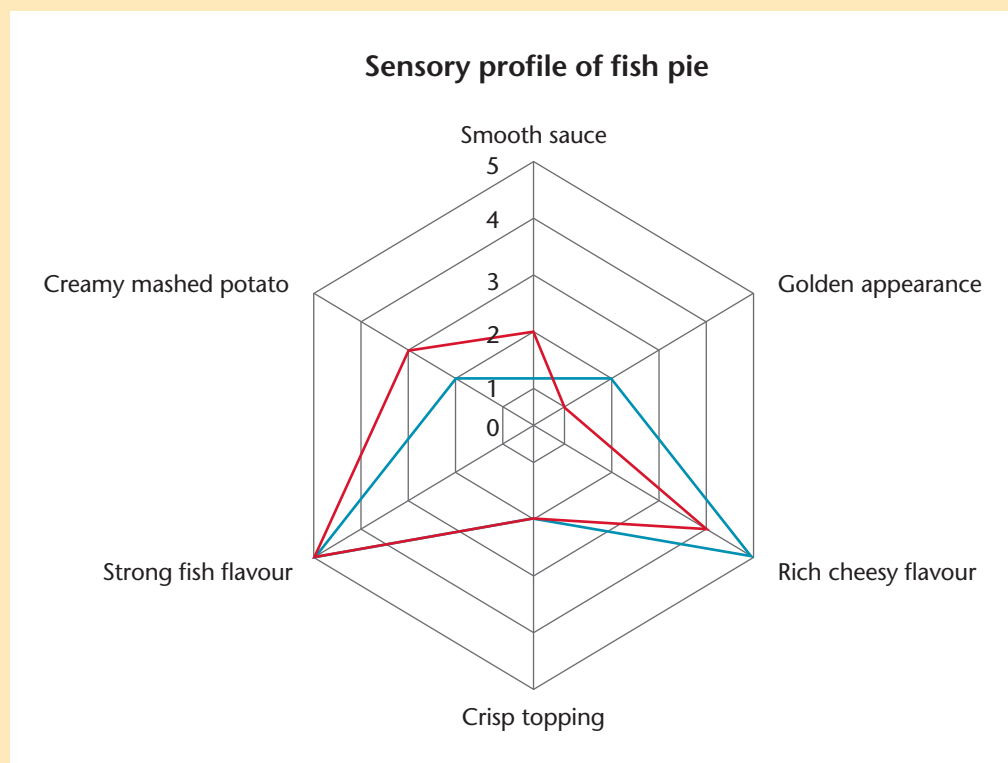


## Sensory testing

Below are two practice questions; the first question shows students responses and examiner feedback; the second question is for you to try yourself.

### Chapter 9: Practice question 1 (with student responses and examiner feedback)

Two people have carried out sensory testing of a fish pie and the results are shown on the sensory profile.



- Explain which sensory characteristics need to be improved. (4 marks)
- Suggest different ways the fish pie could be improved. (6 marks)

## Responses

The following responses were provided by students. The level and detail within the responses increases. More examples, with reasons, have been provided that allow students to achieve higher marks. The use of subject-specific language shows more informed understanding of the subject content.

### Basic level response

The appearance of the fish pie needs to be more golden. The sauce was not smooth and probably lumpy. To make a sauce lump-free you need to stir it with a wooden spoon when cooking it to stop the flour from sinking to the bottom of the sauce. (3 marks)

### Examiner feedback (3 marks)

The student has understood the question but explained only two of the sensory characteristics that need to be improved. This has prevented the student from achieving more than three marks. One improvement has been given to prevent the sauce from forming lumps.

### Medium level response

From looking at the sensory profile there are three sensory characteristics that need to be improved. These are: the appearance of the fish pie needs to be more golden, the sauce must be smooth and the mashed potato could have a more creamy texture. To improve the sauce in the fish pie, this should be continually stirred when heating. This prevents the starch granules sinking to the bottom of the pan and forming lumps. To make the mashed potato creamier a ricer could be used to remove the lumps. Adding butter would also enrich the potato. The appearance could be more golden if the pie had some grated cheese added and was then put under the grill. (6 marks)

### Examiner feedback (6 marks)

The student has understood the question and explained three of the sensory characteristics that need to be improved. To gain full marks all four characteristics should be identified. Relevant improvements have been stated, showing a good knowledge of ingredients.

### High level response

Looking at the sensory profile, there are four sensory characteristics that need to be improved. These are: the appearance of the fish pie must be more golden, the sauce needs to be smooth, the potato topping needs to be more crisp and the mashed potato could have a creamier texture.

To improve the sauce in the fish pie, it should be continually stirred during heating. This prevents the starch granules sinking to the bottom of the pan and forming lumps or burning. Stirring all the time to 100°C allows for full gelatinisation.

To make the mashed potato creamier, a ricer could be used to remove the lumps. Adding butter or egg would also enrich the potato. When baked, the egg would also help the potato to have a more golden appearance.

The appearance could be more golden if the pie had some grated cheese added and was then put under the grill. This would also cause the topping to be crisp. You could also use other root vegetables, for example, butternut squash that has an orange flesh. All these changes would improve the quality of fish pie. (8 marks)

### Examiner feedback (8 marks)

The student has identified all four areas that require improvement. Each sensory characteristic has been explained and detailed and well-reasoned improvements have been stated. Good knowledge of equipment is evident. Very good use of key subject terminology is evident, for example, 'gelatinisation'.

## Sensory testing

### Mark scheme

**For 7–8 marks:** The sensory profile is fully explained. **All four** low-scoring characteristics are identified. Improvements for all four sensory characteristics are explained in detail, with very good descriptions.

**For 4–6 marks:** The sensory profile is explained. **At least three** low-scoring characteristics are identified. Improvements for the three sensory characteristics are explained, with good descriptions.

**For 0–3 marks:** **Only two** low-scoring characteristics are identified. Limited improvements are suggested.

### Points to include in the answer

#### Identifying improvements

- The mashed potato needs to have a creamier texture.
- The roux sauce needs to be smooth and lump-free.
- The appearance needs to be more appetising and golden.
- The topping of the potato pie could be more crisp.

## Sensory testing

### Examples of improvements

- The mashed potato needs to have a creamier texture.
  - Use a potato masher to mash the potatoes until the mix is lump-free.
  - Cook the potatoes for a longer period of time so they are soft and ready to be mashed.
  - Use an electric potato masher or a ricer to remove the lumps.
  - Whisk the potato after mashing – this will make the potato creamy.
  - Add butter, cream or an egg to the potato to enrich it.
  - Use a different variety of potato that is more suitable for mashing.
- The roux sauce needs to be smooth and lump-free.
  - The sauce should be continually stirred during heating.
  - Weigh ingredients accurately to ensure the correct ratio of flour to milk.
  - Gradually add the liquid to achieve the correct viscosity.
  - Stirring prevents the starch granules sinking to the bottom of the pan and forming lumps or burning.
  - Full gelatinisation needs to occur to allow the sauce to be smooth (100°C).
- The appearance needs to be more appetising and golden.
  - Add egg to the mashed potato to enrich and give golden colour.
  - Add grated cheese to the mashed potato and grill to give a golden colour.
  - Add additional root vegetables, for example, sweet potato, carrots to add colour to the potato.
- The topping of the potato pie could be more crisp.
  - Put the potato under the grill to bake the surface – for example, gratin.
  - Bake in the oven for a longer period of time.
  - Add an additional topping such as breadcrumbs that will provide a crisp topping when baked.
  - Add grated cheese – when this coagulates and is baked it will provide a crisp topping.

**Sensory testing****Chapter 9: Practice question 2**

Sensory testing should be carried out under controlled conditions.



Describe in detail:

- how to set up a sensory test (4 marks)
- the controls necessary to ensure the test is fair. (6 marks)

## Sensory testing

## Chapter 9: Mark scheme for practice question 2

Sensory testing should be carried out under controlled conditions.



Describe in detail:

- how to set up a sensory test (4 marks)
- the controls necessary to ensure the test is fair. (6 marks)

## Mark scheme

**For 8–10 marks:** The student has a **thorough** understanding of how to set up a sensory test. Detailed explanations are given. Clear examples have been stated with **at least 6 controls** to ensure fair testing.

**For 5–7 marks:** The student has a **good** understanding of how to set up a sensory test. Some explanations are given. Clear examples have been stated with **3–5 controls** to ensure fair testing.

**For 0–4 marks:** The student has a **basic** understanding of fair testing.

## Points to include in the answer

Sensory testing should:

- take place in a quiet area to avoid discussion
- include a large sample of people to ensure valid results
- be accompanied by clear instructions so the tasters know how to carry out the test
- use charts or computer software to record the results
- be done under hygienic conditions
- not allow talking or communicating with other tasters
- have food samples coded with random letters, such as XYX, ZZY, XZZ, to avoid any bias
- allow for sips of water or crackers between tasting to clean the palate
- use samples that are all the same size
- serve samples at the same temperature to ensure a fair result
- check one variable at a time to produce accurate results
- be held in lighting booths so appearance is not affected by shadow or poor lighting conditions
- have no distractions in the environment, such as smells or other people
- serve samples on plates or cups of the same colour, usually black or white.