

Nova's Digestive System Discovery Cards

Learning objective: To identify the components of the digestive system and describe their functions in the human body.

Study these cards to understand how Nova the Owl explains the journey of food through our bodies. Use the key terms to master the process of digestion.

What is the primary function of the digestive system?

To break down food into small, soluble molecules that the body can absorb and use for energy, growth, and repair.

What is the role of the oesophagus in digestion?

It is a muscular tube that pushes food from the mouth down to the stomach using wave-like muscle contractions called peristalsis.

Describe what happens to food inside the stomach.

The stomach acts like a mixer, churning food with gastric juices and acids to break it down into a thick liquid called chyme.

Which part of the digestive system is responsible for absorbing most of the nutrients?

The small intestine, which has a large surface area covered in tiny finger-like projections called villi.

What is the main job of the large intestine?

To absorb water from the remaining indigestible food matter and turn the waste into solid faeces to be excreted.

Define 'enzymes' in the context of digestion.

Biological catalysts that speed up the chemical breakdown of large food molecules into smaller, absorbable ones.

Explain why the small intestine is so long in a human adult.

Its length provides a massive surface area, which is essential for ensuring that the maximum amount of nutrients can be absorbed into the bloodstream.

Compare and contrast the roles of the small and large intestines.

The small intestine focuses on the chemical digestion and absorption of nutrients into the blood, while the large intestine focuses on reabsorbing water and preparing waste for removal.

Justify why chewing food thoroughly is an important first step in digestion.

Chewing increases the surface area of the food, allowing enzymes in the saliva to work more efficiently to begin the breakdown process.

What might happen if the large intestine failed to absorb water from the waste?

The body would lose too much water, leading to dehydration and the production of watery waste (diarrhoea).

Explain the relationship between the digestive system and the circulatory system.

The digestive system breaks food down into nutrients, which then pass through the walls of the intestines into the blood, where the circulatory system transports them to cells throughout the body.

Evaluate the importance of a balanced diet for the digestive system.

A balanced diet provides the necessary fibre to keep the digestive tract moving smoothly and the specific nutrients the body needs to function, repair, and maintain health.