



# Components of Food



**A substance Which is essential for maintaining life and for growth is called a nutrient.**

**Five major nutrients are:**

**Carbohydrates**

**Fats**

**Proteins**

**Vitamins**

**minerals**

# Carbohydrates

They provide energy to our body.

Main carbohydrate we eat is **starch**.

Carbohydrates in our food are obtained mainly from **plant sources**.

Sources of carbohydrate:

**Cereals, Potatoes, sugar and some fruits like banana, melon, papaya**



## Fats

They also provide energy.

They are **richest** source of energy and provide **two times** more energy than carbohydrates.

Sources: **Ghee, Butter, Egg yolk, Meat**

## Foods High in Fat



Fatty meats  
and fish



Cheese



Butter



Avocado



Nuts and seeds



Chocolate

# Proteins

They are needed for the **growth and repair** of our body.

**Body building** foods.

Proteins can be obtained from both **plants and animals**.

Sources are:

**Milk, Pulses, Fish, Eggs, Meat**



# Vitamins

They help in **protecting** our body against diseases.

There are vitamin **A,B,C,D,E** and **K**.

**Vitamin B-complex** is group of vitamins.

They are needed in **small quantities**.



# ESSENTIAL VITAMINS

TYPE & FUNCTION	SIGNS OF DEFICIENCY	NATURAL SOURCE	TYPE & FUNCTION	SIGNS OF DEFICIENCY	NATURAL SOURCE
<b>VITAMIN A</b> GROWTH & DEVELOPMENT	SKIN PROBLEMS, POOR NIGHT VISION, DRY EYES, DECREASE IN SENSORY ABILITIES		<b>VITAMIN C</b> COLLAGEN FORMATION, ANTIOXIDANT FUNCTION, AND IRON ABSORPTION	SCURVY (BLEEDING GUMS, BRUISING, SWOLLEN JOINTS, SLOW WOUND HEALING)	
<b>VITAMIN D</b> BONE HEALTH	RICKETS (CHARACTERIZED BY SKELETAL DEFORMITIES) & SOFT BONES		<b>VITAMIN B COMPLEX</b> B1, B2, B3, B6, AND B12 ENERGY PRODUCTION, NERVOUS SYSTEM, IMMUNE SYSTEM & IRON ABSORPTION	B1: POOR APPETITE & DEPRESSION B2: CRACKED LIPS, SORE MOUTH, ANEMIA B3: PELLAGRA (DIARRHEA, AND MENTAL CONFUSION) B6: ANEMIA & NERVE DAMAGE B12: PERNICIOUS ANEMIA, INCREASED STOMACH CANCER RISK	
<b>VITAMIN E</b> CIRCULATION & PROTECTION FROM FREE RADICALS	INABILITY TO ABSORB FAT		<b>FOLIC ACID</b> CELL RENEWAL & PREVENTS BIRTH DEFECTS IN PREGNANCY	ANEMIA (FATIGUE) & POSSIBLE INFERTILITY	
<b>VITAMIN K</b> BLOOD COAGULATION	EXCESSIVE BLEEDING		HealthCentral.com		

# Minerals

We need minerals for good health.

They are also needed in small quantities.

Some important minerals are- Calcium, phosphorus, Iron, Iodine, Sodium and Potassium.

Sources : Fruits and Vegetables.



# Water

Our body needs water-

- a.** to transport digested food
- b.** to transport important chemicals called hormones
- c.** for excretion
- d.** to control and regulate body temperature.

**Sources: Drinking water, Juices and fresh fruits and vegetables.**

## Roughage

It is the **fibrous matter** in food which cannot be digested.

Also called **Dietary Fiber**

It provides **bulk to the food**, keeps the food and waste matter moving in the intestine.

It is mainly provided by **plant products**.

**Sources:** Whole meal products, fruits and vegetables.

## Balanced Diet

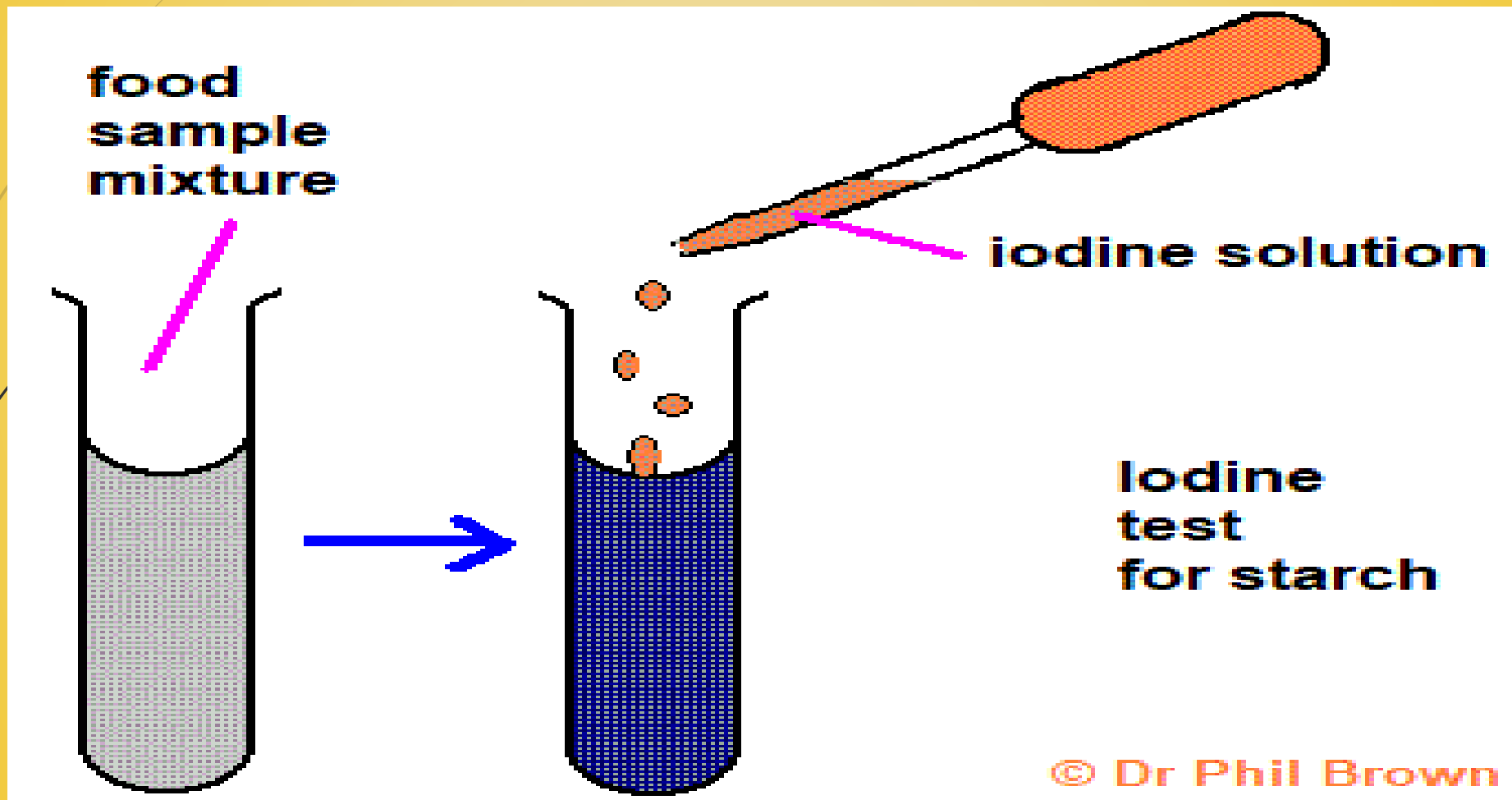
The diet which contains all the nutrients in **adequate amounts** needed for normal growth and development of our body.

We should include **different food items** in our daily meals.

A balanced diet also contain **water** and **roughage**.

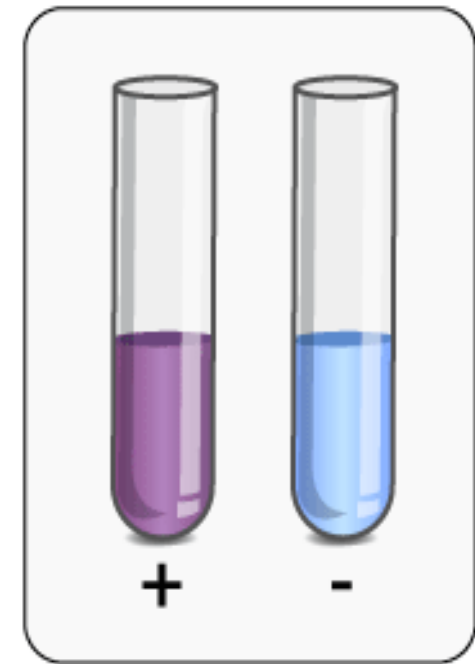
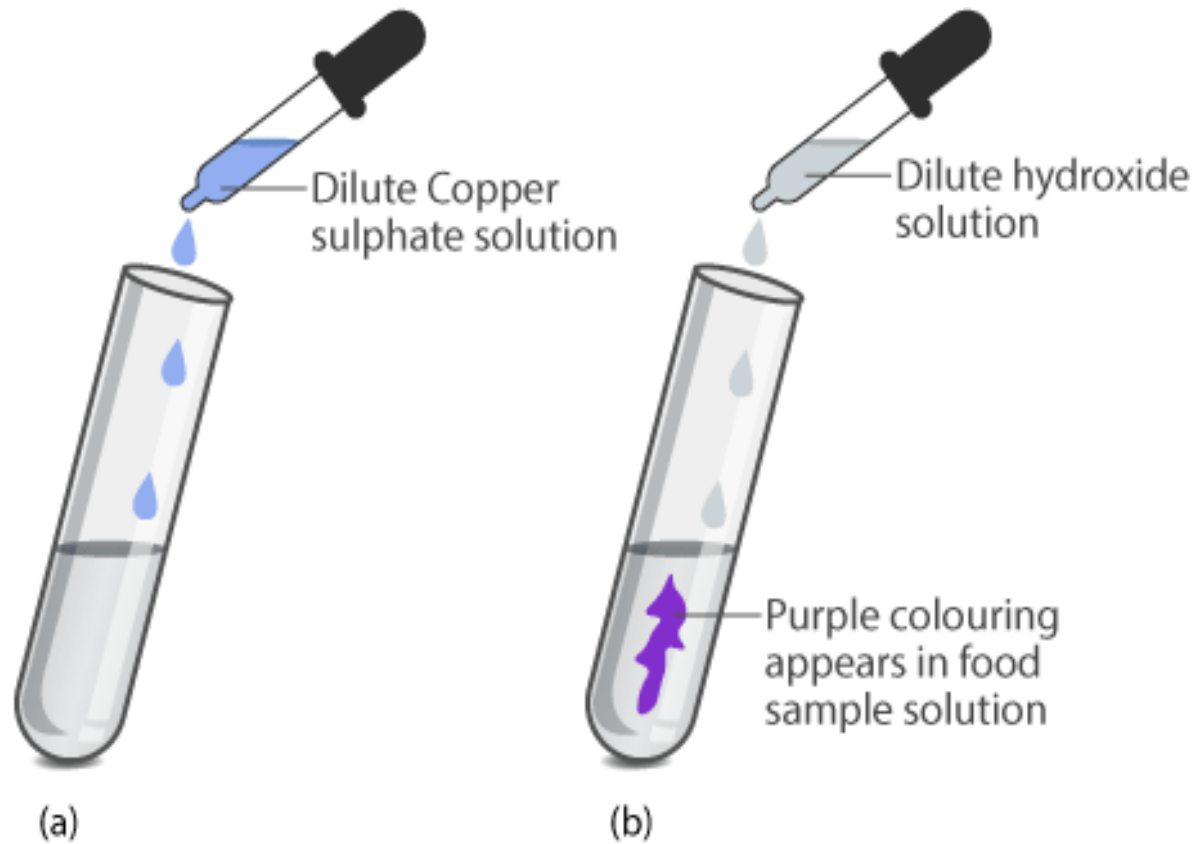
Balanced diet depends upon **age** and **occupation**.

# Test for carbohydrates (starch)



# Test for Proteins

## TEST FOR PROTEIN



# *Paper Test for Fats*

1. Using the spatula, smear some fat onto a piece of plain paper. Ensure that the paper is not glazed or waxed.
2. Hold the paper up to the light or window, attempting to look through the spot formed by the fat.
3. If a greasy spot remains after the paper dries, fats are present.





# Deficiency Diseases

A disease which arises due to the lack of nutrients in our diet over a long period of time.

## Types:

Protein deficiency diseases

Protein and carbohydrate deficiency diseases

Vitamin deficiency diseases

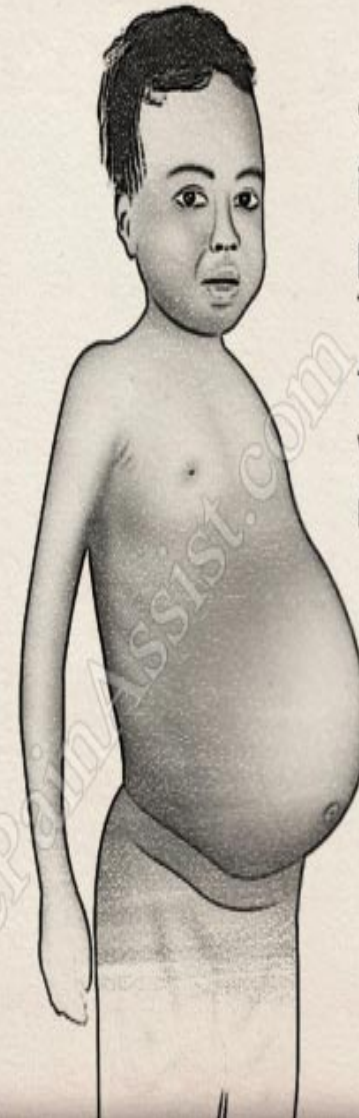
Mineral deficiency diseases



## PROTEIN DEFICIENCY DISEASES

- **Symptoms:-**
  - a) Child loses appetite.
  - b) The bones of legs bend.
  - c) The chest protrudes abnormally.
- **Age group - 1-3 years :-**
- **Protection:-** Protein rich food items should be eaten.

## Kwashiorkor



“Kwashiorkor is caused by inadequate amount of proteins in the body. This disease is usually found in countries where good food is not readily available.”

For More Information,  
Visit: [www.epainassist.com](http://www.epainassist.com)

# Carbohydrate & Protein deficiency diseases

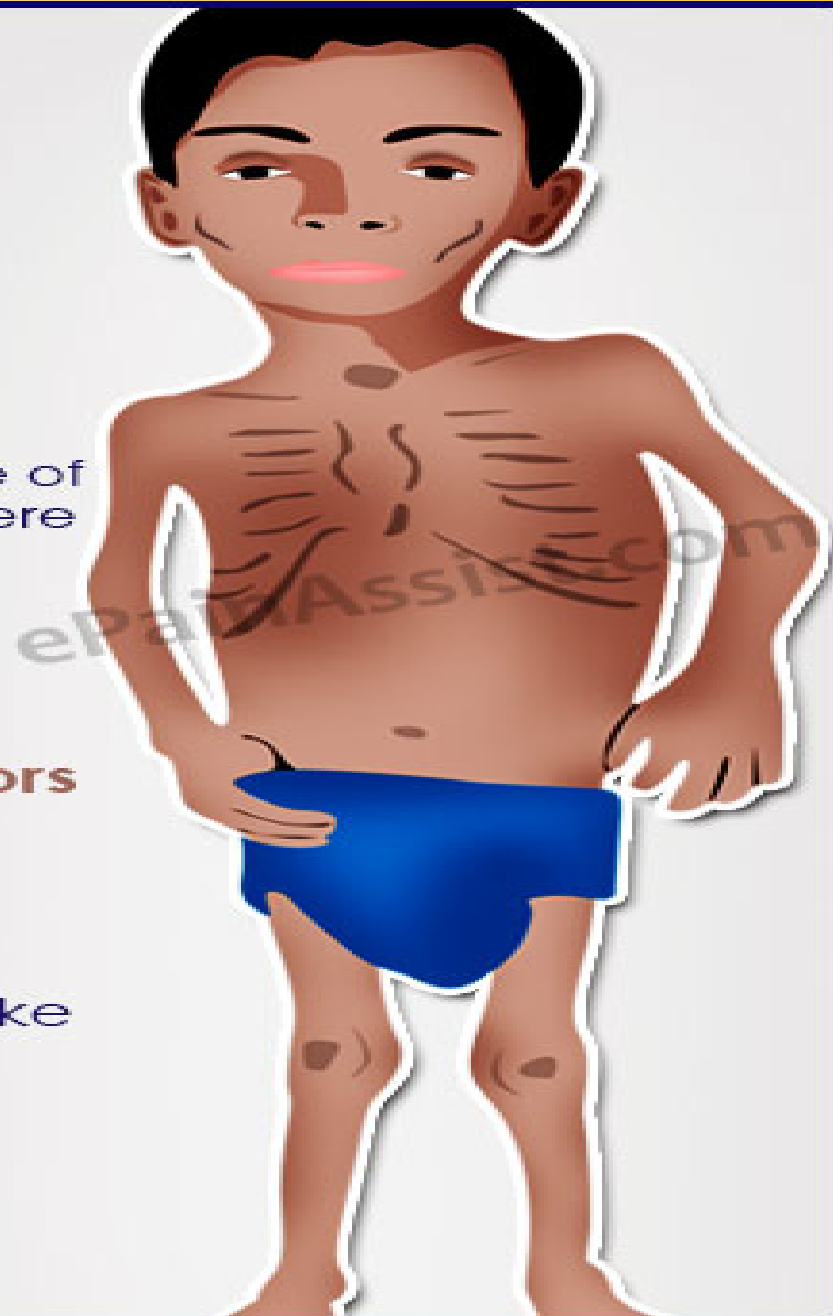
- **Symptoms:-**
  - a) Weight of body is decreased.
  - b) Physical growth stops.
  - c) Mental growth is not normal.
  - d) Extreme weakness.
  - e) Digestive system becomes weak.
- **Age group:-** Up to 1 year
- **Protection :-** Food items which are rich in carbohydrate protein should be eaten.

# Marasmus

It is an extremely severe type of nutrition disorder in which there is significant wasting of fats, muscles, and tissues of the body.

## Some of the Risk Factors for Marasmus are-

- 1) Chronic starvation
- 2) Adulterated water
- 3) Inadequate food intake
- 4) Vitamin deficiencies.



# Deficiency Diseases of Vitamin and Minerals

<b>Vitamin/Mineral</b>	<b>Deficiency disease / disorder</b>	<b>Symptoms</b>
Vitamin A	Loss of vision	Poor vision, loss of vision in darkness (night), sometimes complete loss of vision
Vitamin B1	Beriberi	Weak muscles and very little energy to work
Vitamin C	Scurvy	Bleeding gums, wounds take longer time to heal
Vitamin D	Rickets	Bones become soft and bent
Calcium	Bone and tooth decay	Weak bones, tooth decay
Iodine	Goiter	Glands in the neck appear swollen, mental disability in children
Iron	Anaemia	Weakness



THANK YOU FOR  
YOUR ATTENTION