UNDERSTANDING YOUR FOOD
*the ultimate educational resource*

# TEACHER NOTES

## F1. What's in a flavour

Pupils make vanilla flavoured milky drinks, set up a tasting panel to judge their flavour and also consider relative costs, etc.

*Setting up the tasting panel*

Devising taste panels, which will give representative results, is quite a difficult process. It is obviously better to use as large a number of tasters as is possible. Suggested questions include asking volunteers to award the smell, taste and colour of each drink using a scale of 1 - 5, (5 being 'very pleasant' and lower numbers being gradually less pleasant 0.

If each drink is sampled only once by each taster, the three drinks must be given to each taster in a different order; this compensates for palatability differences.

A basic rule of *taste panels* is that tasting must always be *blind*, e.g. samples are labelled A, B and C. This eliminates any possibility of bias on the part of the taster. Hygiene must be taken into consideration. It would be preferable to supply the tasters with the drinks in small containers, such as those used for liquid medicines. This would also ensure that each taster received the same volume of drink.

*Other considerations*

For the purpose of the exercise, pupils may wish to know the relevant prices. In 1998, the costs were as follows:

- vanilla pod, £1.77, for a single pod
- vanilla extract, £1.07, for 38ml
- vanilla flavouring, £0.37, for 38ml

On the basis of taste tests and cost, pupils will be able to make suggestions as to which product should be used to produce a milky drink which tastes of vanilla. The ingredients labels on each product provide further discussion points.

- Vanilla pod - does not have a list of ingredients; it contains only the vanilla pod, which contains around 100 individual flavouring components.
- Vanilla extract - propylene glycol, water, vanilla extract. The extract contains the same flavouring components as the pod.
- Vanilla flavouring - water, isopropanol, propylene glycol, colour: caramel (E150), artificial flavouring substances, flavouring substances identical to natural substances. Vanilla flavouring contains the most important flavouring components (approximately 10 of the 100 in a vanilla pod) in terms of their contribution to flavour.

***KS3/4***
***food technology***

***Timing - 40 - 60 minutes*** *depending on the way the drinks are tested. One week prior to the investigation, store 2 vanilla pods in 100g of ordinary sugar; seal and shake occasionally. This will produce 'vanilla sugar'.*

*Pupil activity sheet F1 accompanies this activity.*

*Requirements*

- *25 g of 'vanilla sugar'*
- *50 g of ordinary sugar*
- *1.5 $dm^3$ of milk*
- *vanilla pods (e.g. Schwartz)*
- *vanilla extract (e.g. Supercook*) - natural essence*
- *vanilla flavouring (e.g. Supercook)*
- *various containers in which to mix the drinks, etc.*
- *small containers to use for the tasting, e.g. those used for liquid medicines.*

* *Supercook are not the only producers of these products. However, it is essential that you obtain a natural extract and a flavouring.*

*Propylene glycol is a permitted additive. It does not have an E-number, because it is only used as a solvent (carrier) for other food additives which are not water soluble e.g. some flavourings.*

*Isopropanol is also a permitted solvent. In this case, it is being used as an anti- mould agent.*

# WHATS IN A FLAVOUR?

Probably one of the most important sensations that we gain from the food we eat is taste. Our sense of taste is really a combination of the sense of taste and the sense of smell. Our noses, tongues and taste buds are sensitive to many thousands of different chemicals.

Imagine that you are in charge of the catering for a primary school tuck shop which looks after children between the ages of 4 -11 years. All of these children like to have milky drinks at certain times of the day. Some of the parents of the older children would like the milky drinks to taste of vanilla.

You can easily buy vanilla in 3 different forms:

- vanilla pods - the part of the plant which contains vanilla;
- extract of vanilla - this is a natural essence produced from vanilla pods;
- vanilla flavouring - this is a 'copy' of vanilla.

Which of these alternatives would be most suitable to be used at the shop?
The following investigation may help you to answer this problem.

## Method

One week before the investigation, store 2 vanilla pods in 100 g of ordinary sugar. Put this into a container with a lid. Shake the container occasionally during the week. This will make 'vanilla sugar'.

1. Make up the samples of milky vanilla drinks as follows:
   a. Dissolve 25 g of 'vanilla sugar' in 500 $cm^3$ of milk.
   b. Add 4 drops of natural vanilla extract to 500 $cm^3$ of milk. Dissolve 25 g of ordinary sugar in this milk.
   c. Add 2 drops of vanilla flavouring to 500 $cm^3$ of milk. Dissolve 25 g of ordinary sugar in this milk.
2. Devise a tasting test in which you will ask volunteers to compare the 3 drinks. You must make sure that this is a fair test. Think about what questions you will ask your volunteers.
3. Find out how much each of the forms of vanilla costs. Comment on this.
4. Look at the ingredients label on each of the products. Comment on this.
5. Think about other advantages and disadvantages of each product.
6. Write a report which details all of your findings and suggests the most suitable way of producing milky drinks that taste of vanilla.