Key points to learn: Healthy Eating Guidelines

Eat well Plate	A way of showing how much or little of each food group is recommended 
Bread, Rice, Potatoes and Pasta	Aim to eat 5-6 portions a day
	Contains starchy carbohydrates
	Choose higher fibre wholegrain options Try to include starchy carbohydrates in every meal
Fruit and Vegetables	Aim to eat at least 5 portions a day
	Contains sugary carbohydrates, iron and Vitamins A, B group, C, E and K
	You should eat a variety of fruits and vegetables
Meat, Fish, Eggs , Pluses and Beans	Aim to eat 2-3 portions a day
	Contains protein, fat, iron, vitamins D, E and K.
	Aim to eat 2 portions of fish a week. Pulses are a good alternative to meat.
Dairy products.	Aim to eat 2-3 potions a day
	Contains protein, fats, calcium and vitamin K.
	Try lower fat options to keep fat intake low.
Foods high in fat and sugar	Aim to eat as little as possible
	Contains sugary carbohydrate and fats
	Too much of this group can cause obesity and Type 2 Diabetes Try to use unsaturated fats where possible
Water	Drink 6-8 glasses a day
	Keeps body cells hydrated
	Fruits and Vegetables are good sources of water
Calorie	How much energy a food contains per gram
	Women = 2000 a day Men = 2500 a day
	Consuming too many calories can cause obesity and diet related health problems

GCSE AQA Food Preparation and Nutrition Exam Knowledge Organiser Year 10 Autumn 2

Big picture (Food Preparation and Nutrition Exam)

Food, Nutrition and Health

- 1.1: Macronutrients
- 1.2: Micronutrients
- 1.3: Healthy Eating Guidelines
- 1.4: Age Groups
- 1.5:Diet Related Health Problems
- 1.6: Energy Needs and Nutritional Analysis
- 2.1: Menu Planning

Key

Portions

Nutrients

Other Information

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Key points to learn: Macronutrients

Proteins

Builds and repairs muscle tissue.
Made of Amino Acids

High biological value (HBV) proteins can be found in animal products such as meat, fish and eggs. Contain 10 amino acids

Low biological value proteins (LBV) are found in plant products. These are soya, nuts, beans and pulses (Contains less and 10

Slowed growth, prone to infection, poor digestion of food

Fats

Provides energy, keeps us warm and protects vital organs
Saturated – Bad for our health
Unsaturated – Usually a healthier option

Saturated:
- fatty cuts of meat;
- meat products e.g. sausages and bacon
- butter;
- Cheese

Unsaturated:
- seeds
- margarine
- olive oil
- avocados
- nuts.

Lack of fat means less fat soluble vitamins are absorbed by the body

Excess of fat leads to weight gain, obesity, type 2 diabetes, high cholesterol and coronary heart disease

Carbohydrates

Starchy (COMPLEX) – Digests slowly giving us slow release energy (Raises blood sugar levels slowly)

Sugary (SIMPLE)– Rapidly digests and give us quick release energy (Raises blood sugar levels quickly)

Starchy – potatoes, bread, pasta, rice and cereals

Sugary – Found naturally in fruits and vegetables or added in manufacturing in cakes, sweets and fizzy drinks.

A lack of carbohydrates may lead to hypoglycaemia. This occurs when the blood sugar levels drop too low.

Too many carbohydrates store as fat and can lead to obesity and diet related illnesses.

Dietary Fibre

Keeps food moving through the digestive system

Vegetables and fruit, Whole grains, beans and seeds

Lack of fibre leads to constipation, heart disease, high blood pressure

GCSE AQA Food Preparation and Nutrition Exam
Year 10 Autumn 2

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Key

Function

Source

Deficiency (D)

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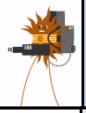
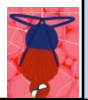
Key points to learn: Micronutrients

Water Soluble Vitamin B1 (Thiamin)	Release of energy from carbohydrates Normal function of the nervous system and heart.	
	Whole grains, nuts, meat, milk, fruit, vegetables and fortified breakfast cereals	
	Nervous system disease	
Water Soluble Vitamin B2 (Riboflavin)	Release of energy from protein carbohydrate and fat. Normal function of the nervous system.	
	Milk, eggs, rice, fortified breakfast cereals, liver, legumes, mushrooms and green vegetables.	
	Dryness and cracking of the skin around the mouth and nose.	
Water Soluble Vitamin B3 (Niacin)	Release of energy from food Normal functioning of the nervous system.	
	Meat, wheat flour, eggs, dairy products and yeast	
	Fatigue and depression	
Water Soluble Vitamin B9 (Folic Acid)	Growth and healthy babies	
	Liver, peas and leafy greens	
	Anaemia, tiredness, weak muscles and mouth sores .	
Water Soluble Vitamin B12 (Cyanocobalamin)	Helps nervous system and makes red blood cells	
	Meat, fish, milk, cheese, eggs, yeast extract and fortified breakfast cereals	
	Tiredness and nerve damage	
Water Soluble Vitamin C 	The normal functioning of the immune system. Formation of collagen for normal blood vessels, bones, cartilage, gums, skin and teeth.	
	Citrus fruits, tomatoes, strawberries, and green veg	
	Anaemia and scurvy	
Fat Soluble Vitamin A 	Normal iron metabolism. The maintenance of normal vision. The normal function of the immune system.	
	Liver, whole milk, dark green leafy vegetables, carrots and orange coloured fruit. In the UK, the law states that margarine must be fortified with vitamin A .	
	Severe vitamin A deficiency in the UK is rare. It can lead to night blindness	
Fat Soluble Vitamin D 	Absorption of calcium and phosphorus. Maintenance of normal bones and teeth	
	Oily fish such as salmon, meat, eggs and fortified breakfast cereals and margarine/spreads.	
	A lack of vitamin D in the body causes rickets in children.	
Fat Soluble Vitamin E 	Vitamin E is an antioxidant and is required to protect cells against oxidative damage.	
	Plant oils such as sunflower, soya, corn and olive oils and their spreads; nuts and seeds	
Fat Soluble Vitamin K 	Clots bloods and helps to heal wounds	
	Leafy greens, cereals, vegetable oils, meats and dairy foods	

GCSE AQA Food Preparation and Nutrition Exam Year 10 Autumn 2

Big picture: Food Preparation and Nutrition Exam

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Key

Function

Source

Deficiency (D)

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Key points to learn
Groups of people: Age

Young Children (2-5 years old)	Small frequent meals due to small stomachs. 300ml a day of milk for calcium and Vitamin A Variety of foods
Children (5-12 years old)	Protein for growth and repair Carbohydrates for energy Small amount of saturated fat Calcium and Vitamin D for health bones and teeth
Teenagers	Need a balanced diet Protein for growth and repair Iron and Vitamin C to prevent Anaemia Calcium and Vitamin D Growth and bone density.
Adults	Need a balanced diet 2500 calories for men 2000 calories for women Iron replaces what's lost in periods Calcium and Vitamin D to prevent bone disease
Elderly Adults	Minimal saturated fat Calcium and Vitamin D to prevent bone disease Vitamin B12 – Keeps the brain health and prevent memory loss Fibre to prevent constipation Vitamin A to maintain good eyesight
Pregnant women	Extra 200 calories a day to support babies growth Increase folic acid to reduce birth defects

GCSE AQA Food Preparation and Nutrition Exam Knowledge Organiser Year 10 Autumn 2

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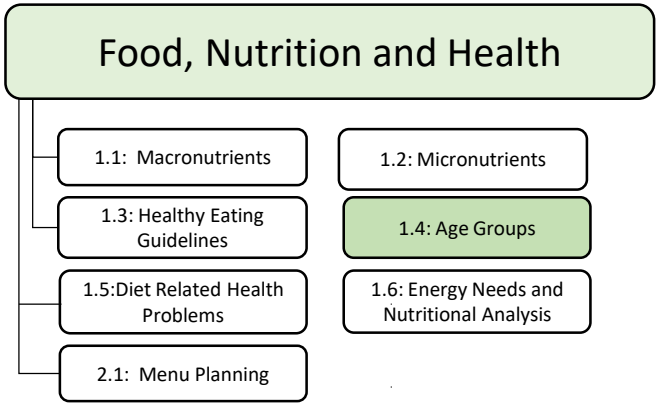

Further Work…..

Can you list example foods suitable for each food group?

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Key points to learn
Diet Related Health Problems

Obesity	Too much body fat A BMI over 30
	Eating more calories than are being burnt off
	High Blood Pressure High Cholesterol Coronary Heart Disease Strokes Type 2 Diabetes Cancer
Coronary Heart Disease	Fat is stored in arteries, narrowing them
	Physical inactivity Too much saturated fat in diet Smoking High blood pressure
	Angina (pain in chest) Blood clots leading to a heart attack
Anaemia	Reduced amount of red blood cells
	Not eating enough iron rich foods Loss of iron through periods Pregnancy
	Tiredness Pale Complexation Heart Palpitations Headaches
Type 2 Diabetes	Blood Glucose levels in the body stay to high
	Being overweight Excessive sugar in the diet
	Poor Eyesight Limb Numbness Kidney Failure
Rickets	Soft and weak bones
	Lack of vitamin D or Calcium
	Fractured bones Physical deformities
Osteoporosis	Brittle and weak bones
	Happens naturally but also caused by a lack of vitamin D or Calcium
	Increased risk of fractured bones
Tooth Decay	Build up of plaque on teeth
	A diet high in sugary foods and drinks and poor dental hygiene
	Cavities

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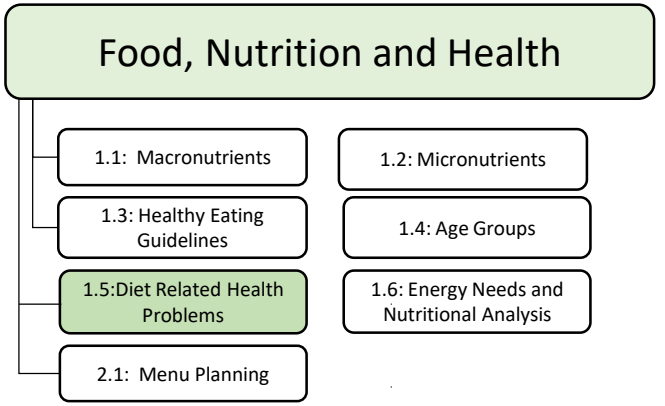

Key

Definition

Causes

Associated Health Risks

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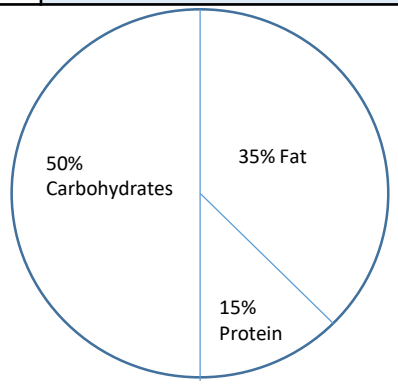
Key points to learn Energy Needs and Nutritional Analysis

Basal Metabolic Rate (BMR)	Smallest amount of energy needed for you to stay alive Affected by – Age, Gender, Weight, Height and Exercise
Physical Activity Levels (PAL)	A measure of how active you are. High more active person will have a higher PAL. I.E Gymnast = 2
Daily Energy Requirement (Kcal)	Kcal = BMR X PAL I.E. 2000 KCL X 1.5 = 3000 Kcal
Nutrition Labels	Found on the back of all packaged food by law.
Recommended Intake	How much of a certain nutrient we should consume each day
Energy Sources	Carbohydrates (ideally starchy) = 50% Fat (ideally unsaturated) = 35% Protein =15%



Energy Values of Macronutrients	Fat (1g) = 9 Kcal Protein (1g) = 4 Kcal Carbohydrates (1g) = 4Kcal
Formula for working out Macronutrients Value	Kcal in fat = grams x 9 i.e 3.7g x 9=63cal Kcal in Carbs = grams x 4 Kcal in Protein = grams x 4
Nutritional Analysis Software	Allows you to input ingredients and weight of each and calculates the energy and amount of nutrients present. Use this to modify your meals to make them more nutritionally balanced.
Reducing Salt	Use less foods that have slat added i.e. parma ham Make your own sauces and stocks Use other herbs and spices to season
Reducing Saturated Fat	Use low fat spreads and vegetable oils Use lean cuts of meat Use low fat cooking methods such as grilling or baking Drain away fat when cooking
Increasing Fibre	Use wholemeal bread, flour and pasta Include more beans, lentils and vegetables in meals. Keep skin on vegetable and fruit where appropriate
Reducing Sugar	Use less sugary condiments such as ketchup Use less sugar when baking Try to use alternatives where possible

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Applying Knowledge

Calculate the energy value of a pork pie
30g Fat, 15g Protein, 30g Carbohydrates)

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