Health science

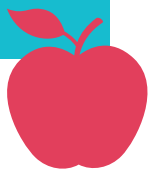
Study guide - unit 6 - Nutrition

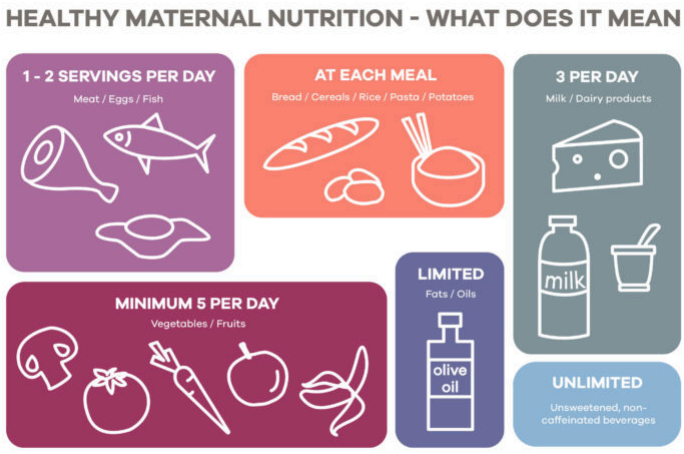
What is nutrition?

Nutrition is the process of taking energy and nutrients from food and drinks to maintain health.
All living things must consume food and drinks to get nutrients.
Good nutrition means eating a wide range of foods and 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, therefore we must eat a wide ranch of foods.

1 FRUIT & VEGETABLES

Give the body vitamins, minerals and fiber.





5 FATS & OILS

We need the correct fats to insulate the body and protect our vital organs.

2 CEREALS & THEIR PRODUCTS

Most of our daily energy should come from this group.

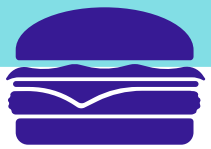
3 MEAT, EGGS &LEGUMES

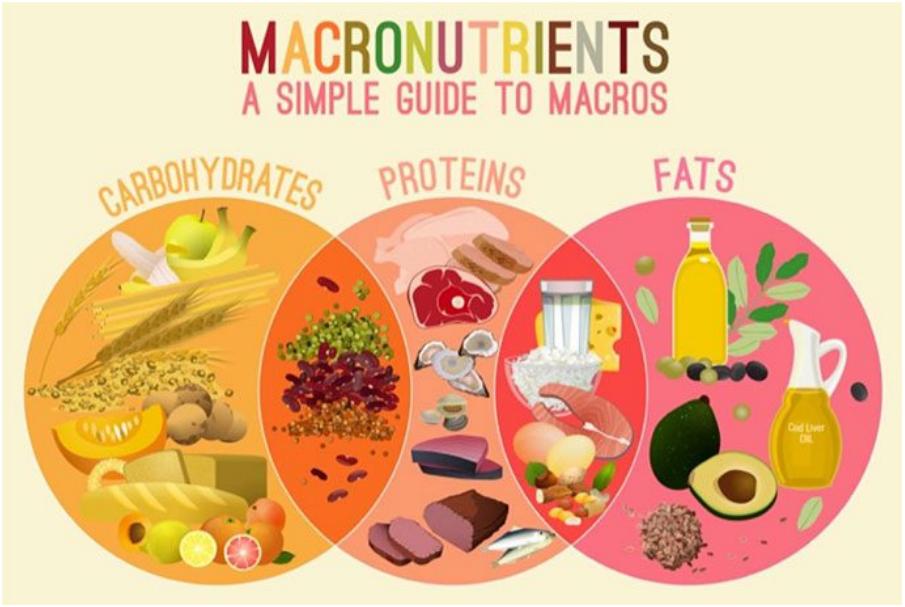
Provide us with protein and iron.

4 MILK & DAIRY

These foods are grouped together because they are rich in calcium and protein.

Other foods that are high in saturated fat, sugar and salt, should not be eaten every day. These foods contain a high number of calories and have every little nutritional benefit.





Nutrients

Nutrients are components in food. Without nutrients, you would not survive. All the nutrients that your body needs should come from the food and drinks you consume every day.

Your body needs nutrients to:

- Give you energy
- Help you stay healthy and fight infection
- Help your brain to function properly
- Help your body with growth, development & repair

Macronutrients

Give the body energy in the form of calories. Macronutrients are needed in large amounts, and they are needed for survival.
Carbohydrates, protein & fat

Micronutrients

Micronutrients are needed by the body in small amounts compared with macronutrients. Micronutrients are vitamins and minerals found in food and drinks, they are very important for health.

VITAMINS & MINERALS

Eating a balanced diet of whole foods is the ideal way to get the proper amount of micronutrients to support the structural and functional needs of the body.

VITAMINS

VITAMIN A

BENEFITS
- energy production
- nerve function
- immune function
- red blood cell formation (B12)
- reduces birth defects (folate)

SOURCES
- butternut squash
- carrots
- kale
- liver
- mango
- spinach
- sweet potatoes

VITAMIN B

BENEFITS
- vision
- reproduction
- immune function
- growth

SOURCES
- butternut squash
- carrots
- kale
- liver
- mango
- spinach
- sweet potatoes

VITAMIN C

BENEFITS
- antioxidant
- collagen formation
- iron absorption

SOURCES
- bell pepper
- Brussels sprouts
- citrus fruits
- kiwi
- tomato

VITAMIN D

BENEFITS
- bone mineralization
- calcium absorption
- immune function

SOURCES
- sunshine
- eggs
- fortified milk
- salmon
- tuna

VITAMIN E

BENEFITS
- antioxidant
- immune function

SOURCES
- fortified cereals
- seeds
- nuts
- vegetable oil

VITAMIN K

BENEFITS
- blood clotting
- bone health

SOURCES
- asparagus
- broccoli
- Brussels sprouts
- dark leafy greens

MINERALS

CALCIUM

BENEFITS
- bone and tooth health
- muscle contraction
- nerve signaling
- heart rate regulation

SOURCES
- cheese
- fortified cereals
- milk and soy milk
- yogurt

IODINE

BENEFITS
- thyroid function
- cell metabolism

SOURCES
- baked potato with skin
- cod
- dried seaweed
- iodized salt
- milk

IRON

BENEFITS
- red blood cell formation
- oxygen transport
- immune function
- enzyme and DNA formation

SOURCES
- beans
- beef and lamb
- clams
- dark leafy greens
- liver
- nuts
- pumpkin seeds

POTASSIUM

BENEFITS
- important electrolyte
- muscle contraction
- nerve signaling
- fluid balance and hydration

SOURCES
- baked potato with skin
- beans
- dark leafy greens
- dried apricots

SODIUM

BENEFITS
- important electrolyte
- muscle contraction
- nerve signaling
- fluid balance and hydration

SOURCES
- bouillion and soups
- cheese
- deli meat
- pickled foods
- salt
- soy sauce

ZINC

BENEFITS
- immune function
- cell division
- wound healing
- carbohydrate metabolism

SOURCES
- beef and lamb
- cocoa
- oysters
- pumpkin seeds
- wheat germ

myfitnesspal

Nutrition and immunity
The immune system acts like a security system within the body, it is constantly monitoring the body's cells. It gets to work as soon as it detects any foreign substances in the body. It requires energy and other nutrients that come from the diet.

Immunocompromised
When the immune system's defenses are low, making it hard to fight off infections and diseases.

Older adults are a high-risk group for infection as the quality of the immune system decreases with age.

Nutrition is linked to immunity and the risk of illness. A healthy immune system does not come from one type of food or nutrient.

Dietary supplements are substances found 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. Where possible, vitamin and mineral intake should come from food sources.

What are calories?

Calories are how we measure how much energy a food has.

What are "empty" calories?

Calories whose source has little or no nutritional value such as sodas, sugars, fast food.

Recommended Dietary Allowance (RDA)
The average daily dietary intake level that is sufficient to meet the nutrient requirement of nearly all (97% to 98%) healthy individuals in a group.

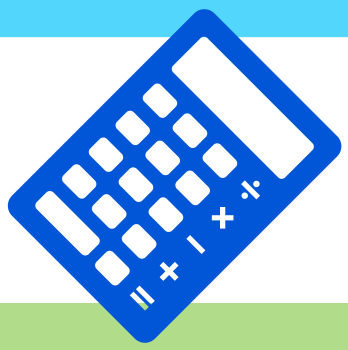
Adequate Intake (AI)
A recommended daily intake level based on observed or experimentally determined approximations of nutrient intake by a group (or groups) of healthy people. It is used when an RDA cannot be determined.

Tolerable Upper Intake Level (UL)
The highest level of daily nutrient intake that is likely to pose no risks of adverse health effects to almost all individuals in the general population. As intake increases above the UL, the risk of adverse effects increases.

Estimated Average Requirement (EAR)
A nutrient intake value that is estimated to meet the requirement of half the healthy individuals in a group. It is used to assess adequacy of intakes of population groups and, along with knowledge of the distribution of requirements, to develop RDAs.

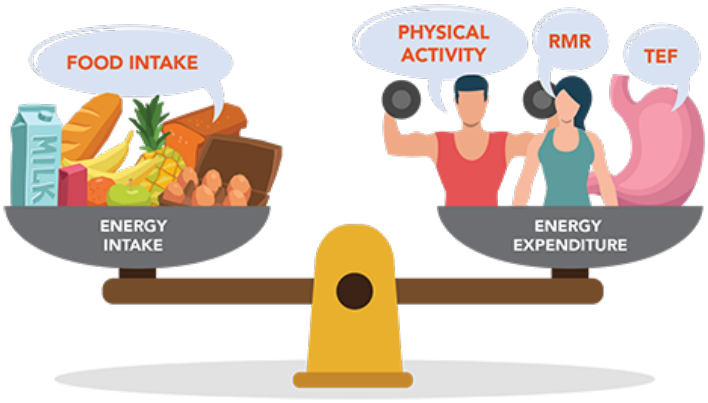
Calculating energy needs
The amount of energy and nutrients needed will depend on:

- Age-generally, people need fewer calories as they get older
- Body size-a person who is muscular will need more calories
- Gender-women need fewer calories than men
- Activity level-the more energy burned doing an activity, the more calories that are needed



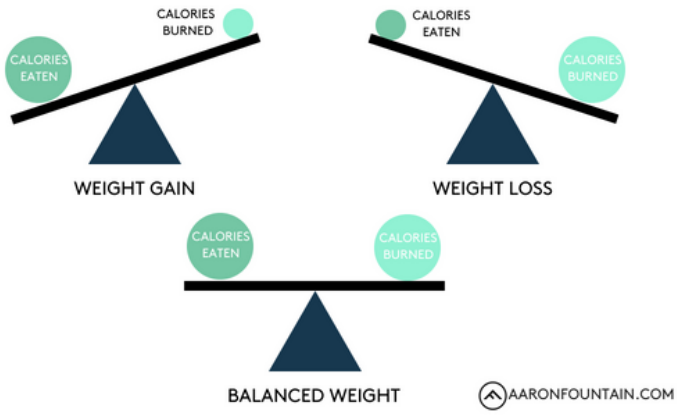
Calories per day

Healthy female - average 2000
Healthy male - average 2500



Energy balance
This is the difference between energy input (the number of calories you put into your body) and energy output (the number of calories you burn each day)

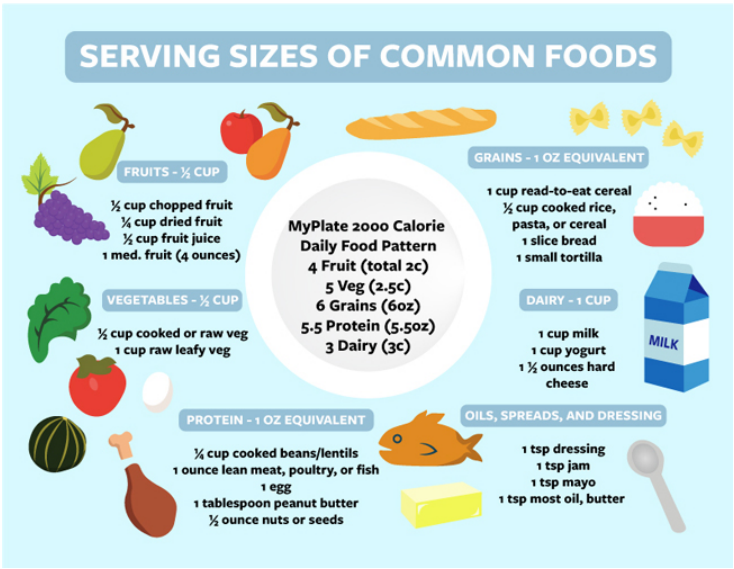
Energy output is not just the calories you burn when you exercise. Around 60-75% of the calories your body uses up each day is in order to simply survive and carry out processes such as digestion.



Energy balance = energy input - energy output

Over eating is the main cause of obesity. It has been found that people are now eating a lot more food than they really need in one meal. Making sure you do not overeat a certain food is also known as portion control. One way to do that is to pay attention to serving sizes.

Recommended serving sizes are similar in most countries around the world. They are often given in grams. If you really want to measure portion size correctly, the best way is to weigh your food.



FOOD DOME

DIETARY GUIDELINES FOR ARAB COUNTRIES

Practice medium activity like walking 30 minutes most days

Meat, eggs and legumes	Vegetables	Cereals and their products	Fruit	Milk and dairy products
• Choose low fat or lean meat • Consume legumes at least 3 times a week • Consume more fish as possible	• Eat more dark green vegetables like spinach and orange vegetables like carrots	• Eat at least half of cereals of whole grain • Eat more of fortified cereals and their products	• Eat variety of fruit • Choose fruit during their seasons • Drink fresh fruit juice	• Consume low fat milk and their products • Consume milk fortified with vitamin D
		Suggested daily servings		
2-4 servings/ day	3-5 servings/ day	6-11 servings/ day	2-4 servings/ day	2-3 servings/ day
One serving =	One serving =	One serving =	One serving =	One serving =
50-80g meat, chicken or fish, ½ cup cooked legumes, one egg	1 cup raw vegetables, ¾ cup vegetables juice	1 slice, ¼ Arabic bread, 30g cornflakes, ½ cup cooked cereals	1 medium piece of fruit, ¾ cup fruit juice	1 cup milk, 45g cheese, 1 tbs cream cheese

Food labels

It is important to understand food labels as it is often hard to know what is in packaged foods. If you can understand the label, you can compare the information with other foods and make a healthier choice.

1. Serving Information
2. Calories
3. Nutrients
4. Quick Guide to percent Daily Value (%DV)
   - 5% or less is **low**
   - 20% or more is **high**

Nutrition Facts

4 servings per container
Serving size **1 cup (227g)**

Amount per serving **Calories**	280
	% Daily Value*
Total Fat 9g	**12%**
Saturated Fat 4.5g	**23%**
Trans Fat 0g	
Cholesterol 35mg	**12%**
Sodium 850mg	**37%**
Total Carbohydrate 34g	**12%**
Dietary Fiber 4g	**14%**
Total Sugars 6g	
Includes 0g Added Sugars	**0%**
Protein 15g	
Vitamin D 0mcg	0%
Calcium 320mg	25%
Iron 1.6mg	8%
Potassium 510mg	10%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.