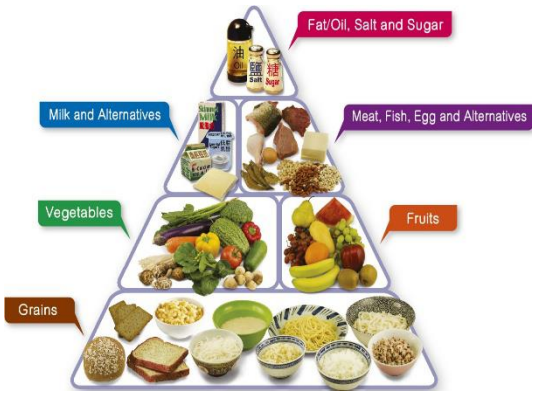
Newsletter of
Science Society,
May 2022
二零二二年五月

Food and Nutrition

Humans are heterotrophs that require eating to obtain nutrients for various purposes, for instance growth and repair. However, what nutrients are obtained from food? What about the sources and functions of them? And how can we retain the most nutrients in food while cooking? In this article, we will discuss them one by one.

1. What nutrients present in food?

There are more than 40 different kinds of nutrients in food and they can generally be classified into the following 7 major groups:



- Carbohydrates
- Proteins
- Fats
- Vitamins
- Minerals
- Dietary fibre
- Water

Although each of the 7 major groups of nutrients performs different and unique functions in our body, they are all essential as they work together and contribute to our health. It is advised to have a balanced diet to obtain a variety of nutrients needed by our body and therefore a food pyramid is suggested as a guide for citizens to decide their own diet.

2. Sources and Functions of the 7 food substances

(Figures on the right shows some sources of the food substance.)

- **Carbohydrates**

  ➢ As a major source of energy of our body

- **Proteins**

  ➢ Build, repair and maintain healthy body tissues

- **Fats**

- As an alternative energy source
- Prevent heat loss in extreme cold weather
- Protect organs against shock
- As a part of our cells
- Transporting fat-soluble vitamins such as vitamin A, D, E and K

- **Vitamins**

- Maintain healthy skin and hair
- Build bones
- Release and utilize energy from foods

- **Minerals**

- Regulate body functions, eg. fluid balance, muscle contraction and transmission of nerve impulses
- Build bones

- **Dietary fibre**

- Stabilizing blood sugar
- Promote gastrointestinal health
- Prevent constipation

- **Water**

- Thermoregulation
- Production of body fluids
- Transportation of nutrients
- Removal of waste products

3. What can we do to preserve as many nutrients as we can?

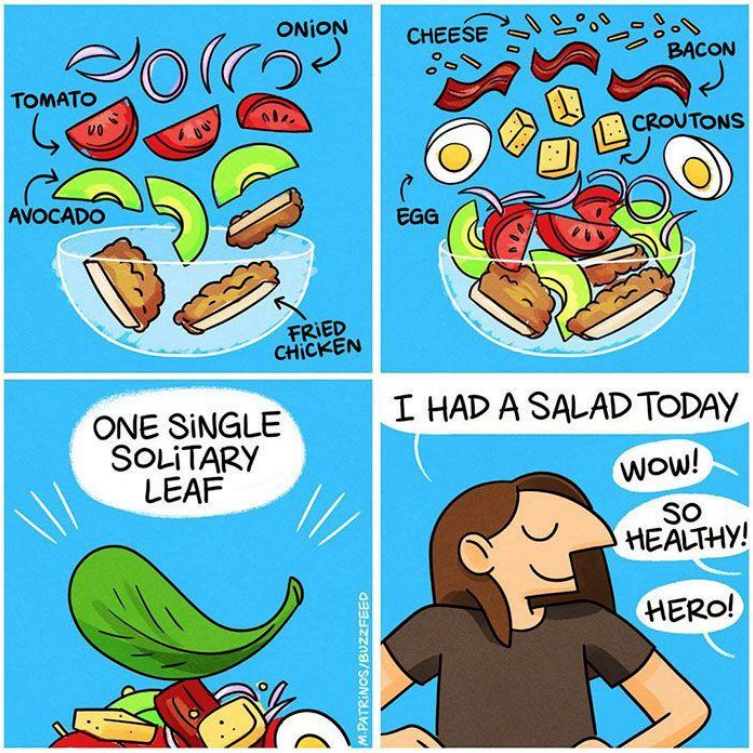
Some nutrients, like Vitamin C, cannot withstand high temperature and they may be broken down into other substances. As a result, they are wasted. Here are some tips for alleviating the phenomenon:

- ★ Use as little water as possible when boiling.
- ★ Don't peel vegetables until after cooking them in order to maximize their fiber and nutrient density.
- ★ Cook vegetables in smaller amounts of water in order to reduce the loss of vitamin C and vitamin B.
- ★ Better to eat any cooked vegetables within one to two days. (As their vitamin C content may continue to decline when the cooked food is exposed to air.)
- ★ Cut food after — rather than before — cooking, if possible. (Cooking food entirely can help prevent it from exposing to heat and water.)
- ★ Reduce the cooking time for vegetables whenever possible.
- ★ Don't use baking soda when cooking vegetables. (Although it helps maintain the colour of the vegetables, vitamin C will be lost in alkaline environment produced by the baking soda.)

There are many ways to preserve the nutrient content of foods without sacrificing taste or other qualities. It is important to select the right cooking method for maximizing the nutritional quality of your meal. However, there is no perfect cooking method that retains all nutrients. In general, cooking for shorter periods at lower temperatures with minimal water will give the best results. Do not let the nutrients in your food go down the drain.

"Exercise is KING. Nutrition is QUEEN. Put them together and you've got a KINGDOM." Let's start a healthy life together by eating smartly and healthily!

COMIC CORNER



RELAXING ZONE

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2		6		7	8			
	2		7	6		9	5	
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4			3				1	5

Daily SuDoku: Thu 21-Apr-2022 hard

7	3	2	4	1	5	6	9	8
4	6	9	3	8	7	2	1	5
1	8	5	6	2	9	7	4	3
6	9	1	8	5	4	3	7	2
5	7	4	2	9	3	1	8	6
3	2	8	7	6	1	9	5	4
2	5	6	9	7	8	4	3	1
8	4	7	1	3	2	5	6	9
9	1	3	5	4	6	8	2	7

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