



Human **BIOLOGY** D i c t i o n a r y

BY STAFF OF ACS DISTANCE EDUCATION

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The information in this book is derived from a broad cross section of resources (research, reference materials and personal experience) from the authors and editorial assistants in the academic department of ACS Distance Education. It has been developed to accompany ACS's biology courses as a useful reference tool. It is not a comprehensive lists of every biology term in existence.

It is, to the best of our knowledge, composed as an accurate representation of what is accepted and appropriate information about the subject, at the time of publication.

The authors fully recognise that knowledge is continually changing, and awareness in all areas of study is constantly evolving. As such, we encourage the reader to recognise that nothing they read should ever be considered to be set in stone. They should always strive to broaden their perspective and deepen their understanding of a subject, and before acting upon any information or advice, should always seek to confirm the currency of that information, and the appropriateness to the situation in which they find themselves.

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Abdomen

Adenosine triphosphate (ATP)

A

Abdomen Also known as the belly, the abdomen is the part of the body which lies between the thorax (chest) and the pelvis. It is the largest cavity in the body and encloses vital organs such as the stomach, liver, spleen, large and small intestine, kidneys bladder and pancreas. The abdomen provides a protective case for the organs enclosed within it as it is surrounded by muscles and strong connective tissue, the upper part of the abdomen is also protected by the ribs. Since the abdomen contains many important organs it is one of the main areas where a disease or illness can be located.

Absorption Absorption is the movement of a substance across a cell membrane. An example of absorption lies within the digestive system where nutrients are absorbed across the wall of the digestive tract into the blood where they can be taken to other parts of the body. Absorption also occurs across the skin and within the respiratory system.

Acid An acid is a chemical compound which releases hydrogen ions (H⁺) when added to water. Acids have a pH below 7 on the pH scale, which is a scale to show how acidic or alkaline a substance is, the lower the PH the stronger the acid. Examples of acids include hydrochloric acid (HCL), nitric acid and sulphuric acid

Actin A protein found in muscle which is involved in muscle contraction together with another protein called myosin.

Actin and myosin promote muscle contraction by forming a contractile unit called a sarcomere in which the two proteins slide past each other causing muscle fibres to shorten.

Active transport Is the movement of molecules across a cell membrane from an area where it is in a low concentration to an area where it is more highly concentrated. This process differs to diffusion where molecules move from a high concentration to a low concentration and requires a supply of energy in the form of ATP.

Adaption Adaptation refers to the process by which organisms change certain traits to become more suited their environment. Adaptations can involve changes to an the colour of an organism or to it's structure and functions, while in animals adaptations may also involve a change in behaviour e.g. in mating behaviour or hibernation. Adaptation allows organisms to survive and reproduce in changing environments, to climate change, to predators and to increased competition from other organisms. Adaptations occur through natural selection where the organisms with the most favourable traits survive and reproduce allowing these traits to pass to successive generations.

Adenosine triphosphate (ATP) ATP plays an essential role in providing energy for a variety of cellular functions. ATP consists of an adenosine unit attached to three phosphate groups. When an additional water molecule is added to the terminal phosphate group, the reaction liberates energy. This energy is then used to power cellular