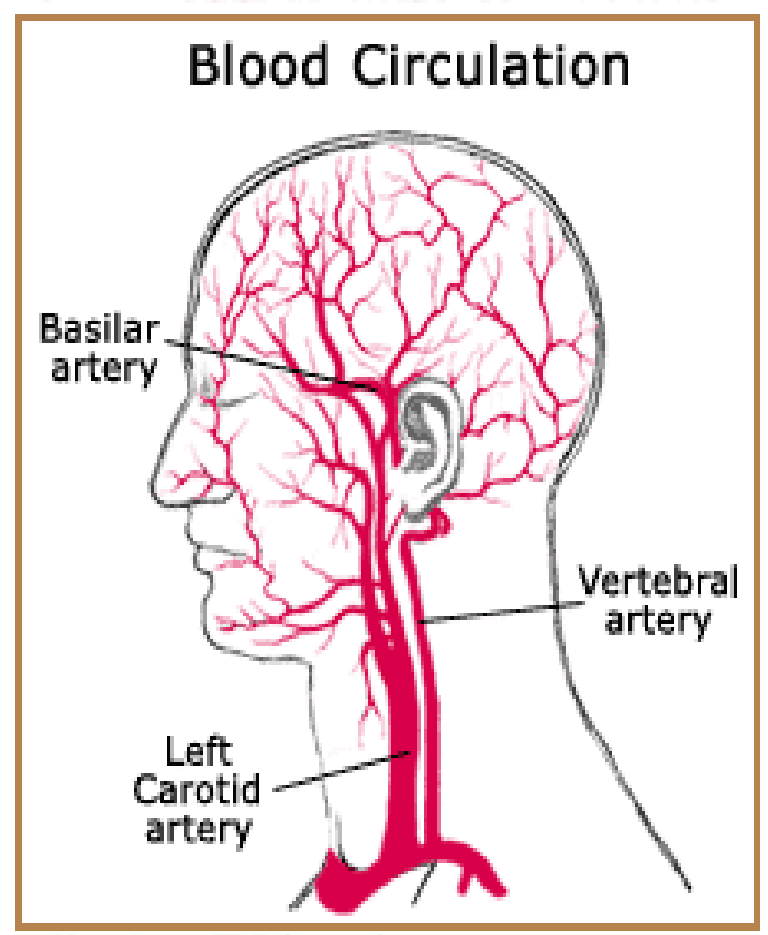
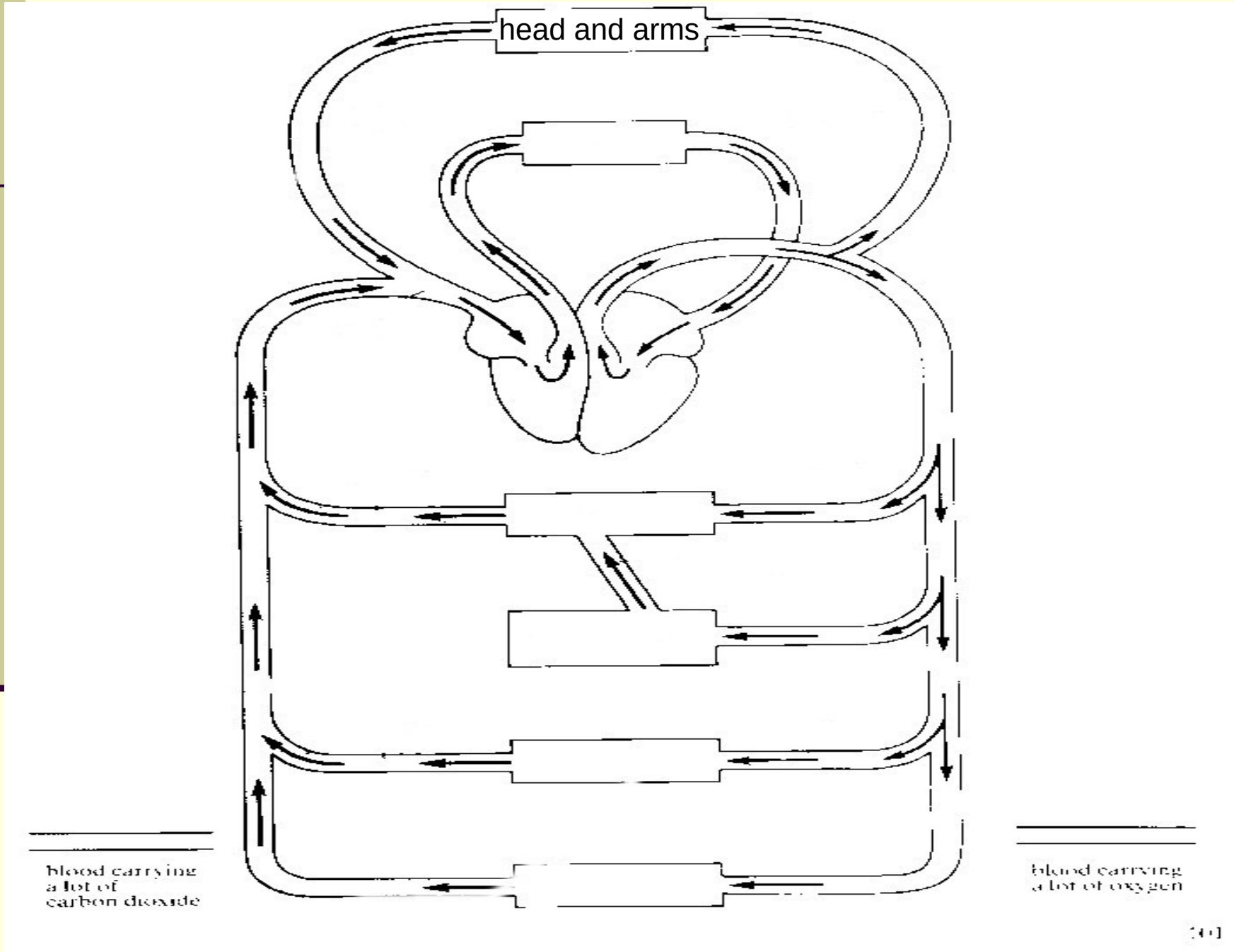
Exercise and Health

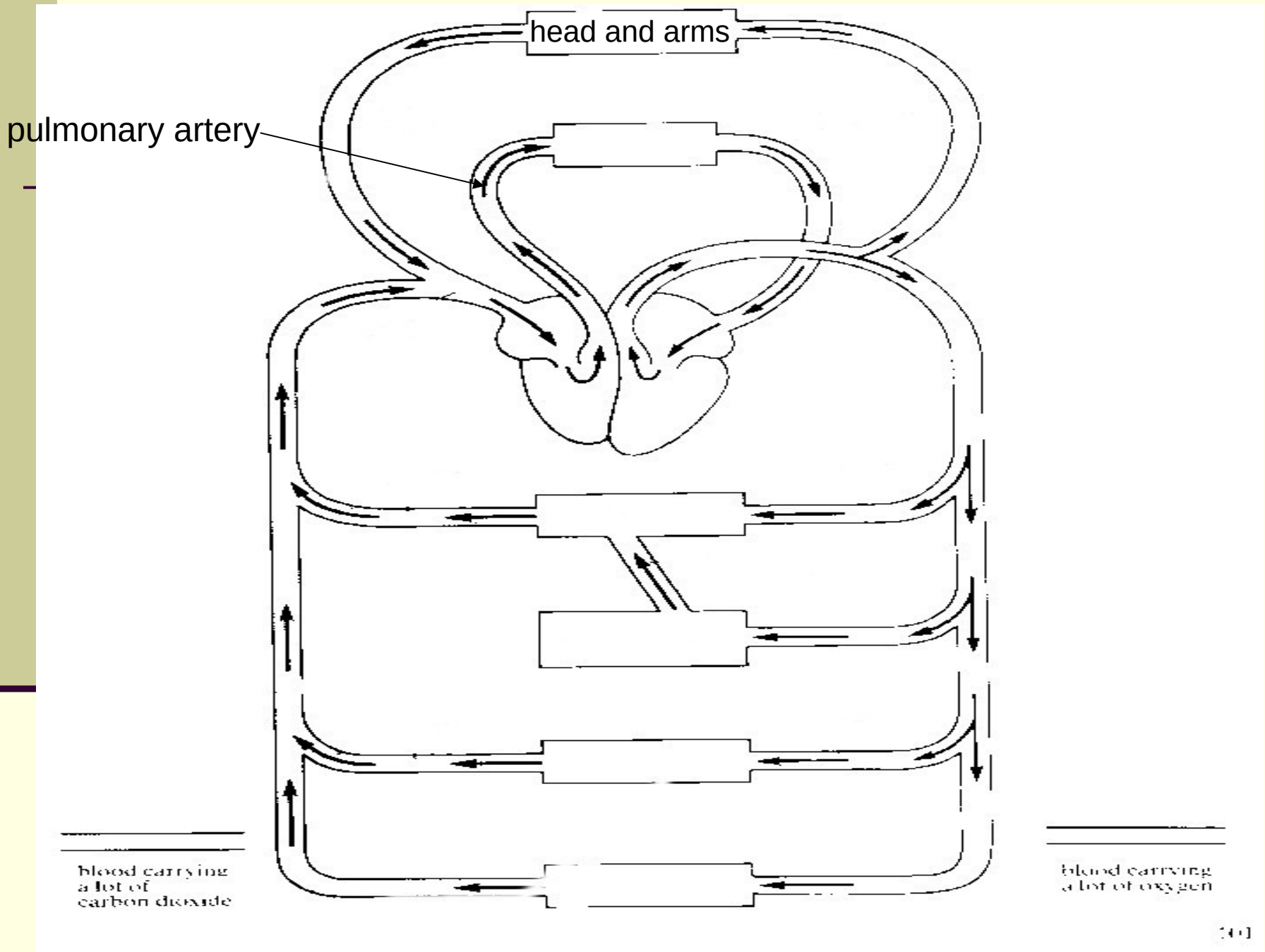
The Circulatory System

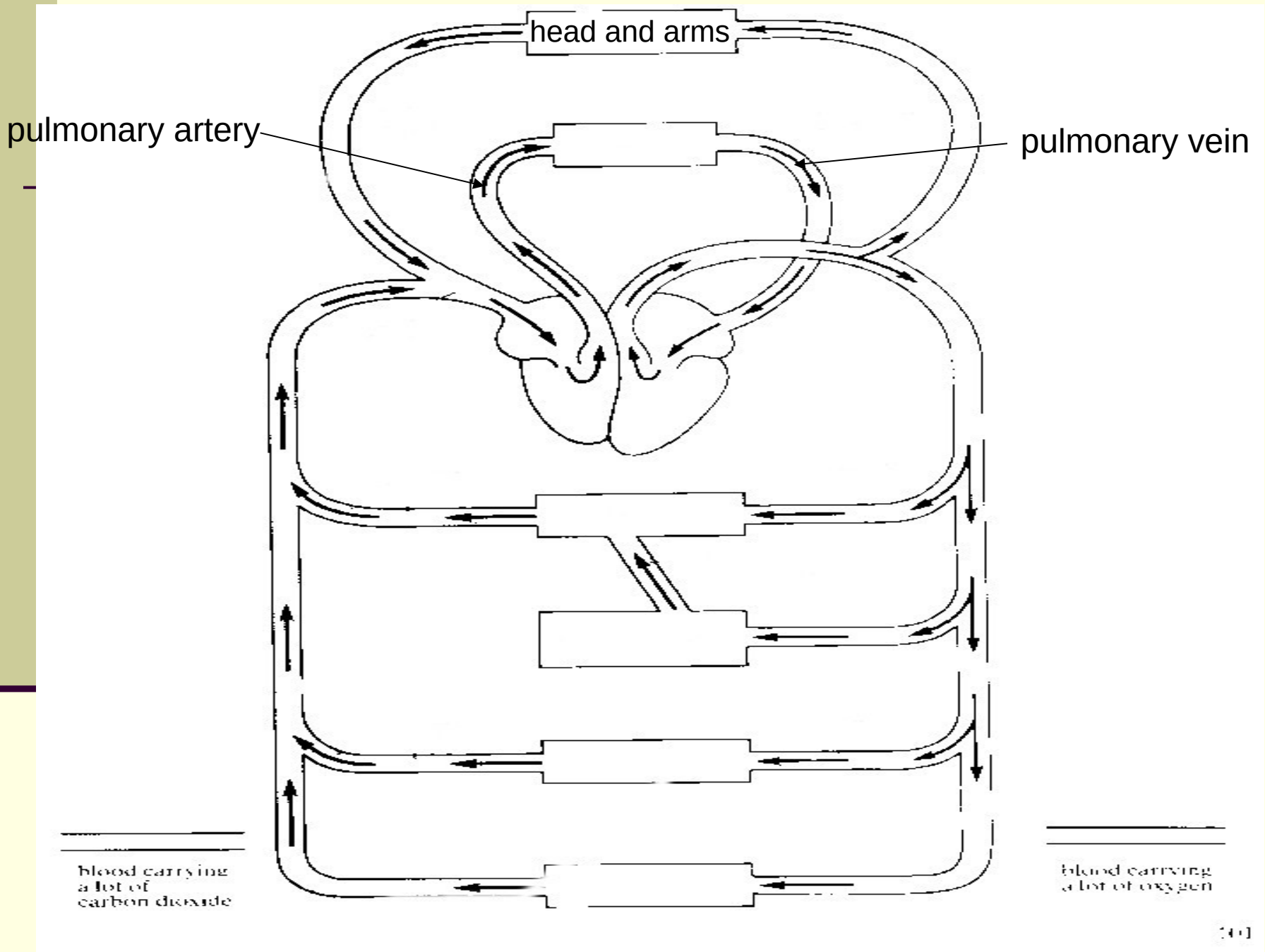
The Circulatory System

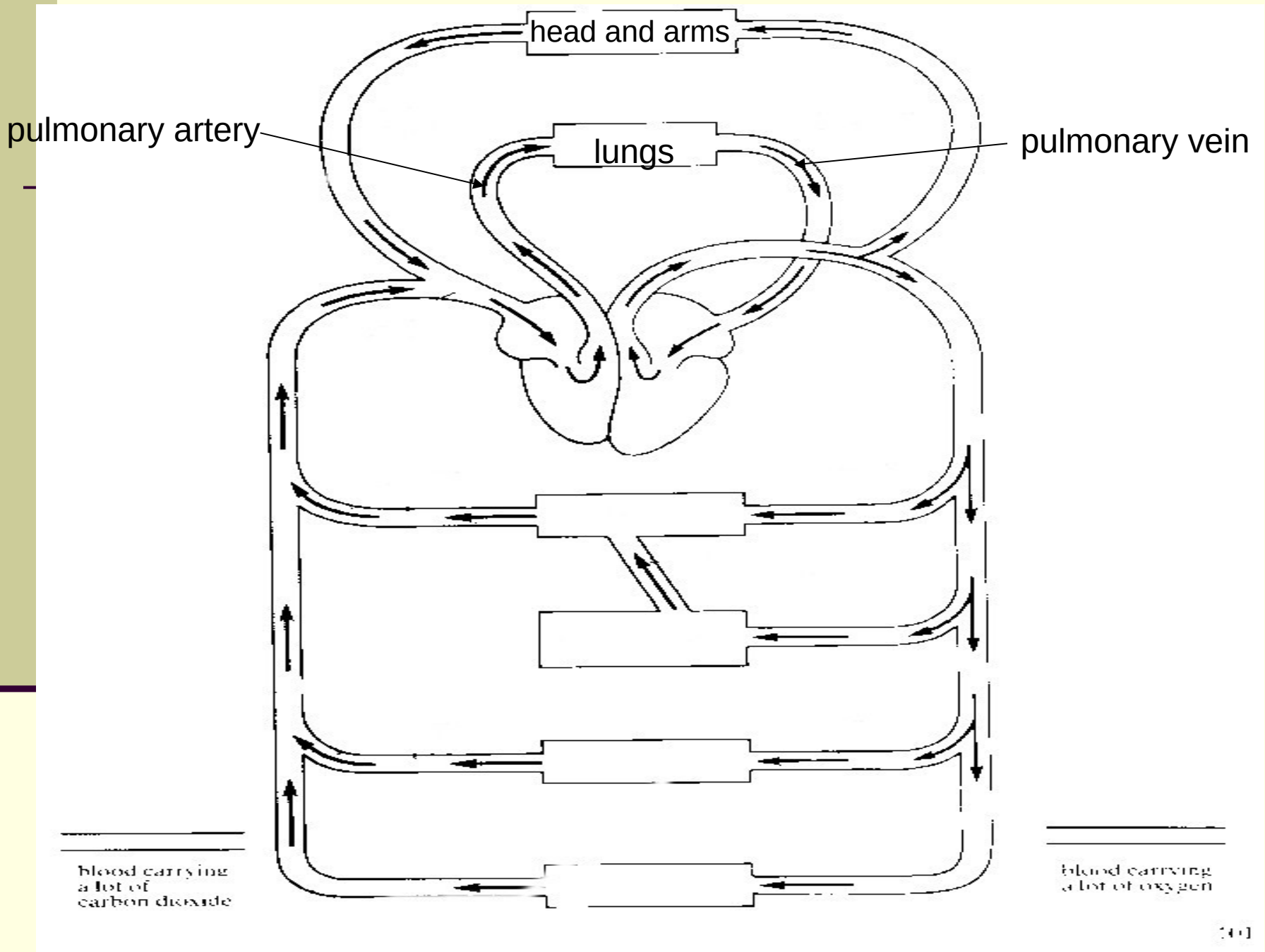


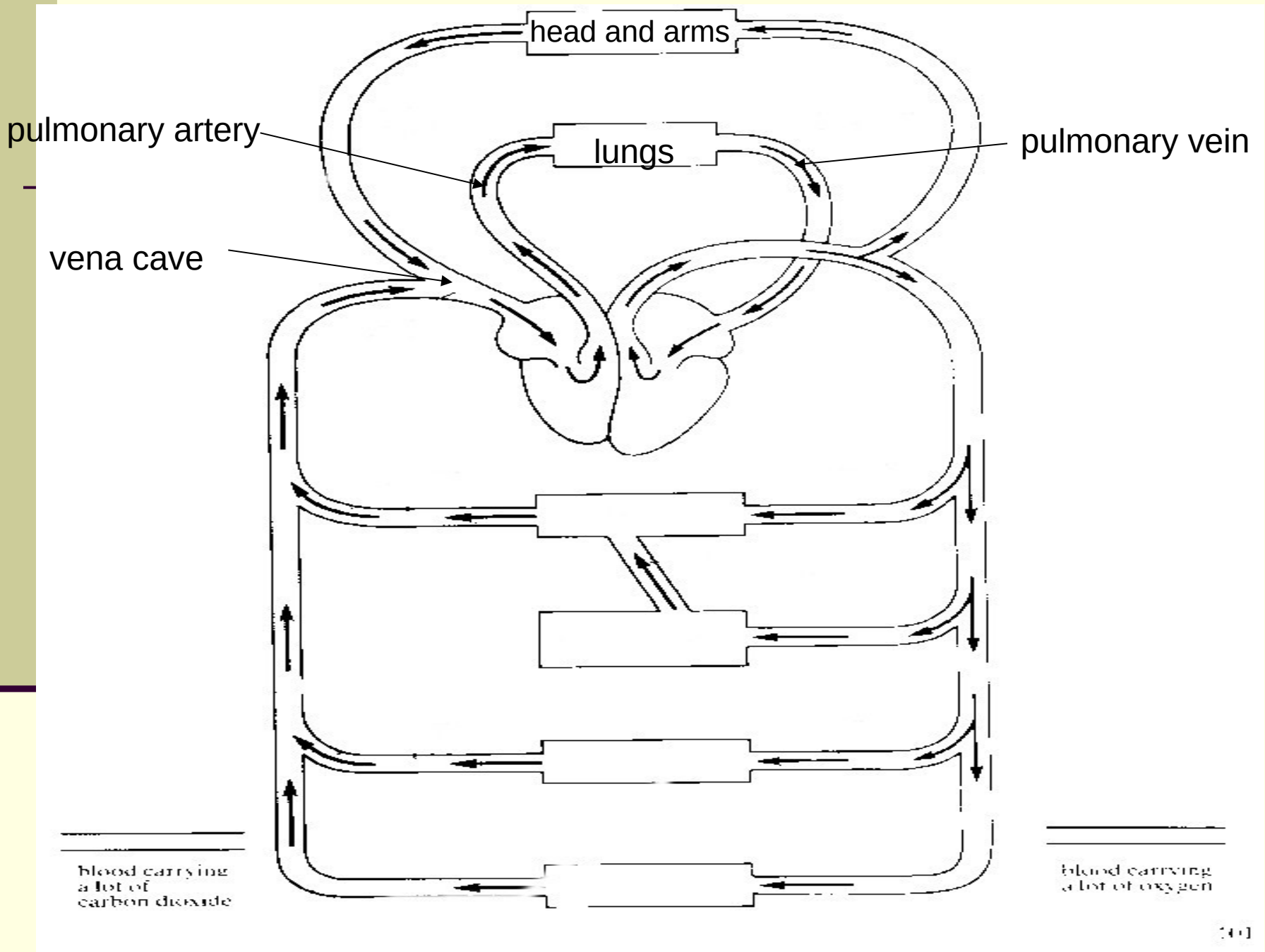
- Blood **circulates** to every cell in the body.
- The following diagram shows the main blood vessels and explains how blood circulates to all parts of the body.

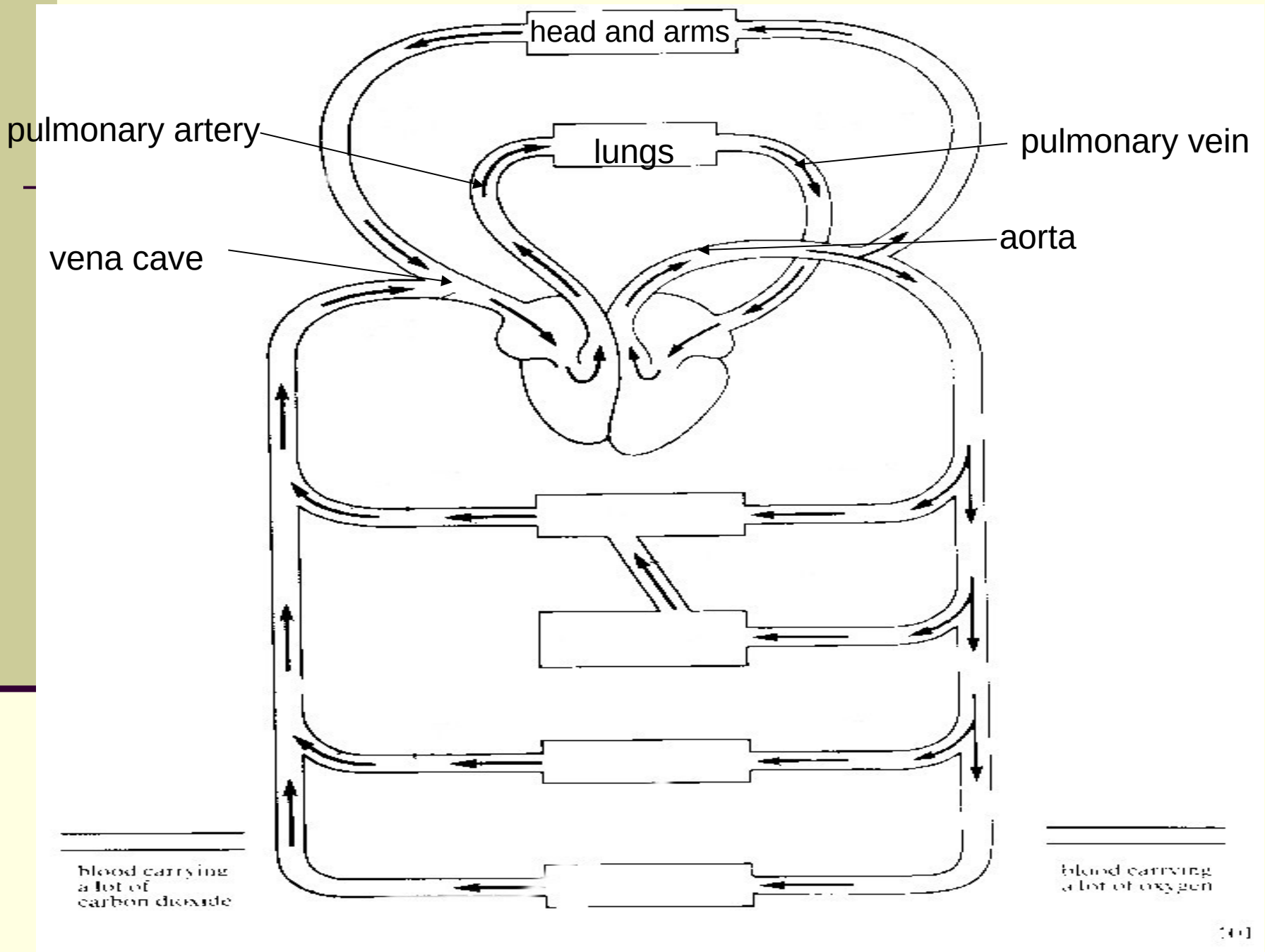

head and arms
blood carrying
a lot of
carbon dioxide
blood carrying
a lot of oxygen

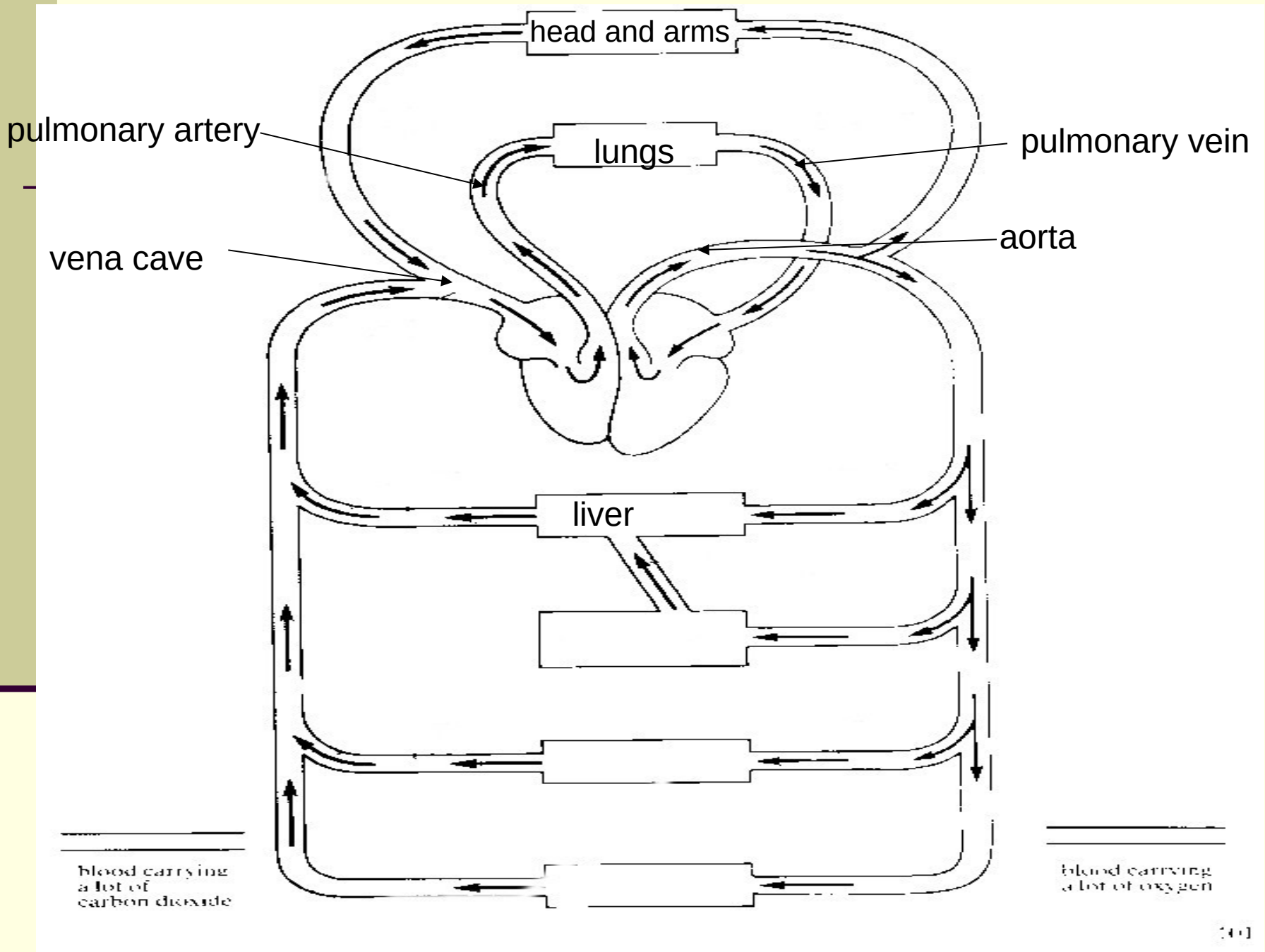

head and arms
pulmonary artery
blood carrying
a lot of
carbon dioxide
blood carrying
a lot of oxygen


head and arms
pulmonary artery
pulmonary vein
blood carrying
a lot of
carbon dioxide
blood carrying
a lot of oxygen


head and arms
pulmonary artery
lungs
pulmonary vein
blood carrying
a lot of
carbon dioxide
blood carrying
a lot of oxygen


head and arms
pulmonary artery
lungs
pulmonary vein
vena cave
blood carrying
a lot of
carbon dioxide
blood carrying
a lot of oxygen


head and arms
pulmonary artery
lungs
pulmonary vein
vena cave
aorta
blood carrying
a lot of
carbon dioxide
blood carrying
a lot of oxygen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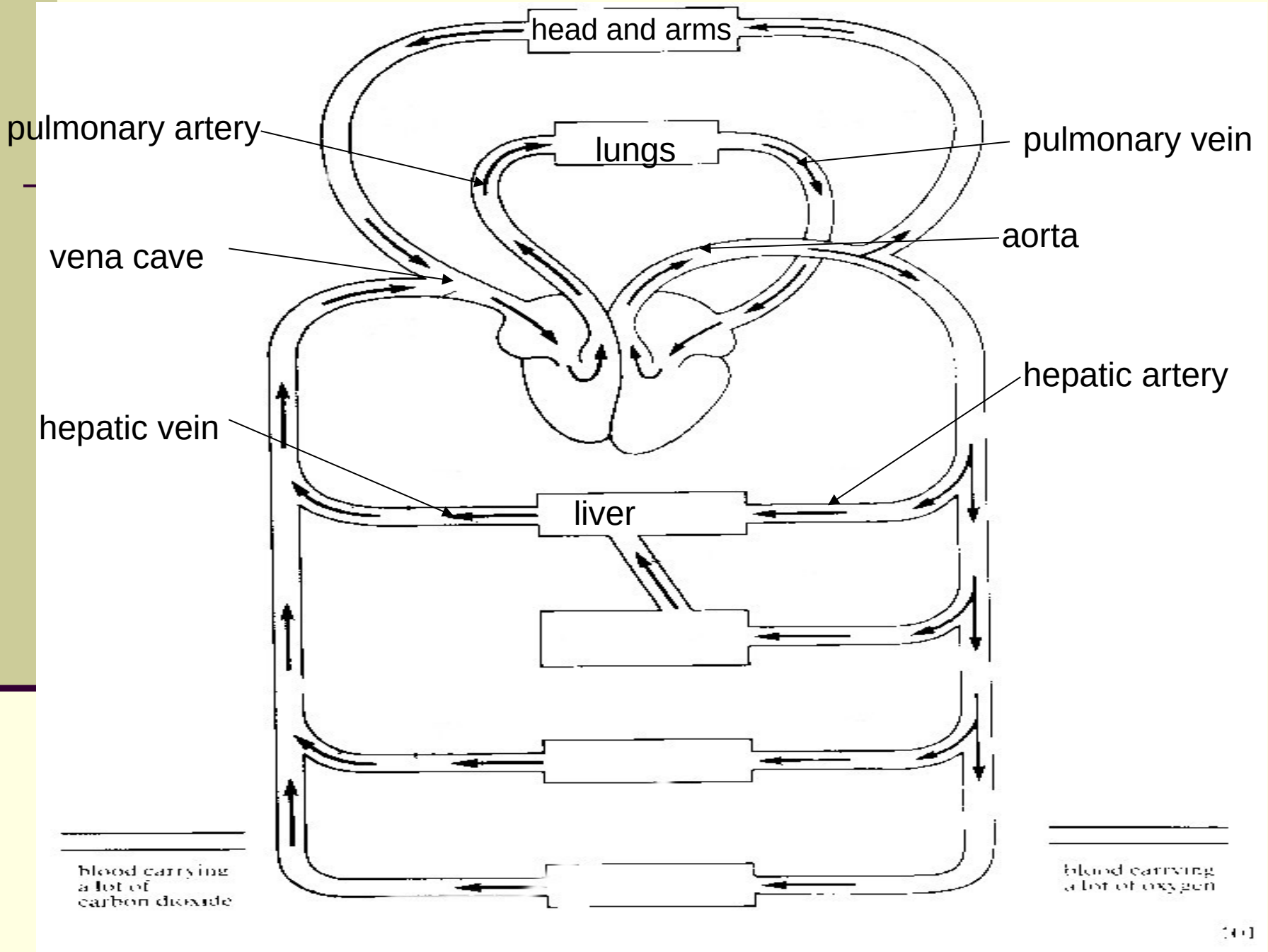
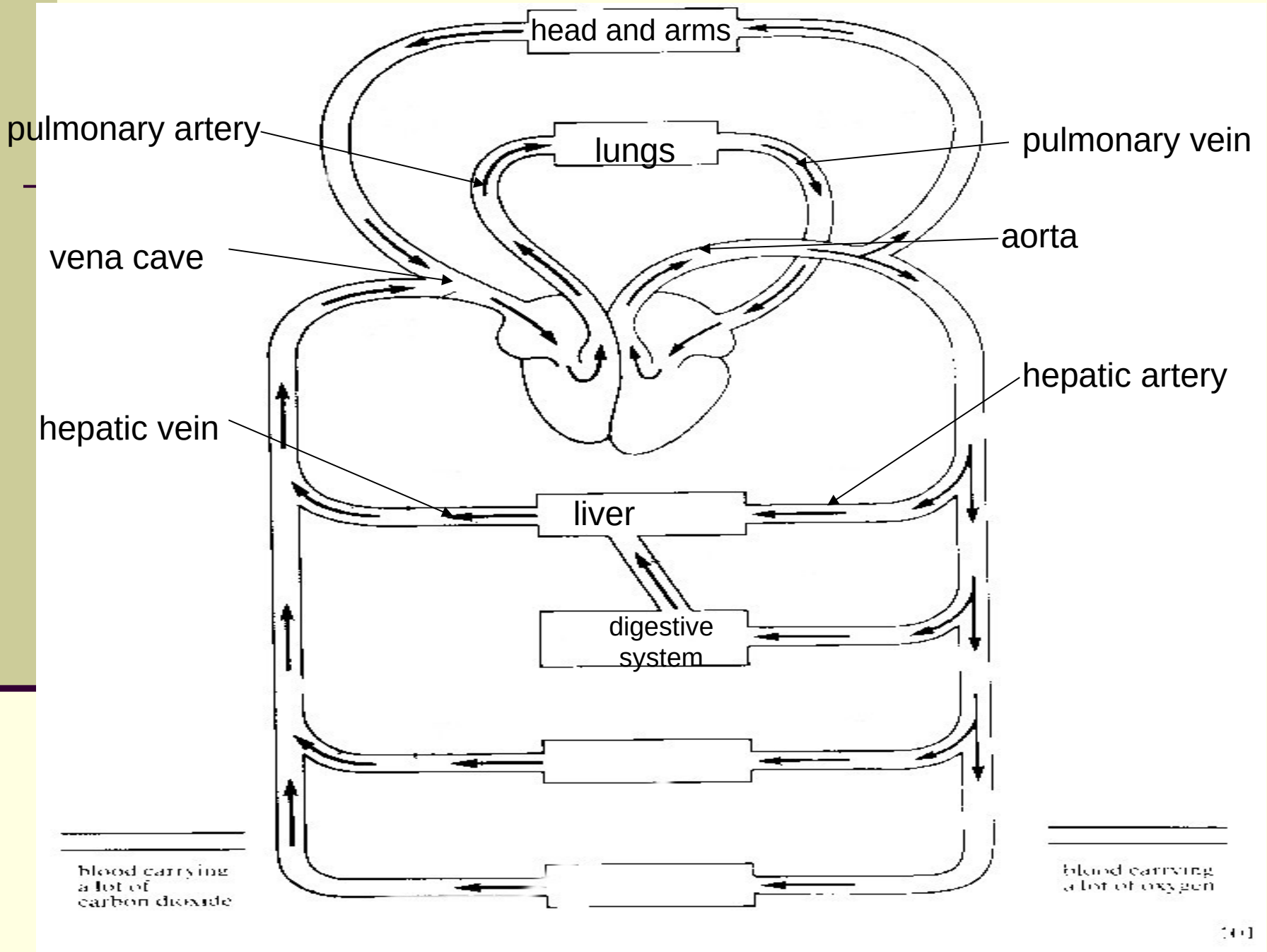
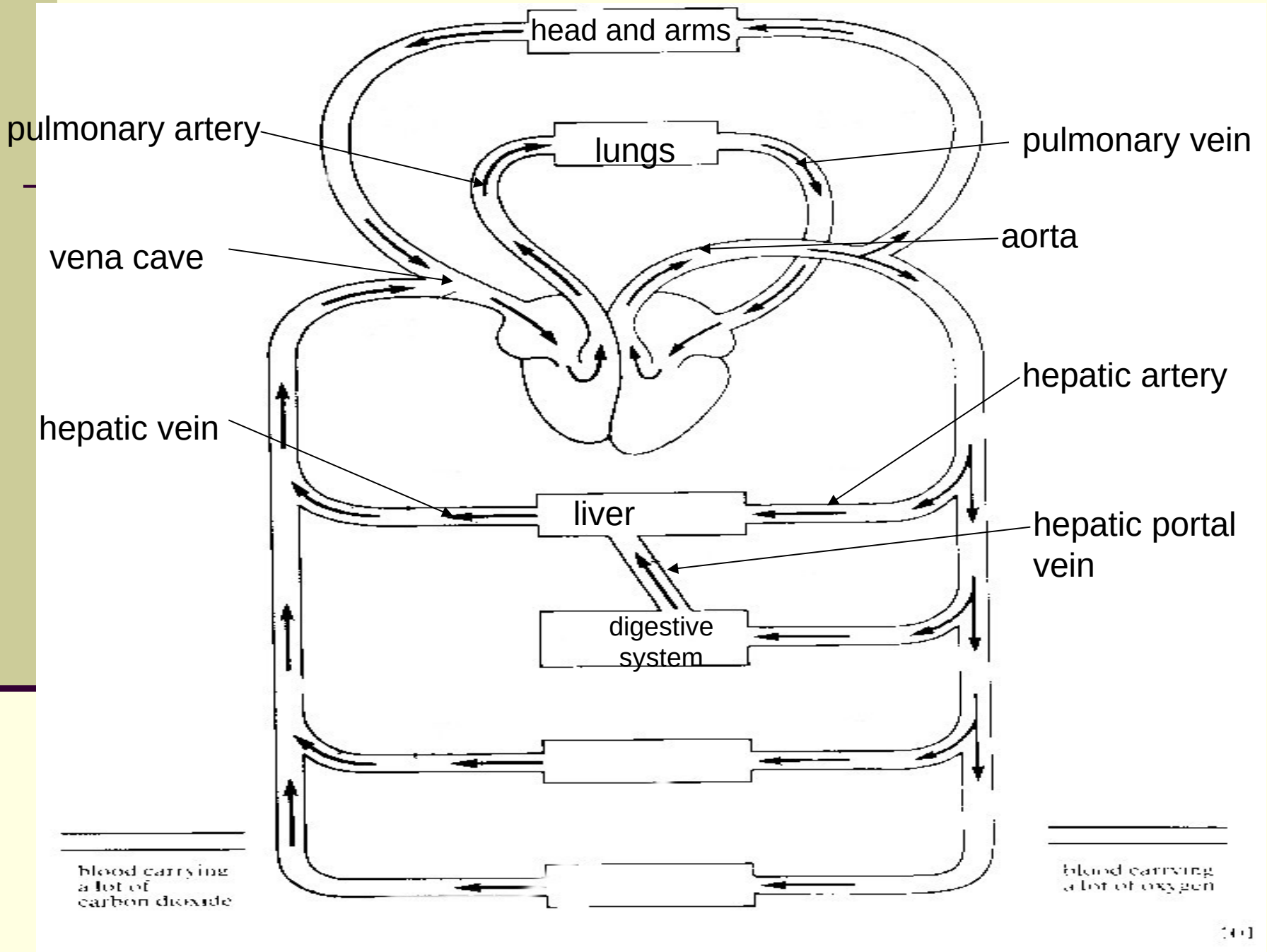

head and arms
pulmonary artery
lungs
pulmonary vein
vena cave
aorta
hepatic artery
hepatic vein
liver
blood carrying
a lot of
carbon dioxide
blood carrying
a lot of oxygen


head and arms
pulmonary artery
lungs
pulmonary vein
vena cave
aorta
hepatic artery
hepatic vein
liver
digestive system
blood carrying a lot of carbon dioxide
blood carrying a lot of oxygen


head and arms
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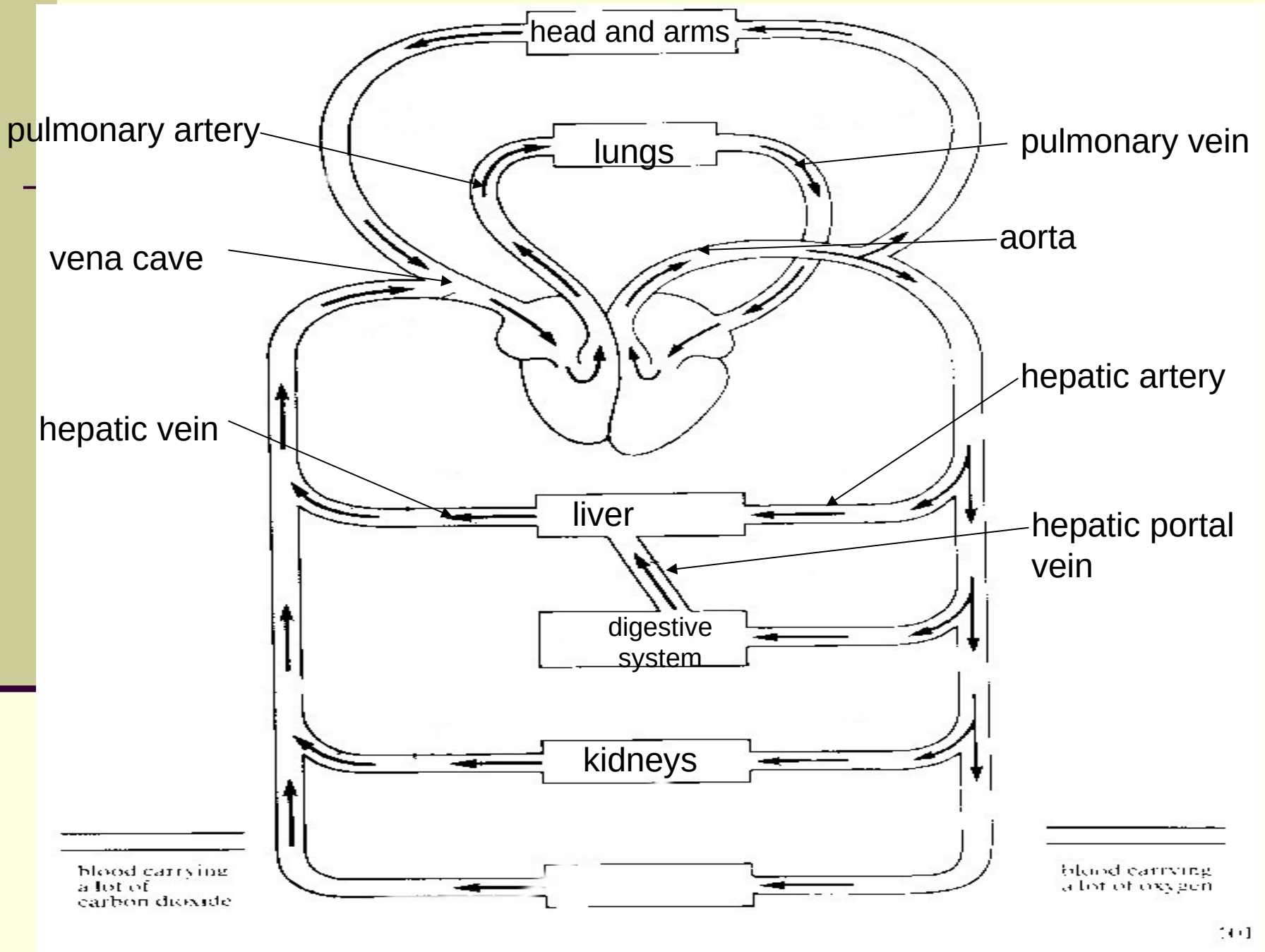
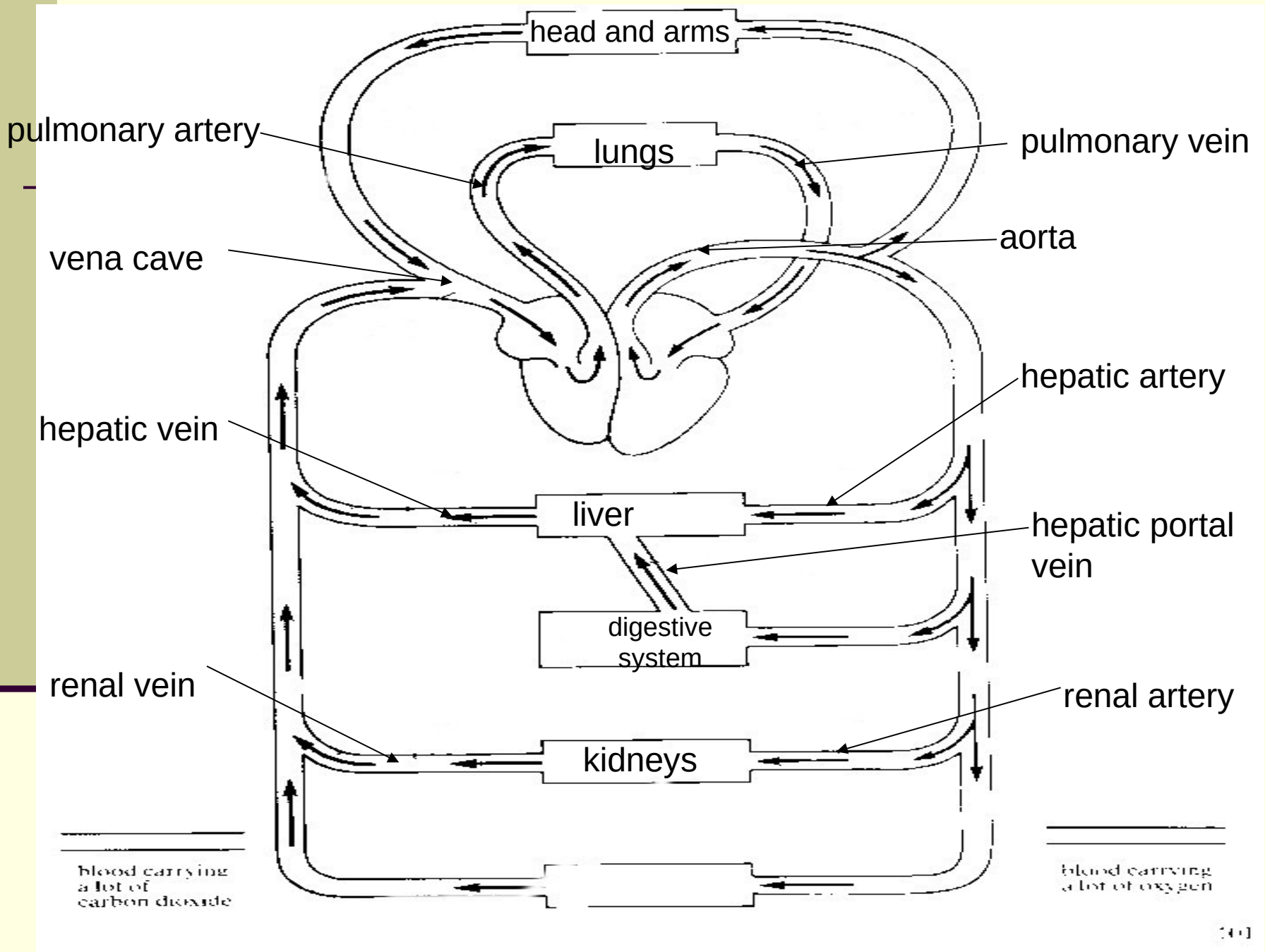
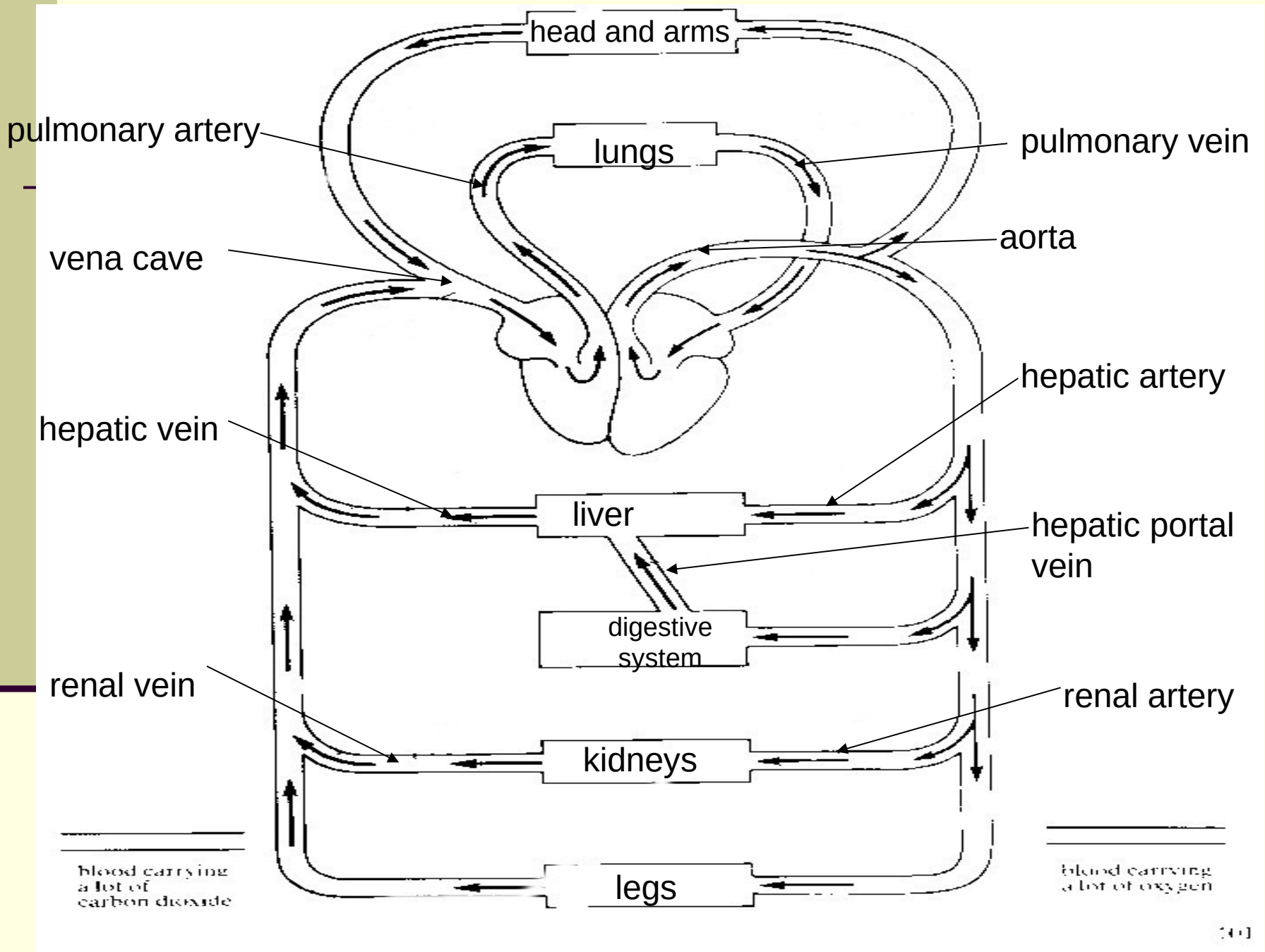
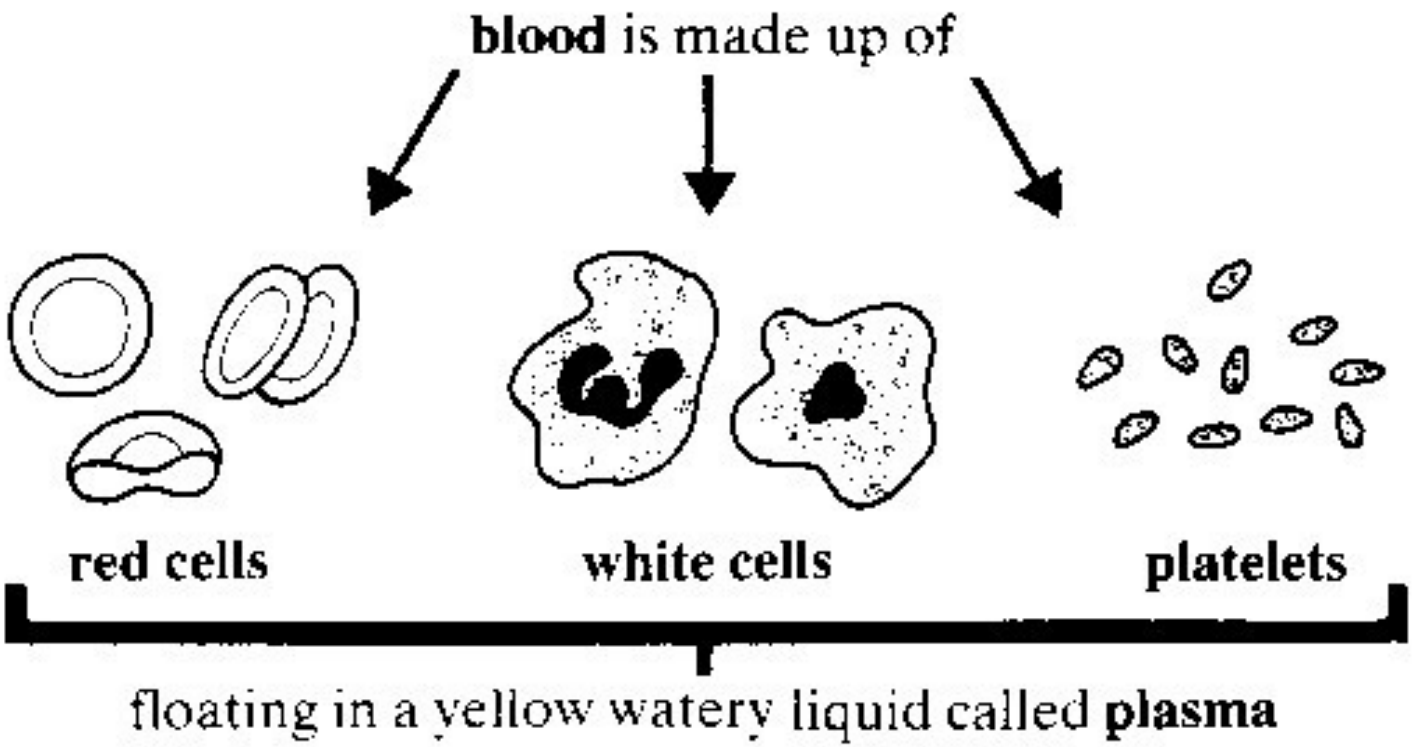
hepatic artery
hepatic vein
liver
hepatic portal vein
digestive system
blood carrying a lot of carbon dioxide
blood carrying a lot of oxygen


head and arms
pulmonary artery
lungs
pulmonary vein
vena cave
aorta
hepatic artery
hepatic vein
liver
hepatic portal vein
digestive system
kidneys
blood carrying a lot of carbon dioxide
blood carrying a lot of oxygen


head and arms
pulmonary artery
lungs
pulmonary vein
vena cave
aorta
hepatic artery
hepatic vein
liver
hepatic portal vein
digestive system
renal vein
renal artery
kidneys
blood carrying a lot of carbon dioxide
blood carrying a lot of oxygen

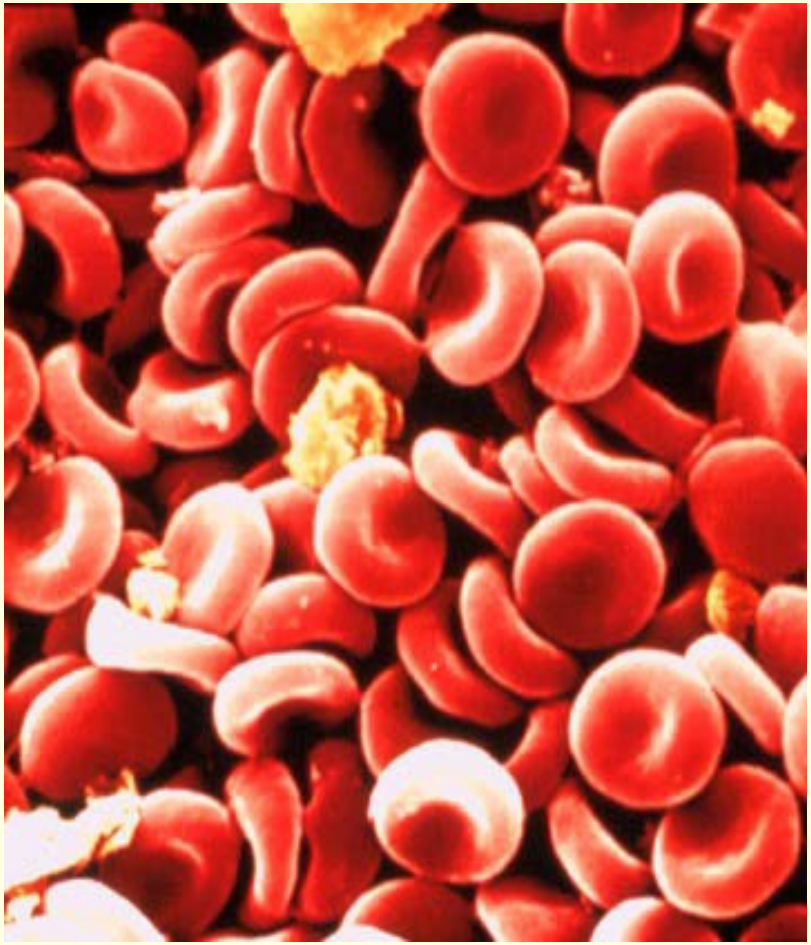

head and arms
pulmonary artery
lungs
pulmonary vein
vena cave
aorta
hepatic artery
hepatic vein
liver
hepatic portal vein
digestive system
renal vein
renal artery
kidneys
legs
blood carrying a lot of carbon dioxide
blood carrying a lot of oxygen

Blood

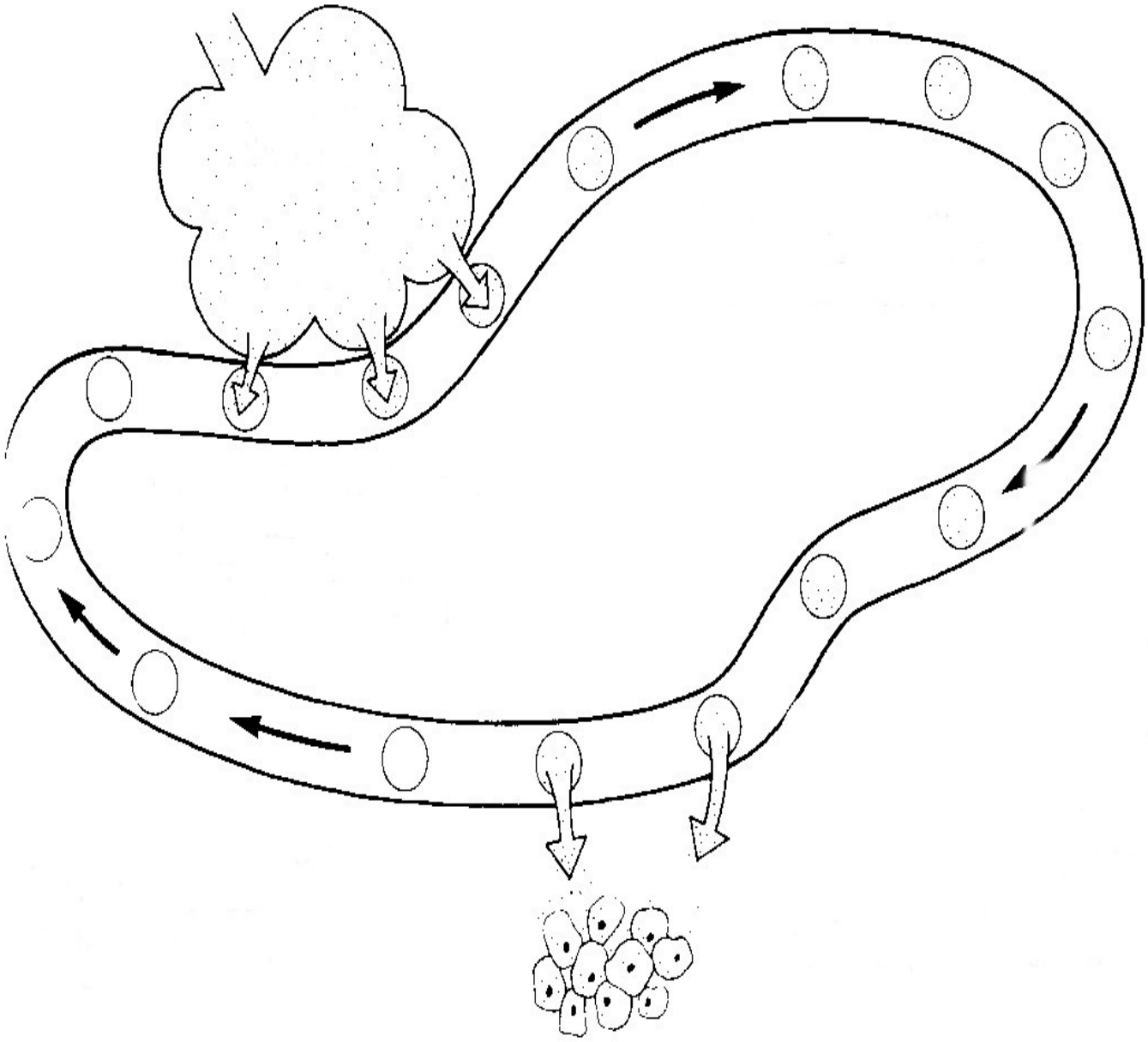

blood is made up of
red cells
white cells
platelets
floating in a yellow watery liquid called **plasma**

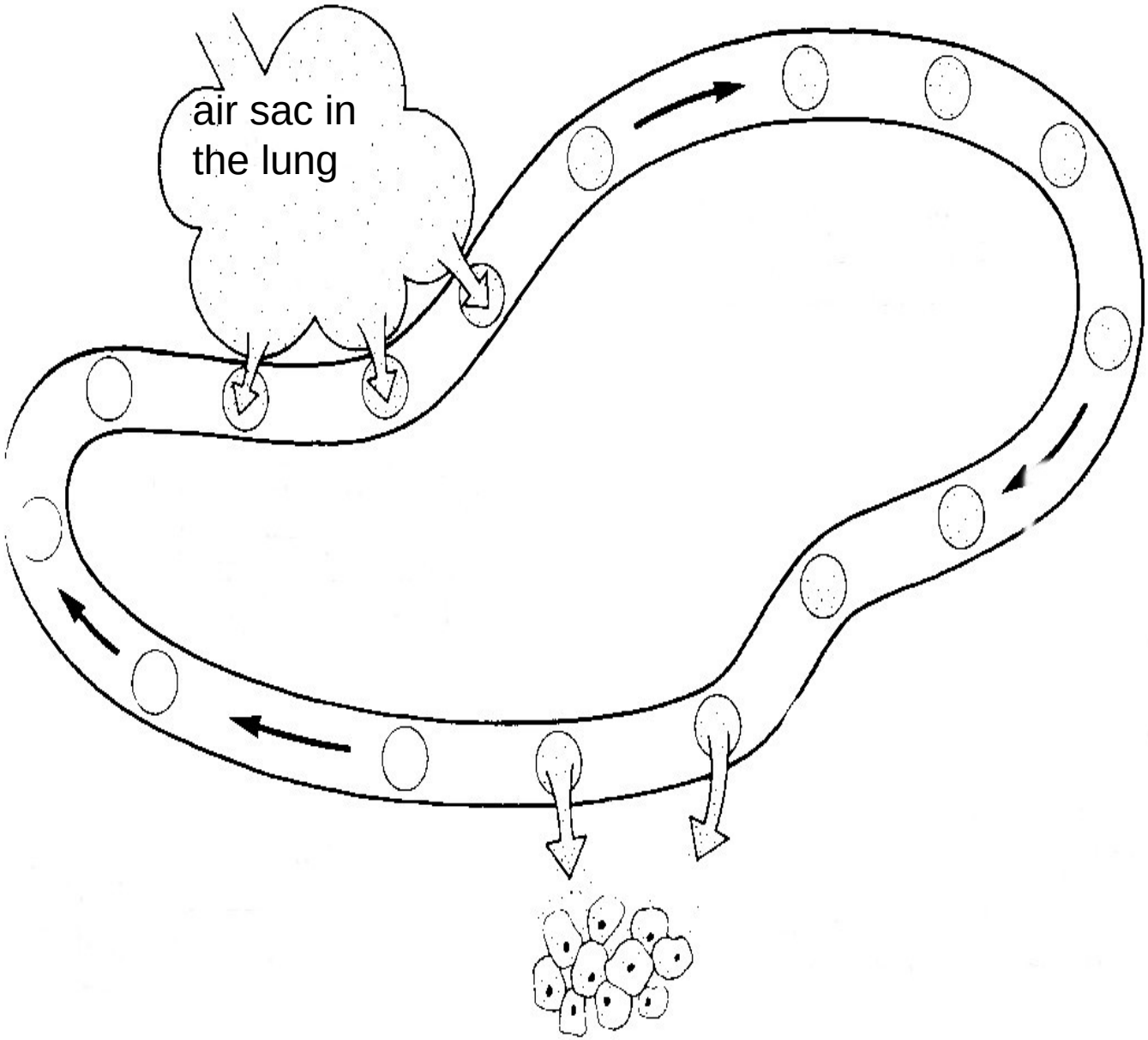
Red cells

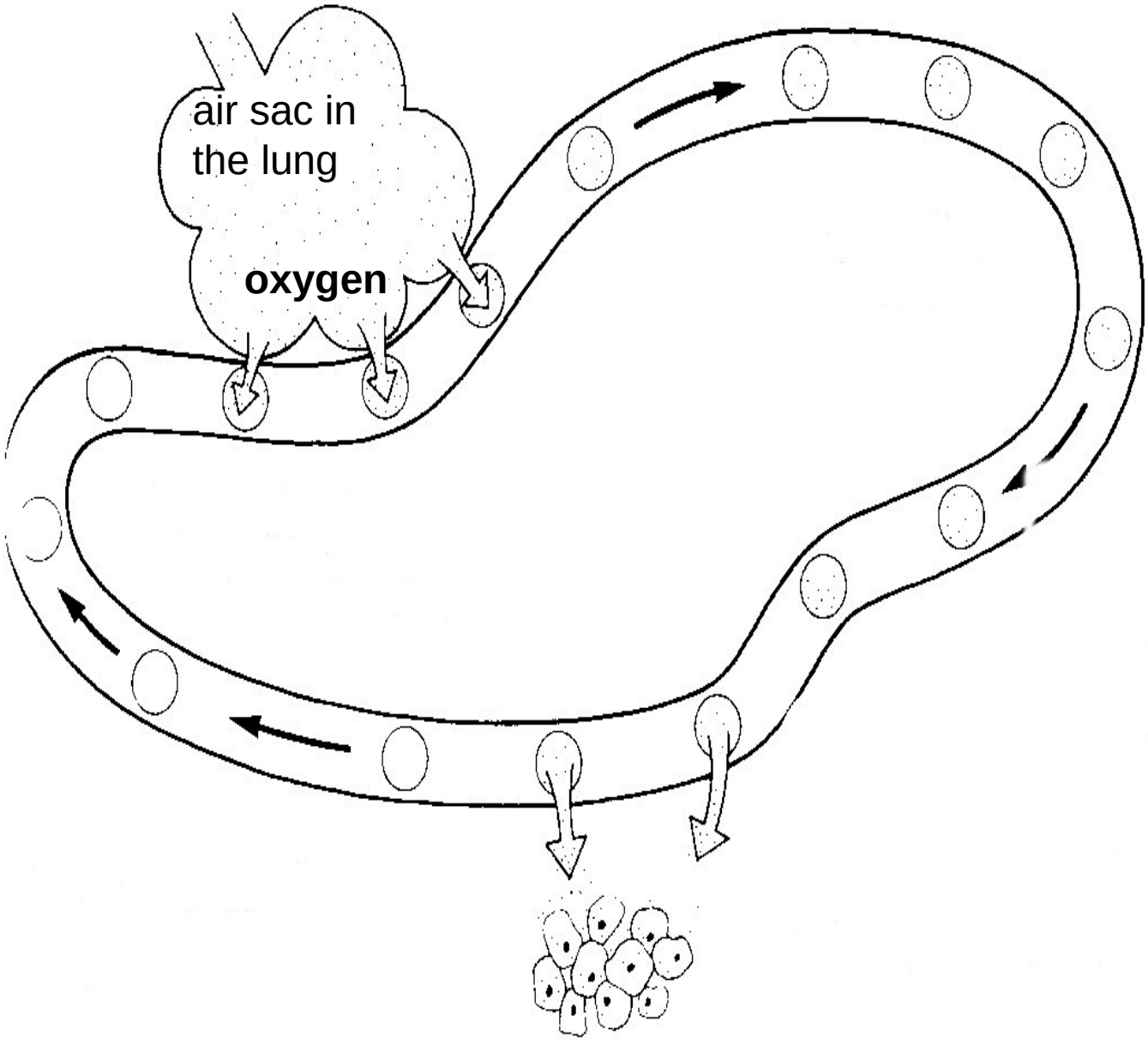
Red cells

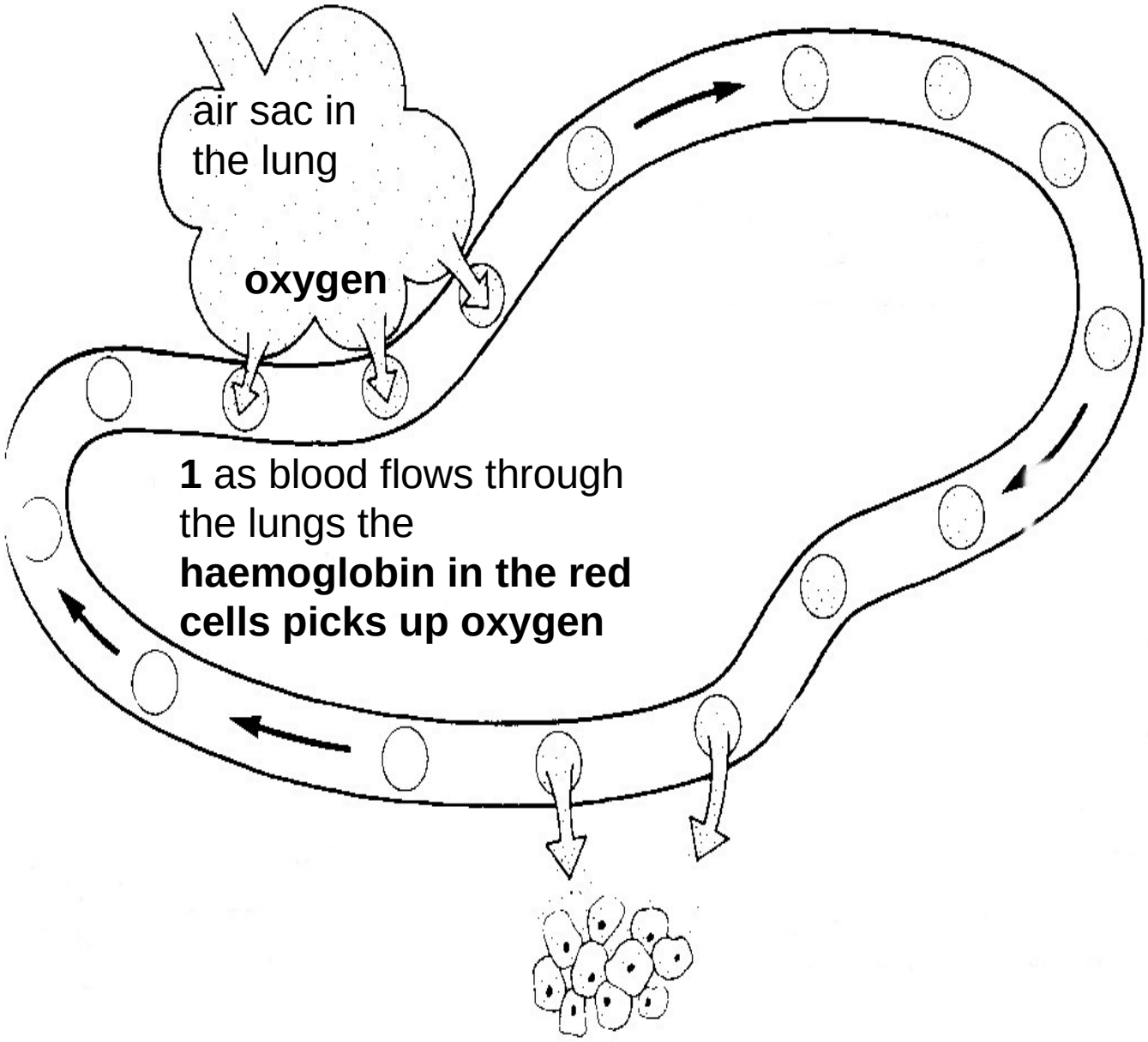


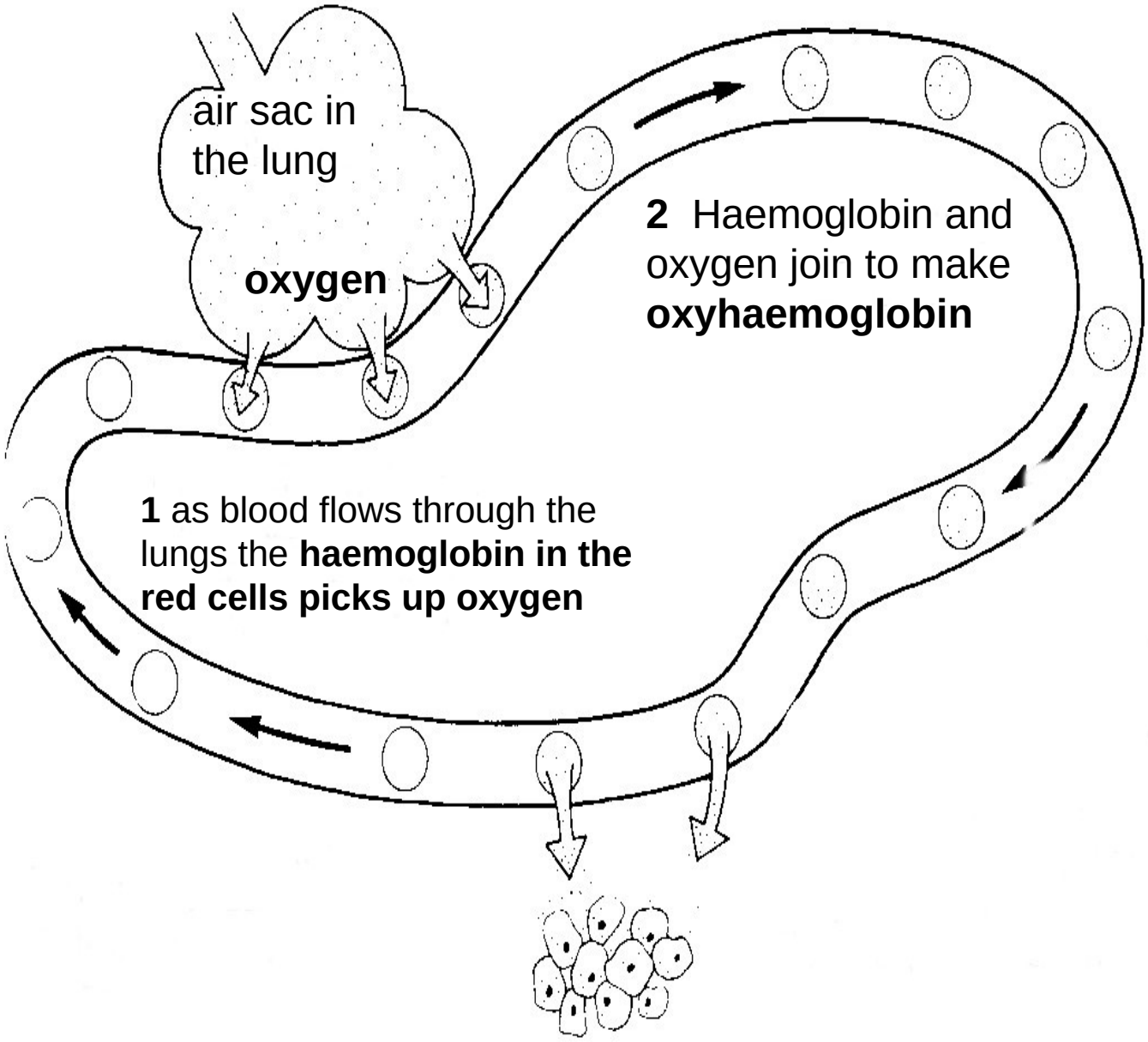
- Do not have a nucleus
- Biconcave discs
- Contain the chemical **haemoglobin**.
- Haemoglobin carries oxygen around the body.
- At the centre of the haemoglobin molecule is an iron atom.

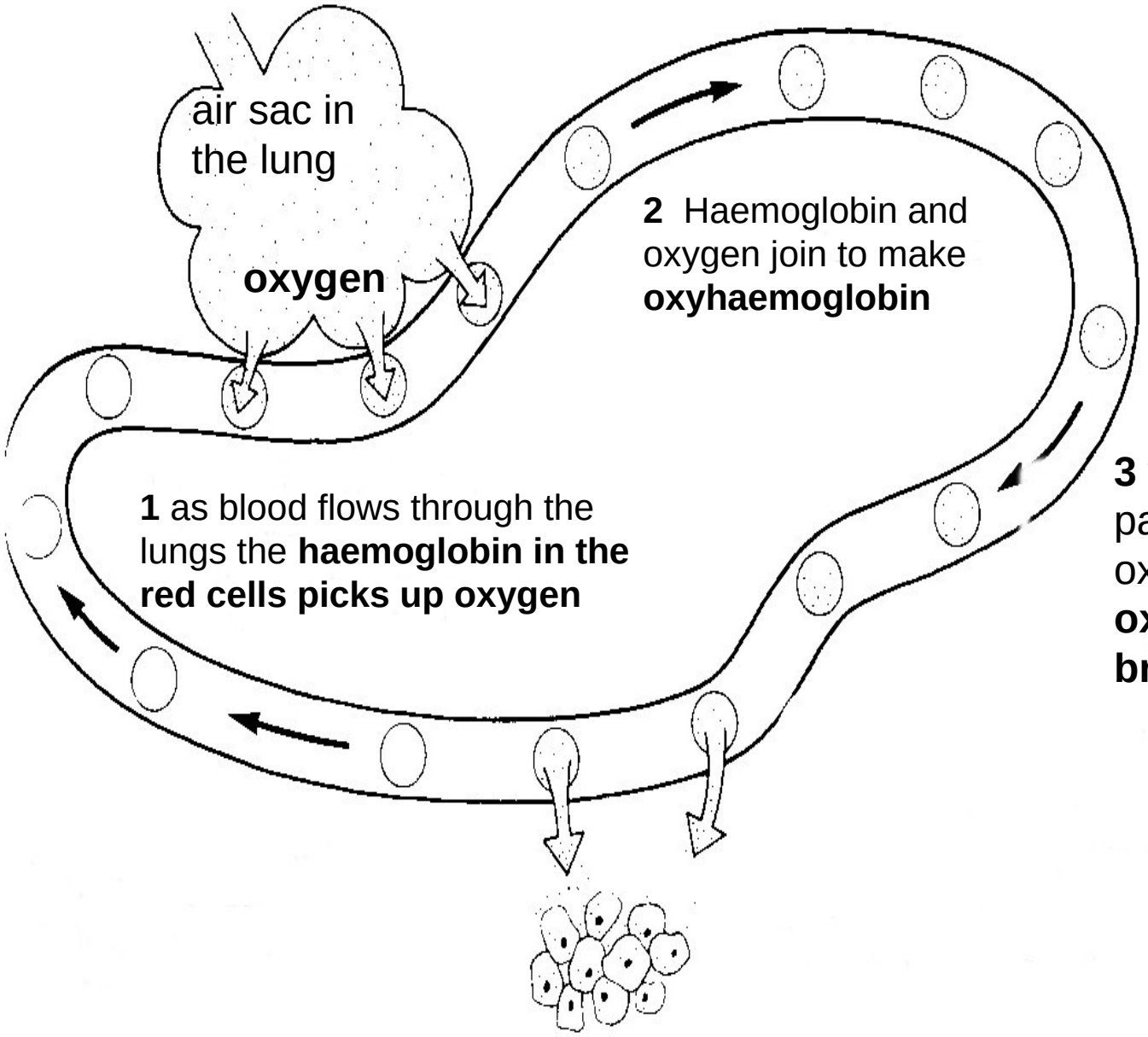



air sac in
the lung

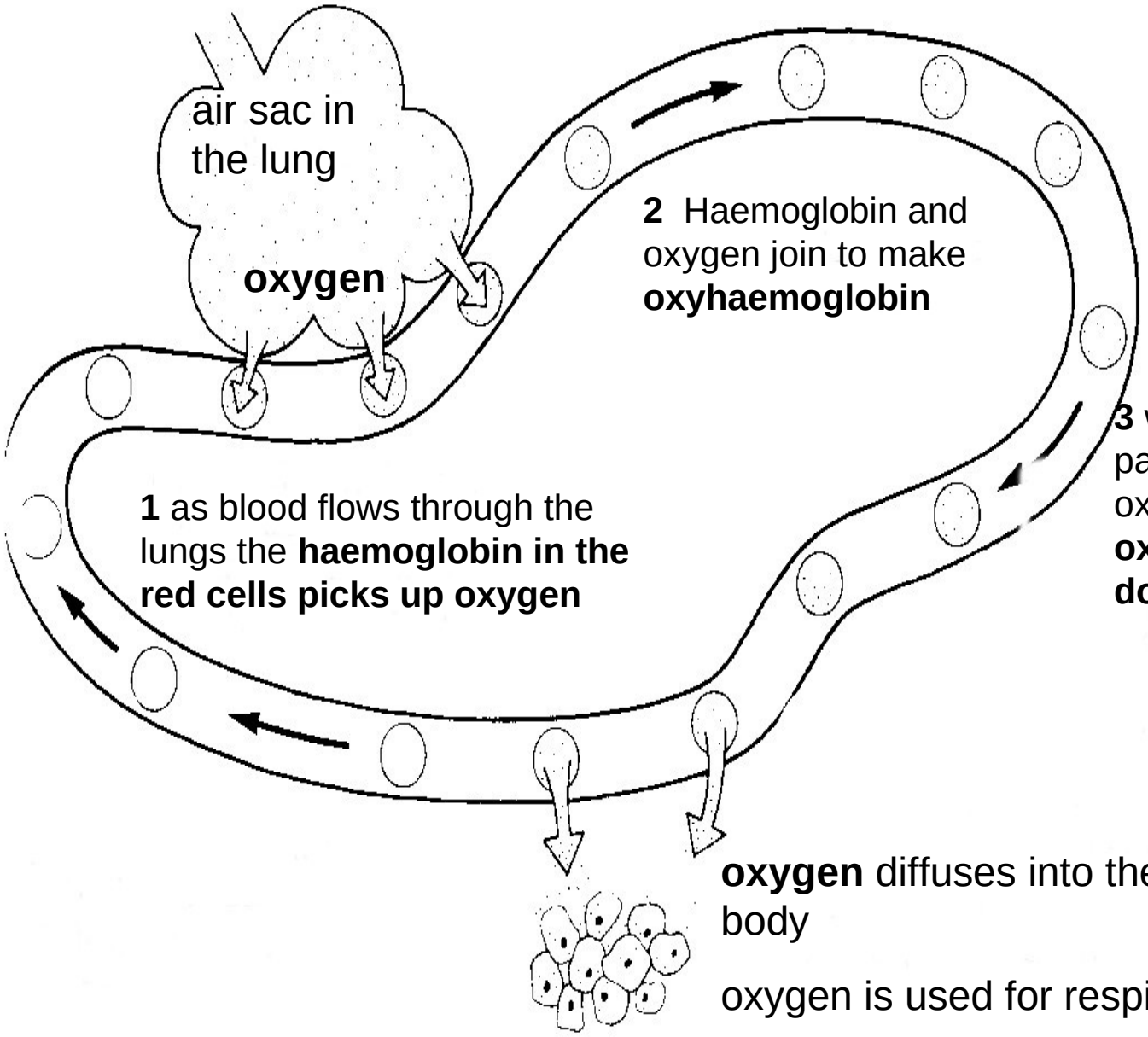

air sac in
the lung
oxygen


air sac in
the lung
oxygen
1 as blood flows through
the lungs the
**haemoglobin in the red
cells picks up oxygen**


air sac in the lung
oxygen
2 Haemoglobin and oxygen join to make oxyhaemoglobin
1 as blood flows through the lungs the haemoglobin in the red cells picks up oxygen



3 when the blood flows past cells with very little oxygen in them the **oxyhaemoglobin breaks down**



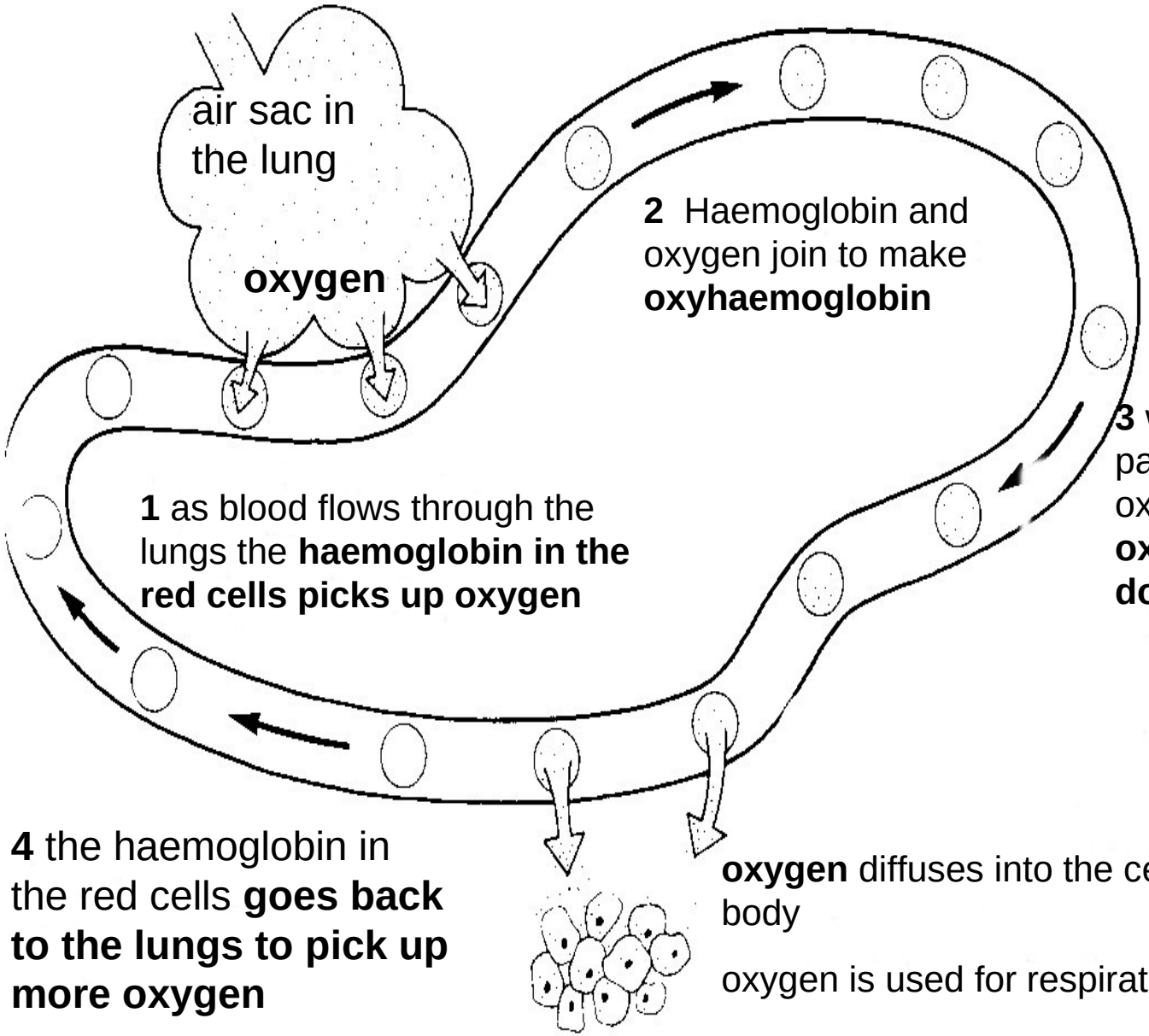
2 Haemoglobin and oxygen join to make **oxyhaemoglobin**

3 when the blood flows past cells with very little oxygen in them the **oxyhaemoglobin breaks down**

1 as blood flows through the lungs the **haemoglobin in the red cells picks up oxygen**

oxygen diffuses into the cells of the body

oxygen is used for respiration



2 Haemoglobin and oxygen join to make **oxyhaemoglobin**

3 when the blood flows past cells with very little oxygen in them the **oxyhaemoglobin breaks down**

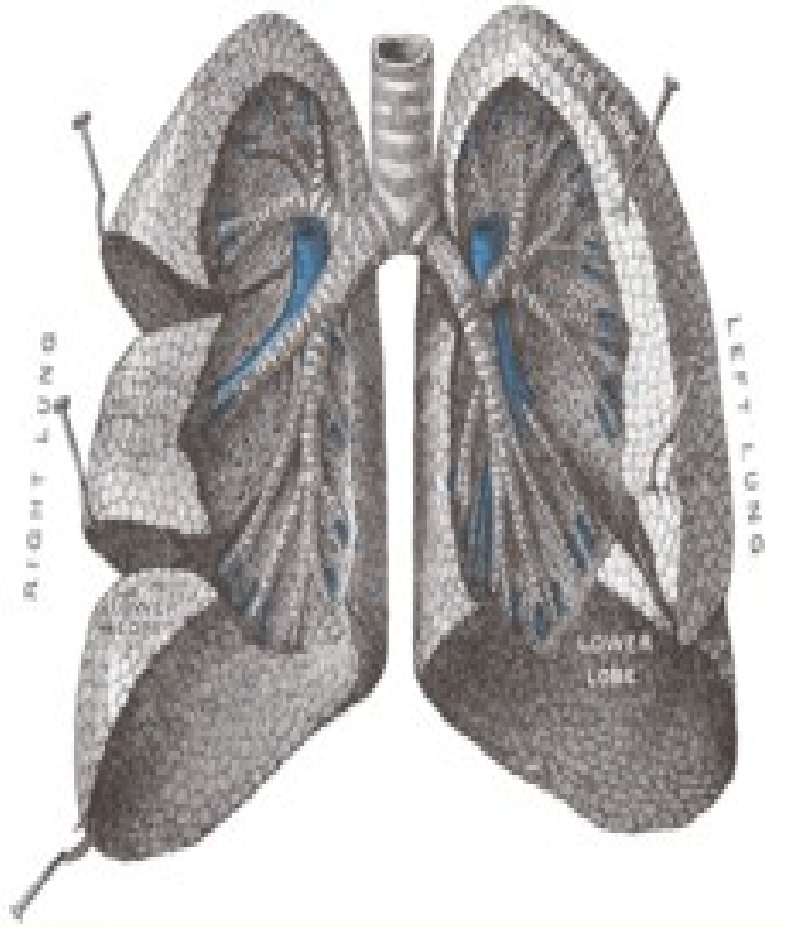
1 as blood flows through the lungs the **haemoglobin in the red cells picks up oxygen**

4 the haemoglobin in the red cells **goes back to the lungs to pick up more oxygen**

oxygen diffuses into the cells of the body

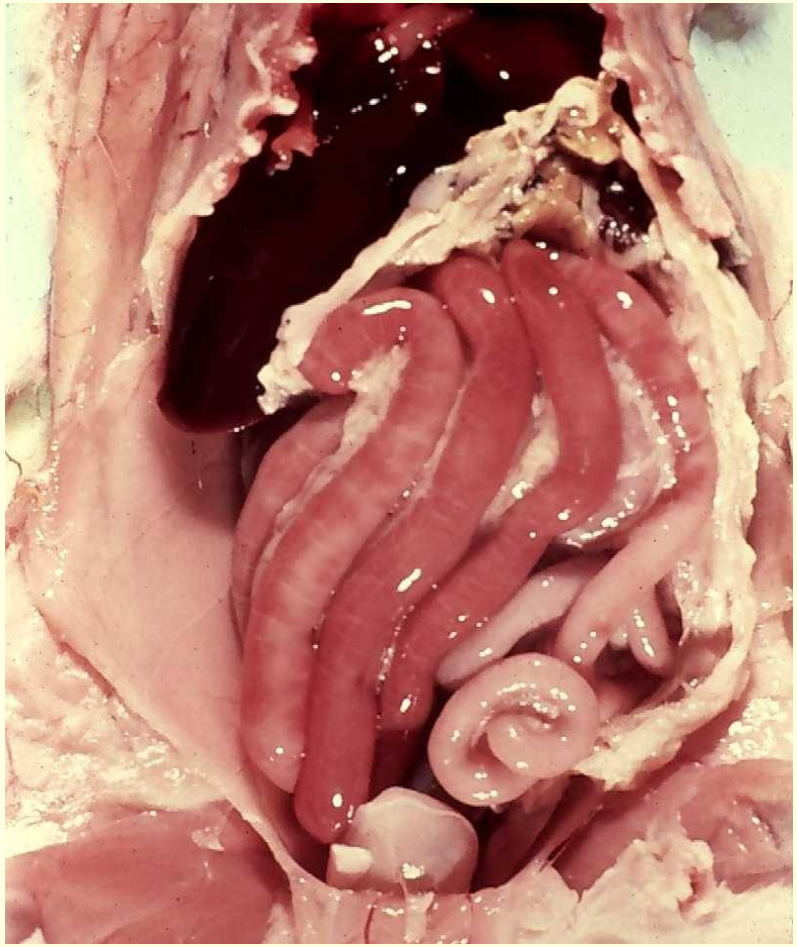
oxygen is used for respiration

Functions of the blood



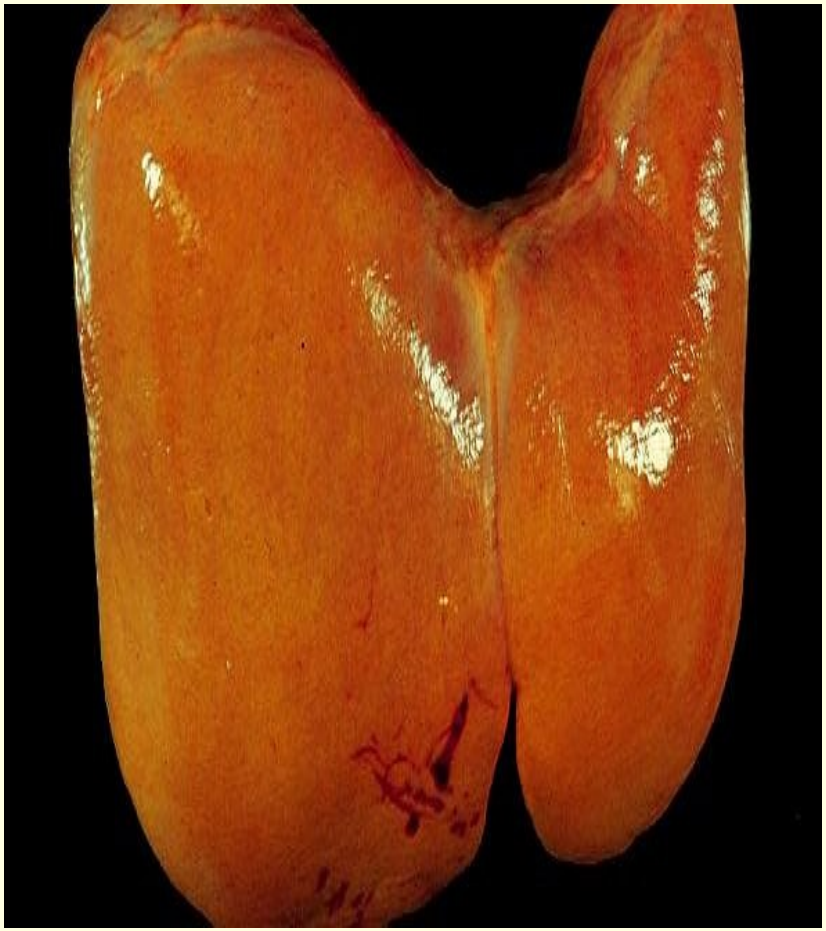
- **Oxygen** is carried in the red cells
- **Carbon dioxide** is carried in the plasma

Functions of the blood



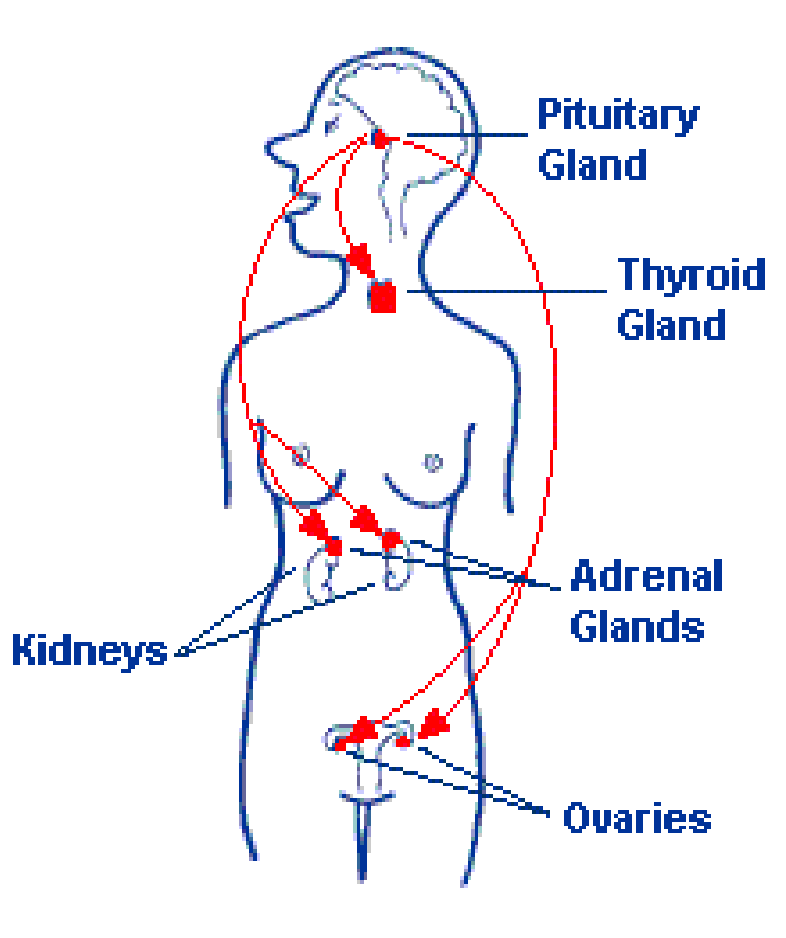
- **digested foods** are carried in the plasma

Functions of the blood



- **Urea** (waste substance) is carried in the plasma from the liver to the kidneys

Functions of the blood



- **Hormones** are carried in the plasma

Functions of the blood

- **Heat** is carried in the blood

BIOLOGY TEXT

- Read p26-27 and answer question 1 off p27

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