

## Food Studies Grade 12

### Tutorial 1 April 2020

1. convenience foods are partly or fully prepared / ready-made by the manufacturer – save time for the consumer;
2. Frozen foods retain nutrients well as frozen soon after harvesting; some convenience foods are low in fat / high in fibre / low in sugar / low in salt responding to health awareness of the consumer; trans fats have been removed from many food products in response to awareness of the damage they cause; additives can replace high sugar content of foods aspartame; tinned fruit high in nutrients packed in natural juices not syrup; street food stalls / supermarkets offer ready-made salads wide variety of vegetable / fruit ingredients; healthy snack available pieces of fruit / bags of dried fruits / bags of nuts; portion sizes of ready-meals are appropriate / measured averts tendency to overeat; products / ready-meals available for special diets gluten free / lactose free huge range of ready meals / product choice available provides variety of ingredients / avoids repetition; labelling allow people to assess nutrition intake; some foods like cereals are fortified;
3. Dehydration: water removed so bacteria cannot multiply without water;

food becomes sweeter / more salty / more concentrated / smaller in size;  
some vitamin C / vitamin B1 (thiamine) / water soluble vitamins may be  
lost; no specialised storage conditions needed just cool / clean / dry area;  
e.g. fruit, meat, fish, herbs, spices, coffee, pulses;

Cook-chill foods are prepared and cooked in the factory; food is chilled  
rapidly to below 3 °C to remove heat / prevent growth of bacteria; food  
should be stored at a temperature of between 0 °C and 3 °C to retard /  
prevent growth of microorganisms; food must be reheated until centre  
reaches at least 72 °C; can only be kept for a few days; can only be reheated  
once;

Convenience foods are quick to prepare / save time in cooking and  
preparation; saves fuel energy due to fewer cooking processes / quick  
reheating / people have microwaves for easy reheating of food; may be  
cheaper / less waste than making meal from scratch / no need to buy  
separate ingredients; require little skill / can be used by people with limited  
skills / easy to prepare / may include cooking instructions; may have extra  
nutrients added; less equipment needed; less washing up / can be cooked  
in and eaten from the container; can be stored / long shelf life / people have  
freezers for easy / safe storage of food / shopping can be done less often /  
can be used for emergencies; good range of products available / likes and  
dislikes of family members can be easily catered for; can buy in one  
portion sizes / portion control / suit people living on their own / good for

families who eat at different times; often have nutrition labelling for information; ranges for intolerance / allergy / healthy option; consistent quality / result; can be used as components of meals; able to eat foods when not in season; able to experience food from other cultures; can be easily transported;

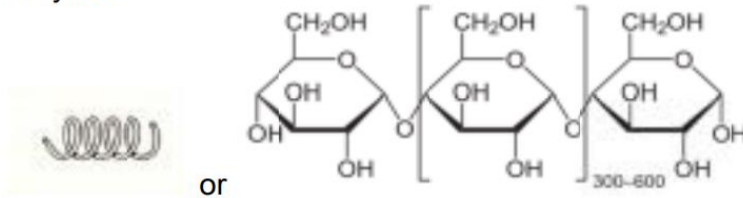
4. Overfishing – may choose fish that are caught sustainably/not in short supply/choose farmed fish; trawling – may choose fish that are pole and line caught, not trawled; organic crops – may prefer crops that have not been sprayed with herbicide/pesticide/ fertiliser; food miles – may choose foods that are locally sourced; packaging – may choose products that have limited packaging; packaging – may choose products that have recyclable/biodegradable packaging; intensive farming – may buy free range meats/eggs or avoid commercial giants like Birds Eye; GM foods – may avoid because of unknown effect on biodiversity; fair trade – may choose to buy because of known care to environment; reduce amount of meat in diet – reduces carbon footprint/ arable farmland produces higher yield for plants;

5.

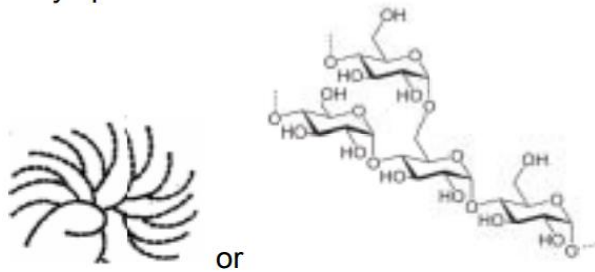
amylose is part of the starch molecule – its structure is linear – and coiled into a helix – and made up of 1,4 linked alpha glucose units – joined by glycosidic bonds – in a condensation reaction;

amylopectin is made up of 1,4 linked alpha glucose units and 1,6 alpha glucose units – creating a branched and not coiled molecule;

amylose:



amylopectin:



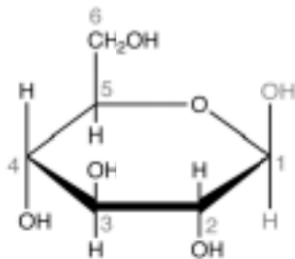
6. maltose, glucose , maltase

7. Raffinose. Promote growth of good bacteria in intestine, act as dietary fibre

8.

cellulose – is made up of many  $\beta$ -glucose molecules connected together at carbon atoms 1 and 4 along the polymer chain;

cellulose molecule is long chains of  $\beta$ -glucose molecules lying in parallel connected by hydrogen bonds;



9. Arguments for: greater yield – increased population needs increased food production; insect resistant and / or herbicide tolerant crops – useful in climates with insect / locust problems; also fungal and virus resistant crops; salt, cold or drought tolerance – for dry / arid countries; crops with increased nutritional value – valuable for people with malnourishment; fewer resources used – more environmentally friendly to not apply herbicide / pesticide / fertiliser; decreases the severity and frequency of chemical pollution; genetically engineered chymosin – from fungus – used to make cheese can save the need to raise and slaughter calves – that are expensive to feed and take up land that could be used for crops; more effective way of producing animal feed – to feed animals cheaply – using less grazing land – and producing meat more cheaply for those who have low incomes;

Arguments against: safety concern relates to the human health implications of eating genetically modified food; whether naturally occurring toxins would increase in the plant; whether new toxins would develop in the plant; whether a new allergen could develop in the plant; whether levels of nutrients would be affected; concerns over gene flow into related crops / weeds from the inability to contain pollen movement – development of superweeds; or unknown effects on beneficial organisms – which may impact on biodiversity by the removal of all weeds in the normal arable rotation – upon which insects and birds thrive; ethical concerns involve religious issues – playing God; corporate control of the food supply – the issues surrounding intellectual

property rights; concerns over the level of labelling needed on genetically modified products; erroneous / ambiguous safety testing of GM crops whereby a crop is deemed to be safe if it is 'substantially equivalent' to its non GM counterpart crop; starving people in developing countries are denied access to food because of complex political, social and economic factors which deny them land and money – it is not because food is unavailable in their country but it is because food is made unavailable to those particular groups of people in their society;

10. Cash crops is an agricultural crop which is grown for sale to return a profit – a marketed crop – beneficial to the economy – often exported – not a subsistence crop – which is grown to feed a family or a family's animals – examples included

11. In Less Economically Developed Countries cash crops that are grown tend to be ones that attract demand in developed countries – have export values; More Economically Developed Countries may find it difficult to export because of low tariffs and subsidies – MEDC able to export to developing nations at low prices – LEDC have to compete with the low prices set by the MEDC; land is used in LEDC for large farms that are owned by large corporations – locals are employed on the farms – paid very little – despite huge profits for the owners; locals may subsistence farm to feed themselves –

but do not harvest enough to sell and enable reinvestment; LEDC may export crops whilst their native people go hungry;