

# BIG QUESTION: Does our sense of touch influence taste?

## EXPERIMENTAL PROCEDURE

1. Explain to the children that they will be performing investigations into how our sense of touch can affect our eating experience.
2. Two sets of identical plateware are needed, each comprising a bowl, side plate and dinner plate. One of each of these will be customised and covered in a rough texture, while the others will be left smooth and shiny.
3. Carrying out their own fair tests the children will explore how eating foods from these different textures of plateware can affect mouthfeel and taste.
4. Tell the children to make their textured plateware.
5. **ASK:** What could we coat the plate with to give it a rough, bumpy feel?
6. Children may suggest materials such as sand, gravel, sandpaper and they should be given time to prepare their plates and leave these to dry thoroughly. Aqua gravel or washed sand is a good material to use. It can be glued with PVA glue.
7. To perform the activity the children will display the two sets of plateware stacked in order of size; dinner plate, side plate and bowl. See example image. In each bowl, put a smaller clear plastic bowl filled with pieces of plain biscuits, enough pieces for 1 per child in each bowl. (Lotus original caramelised coffee biscuits are good for this experiment).
8. Working in small groups, each child should take a piece of biscuit from the rough, textured plateware. Tell them to eat the piece of biscuit and simultaneously touch and stroke the textured plateware.
9. They should think about how the biscuit feels in their mouth and how the biscuit tastes. Tell the children that there are no right or wrong answers and they should not comment until they have completed the whole activity.
10. Repeat the experiment, eating a piece of biscuit from the smooth plateware and asking the same questions.
11. **ASK:** Was there a difference in how the biscuit from the rough bowl and the biscuit from smooth bowl felt in your mouth? Write down your answers.
12. **ASK:** If you noticed a difference between the two biscuits, can you describe the difference? Write down your answers
13. **ASK:** Was there a difference in the taste of the biscuit from the rough bowl and the biscuit from smooth bowl? Write down your answers
14. **Ask:** Did you eat one piece of biscuit faster than the other?
15. It may be helpful to tell the children to repeat the experiment bearing in mind the questions they have been asked.
16. On completion of the activity, there could then be a group discussion about the two mouthfuls and how each one felt in the mouth. The children may comment on differences in taste too. Tell the children that they can feedback their responses to us to help our research.
17. The biscuit is normally rated as being noticeably crunchier and harder when sampled from the rough textured plate. Sometimes the reverse can happen and this is an area that requires further research. Children may comment on the taste of the biscuits, the rough texture can often heighten saltiness; the smooth texture can heighten sweetness. Again, remind children that there are no right or wrong answers.
18. Explain to children that scientists will refer to this effect as a 'cross modal response'; when one sense affects another sense, i.e. what we are touching with our hands can affect how food tastes and feels inside our mouth. Ask if the children can think of any real examples or their own experiences of this.
19. Refer back to Module A3: Sight: coloured drinks; how sight can affect taste and perception and Module D1 Hearing: how sound can affect mouthfeel and taste. Remind children that all of our senses come into play when tasting food, and this is referred to as a 'cross modal response'.
20. Refer back to Module A4: Kiki and Bouba.  
**Ask:** Which mouthful would you describe as Kiki and which as Bouba? Why?

## RESOURCES

In Kit

- For the teachers' reference only, we provided a sample of sandpaper and some soft fabric. The teacher can explore how the feel of each sample can affect 'mouth-feel' and explore eating different types of foods when testing this out, i.e. ice cream, smooth fruit mousse

## RESOURCES

To source

- 2 Sets of identical plates per group
- PVA glue and spreaders
- Selection of rough textured materials: aqua gravel/washed gritty sand/sandpaper, and any others suggested by children
- 2 packets of biscuits (Nice/Lotus original caramelised coffee biscuits)

### WHAT NEXT?

Children could perform their own 'cross modal' enquiries, sourcing new and different textures and devising alternative ways to test what effects these may have on the mouth feel of foods. They could also explore the idea of 'experiential dining' by creating different dinner table 'sets', and investigating how weight, colour and texture of plates, bowls and cutlery can affect perception and taste of foods. Perhaps they could elaborate on these ideas and design a Mad Hatter's tea party, to include differently textured table cloths, furniture and table objects. Food in portions (slices exactly the same size and shape) could be presented on differently coloured, shaped or textured plateware so that preferences and reactions can be measured and recorded.