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Sensory Testing and Evaluation

What is sensory evaluation?

Sensory evaluation is a scientific discipline that analyses and measures human responses to the composition of food and drink, e.g. appearance, touch, odour, texture, temperature, and taste.

In schools it provides an ideal opportunity for students to evaluate and give feedback on their dishes, or simply to taste a variety of food, which will help them to make valued judgements and make decisions about choice of ingredients.

The precise way in which sensory evaluation is conducted, along with the different tests and sensory language used, needs to be taught. This will help students to understand the process and develop their sensory vocabulary. It also means that students will record and generate evaluative feedback to support their work.

Why use sensory evaluation?

Sensory evaluation can be used to:

- compare similarities/differences in a range of foods
- analyse food samples for improvements
- gauge responses to a food, e.g. acceptable v unacceptable
- explore specific characteristics of an ingredient or dish/food product
- provide objective and subjective feedback data to enable informed decisions to be made

Organising sensory tests

How to perform sensory evaluation:

1. Create a school policy for tasting food and inform parents that tasting of food will take place throughout the year.
2. Keep up-to-date records for all children (and staff) on food intolerances and food allergies. Make the information readily to known.
3. Decide on the type of test you want to perform – suitable for what you want to find out.
4. Preference test - asks whether people like or dislike a product, e.g. hedonic scale.
5. Discrimination test - asks people to describe a particular attribute of a product, eg paired comparison test.
6. Find a clear area to hold the sensory test. Try to make sure that it is away from noise and cooking smells, which may distract the people taking part in the test. This can be difficult in a busy classroom. Some schools have created an area within the room for tasting to be held.
7. Place as many samples in serving containers as there are people taking part in the test. Code each sample with a random number, letter, or symbol.
8. Check that you have enough glasses of water for the people taking part. This is for tasters to cleanse their palette after tasting each food sample.
9. Make sure the people taking part know what is expected from them, ie they understand which test they are taking and what they have to do.
10. Ask each person to taste one sample at a time and record his or her responses. Allow time between samples so that tasters can record their opinions.

Tasting kit

Some schools have created a tasting kit, which has all the necessary equipment for children to undertake sensory evaluation.

A typical tasting kit could contain:

- serving spoons
- teaspoons
- small, plain white pots, cups and plates

- paper towels/tissues/kitchen roll
- rubbish bags
- cutlery
- labels
- pens

A plentiful supply of different sensory evaluation worksheets should also be made available.

Types of tests

Preference Tests:

These types of tests supply information about people's likes and dislikes of a product. They are not intended to evaluate specific characteristics, such as crunchiness or smoothness. They are subjective tests.

Hedonic test:

1. Prepare the food samples.
2. Ask each child to taste each sample in turn and tick a box, from 'Dislike' to 'Like' to indicate its preference. The smiley faces will help younger children.
3. The child may also wish to make remarks about the products' appearance, taste, odour, and texture.
4. Analyse the results – count the ticks for each smiley face. Which sample received the highest/lowest scores?

Which sample was preferred?

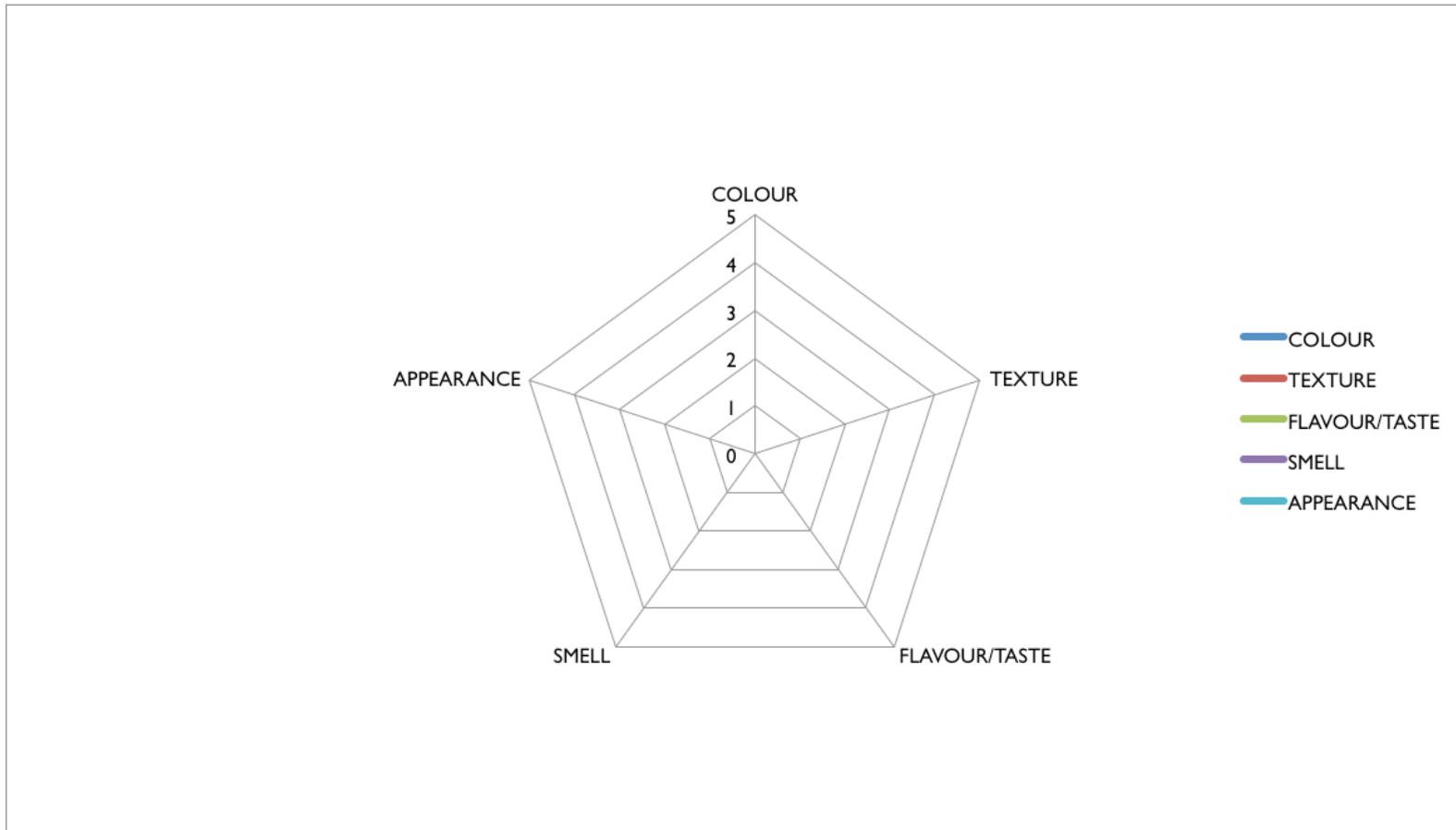
Note: *The same worksheet can be used for all the tasters. This will reduce photocopying and paper waste. (However, other tasters' scores/comments could influence each other.)*



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Star diagram





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Word bank - exemplar words

Smell

<i>Fragrant</i>
<i>Pungent</i>
<i>Acidic</i>
<i>Sweet</i>
<i>Burnt</i>
<i>Bitter</i>
<i>Stale</i>

Appearance

<i>Smooth</i>
<i>Lumpy</i>
<i>Hard</i>
<i>Soft</i>
<i>Shiny</i>
<i>Dull</i>
<i>Translucent</i>

Texture

<i>Gritty</i>
<i>Springy</i>
<i>Rubbery</i>
<i>Powdery</i>
<i>Crisp</i>
<i>Watery</i>
<i>Creamy</i>

Flavour

<i>Fruity</i>
<i>Sharp</i>
<i>Tangy</i>
<i>Bland</i>
<i>Tasty</i>
<i>Spicy</i>
<i>Sweet</i>



Sensory Testing and Evaluation



Hedonic test

Name: _____ Date: _____ Group: _____

Sample	2. Dislike 	2. Neither like nor dislike 	3. Like 	Comments