

**Paper Reference(s) 4HB1/02**  
**Pearson Edexcel International GCSE (9–1)**

**Human Biology**

**UNIT: 4HB1**

**PAPER: 02**

**Text Booklet**

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**Question 7**

**Our body is under constant attack from free radicals. Free radicals are molecules produced during chemical reactions that take place in body cells. Free radicals can change the structure and function of cells and damage genetic material. Some scientific evidence also suggests that free radicals can affect the flow of substances that enter and leave a cell.** 5 10

**Vitamin C is water-soluble and an important component of the daily diet. The recommended intake of vitamin C is 90 mg per day. Vitamin C helps to strengthen the immune system and improves the absorption of iron into the body. Vitamin C is also known as an antioxidant. Antioxidants protect cells from damage by free radicals and other substances by changing the way that free radicals behave.** 15 20

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**Water and high temperatures can reduce the vitamin C content of food. For example, 40 g of fresh broccoli provides 80% of the recommended daily intake of vitamin C. The same mass of boiled broccoli provides 60% of the recommended daily intake of vitamin C. Boiling is the biggest cause of vitamin C loss, although baking and frying also lower vitamin C content.**

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