- Wind-pollinated flowers don't need to attract insects so don't have petals or produce nectar
- Once a pollen grain lands on a stigma, a tube grows from the pollen grain to the ovary, where it enters the ovule. The pollen nucleus moves down the tube and joins with the ovule nucleus
- Fertilisation occurs when the pollen nucleus and ovule nucleus join together. This is called a zygote. It develops into a seed
- A seed is made up of a hard outer cover, a food store, and the plant.
- Seeds need oxygen, water (both for respiration) and warmth so that it can germinate
- The ovary becomes the fruit
- Seeds need to be dispersed in order not to have them fighting over the same resources
- There are 3 main ways of dispersion:

a) Wind: Small seeds with 'wings' or hairs get blown away
b) Being flicked out of the pod: some pods open so that they throw the seeds out
c) Animals: Either the fruit is eaten, after which it passes through their digestive system and is deposited, or some seeds have hooks which stick them on an animal's fur

- Nitrates, Phosphates and Potassium are the 3 main minerals needed by plants, and if they don't get these from the soil, there is a deficiency
- Nitrates: need: provides nitrogen which is needed to make proteins deficiency: a small plant with yellow, older leaves
- Phosphates: need: provides phosphorous which is need for respiration and photosynthesis deficiency: poor root growth and purple, younger leaves
- Potassium: need: helps enzymes needed for respiration and photosynthesis deficiency: yellow leaves with dead bits

The Digestive System

Teeth:
- Canines: pointed teeth for tearing up food
- Incisors: chisel-shaped with sharp edges to cut and bite food
- Premolars: have 2 pointed ridges to tear and grind food
- Molars: have broad ridges and are used to crush and grind food
- A balanced diet has all the nutrients needed by the body to stay healthy and the correct amounts, depending on your age and size
- In the mouth, food is physically broken down by the teeth and chemically by an enzyme in your saliva called amylase
- Next, the food goes into the gullet (osophagus), where muscle contractions get it to the stomach
- In the stomach, the stomach churns to physically break down the food, but also to mix it with the gastric juice
- The gastric juice breaks it down chemically, which is made of mainly hydrochloric acid, and kills microbes
- The enzyme proteas breaks down proteins into amino acids
- The enzyme carbohydrases breaks down carbohydrates into glucose
- The enzyme lipase breaks down fat into fatty acids and glycerol
- In the small intestine, which has a large surface area (300m²), soluble food is absorbed into blood by diffusion, and the acid mush from the stomach is neutralized by alkaline secretions from the liver and pancreas
- Finger-like structures called villi cover the small intestine and absorb small molecules of food. Each villi is covered in microvilli and if a certain nutrient is in short supply, energy is used to absorb that nutrient more quickly
- After, in the large intestine, all the water is absorbed
- The rectum stores all food that hasn't been digested
- The anus removes solid waste and the egestion of faeces happens
- Egestion is the removal of solid waste from the body while excretion is the removal of toxins from the body

Nutrient	Use	Examples	
Carbohydrates	• A source of energy for the body	bread, potatoes, rice, pasta, bananas, grains	
Proteins	• Needed for the growth and repair of muscles • Produces hormones and enzymes • Regulates muscle contractions • Helps resists disease (antibodies are proteins) • 15% of energy comes from it	Plants: • Peas • Seeds + nuts • Soya • Beans + lentils • Spinach	Animals: • Meat • Poultry • Eggs • Dairy
Fat	• Gives a concentrated energy stored • Helps to form cell membranes	butter, cooking oil, red meat	
Mineral Salts	Calcium: for teeth and bones • Iron: to carry oxygen in red blood cells Sodium: controls the substances in and out of cells • Lack of iron causes anaemia • Lack of calcium causes ricketts	milk, red meat, salt + processed food	
Vitamins	• A: helps with night vision • B: helps with chemical reactions in respiration • C: gives healthy skin and gums • D: needed for absorption and the use of calcium Vitamin C deficiency causes scurvy Vitamin D deficiency causes ricketts	butter, fish oils, cereal, liver, meat, vegetables, fresh fruits, fatty fish, dairy products	
Fibre	• Helps digestion of food	cereals, fruit, vegetables	
Water	• Dissolves chemicals in cells and tissue fluid • Transports substances around the body	drinks + liquid food	