Edexcel Biology IGCSE

2.i - Excretion

Flashcards

What two waste gases do plants produce and what processes produce them?

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Oxygen (O_2) is produced as a waste product of photosynthesis.

Carbon dioxide (CO_2) is produced as a waste product of respiration.

What is the function of the kidneys?

What is the function of the kidneys?

- To regulate the volume and concentration of urine
- To remove waste and regulate body water content

Describe the general structure of a kidney

Describe the general structure of a kidney

- Contains a cortex and medulla
- Renal artery carries blood to the kidney
- Renal vein carries blood away from the kidney
- Each kidney contains many nephrons
- Ureter carries fluid from the kidneys to the bladder

Give 3 waste products produced in the body

Give 3 waste products produced in the body

- Urea
- Carbon dioxide
- Excess salt and water

Name 3 excretory organs

Name 3 excretory organs

- The lungs
- The kidneys
- The skin

State the 4 roles of the kidneys (Higher)

State the 4 roles of the kidneys (Higher)

- Filtration
- Selective reabsorption
- Excretion
- Osmoregulation

What does the ureter do? (Higher)

What does the ureter do? (Higher)

It carries urine from the kidneys to the bladder for excretion.

State the 5 main parts of a kidney nephron (Higher)

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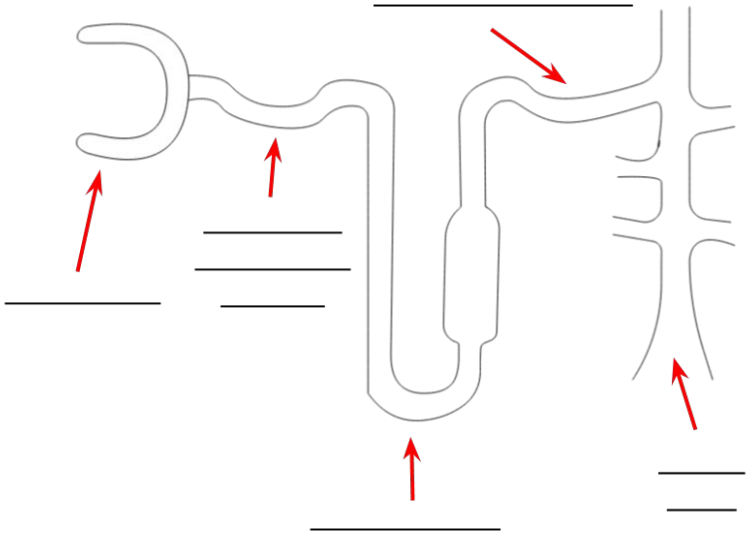
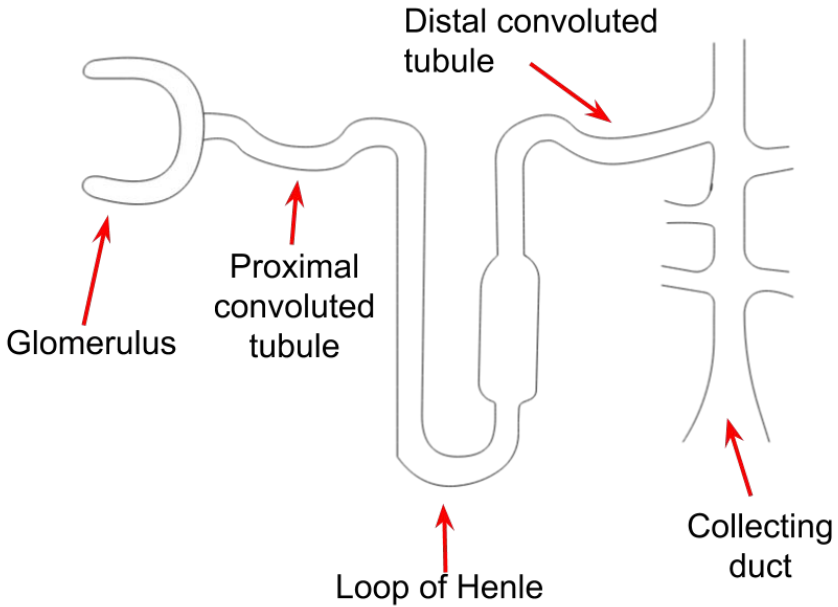
- Glomerulus
- Proximal convoluted tubule
- Loop of Henle
- Distal convoluted tubule
- Collecting duct

Label the diagram of the kidney nephron (Higher)



Label the diagram of the kidney nephron (Higher)



What is the difference between the ureter and the urethra? (Higher)

What is the difference between the ureter and the urethra? (Higher)

- The ureter leads from the kidneys to the bladder
- The urethra leads from the bladder out of the body

How does ultrafiltration work in the Bowman's capsule? (Higher)

How does ultrafiltration work in the Bowman's capsule? (Higher)

- Blood vessel leading to the glomerulus is wider than the one leading away which increases the pressure of the blood as it travels along
- Small items in the blood are squeezed out under this high pressure (big proteins and cells stay in the blood)

State 4 components of glomerular filtrate (Higher)

State 4 components of glomerular filtrate (Higher)

- Urea
- Salts
- Water
- Glucose

What is the purpose of selective reabsorption? (Higher)

What is the purpose of selective reabsorption? (Higher)

To prevent the excretion of useful substances like glucose.

What does ADH stand for? (Higher)

What does ADH stand for? (Higher)

Antidiuretic hormone

When is ADH released? (Higher)

When is ADH released? (Higher)

When the body lacks water

How does ADH affect the collecting duct? (Higher)

How does ADH affect the collecting duct? (Higher)

ADH makes the collecting duct more permeable to water so that more water is reabsorbed from the filtrate.

Describe the negative feedback loop when dehydration is detected (Higher)

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- Thirst signals activated
- More ADH released (water retained by kidneys)

Describe the negative feedback loop when overhydration is detected (Higher)

Describe the negative feedback loop when overhydration is detected (Higher)

- Less ADH is released
- Dilute urine is produced
- Salts are retained

Give 3 components of urine (Higher)

Give 3 components of urine (Higher)

- Water
- Urea
- Ions