Your notes

GCSE Food Preparation and Nutrition: revision notes

Vitamins

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Fat-soluble vitamins

- Vitamin A (retinol, and beta-carotene from plants): healthy eyes and vision in dim light, and the immune system. Sources: liver, dairy, carrots and dark green vegetables. Deficiency: **night blindness**.
- Vitamin D: helps the body absorb calcium for strong bones and teeth. Made by the skin in sunlight; also in oily fish and eggs. Deficiency: **rickets** in children and osteomalacia in adults.
- Vitamin E: an **antioxidant** that protects cells. Sources: vegetable oils, nuts and seeds.
- Vitamin K: helps blood clot. Sources: green leafy vegetables.

Water-soluble vitamins

- B1 (thiamin), B2 (riboflavin) and B3 (niacin) help release energy from food. B3 deficiency causes pellagra; B1 deficiency causes beriberi.
- B9 (folate or **folic acid**) helps form healthy red blood cells and prevents neural tube defects, such as spina bifida, in unborn babies. Women are advised to take **folic acid** before and in early pregnancy.
- B12 makes red blood cells and keeps nerves healthy. It is found almost only in animal foods, so vegans need fortified foods or supplements.
- Vitamin C (ascorbic acid) helps absorb iron, makes collagen for skin and healing, and is an **antioxidant**. Sources: citrus fruit, peppers, berries and potatoes. Deficiency: **scurvy**.

Keeping vitamins in food

- **Water-soluble vitamins** (B and C) dissolve into cooking water and are destroyed by heat, air and long storage.
- To keep them: cook for a short time in little water, steam or microwave, prepare just before cooking, and use the cooking water in sauces.

Key terms

Fat-soluble vitamins	Vitamins A, D, E and K.
Water-soluble vitamins	The B vitamins and vitamin C.
Antioxidant	A substance that protects cells from damage.
Rickets	A disease caused by a lack of vitamin D, giving soft, weak bones.
Scurvy	A disease caused by a lack of vitamin C.
Folic acid	Vitamin B9, important in early pregnancy.
Night blindness	Difficulty seeing in dim light, caused by a lack of vitamin A.

Quick questions

Cover the answers and test yourself: remembering is what makes it stick.

1. Which vitamin helps the body absorb calcium?
2. Which disease is caused by a lack of vitamin C?
3. Which vitamin helps blood to clot?
4. Which vitamin deficiency causes night blindness?
5. Why are pregnant women advised to take folic acid?
6. Which vitamin is found almost only in animal foods?
7. Which vitamins are water-soluble?
8. How can you keep vitamin C in vegetables when cooking?

Answers

1. Vitamin D
2. Scurvy
3. Vitamin K
4. Vitamin A
5. To prevent neural tube defects in the baby
6. Vitamin B12
7. The B vitamins and vitamin C
8. Steam them for a short time

What to do next

Practise 11 questions on this topic

Try 4 exam questions, with mark schemes

Read the lesson, one step at a time

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