

Biology facts to learn for GCSE. Remember paper 1 will have questions on topics 1,2,3,4,5 and paper 2 will have questions on topics 1,6,7,8,9.

Get someone to ask you these questions until you get all the answers right. **Questions in bold are for the Higher Paper only.**

Topic 1 (can be tested on Paper 1 and Paper 2)

Q	Topic 1 Questions	Q	Topic 1 answers
1	Why do animal and plant cells have a nucleus?	1	To store the genetic information
2	Why do animal, plant and bacterial cells have a cell membrane?	2	To control what substances enter and leave the cell
3	Why do animal and plant cells have mitochondria?	3	For aerobic respiration to release energy
4	Why do animal, plant and bacterial cells have ribosomes?	4	To make proteins
5	Why do plant and bacterial cells have a cell wall?	5	For strength and support
6	Why do plant cells have chloroplasts?	6	For photosynthesis
7	Why do plant cells have a large vacuole?	7	To store sap
8	Why do bacterial cells have plasmid DNA?	8	For antibiotic resistance
9	Why do some bacterial cells have flagella?	9	For movement
10	What do you call cells like bacteria that have no nucleus?	10	Prokaryotic
11	What do you call cells like animal and plant cells that do have a nucleus?	11	Eukaryotic
12	What is the role of chromosomal DNA?	12	Carries the genes
13	What is the function of the acrosome of a sperm cell?	13	Contains enzymes to help the sperm penetrate the egg.
14	Sperm cells and egg cells are haploid. What does haploid mean?	14	Half the usual number of chromosomes
15	Why does the cell membrane of an egg cell change after fertilisation?	15	To stop another sperm entering the egg
16	What will be abundant in the cytoplasm of an egg cell?	16	Nutrients
17	What are cilia on the surface of ciliated epithelial cells?	17	Tiny hairs
18	What do cilia do on the surface on ciliated cells lining the airways?	18	Move mucus up to the throat
19	What are the two main advantages of an electron microscope?	19	Higher magnification and higher resolution
20	Put these units in order of size starting with the largest: nanometres, millimetres, picometres, micrometres.	20	Millimetres, micrometres, nanometres, picometres.

Q	Topic 1 Questions continued	Q	Topic 1 answers continued
21	How many micrometres in a millimetre?	21	1000 (one thousand)
22	How many nanometres in a millimetre?	22	1,000,000 (one million)
23	How many picometres in a millimetre?	23	1,000,000,000 (one billion)
24	What is an enzyme?	24	A biological catalyst
25	What is the name of the substance that binds to the active site of an enzyme?	25	Substrate
26	Where does the substrate bind to an enzyme?	26	Active site
27	What happens if you heat an enzyme to very high temperatures?	27	It denatures
28	What is meant by the term optimum pH or optimum temperature for an enzyme?	28	Best (pH or temperature where enzyme works fastest)
29	Why does increasing the substrate concentration increase the rate of an enzyme reaction?	29	More frequent collisions (between active site and substrate)
30	What does the enzyme amylase digest starch into?	30	Sugar (glucose)
31	What does the enzyme protease digest protein into?	31	Amino acids
32	What does the enzyme lipase digest fats into?	32	Fatty acids and glycerol
33	What do enzymes link together to make starch?	33	Glucose
34	What do enzymes link together to make protein?	34	Amino acids
35	What do enzymes link together to make fats?	35	Fatty acids and glycerol
36	Define diffusion	36	Process where substances move from a higher concentration to a lower concentration
37	Define osmosis	37	Process where water moves from a higher concentration to a lower concentration through a partially permeable membrane
38	Define active transport	38	Process where substances are moved from a lower concentration to a higher concentration using energy