

Seasonal Harvests and Sustainable Design

Learning objective: To understand the importance of seasonal food production in the UK and apply this knowledge to design a sustainable, seasonal meal plan.

Read the following questions carefully. Use your knowledge of UK agriculture, food miles, and seasonal availability to provide detailed, reasoned answers. For the design task, ensure your choices reflect produce that is grown in the UK during the autumn and winter months.

Max the monkey is investigating why some fruits and vegetables appear in supermarkets all year round, while others only appear for a few weeks. Bea the honeybee has explained that eating food grown during its natural season reduces the energy required for transport and storage. By selecting local, seasonal produce, we can reduce our impact on the environment whilst enjoying food at its peak flavour and nutritional value.

Word bank: Sustainability · Food miles · Harvest · Greenhouse · Import · Nutrition · Biodiversity · Carbon footprint

1. Explain why transporting strawberries from another continent to the UK has a larger carbon footprint than buying them from a local farm during the British summer. Use the term 'food miles' in your answer. (2 marks)

2. Compare and contrast the environmental impact of growing a tomato in a heated greenhouse in the UK during winter versus importing it from a warmer climate where it grows outdoors. (3 marks)

3. Justify why it is often more cost-effective for families to purchase root vegetables like carrots and parsnips during the winter months in the UK. (2 marks)

4. What might happen to local biodiversity if farmers were forced to grow the same crops all year round regardless of the season? (2 marks)

5. If a punnet of British strawberries costs £2.50 in July and an imported punnet costs £4.00 in December, calculate the difference in cost. Why might the December price be higher beyond just the cost of transport? (3 marks)

Draw: Design a 'Seasonal Autumn Plate'. Sketch a meal using at least four ingredients that are harvested in the UK during autumn (e.g., pumpkins, apples, blackberries, kale). Label each ingredient and explain why it is a sustainable choice.



Extension challenge: Design a marketing campaign for a school 'Seasonal Food Festival'. Write a persuasive paragraph explaining to parents why choosing local, seasonal produce is beneficial for both their health and the planet. Include a sample budget for a seasonal soup recipe using ingredients sourced for under £5.00.