

Y10 – KO8b - GCSE FOOD PREPARATION AND NUTRITION: FOOD SCIENCE: CARBOHYDRATES

A GELATINISATION		
	TERM	EXPLANATION
1	GELATINISATION	<ul style="list-style-type: none"> • Helps to thicken foods that contain starch. • When the granules are heated with water the bonds between the starch molecules start to break allowing water molecules to enter. As water is absorbed the starch granules swell in size and soften. • Between 62C and 80C the granules burst open and release the starch into the liquid. • The release of starch causes the liquid to thicken. • When it cools the liquid solidifies and a solid gel is formed. • Gelatinisation also happens when you cook starchy foods like pasta and rice.
2	WHAT CAUSES GELATINISATION	<ul style="list-style-type: none"> • Heating starch.
3	EXAMPLES OF GELATINISATION IN COOKING	<ul style="list-style-type: none"> • Sauces. • Custards. • Gravies.

B DEXTRINISATION		
	TERM	EXPLANATION
1	DEXTRINISATION	<ul style="list-style-type: none"> • When starchy foods are cooked with dry heat the starch molecules in the food break down into smaller molecules called dextrans. • The breakdown is called dextrinisation and it gives food a browner colour, crispier texture and a different taste.
2	WHAT CAUSES DEXTRINISATION	<ul style="list-style-type: none"> • Caused by dry heat – the longer the food is cooked the more starch is converted into dextrin and therefore the food becomes more dark and crispier.
3	EXAMPLES OF DEXTRINISATION IN COOKING	<ul style="list-style-type: none"> • Toast. • Biscuits.

C CARMELISATION		
	TERM	EXPLANATION
1	CARMELISATION	<ul style="list-style-type: none"> • Sugar molecules break down when they reach high temperatures – this causes sugar to turn brown and change flavour. • The sugar goes through various stages before it becomes caramelised. • Caramelisation gives desserts an extra sweet taste. • Even savoury foods that contain sugars can caramelise e.g onions.
2	WHAT CAUSES CARMELISATION	<ul style="list-style-type: none"> • Heating sugar.
3	EXAMPLES OF CARMELISATION IN COOKING	<ul style="list-style-type: none"> • Crème Brulee. • Apple Pie. • Onions.