

6.1 The food groups

الكلمة	المعنى	البدائل	النفع	الكلمة
almond	لوز	Alternatives	يُدَافِل	عائدة
dessert	حلوى	Dietary guidelines	المبادئ التوجيهية الغذائية	عزل
Lead	leadership	Limited	محدود	دهون أحادية غير مشبعة
Oat	قمح	pastries	معجنات	دهون غير مشبعة
Process	عملية	quantities	كميات	دهون مشبعة

What is nutrition?

nutrition : تغذية process of taking energy & nutrients from food & drinks to maintain health	
Good nutrition : eating a wide range of foods & having a well-balanced diet.	Poor nutrition can lead to growth problems in children and the development of diseases in people of all ages.
Different foods provide our bodies with various nutrients in different quantities.	
It's not good to have too much of one food or nutrient, you should have a balanced diet.	

Food groups

People can use food groups to understand the types of foods they should be eating to stay healthy. health professionals use food groups to help them to explain healthy eating guidelines to patients.

Each food group is important for health.

Fruit and vegetables (grouped)

Low calories & contain water, it gives the body vitamins, minerals, and fibre.

makes you feel fuller for longer, reducing the chance of overeating.

at least 5 servings every day.

orange, red, and yellow fruit, contain carotenes that help with maintaining a healthy immune system.

In UAE, a study found that only 21% of females and 33% of males in grades 10-12 consume the recommended amount of fruits and vegetables daily.

Milk and dairy products (grouped)

rich calcium & protein Calcium: important mineral for strong bones & has role in muscle contractions.

Dietary guidelines: choose low-fat dairy products.

full-fat versions have high levels of saturated fat (unhealthy fat).



Some dairy foods have vitamin D added to them in the production process, this is called fortification.

Milk Yoghurt recommended : eat 2-3 servings of dairy products every day.

Cheese non-dairy alternatives to milk, such as almond, soy, and oat drinks.

Fats and oils

Functions of fat in the body are to insulate the body and protect vital organs.

Fat provides the biggest number of calories per gram of food.

Saturated fats: not healthy and should be limited (small amounts) in diet.

biscuits, cakes, chocolate, desserts, and the fat on meat.



Trans fat should be limited in diet.

It can increase the low-density lipoprotein ('bad' cholesterol) & reduce the amount of high-density lipoprotein ('good' cholesterol) in the blood.

Monounsaturated and polyunsaturated fats are 'good fats'.

sunflower & olive & rapeseed oil. oily fish: salmon & mackerel are good sources of polyunsaturated fat.

Other foods

foods high in saturated fat, sugar, and salt. These include biscuits, cakes, pastries, desserts, deep-fried food, sweets, chocolate and sugary drinks.

These foods contain a high number of calories and have little nutritional benefit.

shouldn't be eaten every day.

6.2 Nutrients

assists	يساعد	Blood clotting	جلطة دموية أو خثرة	Cereals	حبوب
components	عناصر	Fatty tissues	أنسجة دهنية	fibre	الياف
Fluid	سائل	Infection	عدوى	legumes	بقوليات
Liver	كبد	organs	أعضاء	Refined bread	خبز مكرر
Regulate	تنظيم	repair	ترميم - إصلاح	Soluble	قابل للذوبان
sufficient intake	كمية كافية	Wide variety	تشكلة واسعة	Within	داخل

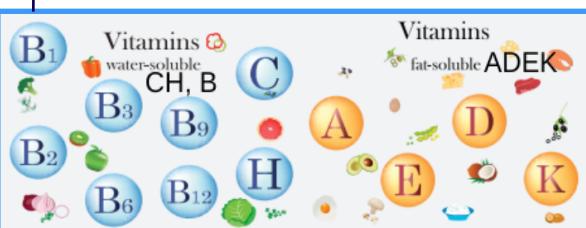
Nutrients عناصر غذائية	
meaning	components in food. All the nutrients that your body needs should come from the food and drinks you consume every day.
Why body needed?	~ To help you to stay healthy & fight infection. ~ To help your brain function. ~ To help your body with growth, development & repair. ~ To give you energy.
categories	macronutrients micronutrients

Macronutrients (carbohydrates, protein, fat) 'Macro' means large; macronutrient the body needs in large amounts. Some foods have more of 1 macronutrient and less of others. give the body energy (calories) needed in large quantities and for survival.

Carbohydrates	provide you with most of your energy.	Simple carbohydrates: Sugar, sweets Cereals, pastries Refined breads	Complex carbohydrates: Vegetables, fruits Nuts, legumes Wholegrains
	rich carbohydrates mostly come from cereals and their products, fruit & vegetables. It's best to choose more complex carbohydrates it's contain more fibre. Simple carbohydrates: Sugar, sweets, Cereals, pastries, Refined breads Complex carbohydrates: Vegetables, fruits, Nuts, legumes, Wholegrains		
Types of carbohydrates			
Protein	mainly responsible for the growth and repair of all cells within the body & it helps to regulate body processes. It gives the body energy. Foods that are rich in protein come from meat, eggs, legumes, Milk and dairy products.		
Fat	important in the diet as carbohydrates and protein. provides more energy per gram than other macronutrients, not need to eat it a lot.		

منش كلشي دهون مضرة للجسم

Micronutrients (vitamins, minerals in food and drink)	'Micro' means small; micronutrient the body needs in small amounts.	very important for our health.
Vitamins	come from many different foods you eat.	Vitamins are normally called after letters, some examples are vitamin A, C, D and E. Vitamins are important for immune function and healthy organs and also assist with blood clotting and many other processes.
Water-soluble means they dissolve in water, not stored in the body. Vitamin B1, B2, B3, B6, B9, B12, vitamin C and vitamin H	Fat-soluble means they dissolve in fat. Our bodies can store fat-soluble vitamins in the liver and in fatty tissues for future use. Vitamin A, vitamin D, vitamin E and vitamin K	
Minerals	Important for growth, bone health, fluid balance and many other processes.	Examples of minerals include calcium, iron, and magnesium.
	It's important to eat a wide variety of foods in order to have a sufficient intake of micronutrients.	



6.3 Nutrition and immunity

decrease/low/reduce	نَقْصٌ/مُنْخَفِضٌ/يَقْلُلُ	Diabetes	السكري	Dietary supplements	المكمالت الغذائية
guaranteed	مضمون	Immune	مناعة	intakes	مقدار مأخوذ
Liquids	سوائل	Network	شبكة	obesity	سمنة
Pills	حبوب	pre-existing conditions	حالات موجودة مسبقاً	Prevent	وقاية
Specific	محدد	substances	مواد	Vaccinations	التطعيمات

The immune system : network of cells & chemical compounds that help the body fight infections.

It monitors the body's cells & detects any foreign substances in the body.

requires energy & other nutrients that come from the diet.

quality of immune system decreases with age (pre-existing conditions)

Many diseases can make a person immunocompromised such as obesity, diabetes, heart disease.

immunocompromised: low immune system's defenses, making it hard to fight off infections & diseases.

Nutrition and immunity for teens and adults	Nutrition linked to immunity & the risk of illness.
A diet that <u>doesn't meet their immune system needs</u> can make a person more likely to become ill.	
Healthy immune system comes from many different nutrients, including protein, polyunsaturated fats and micronutrients.	
Found in a wide range of foods, and they are involved in supporting our immune systems to work normally.	

Micronutrients are vitamins and minerals.

Each of the following micronutrients are needed for the immune system to function properly.



Protects against infection by keeping skin and tissues healthy.

eggs, cheese, liver.
Green leafy vegetables:
kale, spinach,
orange fruits & vegetables :
carrots, sweet potato.



Helps to make antibodies which are needed to fight against disease.

Fish: tuna.
Poultry.
nuts & seeds:
Cashews, sunflower seeds.
dates, avocado, bananas



For growth, development, & repair of all body tissues.

citrus fruits :
oranges, tomatoes,
peppers, strawberries.
green leafy vegetables:
broccoli, spinach.



The main source of vitamin D is from sunlight.

eggs
oily fish : salmon

Copper

selenium

Iron

Zinc

wholegrain pasta,
breakfast cereals
pulses :
beans, chickpeas, lentils
dates and nuts.

nuts and seeds :
cashews, sunflower
seeds, Brazil nuts
eggs, liver, seafood.

red meat: beef, lamb
Pulses: lentils, beans
green leafy vegetables:
Kale, spinach,
nuts and seeds

red meat :beef, lamb
shellfish : crab
nuts & seeds :
cashews, almonds, sesame
seeds
wholegrain breads,
wholegrain breakfast
cereals, cheese

Around 90% of the UAE population haven't enough vitamin D in their bodies.

Around half of teenage girls have a low iron intake.

Dietary supplements

substances that people might use to add nutrients such as vitamins and minerals to their diet.

They come in the form of pills, capsules, powders, gels or liquids.

Some supplements can help to make sure that a person is getting enough of a specific nutrient that the body needs to function properly, some help to reduce the risk of disease.

Where possible, vitamin and mineral intakes should come from food sources by eating a balanced and varied diet.

taking supplements or eating foods that are known as 'immune boosting' isn't guaranteed to prevent disease.

Example Eating a healthy diet or taking a multivitamin supplement will not prevent you from getting communicable diseases, however vaccinations, handwashing and social distancing can prevent it.

6.4 Calories

What are calories? energy.

The number of calories in food is a measurement of its energy amount.

Your body uses calories (energy) from food for walking, thinking, breathing, and other important functions.

a healthy female needs about 2,000 calories every day, healthy male needs 2,500 calories per day
to maintain their weight and to do everyday tasks.

exact daily calorie requirements can change depending on: Age - Gender - Physical activity level

Your body needs calories to survive and do everyday tasks.

We fuel our bodies with the calories we consume from food and drinks. All foods contain calories.
However, **eating too many calories can lead to weight gain.**

Each food has different levels of macronutrients, which make up the total number of calories.

You can find how many calories are in most food by looking at the nutrition facts label on the package.

How many calories are in per gram of each macronutrient?	
Protein	4 calories per gram (4 kcal/g)
Carbohydrate	4 calories per gram (4 kcal/g)
Fat	9 calories per gram (9 kcal/g)
Calculate how many calories from certain macronutrient	Macronutrient (grams) X Calories per gram
For example, if a serving of crisps has 10 grams of fat, you would calculate 10 (grams of fat) x 9 (calories per gram of fat) which equals 90. This means you will get 90 calories from fat.	

6.5 Energy and nutrient needs

adequate	مناسب	Amount	كمية	Compared	مقارنة
consider	يعتبر	Consuming	تستهلك	depend on	تعتمد على
Digestion	هضم	Estimating	تقدير	factors	عوامل
Individual	فردي	muscular	عضلي	Population	سكان

Calculating energy needs

factors to consider when estimating the energy needs of individuals, amount of energy & nutrients needed depend on:

- ~ **age** – people need fewer calories as they get older.
- ~ **body size** – muscular person need more calories.
- ~ **gender** – women need fewer calories compared to men.
- ~ **activity level** – the more energy burned doing an activity, the more calories that are needed.



The Ministry of Health and Prevention (MoHAP) provides a guide to calculating calorie (energy) needs based on individual characteristics (**gender**, height, weight, and physical activity level) on their website.

MINISTRY OF HEALTH & PREVENTION

Dietary reference intakes to estimate the nutrient needs of individuals, it's best to look at the dietary reference intakes (DRI) in their country.

Most countries have their own DRIs. You might find the following values when looking for DRI:



Recommended Dietary Allowances (RDA)	Tolerable Upper Intake Level (UL)
The RDA is the amount of nutrients that meet the nutrient requirements of up to 98% of the population.	UL is the highest level of nutrient intake that is likely to cause no health effects in almost all individuals in that age group.
Estimated Average Requirements (EAR)	Adequate Intakes (AI)
EAR is the intake level that will meet the nutrient requirements of 50% of the population.	AI is the average amount of nutrient taken by healthy people in that age group.



What is energy balance?

difference between energy input (number of calories that you put into your body) and energy output (number of calories you burn each day).

The equation for energy balance is as follows: **Energy input is your fuel**. This means that **energy input comes from the calories in the food that you eat.**

Energy balance = energy input – energy output

Energy output comes from the calories that you burn.

Energy output isn't just calories you burn when you exercise.

Between **60 - 75%** of the calories your body uses up each day is to simply survive and carry out processes such as digestion.

The energy balance result will belong to one of three categories;

Perfect energy balance If the **result** is **zero**.

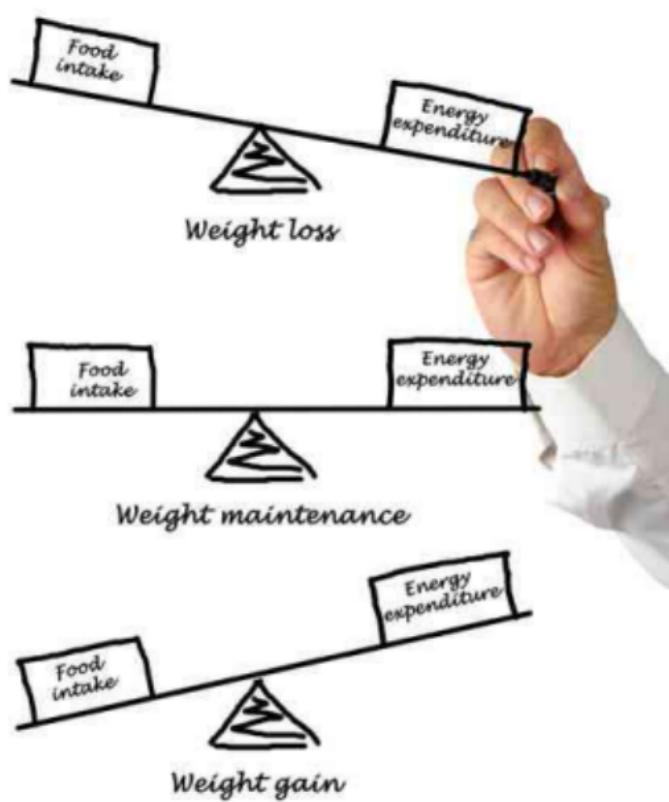
In this state of energy balance, the person will not gain or lose weight, as the amount of calories they consume is the same as the amount of calories they expend.

Positive energy balance If the **result** is a **positive number**.

People with a positive energy balance are consuming more calories than they are burning.
They will gain weight over time.

Negative energy balance If the **result** is a **negative number**.

People with a negative energy balance are consuming less calories than they are burning.
They will lose weight over time.



6.6 Serving sizes and portion control

overeat	الزيادة في الأكل	Sensible	معقول	Snack	وجبة خفيفة
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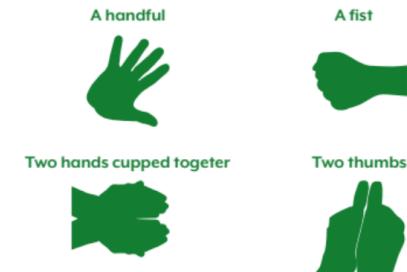
Most food packaging will have the recommended serving size of that item on the label.

Overeating is the main cause of obesity.

Making sure you don't overeat a certain food is known as portion control.

pay attention to suggested serving sizes.

portion : حصة how much food a person chooses to eat at one time in any place.



Recommended serving sizes are similar in most countries around the world.

Serving sizes are often given in grams. To measure portion size correctly, weight your food.

other practical measures: using your hands & spoons can be used to figure out sensible portion sizes.

	Fruit and vegetables
portion	A portion of fruit or vegetables is approximately the amount you can fit in one hand. You can have bigger portions of fruit and vegetables as they are mostly low in calories. For juices and smoothies, the portion size is 150ml (a small glass).
note	5 serving sizes of same kind of fruit or vegetable only count as one of your 5 portions of fruit and vegetables for the day.



	Cereals and their products
portion	serving of breakfast cereal is 30g, which is around three handfuls. cooked rice and cooked pasta : two hands cupped; this is around 180g each. Two rice cakes count as a serving for a snack.
note	If you are having more than 1 food from this group in a meal, portion sizes should be smaller, like rice and bread with meat.



	Meat, eggs and legumes
portion	A piece of beef steak, cooked salmon, or grilled chicken breast should be about half the size of your hand, this is equal to 50-80g. an egg is equal to 1 serving. 20g of nuts or seeds is a serving size; small handful. A serving of reduced-fat hummus is 55g, which is equal to 2 tablespoons. Plant-based sources of this food group in your diet like beans, chickpeas, and lentils are a good source of protein and can count as 1 portion of fruit and vegetables. 2 servings of fish per week , one of which should be oily fish such as salmon.
note	If you include more than one food from this group in a meal, for example mince and beans in chili, then portion sizes should be smaller.



	Milk and dairy foods
portion	120-150g or one pot of yoghurt A serving size of milk is 200ml, which is a cupful . For cheese, 45g around 2 thumbs . 45g of soft cheese is around three teaspoons .
note	The actual size will vary depending on the type of cheese.



	Fats and oils
portion	high in calories, Unsaturated oils like vegetable oil, plant-based oils & spreads are healthier fats. use a tablespoon when cooking instead of pouring straight into the pan or spread butter thinly on bread.
note	high in calories should take in small amounts



	Other foods
portion	If they are eaten, it's best to keep portion sizes small. small chocolate biscuit bar, 4 small squares of chocolate, or a small bag of crisps
note	aren't needed in the diet.



6.7 Healthy food choices and dietary guidelines

fizzy drinks	مشروبات غازية	Guidelines	قواعد ارشادية	Hydrated	رطب
pressure	ضغط	Recommendation	توصية	variety	متنوع

Healthy food choices

The type of food you get your daily calories is important as the number of calories that you consume.

You should try **not** to eat too many empty calories.

Made up of sugar and solid fat like butter. They have a **high number of calories**, but with **low nutritional value from vitamins, minerals, protein and fibre**.

Empty calories are found in: Cakes Biscuit Sweets Doughnuts Fizzy drinks Ice cream



Healthier foods tend to have **fewer calories**.

Good for weight management & reduces the risk of developing diseases such as diabetes & heart disease.

A diet low in salt can help to prevent high blood pressure.

It's better to get most of your calories from nutrient-dense foods (have a lot of nutrients).



It includes foods like fruit and vegetables and other foods that are recommended in dietary guidelines.

Dietary guidelines tell people the type of foods they should be eating and the amount of food from each food group that they need to get the right nutrients.

Dietary guidelines help to educate people about healthy balanced diets.

Each country has its own food-based dietary guidelines.

Many countries use models to visualise their dietary guidelines.

In the UAE, the model which is used is shaped like the **Burj Khalifa**.

The colors that take up the most space on the model are the food groups which you need to eat the most.

There is a section for water, it's very important to make sure you stay hydrated.

A full nutrition guide provided by MoHAP.

National Nutrition Guide



General dietary guidelines

Make sure that your diet contains enough milk and dairy products, cereals and their products.	
Reduce intake of foods that are high in fat, and sugar content.	Drink enough water every day.
Reduce intake of sodium and foods that are high in salt.	Keep a healthy weight for height.
Make physical activity part of your daily routine.	Regularly choose meat, fish, eggs and legumes.
Try to eat enough fruit and vegetables every day.	Eat a variety of foods each day.

Many countries use different models or images to show their recommendations. For example, in Japan, the model is called the Spinning Top. In the United Kingdom the model used is called The Eatwell Guide.



6.8 Food Labels

Understanding food labels

It's important to understand food labels because it's often hard to know what is in packaged foods.

A lot of information can be found on the food label to compare the information with other foods and make a healthier choice.



It can tell you:

amount of food that is in a serving.	where the food was made/the country of origin.
list of ingredients.	number of calories.

'Nutrition facts' or 'nutrition information' in label of packaged foods.

gives you information about how many calories there are and a breakdown of each of the nutrients in the food.

steps to reading nutrition facts:

1. Find the number of servings, most labels tell you this information.

If there are 2 servings per pack and you eat the whole pack, you will be eating double the nutrients per serving.

The pack might state that one serving is 50g. You then must look for the total weight of the pack. If the pack contains 250g, there would be 5 servings per pack.

$$\text{total weight / weight per serving} = \text{number of servings}$$



2. How many calories? You may have to calculate this.

look for how many calories are in the pack or per serving. Most packs will show the calories per serving or per 100g.



3. Check amount of nutrients Aim: foods with lower amounts of these nutrients.

First, look at the breakdown of the nutrients you want to **limit your intake of** (saturated fat, sodium/salt, sugar, and cholesterol).
حدد أكل محدود من العناصر الغذائية.



These nutrients might not always be displayed on the label.

4. Look for what you need vary from person to person, depending on each individual's nutritional needs.

Then, look for the breakdown of nutrients that you need to eat more of.

In general, people should look at eating more fibre, protein, vitamins, minerals and unsaturated fats.



Most nutrients are measured in grams (also written as g). Some nutrients are measured in milligrams (also written as mg). 1g = 1,000mg



information on the label can be given in percentages sometimes written as % DV;
tells you how much of the recommended daily amount of certain nutrient that this food will give you.

percentage values are based on a 2,000 calorie-per-day diet.

For example, if the label says sodium 20% it means that one serving of that food will provide you with 20% of your recommended daily allowance of sodium.

اللهم إني أستودعك ما قرأت وما حفظت، وما تعلمت، فرده عند حاجتي إليه ،
إنك على كل شيء قادر، حسبنا الله ونعم الوكيل