FUNCTIONAL PROPERTIES OF EGGS

Amended from: https://www.tes.com/teaching-resource/eggs-6106479
Watch the video
15 AMAZING FACTS ABOUT EGGS (6min09)
https://www.youtube.com/watch?v=h3G7ZEQz-UE

Revises the nutritional value of eggs and functional properties
**Uses/functions of eggs in cooking**

**Emulsification:**
Oil and water mixed together form an emulsion, but this will only last a short while then separate. The lecithin in egg yolks keeps the emulsion stable.

Example: mayonnaise

**Trapping air:**
The protein in the egg white stretches when beaten and traps air.

Example: cake making

**Coagulation:**
This is when the egg sets the mixture once it has exceeded 70°C.

Example: quiche filling

**Glazing:**
Before cooking foods can be brushed with beaten egg. During baking the egg glaze goes golden brown.

Example: pasties, sausage rolls

**Coating:**
Foods can be brushed with egg then dipped in breadcrumbs. During cooking the egg coagulates (sets) and holds the product together.

Example: fish cakes

**Binding:**
The egg sets when cooked sticking other ingredients together.

Example: burgers

**Thickening:**
Egg white coagulates (sets) at 60°C, the yolk sets at 70°C, so when these temperatures are reached they begin to set and thicken the mixture. Do not allow to exceed these temperatures of the mixture will set fully and curdle (scramble).

Example: custard

**Garnish:**
Eggs can be used to add garnish (decoration) to foods either poached or boiled and sliced.

Example: salad

**Enriching:**
Adding richness and extra nutrition to foods.

Example: rich shortcrust pastry

**Coagulation:**
This is when the egg sets the mixture once it has exceeded 70°C.

Example: quiche filling

**Binding:**
The egg sets when cooked sticking other ingredients together.

Example: burgers
Uses of Eggs

- **Aerating** makes a mixture lighter. Fats, eggs and sugar are used for aerating.
- **Binding** helps to stick ingredients together. Fats, eggs, cereals and flour are used for binding, e.g., egg is used to bind together a biscuit mixture.
- **Browning** adds a layer of colour to the mixture. Fats, eggs, cereals, sugar, milk, flour and oil are used for browning, e.g., when heated, egg glaze or sugar turns brown adding to the appearance of the food.
- **Emulsifying** uses eggs to help mix two liquids that would normally stay separate, such as water and oil.
- **Flavouring** helps to make something taste better, by adding fats, eggs, pulses, fruit, sugar, milk or oil.
- **Moistening** helps to remove the dryness from foods. Fats, eggs, fruit, sugar, milk or oil are used for moistening.
- **Setting** uses eggs to make foods firm.
Stabilising helps food to keep its structure. Eggs and flour are used for stabilising.

Thickening is the use of eggs, pulses, cereals and fruit to thicken liquids such as milk. (Usually heat is applied, as in the making of egg custard).

Volumising is the use of eggs to increase the volume or amount of space occupied by a substance. For example egg whites will trap air when whisked/beaten and will produce a mass of bubbles called a 'foam' - a process used in the making of meringues.