BIG QUESTION: Does the type of sound (pitch) affect taste?

EXPERIMENTAL PROCEDURE

1. Set the scene by telling the story.
2. Remind children about sweet and bitter tastes, asking them to discuss their favourite sweet and bitter foods in order for you to assess their understanding.
3. Explain to children that you have downloaded two soundscapes for them to listen to while simultaneously eating a sample of chocolate. One soundscape is at a higher pitch, than the other. They will be played to the whole class so that the activity can be performed as a group.
4. **ASK:** Which soundscape do you prefer? Write down your answer
5. The children will then eat their first piece of chocolate while listening to soundscape 1 and then again with soundscape 2
6. **ASK:** Did the chocolates taste the same? Did they taste different?
7. **ASK:** If they tasted different, how did they taste? Write down your answer.
8. **ASK:** Did one taste sweeter than the other one?
9. The children could make a sliding scale using a strip of paper and a paper clip. They could write 'sweet' at the left end of the paper and 'bitter' at the right end of the paper and use the paper clip to show exactly where they perceived the taste of each piece of chocolate to be on the scale. This provides a useful tool to compare and discuss taste perception with others.
10. It is important to explain that there are no right or wrong answers in this type of investigation, however, common responses are that high pitched sounds heighten sweetness and lower pitched sounds heighten bitterness.
11. Do the results show that perception of sweetness or bitterness correlate with their preference for the soundscape?
12. The children could then try further investigations with samples of other foods such as fruit, savoury foods, tomato ketchup etc. Ask them to think about and record: Does the pitch of the soundscape heighten or reduce other tastes like umami, salt, sour? The children should compare their findings and look for patterns in results.
13. Children should use all of the information collected to write a response to the cook, explaining how it might be possible to make the elderly residents' food more interesting, using differently pitched soundscapes.

OUTCOMES AND IMPLICATIONS:

Over recent years there has been an increased interest in studies that show how altering the sounds used to accompany eating can affect the way food tastes. This has huge implications for cafes, restaurants and bar owners and means that not only is the type of background music important but also the actual instruments chosen and the pitch at which the music is played. Does this mean that we can make healthier food appear to taste sweet just by playing high pitched music? What music would you choose for your school canteen?

WHAT NEXT?

Children could progress to exploring different sounds, like percussion instruments and see if foods taste different when listening to a triangle versus a drum? This is a great opportunity for children to perform their own science investigations, become young researchers and explore further how different types of sounds can affect taste. Teachers can upload any significant findings onto the FSN resource portal, which can be fed back to the Crossmodal Research Lab at Oxford University.