

Food preparation and Nutrition

Unit 3 - Food Science

Knowledge Organiser

Name:

Teacher:

Form:

Food science is about the understanding of the **functional and chemical properties of ingredients**. The **functional properties** refers to what an ingredient does within a recipe. E.g. Within a cake recipe the flour creates the structure of the sponge. The sugar reinforces the structure as well as adding sweetness. The butter adds moisture to the sponge and coats the grains of flour due to its plasticity which helps to prevent long gluten chains from forming.

The **chemical properties** refers to what ingredients are composed of and how this affects their functions. A good example of this is the composition of flour. Different types of flour contain different ratios of starch, protein and fibre which is why different types of flour are better suited to different recipes.

Gelatinisation

Starch, the main component of flour, has the property of being able to gelatinise within a sauce causing it to thicken.