Sensory evaluation
Importance

Compare similarities/differences in a range of dishes/products.

Evaluate a range of existing dishes/food products.

Analyse dishes/food samples for improvements.

Gauge responses to a dish/product, e.g. acceptable v unacceptable.
Importance

Explore specific characteristics of an ingredient or dish/food product;

Check whether a final dish/food product meets its original specification;

Provide objective and subjective feedback data to enable informed decisions to be made.

It’s tasty, fun and pupils enjoy it!

Progression in understanding.

Your expectations.
Teaching and learning

Training pupils in sensory evaluation

• How to taste
• Use of appropriate vocabulary
• Use of different tests
  • preference
  • discrimination
Teaching and learning

• 5-6 ‘taste’ stations in classroom

• Learn about different tests

• Introduce umami
Resources to support you

Teachers’ guide
Tasting kit suggestions
Worksheets – photocopiable and digital
Posters
PowerPoint Presentations
Online tutorials
Video clip
Which senses do we use?

A range of senses are used when eating food.

These senses are:

- sight;
- smell;
- hearing;
- taste;
- touch.

A combination of these senses enables you to evaluate a food.
Taste

The tongue can detect five basic tastes:
• bitter;
• salt;
• sour;
• sweet;
• umami.

Taste may be described by association with a particular food, e.g. meaty, minty or fruity.

The intensity can also be recorded, e.g. mild or strong Cheddar.
What is umami?

Umami is a savoury taste, often known as the fifth taste. It is a subtle taste and blends well with other tastes. Most people do not recognise the taste unless attention is especially drawn towards it.

After eating Cheddar cheese or tomatoes, there may be a ‘savoury’ taste lingering - this is umami.

Have you tasted umami?
How was it discovered?

Umami was discovered by Dr Kikunae Ikeda, from Tokyo Imperial University, Japan, in 1908.

He undertook research into Dashi, a traditional Japanese stock made from kombu (kelp). His research lead to describing the savoury taste as ‘umami’.

He was sure that this taste was held in common by other foods with a savoury flavour, including those used in Western meals such as tomatoes and meat. Upon investigation it was discovered that these foods also had ‘umami’.

Dr Kikunae Ikeda
What is dashi?

Dashi is a traditional stock used in Japanese cooking. It has been used for over 1,000 years.

Dashi is made from dried kombu (kelp), katsuobushi (dried bonito – fish) or dried shiitake mushrooms.

Dashi means ‘boiled extract’.
How is dashi made?

Japanese stock, dashi, is the key element of the authentic Japanese cuisine. The recipe is simple and quick!

**Ingredients**
- 4cm x 4cm dried kombu (kelp)
- 600ml water
- 8g bonito flakes

**Method**
1. Make a few slits in the kombu and cook it in the water on a medium heat.
2. Remove the kelp just before it boils and add the bonito flakes.
3. Bring to the boil and strain.

Kombu dashi, made without the bonito flakes, is vegetarian.

Vegetarian dashi can be made by soaking 2-3 dried shiitake mushrooms in 600ml for 1 hour. Drain and use.
Umami food or seasoning made from fermented beans and/or grains. It is normally available in either paste or liquid form.

- Umami food or seasoning made from fermented fish, prawns and/or other seafood. Available in either paste or liquid form.

- Umami food made from other ingredients. Brackets indicate ingredient(s) which deliver Umami.

Umami around the world
Familiar foods with a umami taste

These are foods which all have an umami taste:

- tomatoes;
- cured pork, e.g. ham, sausage, bacon;
- Cheddar cheese;
- Parmesan;
- meat, e.g. beef;
- anchovies;
- yeast extract.
Cooking and umami

Several chefs around the world feature the umami taste in their cooking.

In the UK, Heston Blumenthal uses umami-rich Japanese ingredients in Western style preparation in order to deliver a umami hit. Other chefs include Claude Bosi and Sat Bains.

However, the umami taste can be delivered using familiar foods, such as yeast extract, Parmesan cheese, ketchup and tomatoes.

A umami-rich food is pizza – featuring tomatoes, Parmesan cheese and anchovies.
Umami in school

What is umami?

Umami is a savoury taste, often likened to the fifth taste. It is a subtle taste and blends well with other tastes.

It was discovered by chemist Kikunae Ikeda, from Tairyu Imperial School, Japan, in 1908. He undertook research into dashi, a traditional Japanese stock made from kombu kelp.

Umami has its own amino acid, often associated with savoury foods and wine.

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## Taste

Useful words to describe taste:

<table>
<thead>
<tr>
<th>sweet</th>
<th>cool</th>
<th>bitter</th>
<th>umami</th>
</tr>
</thead>
<tbody>
<tr>
<td>zesty</td>
<td>warm</td>
<td>hot</td>
<td>tangy</td>
</tr>
<tr>
<td>sour</td>
<td>sharp</td>
<td>rich</td>
<td>salty</td>
</tr>
<tr>
<td>bland</td>
<td>rancid</td>
<td>tart</td>
<td>acidic</td>
</tr>
<tr>
<td>strong</td>
<td>citrus</td>
<td>mild</td>
<td>savoury</td>
</tr>
<tr>
<td>spicy</td>
<td>tainted</td>
<td>weak</td>
<td></td>
</tr>
</tbody>
</table>

Example from PowerPoint
Taste

What words would you use to describe these foods?
Other factors

Although the senses play an important role in determining our food preferences, and helping us to evaluate food, other factors are also involved.

These include:

- previous experiences with food;
- hunger and satiety;
- mood;
- where you eat, e.g. home, canteen, picnic;
- beliefs and values, e.g. religion, culture and tradition.
- social aspects, e.g. special occasions, events.
Types of test

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 and include hedonic, paired comparison and scoring.

Worksheet / Template
Types of test

**Discrimination Tests**
These types of tests aim to evaluate specific attributes, i.e. characteristics of products (crunchiness).

They are objective tests and include triangle, duo trio, ranking and paired comparison.

*Worksheet / Template*
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Next eSeminars …

12.30pm – 1.00pm 17th February 2011
Omega 3 Fatty Acids and Heart Disease
Parveen Yacob

6.30pm - 7.00pm 24th February 2011
Red Meat in the diet
Laura Wyness

Register:
http://www.foodafactoflife.org.uk/section.aspx?t=0&siteId=19&sectionId=96
For further information, go to:

www.foodafactoflife.org.uk

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