

# Edexcel Biology IGCSE

## 2.i - Excretion

### Flashcards

This work by [PMT Education](https://www.pmt.education) is licensed under [CC BY-NC-ND 4.0](https://creativecommons.org/licenses/by-nc-nd/4.0/)



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



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

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**)



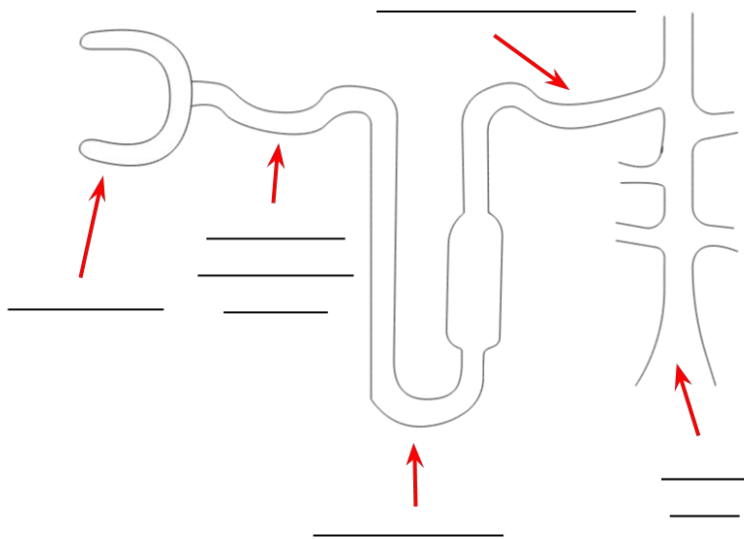


State the 5 main parts of a kidney nephron (Higher)

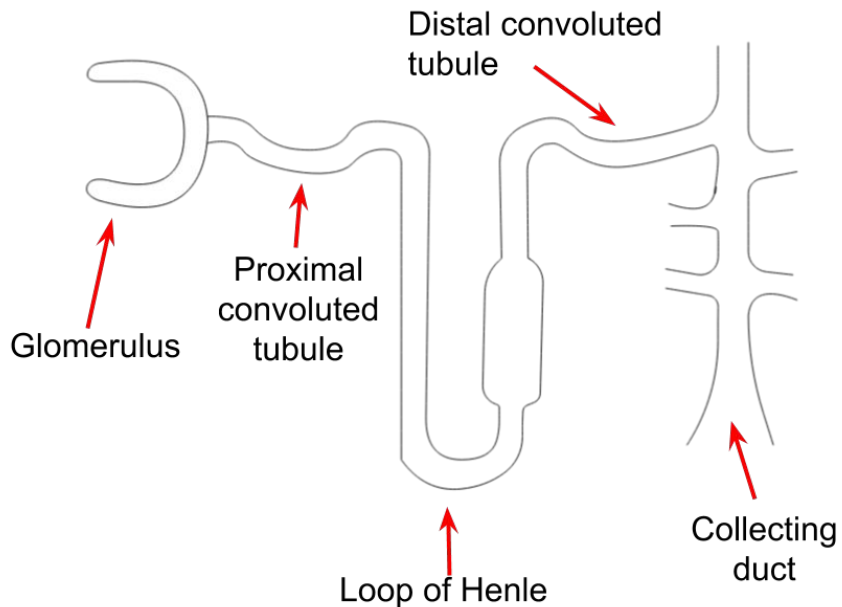
- Glomerulus
- Proximal convoluted tubule
- Loop of Henle
- Distal convoluted tubule
- Collecting duct



# 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 ADHD 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**)



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

- Thirst signals activated
- Less 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**)

- More 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

