# LESSON 3: FOOD AND HEALTH

## 1. Reading the paragraphs

*Your task is to read these paragraphs and understand them to answer the questions below*


The food we eat seems to have profound effects on our heath. Although science has made enormous steps in making food more **fit** to eat, it has, at the same time, made many foods unfit to eat. Some research has shown that perhaps eighty percent of all human illnesses are related to diet and forty percent of cancer is related to diet as well, especially cancer of colon. People of different cultures are more **prone** to contract certain illnesses because of the characteristic foods they consume.

That food is related to illness is not a new discovery. In 1945, government researchers realized that nitrates and nitrites (commonly used to preserve color in meats) as well as other food **additives** caused cancer. Yet, **these carcinogenic**

additives remain in our food, and it becomes more difficult all the time to know which ingredients on the packaging labels of processed food are helpful or harmful.

The additives that we eat are not all so direct. Farmers often give penicillin to cattle and poultry, and because of this, penicillin has been found in the milk of treated cows sometimes similar drugs are administered to animals not for medicinal purposes, but for financial reasons. The farmers are simply trying to fatten the animals in other to obtain a higher price on the market. Although the Food and Drug Administration has tried repeatedly to control these procedures, the practices continue.

A healthy diet is directly related to good health. Often we are unaware of detrimental substances we ingest. Sometimes well-meaning farmers or other who do not realize the consequences add these substances to food without our knowledge.

1. How has science done a disservice to people?
   A. Because of science, disease caused by contaminated food has been virtually eradicated.
   B. It has caused a lack of information concerning the value of food
   C. As a result of scientific intervention, some potentially harmful substances have been added to our food.
   D. The scientists have preserved the color of meats, but not of vegetables.
2. The word "prone" is nearest in the meaning to
   A. Supine
   B. Unlikely
   C. Healthy
   D. predisposed
3. What are nitrates used for?
   A. They preserve flavor in packaged foods
   B. They preserve the color of meats
   C. They are the objects of research
   D. They cause the animals to become fatter.
4. FDA means
   A. Food Direct Additives
   B. Final Difficult Analysis
   C. Food and Drug Administration
   D. Federal Dairy Additives
5. The word "these" refers to
   A. Meats
   B. Colors
   C. Researchers
   D. Nitrates and nitrites

6. The word "carcinogenic" is closest in meaning to
   A. Trouble-making
   B. Color-retaining
   C. Money-making
   D. Cancer-causing

7. All of the following statements are true EXCEPT
   A. Drugs are always given to animals for medical reasons
   B. Somes of the additives in our food are added to the food itself and some are given to the living animals
   C. Researchers have known about the potential hazards of food additives for more than forty-five years
   D. Food may cause forty percent of the cancer in the world

8. The word "additives" is closest meaning to
   A. Added substances
   B. Dangerous substances
   C. Natural substances
   D. Benign substances

9. What is the best title for this passage?
   A. Harmful and Harmless Substances in Food
   B. Improving Health Through a Natural Diet
   C. The Food You Eat Can Affect Your Health
   D. Avoiding Injurious Substances in Food

10. The word "fit" is closest in meaning to
   A. Athletic
   B. Suitable
   C. Tasty
   D. Adaptable

A **nutrient** is either a chemical element or compound used in an organism's metabolism or physiology. Six nutrient groups exist and are broadly classified into those providing energy, and those used as components in the body or cellular structures. A nutrient is essential to an organism if it cannot be synthesized in the organism and must be obtained from a food source.

- *Carbohydrates* are compounds made up of sugars. Carbohydrates are classified by their number of sugar units: monosaccharide (such as glucose and fructose), disaccharides (such as sucrose and lactose), oligosaccharides, and polysaccharides (such as starch, glycogen, and cellulose). These substances provide energy for the cell.

- *Proteins* are organic compounds that consist of the amino acids joined by peptide bonds. The body cannot manufacture some of the amino acids (termed essential amino acids); the diet must supply these. In nutrition, proteins are broken down through digestion back into free amino acids. These substances provide material for the cell building and other cell components

- *Fats* consist of a glycerin molecule with three fatty acids attached. Fatty acids are unbranched hydrocarbon chains, connected by single bonds alone (saturated fatty acids) or by both double and single bonds (unsaturated fatty acids). Fats are needed to keep cell membranes functioning properly, to insulate body organs against shock, to keep body temperature stable, and to maintain healthy skin and hair. The body does not manufacture certain fatty acids (termed essential fatty acids) and the diet must supply these. These substances can be used to provide energy for the cell and also cell building.

- *Minerals* are generally trace elements, salts, or ions such as copper and iron. These minerals are essential to human metabolism.

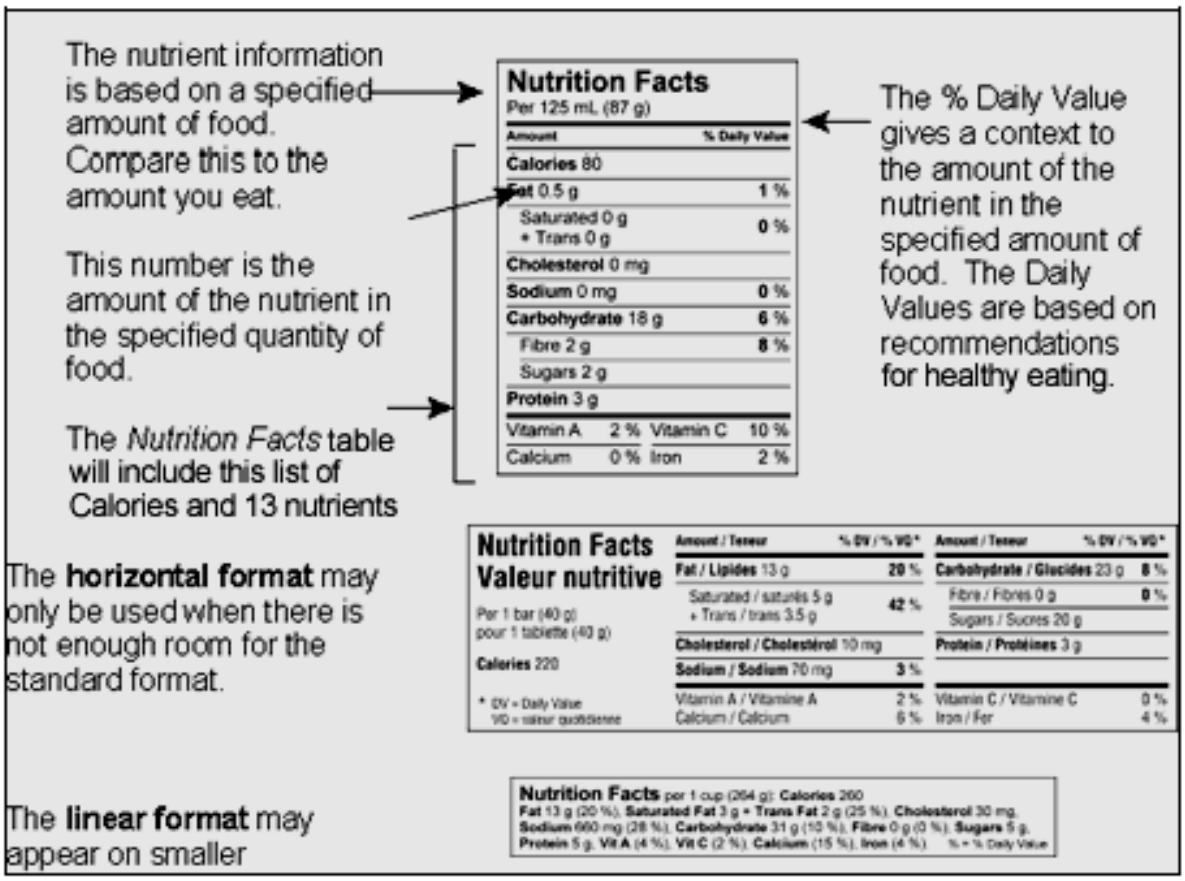
- *Vitamins* are organic compounds essential to the body. They usually act as coenzymes or cofactors for various proteins in the body.

- *Water* is an essential nutrient and is the solvent in which all the chemical reactions of life take place. The last types are considered as substances that support metabolism

11. What is the best title of the paragraph?
    A. Nutrient and its use
    B. Nutrient and its application
    C. Nutrient definition
    D. Nutrient value
12. Which one is not classified as energy provider?
    A. iron
    B. protein
    C. fat
    D. starch
13. Carbohydrate is broken down through digestion back into
    A. amino acid
    B. fatty acid
    C. mineral
    D. sugar
14. In the paragraph, how many kinds of nutrients are classified as substances that support metabolism?
    A. 1
    B. 2
    C. 3
    D. 6
15. What is called a nutrient which cannot be produced in the body?
    A. Important nutrient
    B. Essential nutrient
    C. essential fatty acids
    D. Vitamin

## 2. Learning points

*Look at the graph and say what you can learn*




## 3. Key structures

### COMPARISONS

### UNEQUAL COMPARISONS

*Short* + **ADJ/ADV** + ER (+than…)
More + *long* **ADJ/ADV** (+than…)
Less + *long* **ADJ/ADV** (+than…)

Short adj: 1 syllable
Long adj: >2 syllable

{More / Fewer / Less} + NOUN + than + {noun / pronoun}

As + {Many / Much / Little / Few} + NOUN + as + {noun / pronoun}

**EX:**

1. Fimbriae are considerably **shorter** *than* flagella and are **more numerous.**
2. Goats with horns seem to survive **better** in the heat *than* goats without horns.
3. It was demonstrated that cloned mice were both **larger** in size and **heavier** *than* a control group of non-cloned mice.
4. The scientists say their method can produce a **quicker** and **more** complete *recovery* **than** current treatments.
*(Adj)* *(Noun)*
5. He works **less** carefully than { I (formal) / me (informal) }
*(Adv)*

6. Trees that make it possible to produce paper with **less** environmental damage
*(Noun)*
7. UNOS says transplant operations in the United States last year used almost **as many organs** from living donors **as** from people who had died.
*(Noun)*

**EQUAL COMPARION**

* AS + Adj / Adv + AS + noun / pronoun

* The same + (noun) + as + noun / pronoun

**EX:**

1. The results showed that the birds that received extra vitamin E did not get infected **as often as** the others.
2. Penguine can dive **as deep as** four hundred and sixty meters and hold their breath for up to twenty minutes.
3. The centers of their bodies keep warm, while the outer parts of their bodies stay almost **as cold as** the outside temperatures.
Ronald had **the same** genes **as** Richard, but was in excellent health.

## Double comparatives

One clause

Short Adj / Adv + _ER + And + Short Adj / Adv+ER

More and more + long Adj / Adv

Less and less + Adj / Adv

Two clause

The + comparative + S + VF, the + comparative + S + VF

* BE can be omitted in the double comparative with **two clauses** when the subjects are **noun**

**EX:**

1. She becomes fatter and fatter.
   ⇨ The fatter she becomes, the less she eats.
   the more attractive she looks.

2. Our research becomes more and more difficult.
   ⇨ The more difficult the research becomes, the harder we try.

3. He works less and less efficiently.
   ⇨ The less efficiently he works, the less progress he makes
   the less chance of getting promotion he has.

4. My sister is mature
   She gets wise
   ⇨ The more mature my sister (is), the wiser she gets.

5. The smaller molecules can weave in and out of the matrix of the gel with more ease, compared with larger molecules

## 4. Special difficulties

**Look at the word "carcinogenic" and learn this**

***… genous (a.), … genesis (n.), … genecity (n.), … genic (a.), … gen (n.)*** = producing
endogenous: originating within the organism
exogenous: of external origin

pathogen: any producing-disease agent or microorganism
pathogenic: capable of causing disease
pathogenesis: the origin and development of disease; pathogenetic (=pathogeny)
pathogenecity:the quality of producing or the ability to produce pathological changes or disease
thermogenesis: the production of heat
antigen: any substance that is capable, under appropriate conditions, of inducing a specific immune response and of reacting with the products of that response; antigenic (a.)
antigenecity: the capacity to stimulate the production of antibodies or cell-mediated immune response
pyrogen: a substance which is capable of producing a pyrexia (a fever); pyrogenic (a)

**… *osis*** = **… *asis*** = disease

salmonellosis, pasteurellosis, mycosis, fasciolliasis, ascariosis (ascariasis)

*Try to look up the meaning of the words*

carcinogen – carcinogenic
toxin – toxigen- toxigenic
antigen - antigenic
immunogen – immunogenic