

Definitions and Concepts for OCR (B) Biology GCSE

Topic 2: Keeping Healthy

Definitions in **bold** are for higher tier only

Definitions marked by '*' are for separate sciences only

Acquired immunodeficiency syndrome (AIDS) - The later stage of HIV infection in which prolonged attack by the HIV virus results in a weakened immune system which is susceptible to other infections.

Agglutination - When antibodies cause foreign cells to clump together.

Antibiotic - A type of medication that helps cure bacterial disease by killing infective bacteria inside the body.

Antibiotic resistance - The ability of a bacterium to become resistant to the treatment that is being used to kill it, i.e. antibiotics. This provides evidence for evolution.

Antibody - **Proteins produced by white blood cells in response to a foreign body.**

Antigen - **A protein found on the surface of the pathogen that induces an immune response.**

***Antimicrobial substances** - A substance that acts as a barrier to the pathogen. They might be produced in response to an infection.

Antiviral - A type of medication that helps cure viral disease by killing infective viruses inside the body.

***Aseptic techniques** - A range of techniques used to culture microorganisms under sterile conditions in order to minimise contamination.

Ash dieback - A fungal disease in plants caused by the pathogen *Hymenoscyphus fraxineus* which causes leaf loss and bark lesions.

Athlete's foot - A disease caused by fungus in animals which is transmitted by touching infected skin. It causes a red flaky rash in between the toes and is treated using antifungal creams.

Autoimmune disease - A disease where the immune system starts attacking itself.

Bacteria - A type of pathogen which is single-celled and prokaryotic (note: not all bacteria are pathogenic).

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Biconcave - Describes the shape of red blood cells. This feature increases the surface area for gaseous exchange.

Single-blind trial - A study performed where only the researcher knows whether the patient is taking the drug or a placebo.

Cancer - A result of changes in cells that lead to uncontrolled growth and division.

Cardiovascular disease - A non-communicable disease that affects the heart or blood vessels.

Chemotherapy - A type of cancer treatment which uses drugs to disrupt stages of the cell cycle and prevent uncontrolled mitosis.

Communicable disease - A disease that is caused by a pathogen which can be spread between individuals. It is not inherited or caused by environmental factors.

Contraception - Methods that are used to prevent pregnancy.

Correlation - The relationship between two variables.

Crown gall disease (*Agrobacterium tumefaciens*) - A disease caused by the bacterium *Agrobacterium tumefaciens* in plants which infects the stem and roots causing tumours.

Disease - An illness that affects human or plant health.

Double-blind trial - A study where neither the researcher nor the patient know whether the patient is taking the drug or placebo.

Fungi - A type of pathogen which is eukaryotic and can be single-celled or multicellular, e.g. yeast and mushrooms.

Human immunodeficiency virus (HIV) - A communicable disease caused by a virus that is transmitted through bodily fluids. HIV may be spread via unprotected sex and the sharing of needles.

Health - The well-being of an individual with regard to their physical and mental state.

Heart transplant - An operation done to replace a damaged heart with a healthy heart from a healthy donor.

Human chorionic gonadotropin (hCG) - A hormone present in the urine of pregnant women.

***Hybridoma cells** - Cells that are able to divide to produce millions of monoclonal antibodies that are specific to a certain antigen.

Immune system - The body's defence mechanism against pathogens and other foreign bodies.



Influenza - A disease caused by an influenza virus which is transmitted when an infected person sneezes or coughs. It causes fever, coughing and sore throat.

***Leaf cell wall** - An outer layer made of cellulose fibres. It provides the plant cell with strength and support. It also acts as a barrier to pathogens.

***Leaf cuticle** - A waxy layer on the leaf which acts as a physical barrier to pathogens.

***Light microscope** - A microscope that used light to produce an image of a specimen.

Malaria - A disease caused by a protist which is spread by mosquitoes. It causes recurring fever which can be fatal.

Memory cells - A type of white blood cell that remains in the body after infection, so if the same pathogen was to enter the body again, they will rapidly produce antibodies to kill it.

Monoclonal antibodies - **Identical antibodies produced from clones of a single white blood cell. Monoclonal antibodies are specific to one binding site on one protein antigen.**

Non-communicable disease - A disease that cannot be transmitted as it is caused by environmental factors or is inherited. Non-communicable diseases are not caused by a pathogen.

Non-specific defence system - The immune defence system that protects against a variety of pathogens.

'Open label' trials - A study where both the researcher and the patient know whether the patient is taking the drug or placebo.

Pathogen - A bacterium, virus or any other microorganism that can cause disease.

Placebo - A treatment or drug, used in clinical trials, that has no effect e.g. sugar pills. It is indistinguishable from the real drug.

Platelets - Cell fragments involved in the clotting of blood.

Pre-clinical trials - A type of study where the drug is tested on cultured human cells and animals, before it is tested on humans, to investigate its safety and effectiveness.

Protist - A type of pathogen which is eukaryotic and single-celled. It is from the kingdom Protista.

Radiotherapy - **A treatment for cancer which uses ionising radiation to control or kill malignant tumour cells.**

Salmonella - Bacteria that can cause food poisoning in animals through the consumption of undercooked foods such as meat and eggs.



Statins - A type of drug used to lower cholesterol levels. It is used in the treatment and management of some cardiovascular diseases.

Stent - A wire mesh used in the treatment of coronary heart disease. It widens the coronary artery in order to maintain the heart's oxygen supply.

Sterilisation - The process in which equipment is treated to remove any living microorganisms present.

Tobacco mosaic virus (TMV) - A disease caused by a virus in plants which affects chloroplasts and produces a 'mosaic' pattern on the leaves. This prevents efficient photosynthesis, limiting plant growth.

Transplant rejection - The rejection of the transplant tissue by the immune system of the recipient's body.

Type 2 diabetes - A condition in which a person develops insulin resistance or doesn't produce enough insulin, resulting in high blood glucose concentrations.

Vaccination - A method of introducing small quantities of inactive or dead forms of pathogen to stimulate antibody production by white blood cells.

Virus - A type of pathogen that can infect any living organism. They are only able to reproduce inside the cells of a living host.

White blood cells - Cells of the immune system that protect the body from invading pathogens. They digest pathogens and produce antibodies and antitoxins.

✚ Definition taken from: [OCR Gateway Science Biology \(B\) Specification \(J257\) V3.1 \(January 2020\)](#)

