

Definitions and Concepts for CAIE Biology IGCSE

Topic 15: Drugs

*Definitions in **bold** are for supplement only*

Addiction - Uncontrolled, compulsive behaviour associated with the inability to stop doing something or using a substance that has harmful consequences.

Alcohol - A depressant drug which slows impulse transmission at synapses. It increases reaction times and can result in a loss of self-control. Excessive alcohol consumption may cause liver damage (cirrhosis).

Anabolic steroids - A class of performance enhancing drugs structurally similar to testosterone. They are used illegally by athletes to promote muscle development.

Antibiotic - A chemical or compound produced by a living organism that kills or prevents the growth of bacteria. Antibiotics have no effect on the cells of the host organism or viruses.

Antibiotic-resistant bacteria - Bacteria that mutate to become resistant to an antibiotic, survive and reproduce very rapidly, passing on their antibiotic resistance.

Cancer - A non-communicable disease caused by changes in a cell which lead to uncontrolled growth and division.

Carbon monoxide - A chemical found in cigarette smoke that lowers the ability of red blood cells to carry oxygen. This results in an increased heart rate, raising the risk of cardiovascular disease.

Chronic bronchitis - A respiratory disease caused by the deposition of tar in the airways. This leads to inflammation and prevents the cilia from beating. Mucus containing dirt and bacteria collects in the bronchi, resulting in infection.

Chronic obstructive pulmonary disease (COPD) - Refers to a group of lung conditions which cause breathing difficulties, including chronic bronchitis and emphysema.

Cirrhosis - Scarring of the liver tissue resulting from the breakdown of alcohol into toxic products in the liver.

Coronary heart disease - A disease caused by the build-up of fatty deposits inside the coronary arteries, narrowing them and reducing blood flow to the heart tissue. High blood pressure, a diet high in saturated fats, lack of exercise and smoking increase the risk of coronary heart disease.

Drug - A substance that when introduced into the body, alters the body's chemical reactions.

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Emphysema - A respiratory disease caused by the breakdown of the alveoli as a result of chemicals present in tobacco smoke. This reduces the surface area available for gas exchange, leading to shortness of breath, shallow breathing and difficulty exhaling.

Heroin - An illegal drug that acts as a depressant. **It stimulates receptors at synapses in the brain, causing dopamine release and a short-lived 'high'.**

Lung cancer - A respiratory disease often caused by chemical carcinogens present in tobacco smoke. The development of tumours (which may block the airways) results in symptoms such as shortness of breath, wheezing, a persistent cough and blood-stained sputum.

MRSA - **A type of bacteria commonly found in hospitals that is resistant to almost all antibiotics.**

Nicotine - An addictive chemical found in cigarette smoke that raises heart rate and blood pressure, increasing the risk of cardiovascular disease.

Tar - A carcinogen present in tobacco smoke that becomes deposited in the airways causing inflammation. It also stimulates the production of excess mucus which paralyses the cilia.

Testosterone - A male sex hormone released by the testes that is involved in the development of the male secondary sexual characteristics. **Testosterone supplements can be used to increase bone and muscle mass in athletes.**

Tobacco smoke - Cigarette smoke that damages the cilia resulting in a build-up of mucus.

Withdrawal symptoms - The physical effects that follow the discontinuation of an addictive drug which the body is dependent on.

