

# Adult Guidance

## Tooth Decay Enquiry - Part 1

### Scientific and Non-Scientific Questions

Children will come across many different types of questions in other subjects. Therefore it is important to ensure that they understand that scientific questions need to be testable. Questions such as "what do you want for dinner?" are personal and cannot be tested for an outcome! The point of scientific questions is to:

- Find new information
- Test ideas
- Confirm / reject ideas and previous tests.

If children are struggling with scientific questioning then scaffold the questions more e.g. Do drinks with \_\_\_\_\_ cause tooth decay? That way the children can add their ideas: sugar, water, milk, etc. It is fine for them to test with hot or cold drinks but not both as it then becomes two independent variables that they are changing (type of liquid and temperature).

Remember that scaffolding to support questioning should be done in a way that means children can create a scientific question and which enables them to define the dependent variable in some way.

### Simple Practical Enquiries, Comparative and Fair Tests

The expectation in Year 3 and 4 is that children will be able to set up and conduct these types of enquiries and tests. The creation of the enquiry / test can still be supported and scaffolded. This is essential for all children as they cannot be expected to create their own enquiries / tests if they have no experience of them and have not been given support to master each of the elements.

The focus is on understanding and applying. One of their conclusions in the end may be that they chose the wrong enquiry type and they could identify what they should have chosen instead. This does not take away from their experience but does enable them to gain a greater understanding of what scientists actually do and the changes, refinements and modifications that take place in the real world of investigating ideas.