

Life Sciences: Excretion in humans

Grade 11

Lesson 39



GAUTENG
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TERMINOLOGY

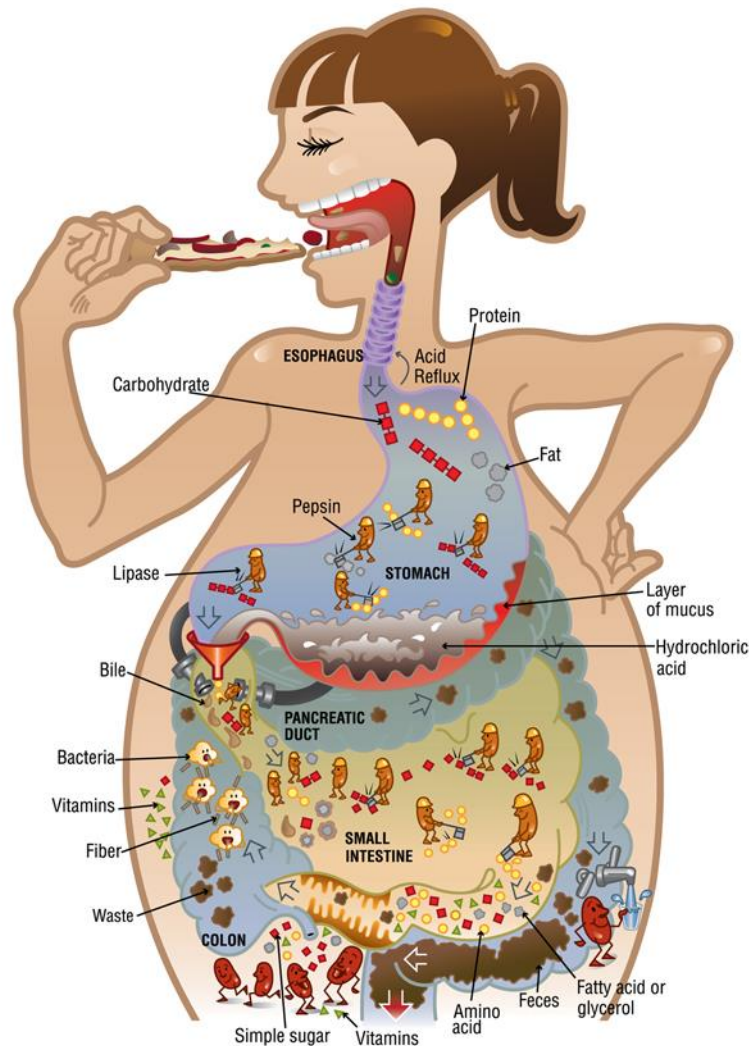
excretion	the removal or elimination of metabolic waste from an organism
secretion	the release of a useful substance (enzymes, saliva) from cells or glands
egestion	the removal of undigested food solid waste from the digestive tract in the form of faeces = defaecation
metabolism	chemical reactions that take place within every cell of the body. these can be building up (anabolic) or breaking down (catabolic) reactions
renal	relates to the kidney
deamination	removal of an amino group from amino acids

EXCRETORY WASTE PRODUCTS

- An **accumulation of waste** is **dangerous** to the cells, tissues, organs, systems and the body as a whole.
- The human body is designed to effectively **remove waste**.



EXCRETORY WASTE PRODUCTS



- In **human digestion**, carbohydrates, proteins, fats and vitamins are broken down into their simplest form and enter the blood stream to be utilized where they are needed.
- **Excretory waste products** include CO₂, H₂O, bile pigments, urea and mineral salts.



EXCRETION

THE COLON

Evacuates fecal matter, toxic matter, parasites and bacteria



THE LYMPH

Removes toxins out of the bodies cells



THE LUNGS

Releases gas such as carbon dioxide



THE KIDNEYS

Filters the blood of waste



THE SKIN

Eliminates excess toxins via sweat and pores



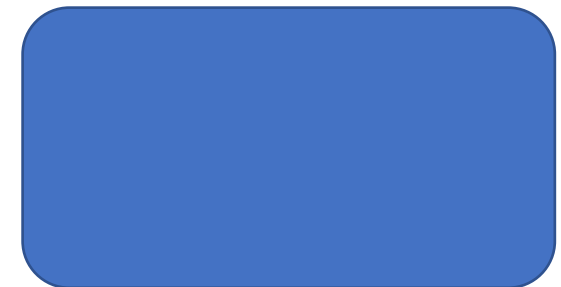
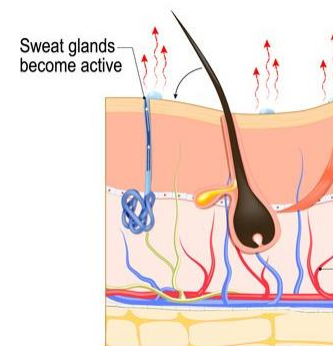
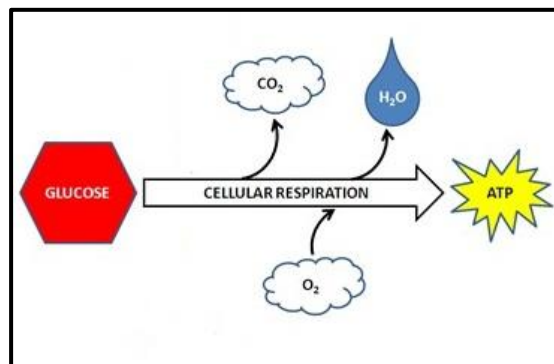
THE LIVER

Breaks down poisons and filters excess bacteria from blood



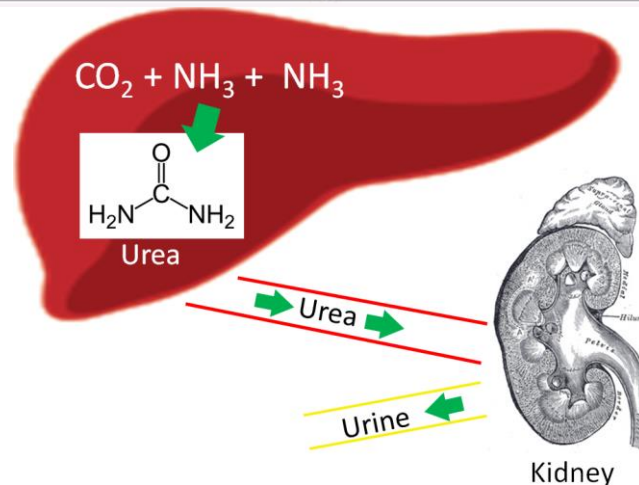
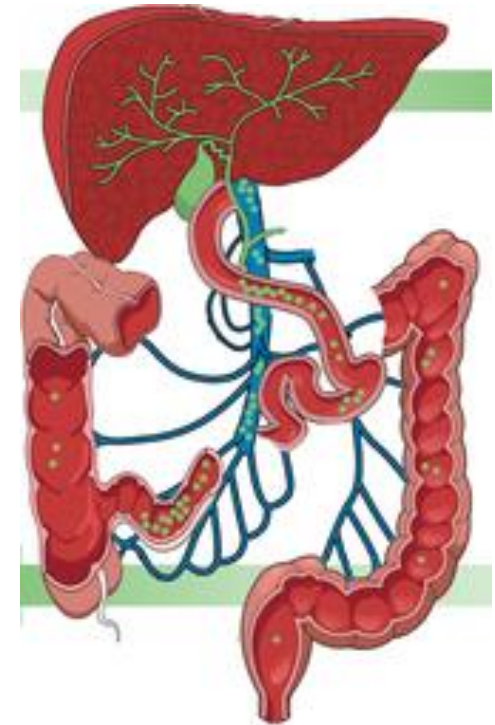
EXCRETORY ORGANS

Waste products	Origin	Excreted product
Lungs		
carbon dioxide and water vapour	cellular respiration	CO ₂ and H ₂ O(g) in exhaled air
Skin (sweat glands)		
mineral salts, traces of urea, water	extracted from the blood	perspiration (sweat)



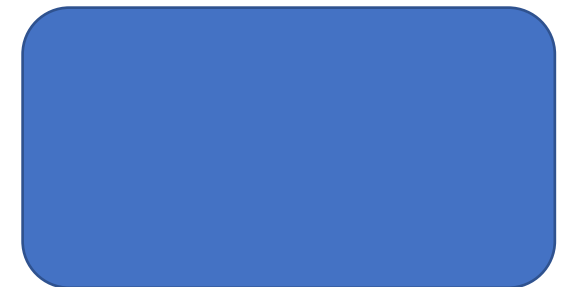
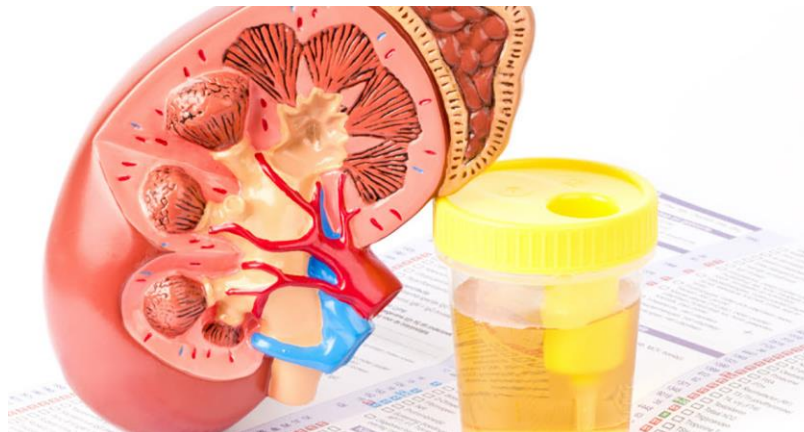
EXCRETORY ORGANS

Waste products	Origin	Excreted product
Liver		
urea	deamination of excess amino acids	urine
bile pigments	breakdown of haemoglobin	faeces
Colon		
bile pigments, excess mineral salts	from the breakdown of haemoglobin in the liver	faeces



EXCRETORY ORGANS

Waste products	Origin	Excreted product
Kidney		
urea	deamination of excess amino acids in the liver	urine
mineral salts	excess taken in with food	
water	excess water consumed and taken in as food	



ACTIVITY 1

Complete the following table:

Location	Waste products	Origin	Excreted products
Lungs	1.	2.	3.
4.	5.	extracted from the blood	6.
7.	bile	8.	9.
Colon	10.	11.	12.
Kidney	urea	13.	14.
Kidney	water	15.	16.
kidney	17.	18.	19.



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THANK YOU

