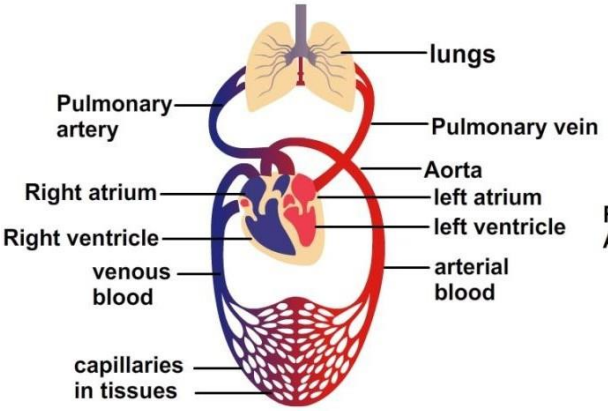
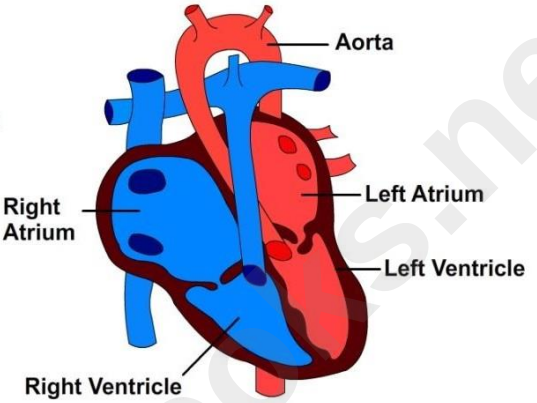
ICSE CLASS 8 BIOLOGY
BLOOD-THE CIRCULATORY FLUID IN OUR BODY

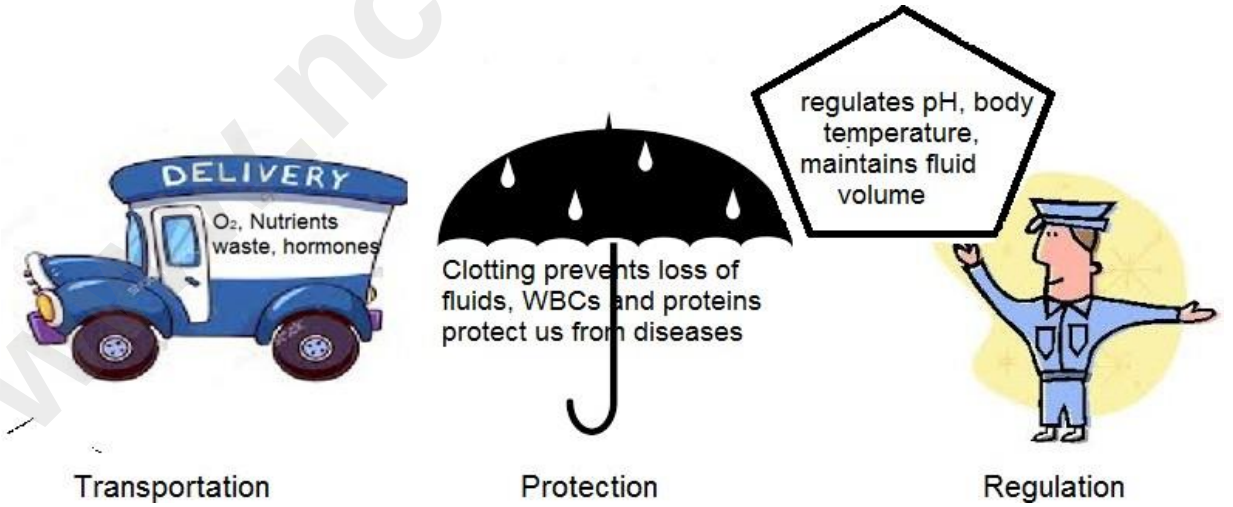
Heart and major blood vessels



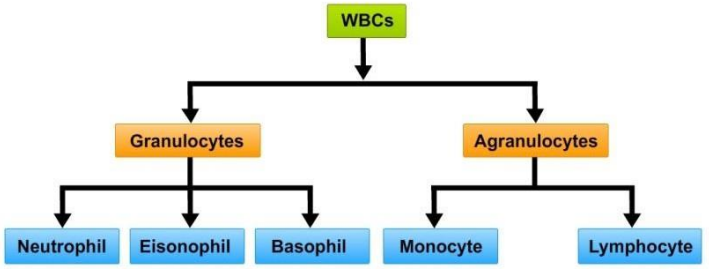


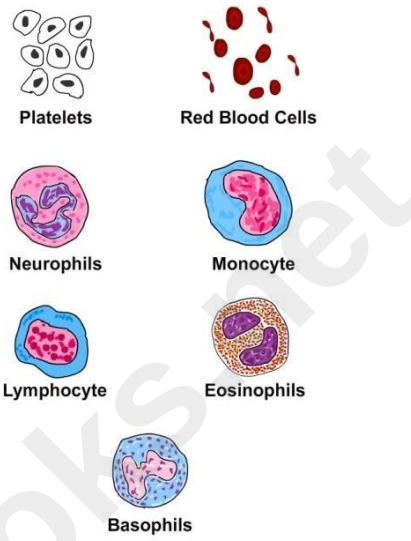
- Transport/Circulatory System in Humans is a closed system because circulatory fluid – blood – is always contained inside the blood vessels
- Blood from heart→ arteries→ divide to form capillaries→ capillaries supply each cell of the body→ exchange of gases, nutrients and other materials occur in capillaries→ capillaries reunite to form venules→venules join to form veins→ take blood back to heart

Functions of blood



Blood groups and blood cells





When a person loses blood due to injury or surgery, he may need blood transfusion. Person giving blood→ donor. Person receiving blood→ recipient
O group people are called universal donors, AB group people are universal recipients

GROUP	A	B	AB	O
TYPE OF ANTIGEN	A	B	AB	NO ANTIGEN
TYPE OF ANTIBODY	ANTI B	ANTI A	NO ANTIBODY	ANTI A AND ANTI B
RECEIVE BLOOD FROM	A,O	B,O	A,B OR O	ONLY O
GIVE BLOOD TO	A,AB	B,AB	AB	A,B , AB AND O

Heart beat and heart rate

- One complete contraction and relaxation of the ventricles is called **heart beat.** During a heartbeat, blood flows from the auricles → ventricles → arteries
- The number of times a heart beats in a minute in a person is called **heart rate** (Normal heart rate - 70- 72/min for adults; about 92-100/min for children)
- Instrument to measure heart beat- **stethoscope**
- Blood exerts pressure on the walls of the arteries when it flows through them. This is felt as the **pulse** near the wrist, neck and other major arteries
- Blood pressure is measured using an instrument called **sphygmomanometer.** The normal BP is 120/80 mm Hg
- Heart rate increases during physical activity or when we are frightened, angry, stressed or excited