

Definitions and Concepts for WJEC (Eduqas) Biology GCSE

Topic 3: Health, Disease and the Development of Medicine

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 that is susceptible to other infections.

Angioplasty - A procedure used to reduce the blockage of the coronary artery. A balloon is threaded in and inflated into the artery.

Antibiotic - A type of medication that helps cure bacterial disease by killing infective bacteria inside the body. Penicillin is an example of an antibiotic.

Antibody - A protein produced by the immune system which attacks specific antigens.

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

Antitoxins - A type of antibody produced by white blood cells to neutralise toxins.

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.

Autoimmune disease - A disease in which an individual's own immune system starts attacking the body.

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

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

Causative agent - A chemical or organism which causes disease.

Cell wall - The cellulose cell wall in plant cells acts as a physical barrier to pathogens.

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

Chlamydia - A sexually transmitted bacterial infection which can affect the reproductive system if left untreated.

Cirrhosis - A non-communicable disease, due to excess alcohol consumption, that causes scarring of the liver.

Clinical testing - Drug testing done on healthy human volunteers and patients.

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.

Cuticle - The outer waxy layer on a leaf that protects against pathogens and reduces water loss.

Disease - An illness that affects animal or plant health.

Emphysema - A non-communicable lung disease which causes the breakdown of the alveoli walls.

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

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 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.

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

Influenza - A communicable disease caused by a virus which is transmitted directly or by the air. It causes fever, coughing and sore throat.

Lymphocyte - A type of white blood cell made by the body to protect against disease and infection. Lymphocytes produce antibodies and antitoxins.

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

Methicillin-resistant Staphylococcus aureus (MRSA) - A communicable disease caused because of resistant bacteria due to the overuse of antibiotics.

Memory cell - A type of white blood cell that can rapidly divide and initiate a response if the body comes into contact with a pathogen a second time.



Monoclonal antibodies - Identical antibodies produced from activated lymphocytes. Every antibody is specific to one binding site on one protein antigen.

Mutation - A random change in DNA which increases variation. They may have a neutral, beneficial or damaging effect on the phenotype.

Non-communicable disease - A disease that is inherited or caused by environmental factors, so it is not infectious and cannot be transmitted.

Non-specific defence system - The defence system that protects against a variety of pathogens. The skin is a non-specific barrier against infection.

Phagocyte - A type of white blood cell which engulfs and digests foreign bodies.

Placebo - An inactive version of a drug. It is indistinguishable from the real drug but has no effect on the recipient.

Preclinical testing - Drug testing done in a laboratory using cells, tissues and live animals.

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

Risk factor - Something that increases the chance of developing a disease, although it does not guarantee it. For example, smoking is a risk factor for lung cancer.

Specific defence systems - A type of defence system of the body which attacks specific pathogens.

Statins - A type of drug used to decrease LDL (bad) cholesterol levels to slow down the rate of fatty material build up.

Stent - A mesh tube inserted into the coronary artery to keep it open.

Tissue typing - The process of determining the particular antigens on the tissues from a donor, to see if the tissue will be rejected by a recipient needing a transplant. Monoclonal antibodies are used for tissue typing.

Type 1 diabetes - A condition in which the pancreas fails to produce insulin resulting in high blood sugar levels.

Type 2 diabetes - A condition in which a person develops insulin resistance or doesn't produce enough insulin.

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 a living host.

White blood cells - Cells of the immune system that protect the body from



invading pathogens. They produce antibodies and antitoxins.

✦ Definition taken from: [WJEC \(Eduqas\) GCSE in Biology Specification V.3 January 2019](#)

