GCSE Food Preparation and Nutrition

Component	Assessment type	Time and marks	% of qualification
Food prep and nutrition	**Written exam paper**	**100 marks** **1.5 hours**	**50%**
Food preparation task (3 hour cooking exam)	Coursework	105 marks	50%

Areas of study for the exam:

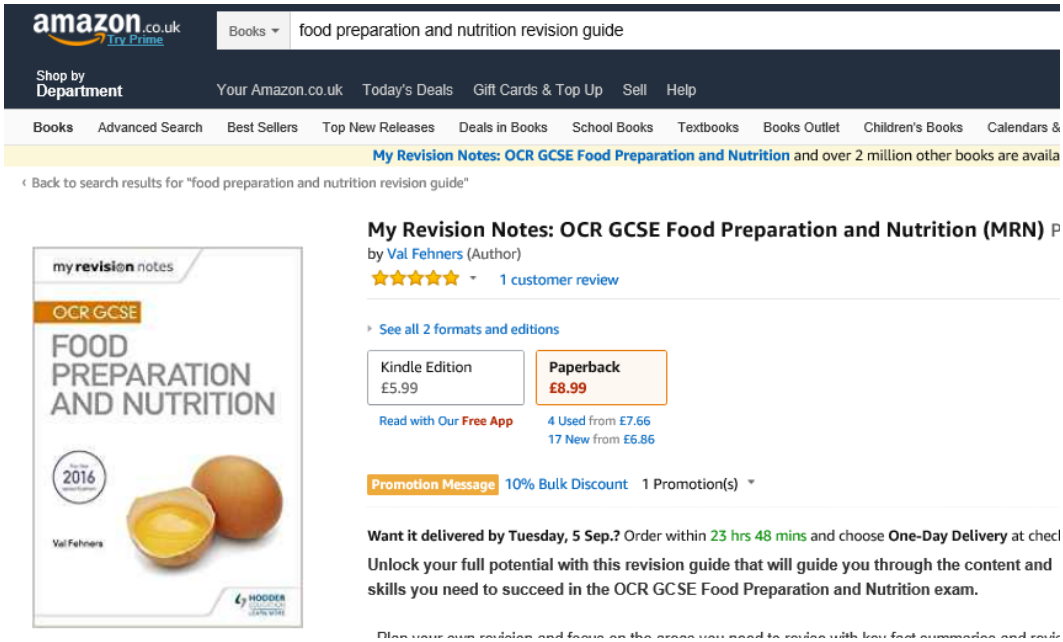
A. **Nutrition**: This section will develop your knowledge and understanding of the nutritional content, functional properties and chemical processes of food and drinks. You will learn about the relationship between, diet, nutrition and health, as well as the effects of poor diet and health. ***This will be covered in year 10 Sep – Dec and all of this work is in your book and was also covered each week in your revision tasks.***

B. **Food (provenance and choice**): This section will help you to understand the economic, environmental, ethical and socio-cultural influences on food availability, production processed and diet and health choices***. This will be covered in year 10 Jan-April and all of this work is in your book and was also covered each week in your revision tasks.***

C. **Cooking and food preparation**: In this section of the course you will demonstrate your knowledge and understanding of functional and nutritional properties, sensory qualities and food safety considerations when preparing, processing, storing and cooking and serving food. ***This will be covered in year 10 April – July and all of this work is in your book and was also covered each week in your revision tasks.***

D. **Skill requirements, Preparation and cooking techniques**: In this section you will demonstrate effective and safe cooking skills when planning, preparing and cooking using a variety of food commodities, cooking techniques and equipment. You will explore a range of ingredients and processes from different culinary traditions, including traditional British cuisine and other international cuisines. ***Covered throughout during practical (knife skills, preparation and techniques, cooking methods, sauces, set a mixture, raising agents, dough, judge and change sensory properties)***

Revision Guide



Section A: Nutrition

Topic 1	**The relationship between diet and health** • Eatwell guide & portion size of 5 a day (80g / 150ml juice) • Food labelling (traffic light) • Obesity & BMI • CHD, Type 2 diabetes, diverticulitis, osteoporosis, dental health, anaemia, cholesterol • Guidelines on fish intake GCSE POD AND YOUR BOOKS https://www.nhs.uk/live-well/eat-well/the-eatwell-guide/ https://www.nhs.uk/live-well/eat-well/how-to-read-food-labels/ https://www.nutrition.org.uk/healthyliving/healthissues.html https://www.nhs.uk/live-well/eat-well/fish-and-shellfish-nutrition/ https://www.youtube.com/watch?v=OZOIEYQ0axo&list=PLXVl8Mt9AJ_qlI4FVE41vterGuB87YZT1&index=9
Topic 2	**Nutritional and dietary needs of different groups of people** • Toddlers • School children • Adolescents • Adults • Pregnancy and breastfeeding (lactating) women • Allergies and intolerance's (gluten - coeliac / lactose / nuts) • Dietary reference values GCSE POD AND YOUR BOOKS https://www.nutrition.org.uk/healthyliving/lifestages.html https://www.nhs.uk/conditions/pregnancy-and-baby/healthy-pregnancy-diet/ https://www.coeliac.org.uk/home/ https://www.nhs.uk/conditions/pregnancy-and-baby/breastfeeding-diet/
Topic 3	**Nutritional needs when selecting recipes and cooking for different groups of people** • Modify a recipe to lower fat, sugar, salt, increase fibre. (Change ingredients or add ingredients, cooking methods, portion size, check labels)

	GCSE POD AND YOUR BOOKS
Topic 4	**Energy balance** • Why is energy needed • Looking into weight gain / loss • Basal metabolic rate / pal • Factors that influence energy requirements (gender, age, activity levels, pregnancy and breastfeeding, occupation size and body weight) GCSE POD AND YOUR BOOKS https://www.youtube.com/watch?v=VEQaH4LruUo
Topic 5	**Macronutrients – Carbohydrates** • Simple sugars (monosaccharide = glucose and disaccharide = lactose). Broken down quickly by body • Complex (polysaccharide = starch and NSP non starch polysaccharide = FIBRE). Broken down slowly by the body. • Fibre 30g per day, not digested by the body, cleans bacteria from wall of intestines. Constipation and diverticular disease. • Sources of fibre = FRUIT AND VEGETABLES. Insoluble and soluble. GCSE POD AND YOUR BOOKS https://www.nutrition.org.uk/nutritionscience/nutrients-food-and-ingredients/carbohydrate.html
Topic 6	**Macronutrients – Fats** • Saturated and unsaturated – the difference • Omega 3 • Source of fat, function of fat, deficiency of fat • Reducing fat in your diet – how? GCSE POD AND YOUR BOOKS https://www.nutrition.org.uk/nutritionscience/nutrients-food-and-ingredients/fat.html
Topic 7	**Macronutrients – Proteins** • Amino acids, HBV/LBV, Food combining, sources of protein, function of proteins (energy, growth and repair) deficiency of protein (stunted growth) GCSE POD AND YOUR BOOKS https://www.nutrition.org.uk/nutritionscience/nutrients-food-and-ingredients/protein.html
Topic 8	**Micronutrients – Vitamins** • Fat soluble (A,D,E,K) Function / sources / deficiency • Water Soluble (B & C) Function / sources / deficiency • How to prevent the loss of water soluble vitamins when cooking • Fortification (adding of vitamins and minerals to foods) GCSE POD AND YOUR BOOKS https://www.nutrition.org.uk/nutritionscience/nutrients-food-and-ingredients/vitamins.html https://www.bbc.co.uk/bitesize/guides/zmqth39/test https://www.bbc.co.uk/bitesize/guides/zmqth39/revision/1 https://www.youtube.com/watch?v=wHH39VJEh9E&list=PLXVl8Mt9AJ_qll4FVE41vterGuB87YZT1&index=14

Topic 9	**Micronutrients – Minerals, function / deficiency and sources** • Iron • Calcium • Sodium (salt) • Fluoride GCSE POD AND YOUR BOOKS https://www.nhsinform.scot/healthy-living/food-and-nutrition/eating-well/vitamins-and-minerals
Topic 10	**Water** • What does water do in the body (regulates body temp, helps kidneys flush out toxins, stops skin from being dry) • Lack of water and dehydration (confusion, headaches, dark urine) YOUR BOOKS https://www.everydayhealth.com/water-health/water-body-health.aspx
Topic 11	**Nutrients in food – the nutrients found in……** • Eggs • Wheat • Fruit and Vegetables • Milk • Meat (muscle fibres and tenderising, meat, offal, poultry) • Fish (white / oily / shell) • Alternative protein foods (quorn and tofu) • Fats and oils YOUR BOOKS https://www.bbcgoodfood.com/howto/guide/ingredient-focus-eggs https://www.waitrose.com/ecom/shop/browse/groceries/fresh_and_chilled/milk_butter_and_eggs/milk https://www.nhs.uk/live-well/eat-well/meat-nutrition/ https://www.quorn.co.uk/

Section B: Food

Topic 1	**Food source and supply** • Cereals and what they are used for (wheat, rice, oats, barley, rye – known as **staple foods**) • Sugar cane and sugar beet (difference) honey and maple syrup • Fruits (citrus, soft/berry / hard) • Vegetables (leaves, fruit, roots, flowers, tubers, seeds / pods) • Seasonality of fruit and vegetables • Intensive farming VS organic / free range • Fish farming – advantages and disadvantages • Fishing methods (trawling, harpooning etc) and sustainable fishing (MSC LOGO) GCSE POD AND YOUR BOOKS https://www.organics.org/organic-farming-vs-intensive-farming/ https://www.hollandandbarrett.com/the-health-hub/food-drink/nutrition/eating-seasonally/ https://www.britishsugar.co.uk/about-sugar/how-sugar-is-made https://wiki.kidzsearch.com/wiki/Staple_food https://www.jamieoliver.com/features/fish-farming-pros-cons/
Topic 2	**Food processing and production** • Primary and secondary processing

	• Milk (pasteurisation, homogenisation, UHT milk, channel island milk) • Flour and bread making • Making pasta (00 FLOUR, knead for strong gluten, extruder) • Butter (churning and addition of salt) • Cream • Yoghurt (pasteurised, homogenised, bacteria added left to become acidic and then fruit / flavourings added) • Cheese (pasteurised, homogenised, starter bacteria is added, curds and whey, milled and salt added, left to ripen and mature • Preservation techniques - how?! Advantages / disadvantages? (canning, freezing, cook chill, MAP, Vacuum, UHT, dehydrating, salt and sugar) GCSE POD AND YOUR BOOKS https://www.youtube.com/watch?v=yDYmVSSh6GE https://www.dairycouncil.co.uk/consumers/industry/how-is-it-made/yogurt https://www.youtube.com/watch?v=OoaQVdSXR48&list=PLXVl8Mt9AJ_qlI4FVE41vterGuB87YZT1&index=2
Topic 3	**Food security** • Fairtrade • GM foods (can grow in adverse conditions but long term safety unknown) • Food waste (plan meals and use leftovers) • Carbon footprint and food miles, local and seasonal foods YOUR BOOKS https://www.lovefoodhatewaste.com/ https://www.food.gov.uk/safety-hygiene/genetically-modified-foods https://www.fairtrade.org.uk/
Topic 4	**Technological developments to support better health** • Fortification of foods (all flour is fortified with iron by law) but cereals and fruit juice too. Replaces nutrients lost in processing and makes products similar – margarine is fortified with A&D to make it more similar to butter) • Use of additives (fierce penguins attack evil frogs) flavourings and colourings, preservatives, antioxidants, emulsifiers and enhancers (MSG). think of canning peas – colour is lost, strawberry yoghurt, flavouring and colours! Hyperactivity and not natural! • Prebiotics (yakult) • Functional foods (flora proactive which actively reduces cholesterol) YOUR BOOKS https://www.food.gov.uk/safety-hygiene/food-additives https://www.yakult.co.uk/?gclid=EAIaIQobChMI_bvI2YD16AIVn4BQBh1SOA8xEAAYASAAEgITkPD_BwE http://news.bbc.co.uk/1/hi/health/6979976.stm
Topic 5	**Culinary traditions** • Staple foods (widely available, inexpensive, basis for lots of meals, starchy carb) • British cuisine (roast dinners, fish and chips, apple pie and custard) • Chinese, Indian, Italian, Mexican • Herbs and spices YOUR BOOKS
Topic 6	**Factors influencing food choice** • Cost, skills, trends, religion, food scares (E-coli, horse meat), health, lifestyle, culture, seasonality. • Religion • Vegetarianism and veganism

	https://www.youtube.com/watch?v=D6eor1wkNFY&list=PLXVl8Mt9AJ_qlI4FVE41vterGuB87YZT1&index=40 https://www.youtube.com/watch?v=I3gSqWiGqrY&list=PLXVl8Mt9AJ_qlI4FVE41vterGuB87YZT1&index=41 https://www.vegsoc.org/

Section C: Cooking and food preparation

Topic 1	**Food science** • Why do we cook food? (make it safe, give flavour and colour) • Heat transfer (conduction, convection and radiation) • Cooking methods (moist methods, dry methods, fat based methods) advantages and disadvantages of these. • Loss of water soluble vitamins and how to prevent this • **Aeration** (trapping air – egg whites – albumin - meringues) • **Coagulation** (to set – proteins in eggs coagulate when heated – scrambled egg and in meat the meat shrinks and goes harder) • **Enzymic browning** (apples go brown when in contact with air, water or lemon juice prevent this) • **Raising agents** (**chemical** = baking powder) (**air** = sieving, creaming butter and sugar in cake) (**steam** = water in choux pastry) • **Plasticity** (spreadable margarine has more plasticity than butter) https://www.youtube.com/watch?v=zjyhMzjDaVI&list=PLXVl8Mt9AJ_qlI4FVE41vterGuB87YZT1&index=3 https://www.youtube.com/watch?v=bJ7uXScRTWw https://www.youtube.com/watch?v=SLAz3oiMi8Q https://www.youtube.com/watch?v=0USi4DbRVVQ&list=RD0USi4DbRVVQ&index=1
Topic	**Sensory properties** • Sensory tests and how to set one up fairly (paired preference, hedonic, ranking) YOUR BOOKS https://www.youtube.com/watch?v=zNchJla7G0E&list=PLXVl8Mt9AJ_qlI4FVE41vterGuB87YZT1&index=10
Topic 3	**Food safety** • Conditions needed for food spoilage = Moisture, warmth, time and food. • Yeasts, moulds and bacteria all require M,W,T,F. • Labelling by law (ingredients, use by or best before date, storage conditions). Low risk foods (dried pasta, sweets) high risk foods (cooked rice and cooked fish) • Food poisoning, types and why has there been an increase? • Storing food (cross contamination) and temperatures Fridge = 0-5 Danger Zone = 5 – 63 Food cooked and checked with a probe = 75 https://www.youtube.com/watch?v=eDUglefygF8&list=PLXVl8Mt9AJ_qlI4FVE41vterGuB87YZT1&index=21 https://www.youtube.com/watch?v=fxncXtUOK1Y&list=PLXVl8Mt9AJ_qlI4FVE41vterGuB87YZT1&index=22 https://www.food.gov.uk/food-safety

Section D: Cooking skills

Topic 1	**Knife Skills** • Bridge and claw, different knives (palette, vegetable, chefs, fileting knife)
Topic 2	**Preparation techniques** • Meat – washing hands, cross contamination. Marinating and tenderising • Fish - What does fresh fish look like? https://www.youtube.com/watch?v=mSVz1jKOTmI https://www.jamieoliver.com/videos/how-to-tenderise-meat-1-minute-tips-french-guy-cooking/
Topic 3	**Cooking methods** • Same as above – poaching, roasting etc
Topic 4	**Sauces** • Roux sauce • All in one (caramel) • Emulsion (mayonnaise) https://www.youtube.com/watch?v=zjyhMzjDaVI
Topic 5	**Set a mixture** • Eggs – coagulation
Topic 6	**Raising agents** • Whisked cake (swiss roll) • Creaming method in cakes • Yeast • Baking powder https://www.youtube.com/watch?v=0USi4DbRVVQ&list=PLXVl8Mt9AJ_qlI4FVE41vterGuB87YZT1&index=1
Topic 7	**Making dough, pastry and pasta** • Pastry (shortcrust, puff, choux, filo) Keeping ingredients cool and resting the fridge. Trapping air and layers if puff pastry. • Bread making (yeast, co2, gluten, MWTF, strong bread flour. Enriched dough is bread with butter and eggs like hot cross buns or brioche. https://www.youtube.com/watch?v=Wnxn_7bjlNk https://www.theguardian.com/science/2014/feb/20/recipe-fat-flour-water-science-pastry
Topic 8	**Garnishing and glazing** • Shaping doughs or decorating pies • Piping potato onto dishes like fish pie • Glazing with jam like Danish pastries • Glazing with egg or milk, like scones or pasties • Using herbs for colour or fruits into shapes for desserts