



ADAPTATION

Anatomical, behavioural and physiological adaptations to an individual's environment

The term **adaptation** is used to describe those *variations* which help an individual to survive. An adaptation can fall under several categories: they can be **anatomical**, **behavioural** or **physiological (biochemical)**.

Anatomical (structural) adaptations

Anatomical adaptations are to do with the structure, or build, of the organism, so, their anatomy. An adaptation of this category would include any structure belonging to an organism which helps it to survive, for example, a sperm has an *undulipodium* which enables it to move rapidly

Behavioural adaptations

These are aspects of the behaviour of an organism which help it to survive in its environment by surviving the conditions it lives in. An example of this kind of adaptation would lie within the earthworm. When you touch it, it quickly retracts and withdraws into its burrow, this is because it has no eyes and so cannot tell you are not a bird about to eat it – so this is a behavioural adaptation to avoid being eaten

Physiological (or biochemical) adaptations

Any adaptations which ensure the correct functioning of cellular actions and processes are physiological or biochemical. An example of this type of adaptation is found in many spiders. Their *chelicerae* (mouth parts used in biting and grabbing prey) can contain venom, which can be injected into their prey

A great example of adaptations in action is the **xerophytic plant**. A xerophyte is any plant which is adapted to help it survive in its environment, more often than not by reducing the rate of water loss due to **transpiration**.

For more information on xerophytes and to see a list of their common adaptations, see [2.13 Transpiration](#).