PROPERTIES OF PROTEIN REVISION SHEET

(1) Denaturation
- Change in 'nature' / 'structure' of protein
- Protein chain unfolds
- Caused by heat, chemicals or agitation
- irreversible

(2) Heat
- Coagulates / sets
- Egg whites @ 60˚C egg, yolk 68˚C

(3) Maillard Reaction
- Example of a non-enzymic browning (roasting / baking / grilling)
- Amino acid +Carbohydrate + dry heat =brown colour
- E.g roast potatoes / toast

(4) Elasticity
- Some proteins e.g gluten (wheat) have an elastic property
- Allows for the rising of baked products

(5) Chemicals
- Acids/ Alkalis/ Alcohol/ Enzymes change protein structure
- e.g lemon juice (acid) curdles milk
- e.g rennin (enzyme) coagulates caesinogen

(6) Foam Formation
- Whisk egg white air bubbles unravel protein chains
- heat produced slightly coagulates egg
- foam will collapse unless heated
- e.g meringue

(7) Agitation
- Mechanical action
- Whipping / whisking
- Protein chain unfolds
- Slight coagulation

(8) Gel formation
- Collagen + heat = gelatine
- gelatine absorbs large amounts of water forming a solution
- a gel is a semi-solid viscous solution
- used in cheesecakes and soufflés

(9) Solubility
- Insoluble in water
- Exception egg white is soluble in cold water