

Human nutrition

What are the seven components of a balanced diet?

Human nutrition

How do energy requirements vary?

Human nutrition

Sources and function of carbohydrate?

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Sources and function of protein?

Human nutrition

Sources and function of lipids?

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Function of vitamin A, and a source?

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Function of vitamin C, and a source?

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Function of vitamin D, and a source?

They are higher with greater activity, are higher in teenagers than in older adults, and are higher in pregnancy.

Carbohydrate, protein, lipid, vitamins, minerals, water and dietary fibre.

Meat, fish, eggs and beans. Growth and repair.

Bread, pasta, rice and potatoes. Provides energy.

Healthy eyes and vision in dim light. Liver, carrots.

Butter, oils and nuts. Energy store, insulation and cell membranes.

Helps absorb calcium for strong bones. Oily fish, eggs, sunlight on skin.

Healthy skin and gums. Citrus fruits.

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Function of calcium, and a source?

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Function of iron, and a source?

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Why is dietary fibre needed?

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Name the parts of the alimentary canal in order.

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What does the pancreas do in digestion?

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What happens in the ileum and in the colon?

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What is peristalsis?

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What do amylase and maltase do?

Makes haemoglobin in red blood cells. Red meat, spinach.

Strong bones and teeth. Milk and cheese.

Mouth, oesophagus, stomach, small intestine (duodenum, ileum), large intestine (colon, rectum), anus.

It adds bulk, which helps peristalsis move food through the gut.

Ileum: digestion is finished and products are absorbed. Colon: water is absorbed.

Makes amylase, protease and lipase and releases them into the duodenum.

Amylase digests starch to maltose. Maltase digests maltose to glucose.

Waves of contraction of circular and longitudinal muscles that squeeze food along the gut.

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What do proteases digest, and to what?

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What do lipases digest, and to what?

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Where is bile made and stored?

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What are the two roles of bile?

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Why does emulsifying lipids speed up digestion?

Human nutrition

How does a villus increase absorption?

Human nutrition

What does the lacteal do?

Human nutrition **Biology only**

Equation for energy released when food burns under water?

Lipids to fatty acids and glycerol.

Proteins to amino acids.

It neutralises stomach acid and emulsifies lipids.

Made in the liver. Stored in the gall bladder.

Large surface area (villi, microvilli), wall one cell thick, and a capillary network that keeps the concentration gradient steep.

Small droplets have a larger surface area, so lipase can work faster.

Energy (J) = mass of water (g) $\times$ 4.2 $\times$ temperature change ($^{\circ}$ C).

It absorbs fatty acids and glycerol into the lymph system.

Why is the energy measured in the food practical too low?

Heat is lost to the surroundings, and the food may not burn completely.