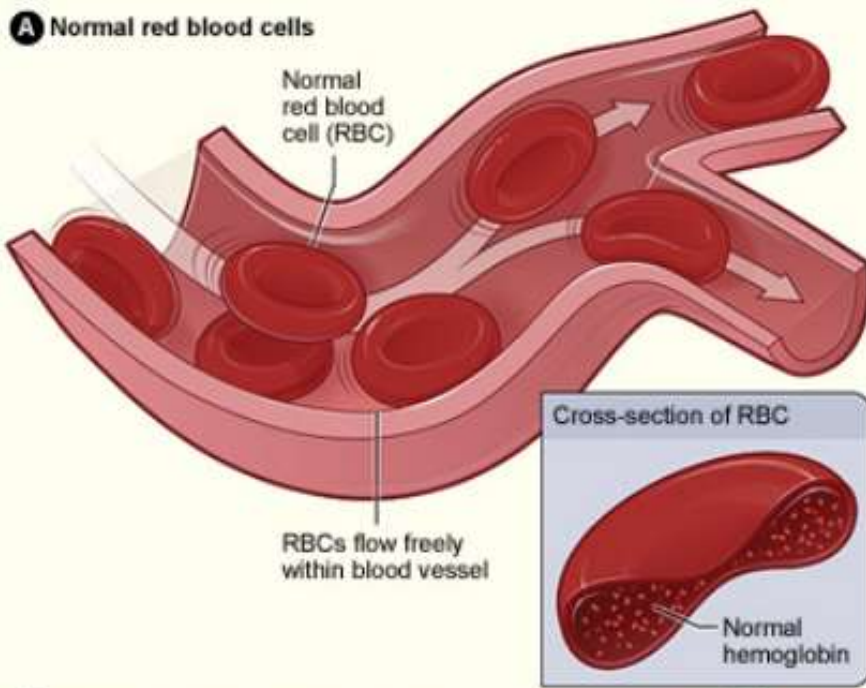
O

universal donor

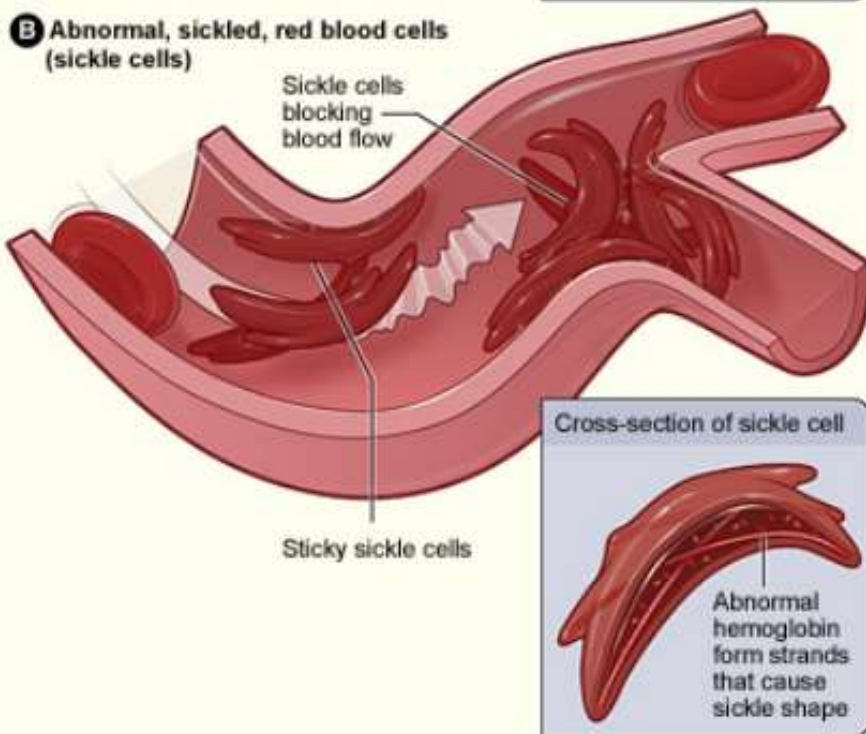
	Group A	Group B	Group AB	Group O
Red blood cell type				
Antibodies present	 Anti-B	 Anti-A	None	 Anti-A and Anti-B
Antigens present	A antigen 	B antigen 	A and B antigens 	None

Blood Cells Gone Wrong

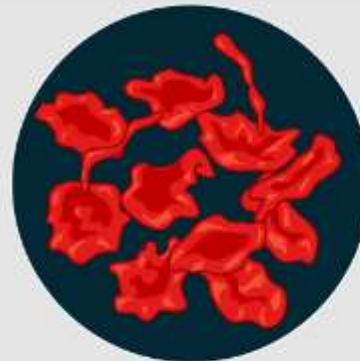
A Normal red blood cells



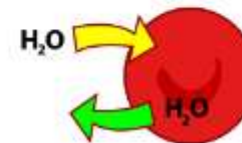
B Abnormal, sickled, red blood cells (sickle cells)



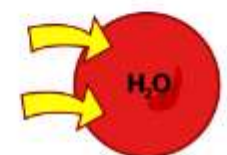
Hypertonic



Isotonic



Hypotonic



Blood Flows Through the Heart



from heart to body (with oxygen)

size of your fist

from body to heart

from heart to lung (without oxygen)

from heart to lung

from lung to heart (with oxygen)

from lung to heart (with oxygen)

Right Atrium

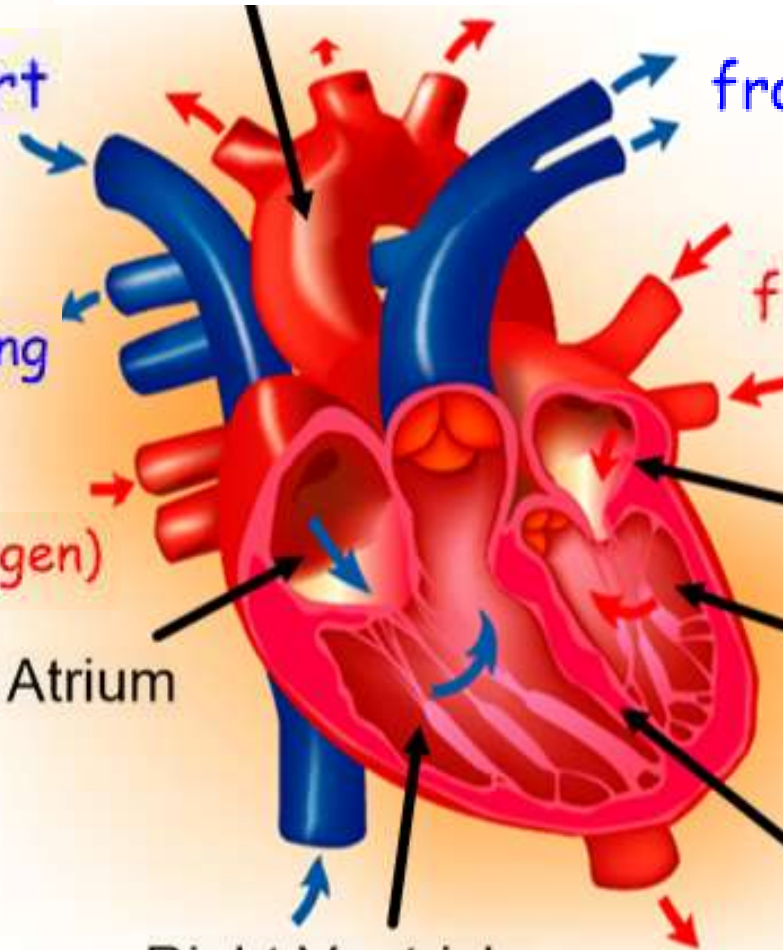
Left Atrium

Left Ventricle

Right Ventricle

Septum

from heart to body (with oxygen)



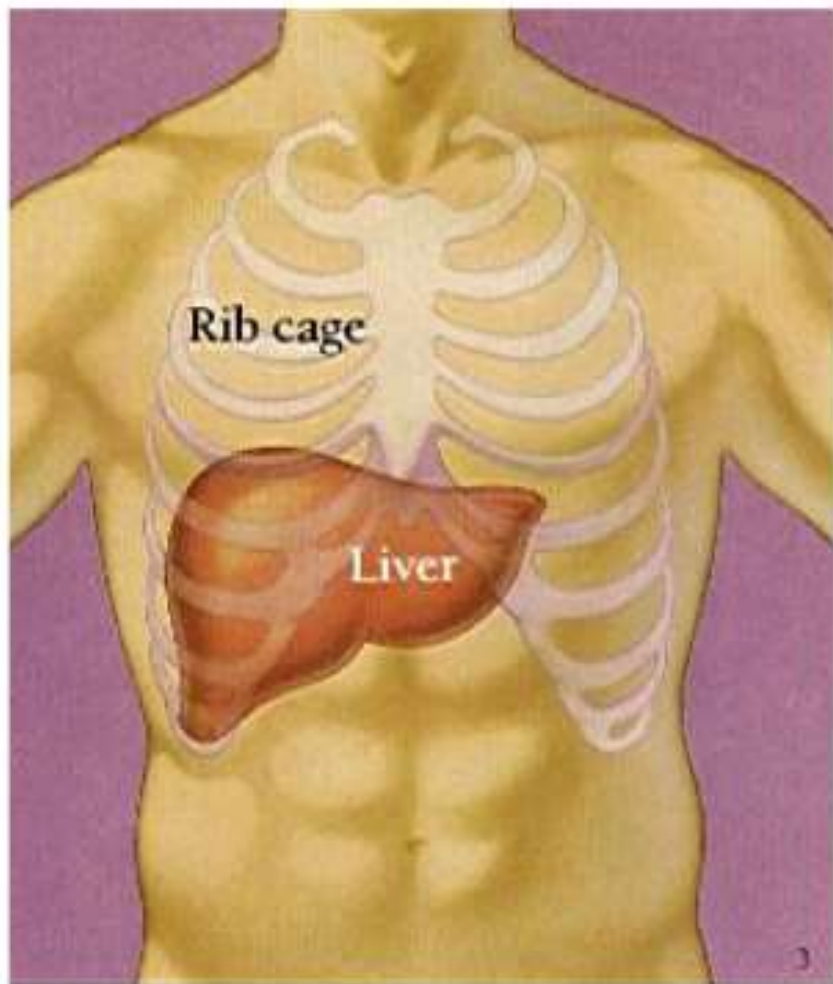
Why does the blood in your veins look purple?

Then why does it turn bright red when you get a cut?

Why do you start bleeding when you get a cut?

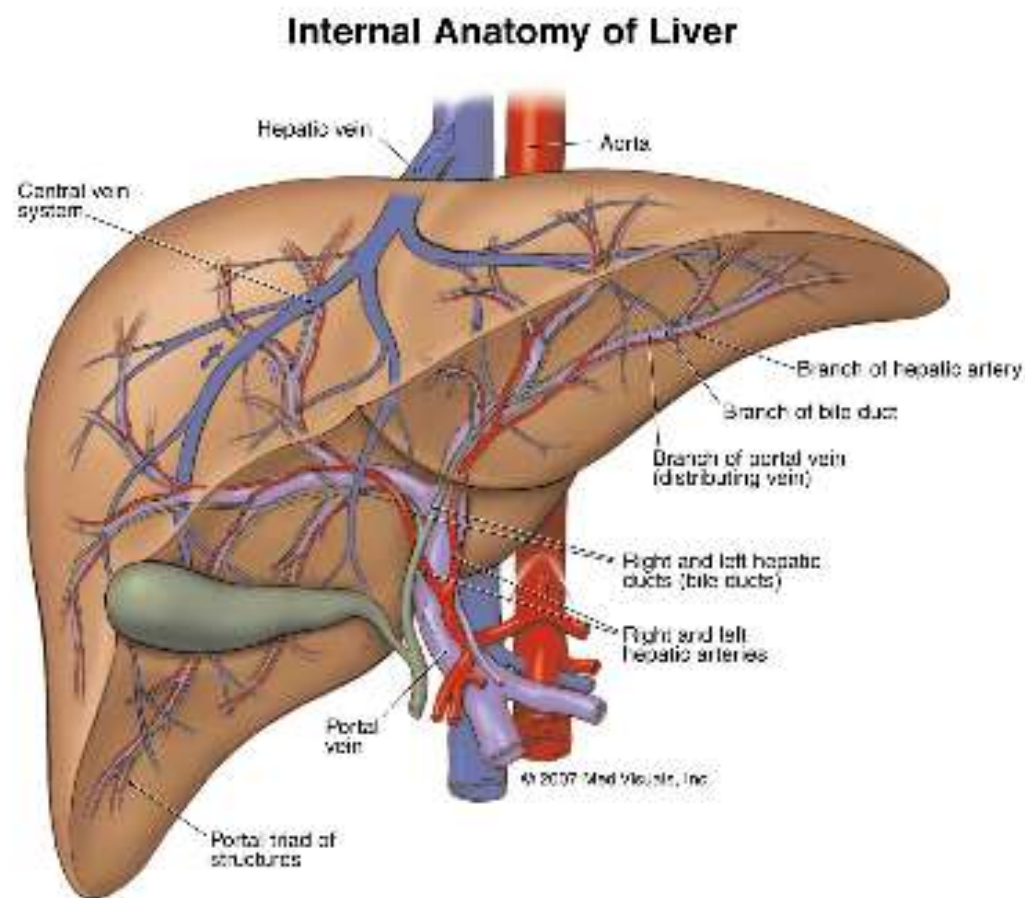
So, how does your body *stop* the bleeding?

- platelets clump together
- produce enzymes to form a fiber net
- catches red blood cells
- dries into a scab
- body builds new cells underneath



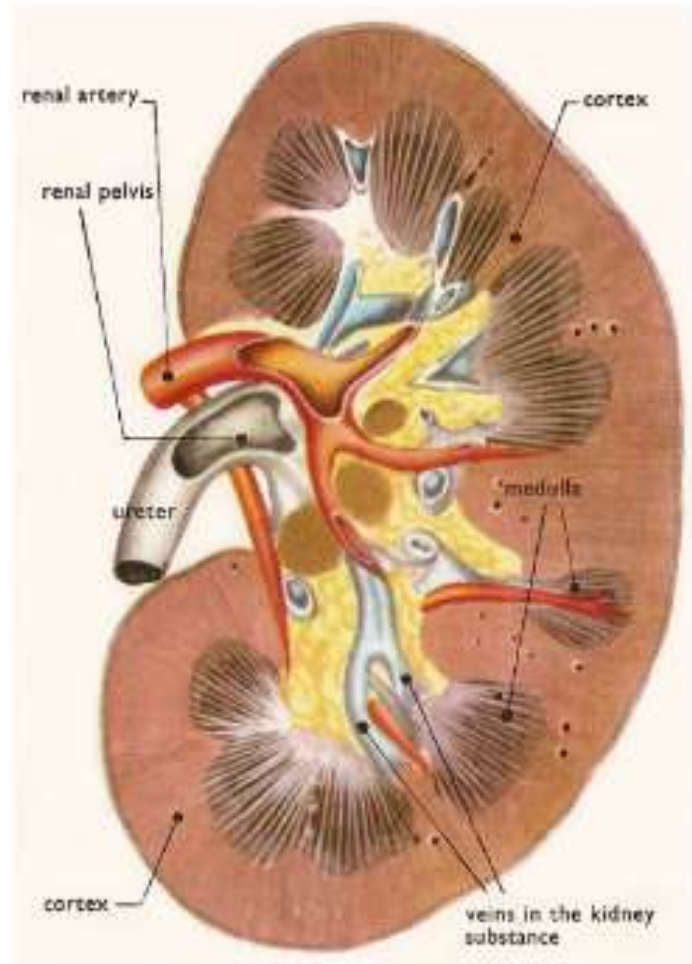
The liver filters the blood. It takes nutrients out along with other things that shouldn't be in our blood stream (like worn out red blood cells).

The Liver

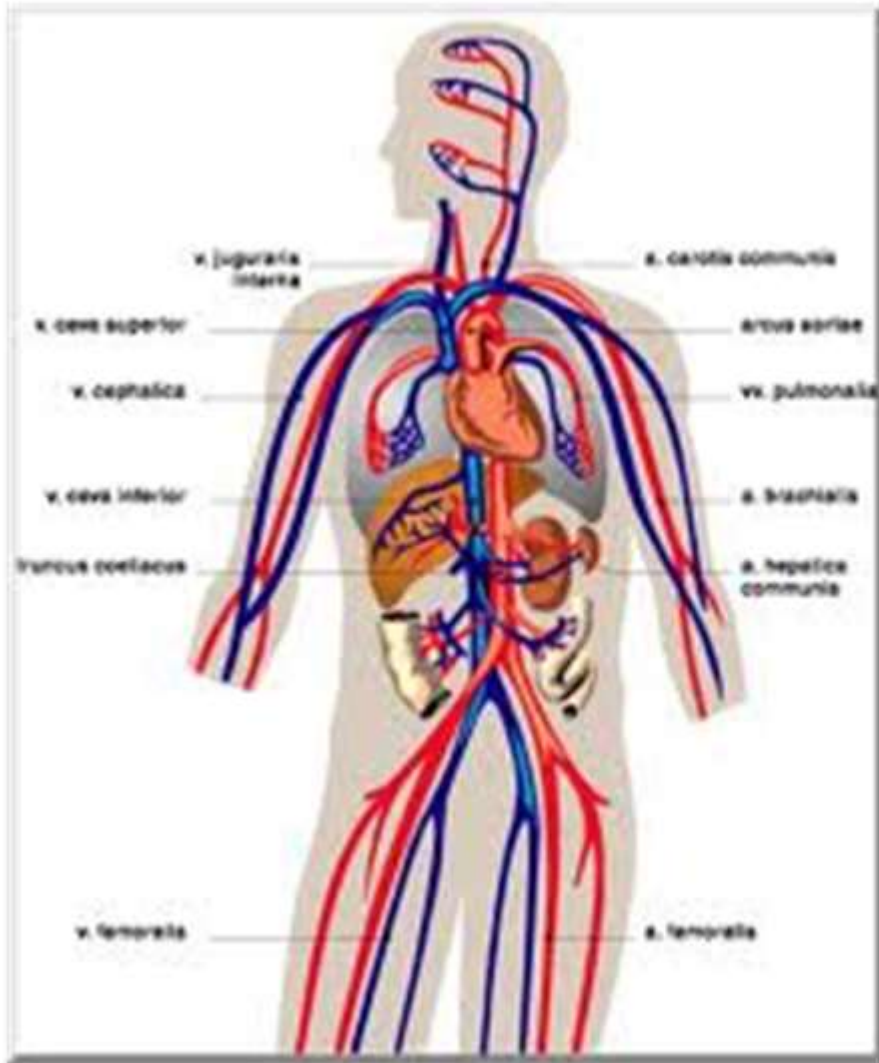


Kidneys

Kidneys filter blood too.
They send liquid waste out of the body.



Body System	Job	Organs
Circulatory System		



Your turn...

Draw some veins, arteries, and capillaries on one side of your body.

Please label the following on your body cutouts:

- veins
- arteries
- capillaries

Bonus: connect the veins and arteries to your heart!