

Fibre: needed for the efficient working of the digestive system... found in fresh fruit + veg/wholemeal bread

Fat: needed for energy + insulation found in butter + fried food

Protein: Needed for growth + repair carbon/hydrogen/oxygen/nitrogen found in meat, fish, eggs + beans

Composed of hydrogen/carbon/oxygen
 • Glycogen = energy storage in animals e.g. red meat
 • Starch = slow release energy - bread/rice/potatoes
 • Lactose = provides energy rapidly (milk)
 • Glucose = provides energy quickly e.g. sweets/chocolate jam

Fats and Oils
 = Emulsion (ethanol)
 • Extract oils/fats in ethanol add to equal volume of water
 • Mix fat with ethanol
 = Turns from clear to form a white emulsion

Protein
 = Add a few drops of copper sulfate and sodium hydroxide...
 SHAKE
 If positive change from blue to lilac

Vitamin C: maintains cell health. Found in citrus fruits

Problems if there is a lack = scurvy (gums deteriorate start to bleed)

Vit. D for strong bones + teeth lack leads to rickets

Iron: needed for haemoglobin in BC
 * anaemia = low energy levels
 Calcium = bone + teeth development

The amount of energy you need depends on three key factors....

- 1) Age
- 2) Gender = (males need more energy)
- 3) Level of activity

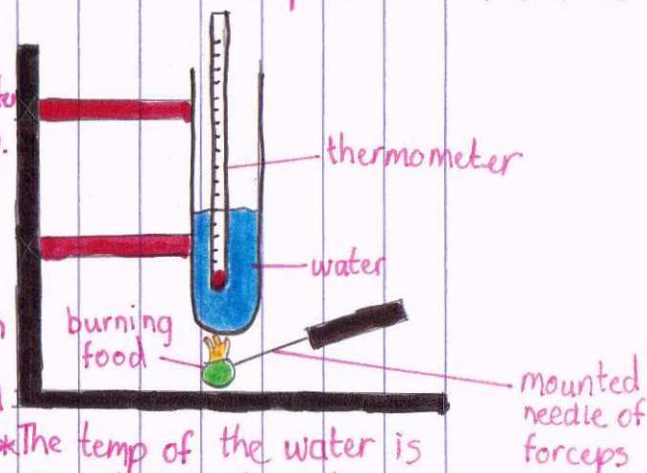
Also pregnant women need more energy for the foetus

* The Harris Benedict model = used to calculate the Basal Metabolic Rate (BMR) = the amount of energy required to maintain a constant body mass at rest. (takes into account gender, size, age, activity levels)

BMI + blood pressure = health professionals use a person's BMI + blood pressure to assess their general health.

$$BMI = \frac{\text{weight}}{\text{height}^2}$$

$$\text{Energy released (J)} = \text{mass of water} \times \text{rise in temperature (}^\circ\text{C)} \times 4.2$$



1. Use thermometer to record temp.
2. Place food on mounted needle
3. Set food on fire
4. When food has burnt out record temperature.

* The temp of the water is recorded before, during and after the experiment temp = (°C)

Diet

Fibre

Protein

Carbohydrates

Vitamin C

= DCPIP

- Add drops of the food juice to DCPIP
- DCPIP turns from blue to colourless

Food Tests

Human diets contain a range of food groups

* **Carbohydrates**

- 1) Starch = Iodine
Add iodine
If positive solution changes from yellow/brown to blue/black
- 2) Sugar = Benedict's = add equal volume of Benedict's and heat in water bath. If positive solution changes from blue to brick red.