



# EU-India Capacity Building Initiative for Trade Development (CITD)



## Train the Trainers in Food Safety and Nutrition

### Introduction to Nutrition



# CONTENT



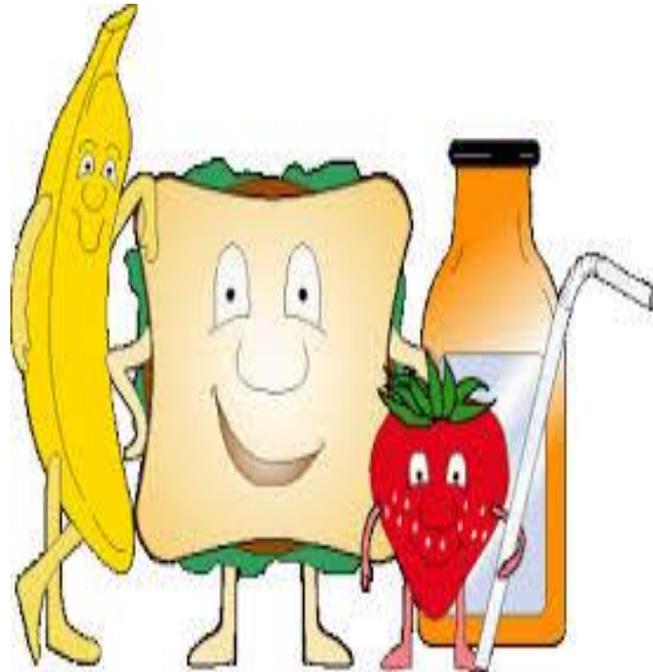
## 1. Food and its Functions

## 2. Nutrients and their functions

## 3. RDA and Energy requirements for different activities

## 4. Energy value of Foods





# Food and its Functions





## What is food?

- Any substance which nourishes the body and is fit to eat is called *food*.
- Food is essential for human life because it is the source of energy and nutrients.
- Our body is made up of the foods we eat. Food contains chemical components similar to those that make up the body.
- These chemical components of food are called *nutrients*.



# Why do we need food?



- Foods supply the body with specific nutrients.
- These nutrients are necessary for our:
  - Physical growth and development
  - Repair and maintenance of normal body functions.
  - Protection against infections
- Nutritious food is, thus needed to sustain life and physical activity.

***No single food contains all nutrients. Therefore, a combination of varied foods is needed.***



# What is Nutrition?



- Nutrition is the science of food and its relation to health.
- It deals with food and is a basic prerequisite to sustain life.
- The way our body makes use of these nutrients affects our health and well being.

***Variety in food is not only the spice of life but also the essence of nutrition and health***



## Why do we need nutritionally adequate food?

- Our diet must provide all essential nutrients in the required amounts.
- Requirements of essential nutrients vary with age, gender, physiological status and physical activity.
- Eating too little food during infancy, childhood, adolescence, pregnancy etc. or too much food at any age can lead to harmful consequences.
- Therefore, an adequate diet, providing all nutrients, is needed throughout our lives.

***Nutritious food can enhance your physical and mental potential.***



# Food and its Functions

Food performs the following functions:

## 1. Physiological function

- Providing energy to carry out voluntary work.
- Growth or body building.
- Repair or maintenance of the body cells.
- Regulation of body processes.
- Protective function, increasing one's resistance to infection.

## 2. Psychological function

- Food satisfies our emotional need for love, attention and security.

## 3. Social function

- Food is an important part of festivals and social functions.





# Nutrients and their Functions



# What are Nutrients?

- The food you eat is a source of different nutrients.
- Nutrients are defined as the substances found in food that keep your body functioning.

Your body needs nutrients to...

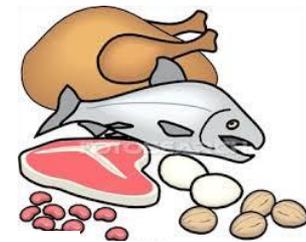
- Fuel your energy.
- Help you grow.
- Repair itself.
- Protect us against infections
- Regulate basic body functions



# Nutrients

There are six groups of nutrients which are essential. They are broadly classified as follows:-

- Carbohydrates
- Proteins
- Fats
- Vitamins
- Minerals and
- Water



# Types of Nutrients

When food is eaten, it is digested in the body which allows the absorption of energy and nutrients.

There are two different types of nutrients:

- macronutrients
- micronutrients.

There are three **macronutrients** that are required in large amounts and are essential for good health.

These are:

- Carbohydrate
- Protein
- Fat.

Macronutrients are measured in grams (g)



# Carbohydrates

**Carbohydrates** are the body's main source of energy and also provide the body's need for dietary fiber.

They provide 4 kcals/g.

## **Food Sources:**

Cereals such as wheat, rice, millets (jowar, bajra, ragi etc.), pulses, fruits, roots and tubers; and sugar, jaggery, sweetmeats and preserves.

## **Carbohydrates are of two types:**

- Sugars or Simple Carbohydrates
- Starches or Complex Carbohydrates



# Simple Carbohydrates

Can you give some examples of sources of sugar in the diet?

- Fruit and vegetables (fructose)
- Milk and dairy products (lactose)
- Honey
- Jam
- Fruit juice
- Table sugar (sucrose)
- Jaggery, khand (brown sugar)
- Sweets and chocolate
- Sweetmeats like Mithais, ladoos etc
- Glucon D (glucose)



# Complex Carbohydrates

## Starchy carbohydrate

Starch is found in a variety of foods. It is made up of many sugar molecules.

Can you give some examples of sources of starch in the diet?

- Potatoes
- Bread
- Rice
- Roti/ Chapatti

Cereal and cereal products are the main source of carbohydrate for Indians.



# Starches or Complex Carbohydrates

## Food Sources:

- ✓ Whole grain chappatis, bhakris, rice,
- ✓ Breads, pasta and all cereal products,
- ✓ Roots, tubers and other vegetables, and legumes.

## Function in the Body:

- An excellent source of fuel (energy) for the body.
- Rich in vitamins, minerals and fiber.



# Fibre

Dietary fibre is the plant material that doesn't break down when food is digested. Hence does not provide any calories. Many, but not all, complex carbohydrates contain fiber.

## Food Sources:

Whole grain cereals and pulses, bran, green leafy vegetables, fruits and vegetables with edible seeds and skin, nuts and oilseeds.

## Function in the Body

- Increases gastric motility and aids in digestion.
- May reduce the risk of developing some diseases like heart disease, diabetes and obesity, and certain cancers.



# Functions of Carbohydrates



- Carbohydrates are the main energy source for the human brain.
- The body cannot function properly in its absence.
- The simple carbohydrates are high in calories and low in nutritional value. They are present in high amounts in junk foods or unhealthy foods.
- Complex carbohydrates may also contain dietary fibre which cannot be digested in the human digestive tract.
- Sources are fruits and vegetables, whole grain cereals, millets, pulses and legumes.
- Diets rich in complex carbohydrates are healthier than low- fibre diets which are high in refined cereals such as Maida, noodles etc.

# Proteins

Protein is essential for growth and repair and keeping cells healthy.

- 1 gram of protein provides 4 kcal.

## Food Sources

Milk and dairy products, meat, fish, eggs, poultry, pulses and legumes, nuts and seeds. (Breads, cereals and vegetables also contain small amounts of incomplete protein)



# Proteins

## Function in the Body

- Help to build, maintain, and repair body tissues.
- Regulates body functions
- Proteins are the major structural component of cells.
- Protein is broken down into amino acids, which are building blocks of protein.
- There are 22 different amino acids.
- The human body is capable of producing 13 of them. The other 9 called, “Essential Amino Acids” must be supplied by food sources.



# Types of proteins

## Complete Proteins:

- Contain all 9 essential amino acids.
- They are found in animal food sources.
- Milk, Egg, Poultry, fish etc are of high quality as they provide  
all the essential amino acids in right proportions.

## Incomplete Proteins:

- Lack one or more of the essential amino acids.
- They are found in plant food sources.
- Cereals lack some amino acids while pulses are lacking in others.
- The best way to provide the body complete proteins in a vegetarian diet is to eat cereals and pulses together so that they supplement each other.



# Fat

Fats are the most concentrated source of energy providing 9 kcal/g

## Food Sources:

Butter, ghee, vegetable oils, salad dressings, nuts and oil seeds, dairy products made with whole milk or cream, and meats.



Food Containing Unsaturated Fats

## Structure of fat

Fat is made up of different types of fatty acids and glycerol.

The structure of the fatty acids determines:

- their effect on our health;
- their characteristics, e.g. melting point.

Depending on their chemical structure, fatty acids are usually classified as:

- saturated fatty acids;
- monounsaturated fatty acids; (MUFA)
- polyunsaturated fatty acids. (PUFA)

High intakes of saturated fat may raise blood cholesterol and increase the risk of heart disease and stroke.

A diet high in unsaturated fats is associated with a lower level of blood cholesterol and reduces the risk of heart disease.



# Functions of Fat

- Fat provides substances needed for growth and healthy skin.
- Enhance the taste and texture of food.
- Fats are needed for the absorption of fat-soluble vitamins such as A, D, E and K.
- Twenty percent of your daily energy/calorie intake should come from fats/oils.
- Choose healthy options such as omega-3-rich foods like fish, walnuts and seed oils like groundnuts, gingelly/ til, mustard.
- Omega-3 aids in growth and development.
- Limit intake of saturated fats such as butter, ghee and hydrogenated fats and cholesterol from red meat and full-fat dairy.
- Not more than 10% of total calories from saturated fats and at least 10% of total calories should come from PUFA.



# Micronutrients

There are two types of micronutrients:

- vitamins
  - minerals.
- Vitamins and minerals are needed in much smaller amounts than macronutrients.
- Their amounts are measured in milligrams (mg) and micrograms ( $\mu\text{g}$ ).  
(1mg = 0.001g)  
(1 $\mu\text{g}$  = 0.001mg).



# Vitamins

- Vitamins are chemical compounds required by the body in small amounts.
- They must be present in the diet as they cannot be synthesized in the body.
- Vitamins are essential for numerous body processes and maintenance of structure of skin, bones, nerves, eye, brain, blood and mucous membrane.
- They are either **water- soluble or fat- soluble.**
- Fat –soluble vitamins can be stored in the body while water soluble vitamins are not and get excreted in urine.
- Vitamins B- complex and C are easily destroyed by heat, air or during cooking.
- There are **13 different vitamins** known to be required each day for good health.



# Fat soluble vitamins

## Vitamin A

Vitamin A is needed for:

- dim light vision;
- healthy skin and eyes;
- resistance to infection.

### Sources

- Vitamin A is found pre-formed in liver and whole milk.
- It can also be produced from beta-carotene provided by dark green leafy vegetables,
- carrots and orange coloured fruits such as papaya.



## Vitamin D

### Functions

- Vitamin D is needed for the absorption of calcium from foods to keep bones and teeth strong and healthy.
- Helps your body use calcium and phosphorus, two minerals you need for healthy bones.

### Sources

We get most of our vitamin D via the action of UV rays from the sunlight on skin.

Vitamin D is also provided in small amounts by the diet from oily fish, meat, egg yolk, fortified milk, and margarine/spreads.



# Vitamin E

## Functions

- Supports the function of all your tissues by acting as an antioxidant.
- It prevents cellular damage, which would otherwise cripple cell function and lead to cell death.
- It is necessary for normal reproduction.

## Food Sources:

Whole-grain breads and cereals; dark green, leafy vegetables; dry beans and peas; nuts and seeds; wheat germ, vegetable oils; liver.



# Vitamin K

- **Function in the Body**

- Helps blood to clot.

- **Food Sources**

- Dark green and leafy vegetables (such as spinach, fenugreek leaves, lettuce, cauliflower and cabbage). Cheese, egg yolk and liver
- Bacterial synthesis in the intestines



# Water Soluble Vitamins

## Vitamin C



## Functions-

**Vitamin C** - Vitamin C is necessary for the synthesis of collagen, which provides structure to blood vessels, bone and ligaments.

**B-complex vitamins** - are B-1, B-2, B-3, B-6, B-12, biotin, folic acid, and pantothenic acid.

- They work in combination to ensure that your cells can use the energy they need to function, by helping you break down carbohydrates and fats.
- B-complex vitamins also helps metabolize protein into amino acids.

## Vitamin B6



## Water soluble vitamins

### The B vitamins

There are many different B vitamins and each has a specific function in the body.

These include:

- vitamin B<sub>1</sub> (Thiamin);
- vitamin B<sub>2</sub> (Riboflavin);
- vitamin B<sub>3</sub> (Niacin);
- vitamin B<sub>6</sub>;
- vitamin B<sub>12</sub>;
- folate/folic acid.



# Vitamin B-complex

- **Function in the Body:**
  - Helps the body use the energy from the foods we eat.
  - Helps brain, nerves, and muscles function.
- **Food Sources:**

Whole grain and enriched breads and cereals; dry bean and peas; peanut butter; nuts; meat; poultry; fish; eggs; milk

  - Bacterial synthesis in the intestines



# Vitamin C



- Function in the Body:
  - Helps heal wounds.
  - Helps maintain healthy bones, teeth, and blood vessels.
  - Helps body fight infection.
- Food Sources:
  - Citrus fruits, guava, amla, all berries, cabbage, potato, broccoli, tomatoes.
  - Sprouted grains



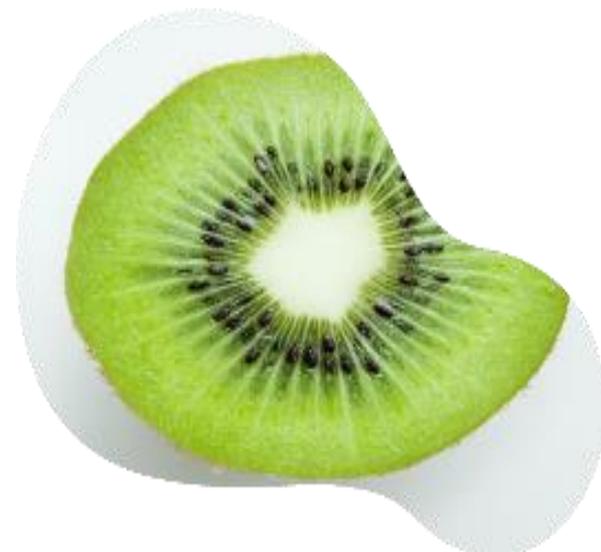
## Vitamin C

Vitamin C is needed to make collagen. This is required for the structure and function of skin, cartilage and bones. Collagen acts like cement and keeps cells together

It is an important nutrient for healing cuts and wounds.

### **Did you know?**

Vitamin C can help with the absorption of iron when foods or drink containing both vitamin C and iron are eaten at the same meal.



## Sources of vitamin C

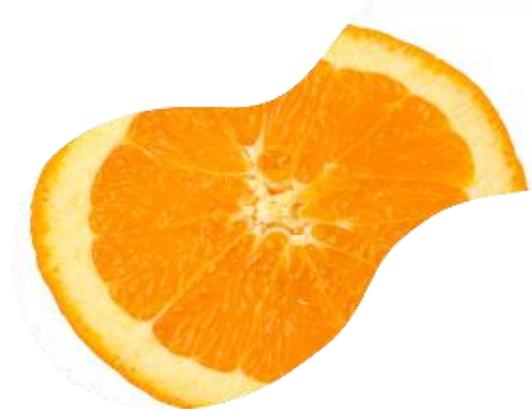
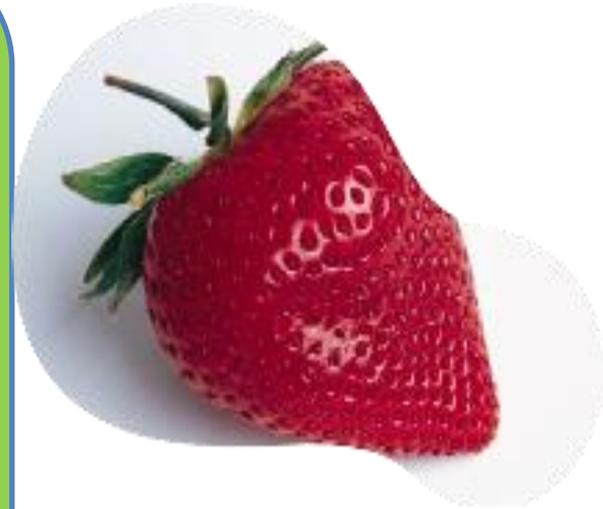
- Fresh fruit especially citrus fruits and berries.
- Green vegetables.
- Peppers.
- Tomatoes.
- New potatoes.

## Can you name some citrus fruit?

Sweet lime, orange, grapefruit, Kinu, tangerine, carambola (star fruit), lemon.

## How many different types of berries can you think of?

Amla, ber, karonda, Blackcurrants, strawberries, raspberries, blueberries, cranberries, rose apple, zizyphus.



# Minerals



## Functions

- Minerals are inorganic elements found in body fluids and tissues that assist with life-sustaining processes in your body.
- Your body needs **macro-minerals** in relatively large amounts such as calcium & phosphorous.
- **Micro minerals** are required in small amounts such as iron, iodine, sodium & potassium.
- While **trace minerals** are required in traces such as copper, zinc, chromium, selenium etc.
- They are required for maintenance and health of skin, hair, nails, blood and soft tissues.
- They also govern nerve cell transmission, acid/base and fluid balance, enzyme and hormone activity as well as in blood clotting processes.
- The body requires 16 minerals daily.





## Calcium & Phosphorus



- **Function in the Body:**
  - Helps build and maintain healthy bones and teeth.
  - Helps heart, nerves, and muscles work properly.
- Deficiency of calcium & phosphorus leads to rickets and osteoporosis.
- **Food Sources:**
  - Dairy Products: milk, cheese, ice cream, green leafy vegetables, ragi, small fish eaten with bones.



## Calcium

The body contains more calcium than any other mineral. It is essential for a number of important functions such as the maintenance of bones and teeth, blood clotting and normal muscle function.

### Did you know?

The skeleton contains about 99% of the body's calcium with approximately 1kg present in adult bones.



## **Iron**

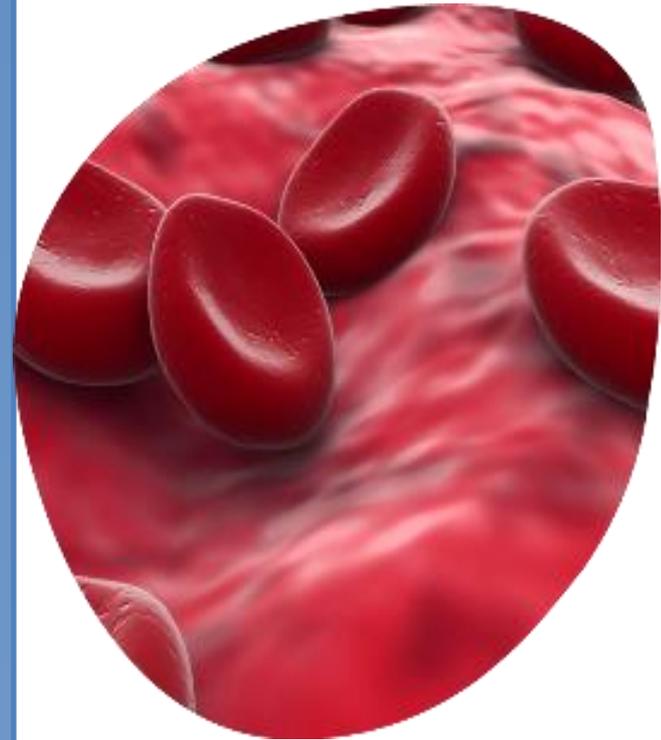
**Iron is essential for the formation of haemoglobin in red blood cells.**

**Red blood cells carry oxygen and transport it around the body.**

**Iron is also required for normal metabolism and removing waste substances from the body.**

**Did you know?**

**There are two types of iron; one from animal sources and the other from plant sources.**



## Sources of iron

- Liver.
- Red meat.
- Pulses- black gram, red gram
- Nuts.
- Eggs.
- Dried fruits.
- Fish.
- Whole grains.
- Dark green leafy vegetables.
- Garden cress seeds
- Niger seeds
- Flax seeds



## Iron in the diet

A lack of iron in the diet means that the stores in the body will run out.

This can lead to anaemia. Women and teenage girls need to ensure they have enough because their requirements are higher than those of men of the same age

### **Did you know?**

More than 2 billion people worldwide suffer from iron deficiency anaemia, making it the most common nutritional deficiency.



## Sodium

Sodium is found in all cells and body fluids.

It is needed for regulating the amount of water and other substances in the body.

### Did you know?

Sodium is a component of table salt, known as sodium chloride (NaCl).



## Sodium in the diet

High sodium intake is considered to be one of the risk factors for high blood pressure, which may lead to heart disease and stroke.

### Did you know?

It is recommended that adults and children 11 years and over not to have more than 5g of salt per day. Young children should eat less.



# Sodium

## Food sources

- Processed & prepared foods. Canned foods such as RTE vegetables, soups etc
- Preserves -pickles, wafers, papads and farsan.
- Salt used in cooking and table top.
- Condiments. Table salt, soy sauce, ketchup, mustard spread, sauces, chutneys
- Natural sources. Some meats, poultry, dairy products (esp. cheeses) and green leafy vegetables.



- 5% added while cooking
- 6% added while eating
- 12% from natural sources
- 77% from processed and prepared foods

# Water



- Getting enough water -- both from water-rich foods, such as fruits and vegetables, and through drinking fluids keeps your cells and tissues functional.



- Your body uses water to remove waste products from your cells.
- Water flushes out toxins that might impede cell function.
- It helps transport nutrients needed for your cellular metabolism.
- It also helps you avoid an abnormally high or low body temperature that would hinder enzyme function.

## Water

**Our body is nearly two-thirds water, so drinking enough fluid to stay hydrated is very important.**

**Water is essential for life and it is very important to get the right amount of fluid to be healthy.**

**Did you know?  
Humans can survive for a few weeks without food, but they cannot go without fluids for more than two to three days.**



## Water in the diet

Water is the major component of body fluid and has many functions in the body:

- It acts as a lubricant for joints and eyes;
- It is the main component of saliva;
- carries nutrients to body cells
- helps get rid of waste;
- helps regulate body temperature.

The body loses water all the time, when we go to the toilet, from sweat and also by evaporation from skin. If we do not consume enough water, we become dehydrated.



## Sources of water

**Water is provided by food and drinks.**

**It has been estimated that roughly 20% of water consumed is from food (e.g. soups, curd (yogurt), fruits and vegetables), while 80% is from drinks (water, milk and fruit juice).**



Question-

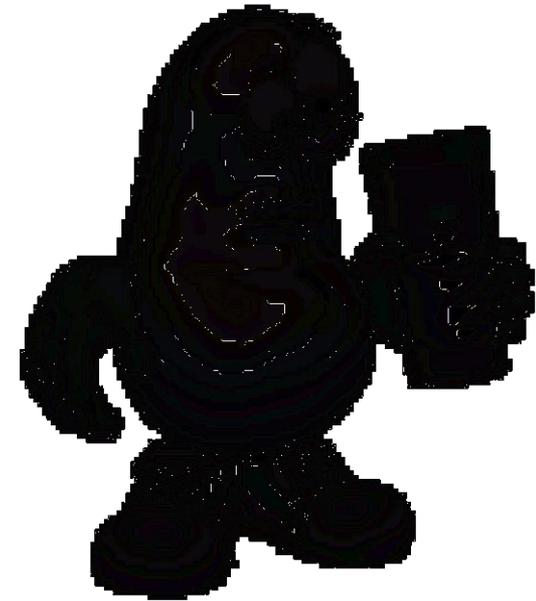
On average, how much water should we drink each day?

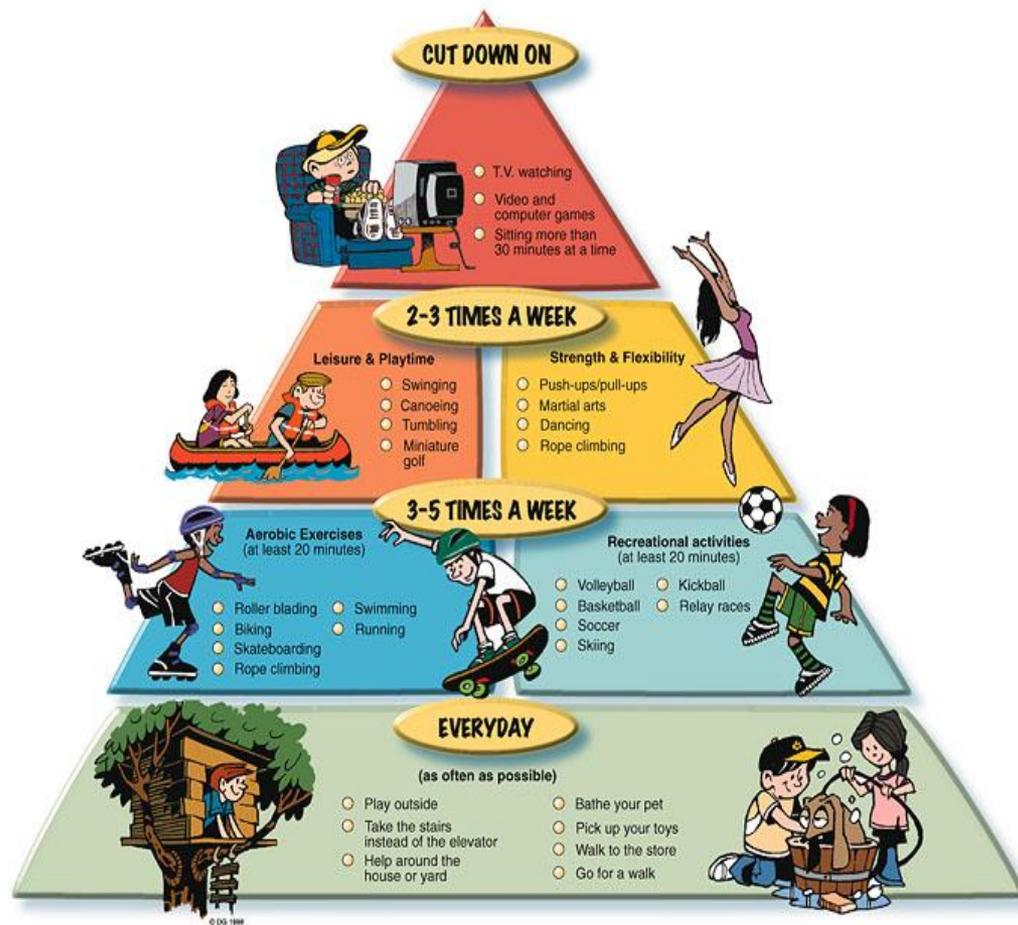
2-4 glasses/ day

4-6 glasses/ day

6-8 glasses/ day

8-10 glasses/ day

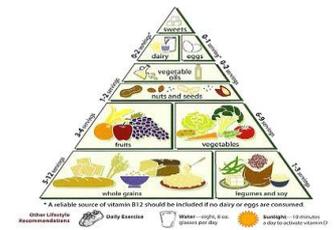




# RDA Energy Requirements for different Activities



# Recommended Dietary Allowance



- **RDA** is defined as the amount of nutrient sufficient for the maintenance of health in nearly all people.
- The RDA for all nutrients have been calculated for Indians for all age groups based on activity levels to ensure good health.
- The RDA's are suggested for a reference man and reference woman.
- **RDA=minimum requirement + safety margin** (individual variation)
- *RDA does not apply to sick people.*

# Who is a Reference man and a Reference woman?

## Reference man :

- Age:20-39 yr and Weights.:60 kg
- Healthy, free from disease and fit for active work
- He spends 8 hrs daily on occupational work (moderate activity)
- While not at work he spends 8 hrs in bed,
- 6 hrs sitting & moving around,
- 2 hrs walking & household work

**Reference Woman:** has the same criteria as for reference man except her weight is 55 kg



# Recommended Dietary Allowances for Indian Children

Group	Age Years	Energy kcal/d	Proteins g/d	Fat g/d	Iron mg/d	Vitamin A Carotene µg/d
<b>Children</b>	4 – 6 years	1350	20.1	25	13	3200
<b>Children</b>	7 – 9 years	1690	29.5	30	16	4800
<b>Boys</b>	10 – 12 years	2190	39.9	35	21	4800
<b>Girls</b>	10 – 12 years	2010	40.4	35	27	4800
<b>Boys</b>	13 – 15 years	2750	54.3	45	32	4800
<b>Girls</b>	13 – 15 years	2330	51.9	40	27	4800



# Total Energy Requirement

**Energy for basal  
metabolism**  
**1 kcal /hr/kg body  
wt / per day**

+

**Energy for  
digestion of food.**  
**SDA**

+

**Energy for  
occupational work  
(heavy / moderate /  
sedentary)**



Basal  
Metabolism

Digestion:  
Thermic effect of food

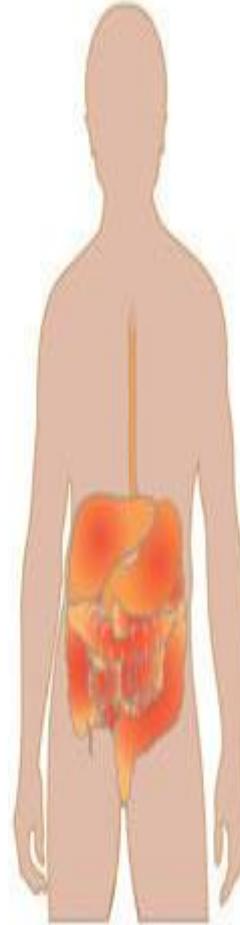
Physical  
Activity

Total  
Energy  
Expenditure

=



+



+



# Do you know what are voluntary and involuntary functions of the body?

## **Voluntary :**

responses are mainly under conscious control for e.g. walking, playing etc.

**Involuntary:** responses are not in our control for e.g. pumping of heart, breathing, digestion of food etc.

## **Voluntary**



## **Involuntary**

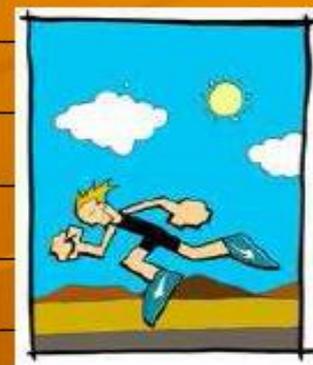


# Approx. Caloric Expenditure in different activities

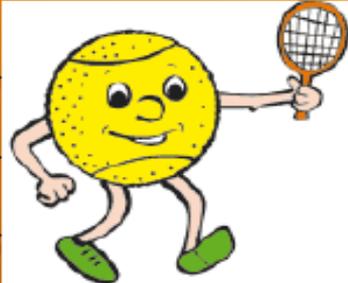


# Energy Expenditure

Activity	Kcal/hr
Cleaning / Mopping	210
Gardening	300
Watching TV	86
Cycling - 15 (Km/hr)	360
Running	
12 (Km/hr)	750
10 (Km/hr)	655
08 (Km/hr)	522
06 (Km/hr)	353
Walking	160
	04 (Km/hr)



# Energy Expenditure

	Activity	Kcal/hr
Badminton		348
Table Tennis		245
Tennis		392
Volley Ball		180
Dancing		372
Fishing		222
Shopping		204
Typing		108
Sleeping		57
Standing		132
Sitting		86

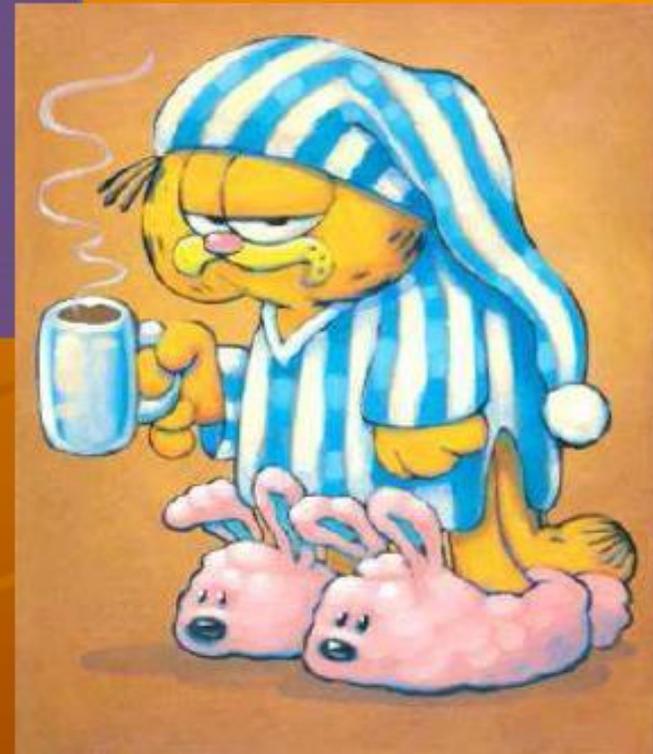


# No Excuse Please,,,,,,,,,,,,,



**Every morning my brain  
tells me to exercise...**

**..... and my body  
laughs at the idea**



Prevention is Better than Cure





# Energy Value of Food



# Energy providing nutrients

Energy in the diet is provided by the nutrients carbohydrate, protein, and fat.

1 gram of carbohydrate provides 4 kcal.



1 gram of protein provides 4 kcal.

1 gram of fat provides 9 kcal.



# Which food item gives most nutrients?

Per serving	Energy	Carbohydrate	Fat	Protein
Chapatti 20g 	<b>70 kcal</b>	<b>15g</b>	<b>0</b>	<b>2g</b>
Ghee 10g 	<b>90kcal</b>	<b>0g</b>	<b>10 g</b>	<b>0g</b>
Milk 3% fat 1 glass/ 240ml 	<b>145 kcal</b>	<b>12g</b>	<b>7g</b>	<b>8g</b>



# Know Caloric content of commonly used food



and



# Approx. Caloric Expenditure in different activities

Prevention is Better than Cure



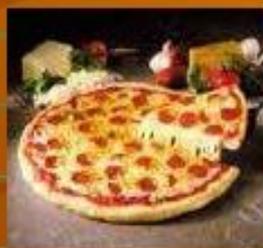
Preperation	Quantity for 1 serving	calories (Kcal)
Rice	1 cup	170
fulka	No 1	80
paratha	No 1	150
puri	No 1	100
bread	2 slice	170
poha	1 cup	270
upma	1 cup	270
idli	2 no	120
Dosa (PLAIN)	No 1	125
khichdi	1 cup	200
wheat porridge	1 cup	220
semolina porridge	1 cup	220
cereal flakes with milk (corn/wheat/rice)	1 cup	220
Plain dal	1/2 cup	100
sambhar	1 cup	110



Prevention is Better than Cure

# Snacks

Preperation	Quantity for 1 serving	calories (Kcal)
bajji or pakoda	8 no	280
besan ka pura	No 1	220
chat (dahi pakodi)	5 piece	220
chees balls	2 no	250
dahi vada	2 no	180
vada	2 no	140
masala vada	2 no	150
masala dosa	No 1	200
pea-kachori	2 no	380
potato vada	2 no	200
sago vada	2 no	210
samosa	No 1	200
sandwiches (butter 2 tespoon ful)	2 no	200
vegetable puffs	No 1	170
pizza (cheese and tomato)	1 slice	200



# Sweets and Desserts

	Preperation	Quantity for 1 serving	calories (Kcal)
baesan barfi		2 pieces	400
chikki		2 pieces	290
fruit cake		1 piece	270
rice puttu		1/2 cup	280
sandesh		2 no	140
double ka meetha		1/2 cup	280
halwa (kesari)		1/2 cup	320
Jelly /jam		1 teaspoonful	20
Custard (caramal)		1/2 cup	160
shrikhand		1/2 cup	380
milk chocolate		25 grams	140
Ice cream		1/2 cup	200



# Beverages

Preperation	Quantity for 1 serving	calories (Kcal)
Tea (2 teaspoon ful sugar + 50 ml toned milk)	1 cup	75
coffee (2 teaspoon ful sugar + 100 ml toned milk)	1 cup	110
cow's milk (2 teaspoon ful sugar)	1 cup	180
buffalo's milk (2 teaspoon ful sugar)	1 cup	320
lassi (2 teaspoon ful sugar)	1 glass (200 ml)	110
squash	1 glass (200 ml)	75
Syrups (sharbat)	1 glass (200 ml)	200
cold drinks	1 bottle (200 ml)	150
fresh lime juice	1 glass (200 ml)	60



Preperation	Quantity for 1 serving	calories (Kcal)
almonds	10 no	85
keshar nuts	10 no	95
coconut fresh	one fourth	130
coconut dry	one fourth	140
pea nuts	50 no	90



## Fruits

Preperation	Quantity for 1 serving	calories (Kcal)
apple	1 medium	65
banana	1 medium	90
grapes	30 no	70
guava	1 medium	50
jack fruit	4 pieces	90
mango	1 medium	180
mosambi / orange	1 medium	40
pappaya	1 piece	80
pineapple	1 piece	50
sapota	1 medium	80
custard apple	1 medium	130
water melon (musk melon)	1 piece	15



## Fruits

Preperation	Quantity for 1 serving	calories (Kcal)
apple	1 medium	65
banana	1 medium	90
grapes	30 no	70
guava	1 medium	50
jack fruit	4 pieces	90
mango	1 medium	180
mosambi / orange	1 medium	40
pappaya	1 piece	80
pineapple	1 piece	50
sapota	1 medium	80
custard apple	1 medium	130
water melon (musk melon)	1 piece	15



# ACTIVITIES



# Activity 1

## Who am I?

### Fill in the blank with the appropriate nutrient.

1. I serve many functions in the body. I help carry nutrients to the body's cells and I also help regulate body temperature. I am\_\_\_\_\_.
2. I can be converted into energy. I am also used to build, maintain and repair body tissues. I am\_\_\_\_\_.
3. I have a bad reputation in many people's minds but I do serve many functions in the body. For example, I am the most concentrated source of energy and I also am needed for growth and healthy skin. I am\_\_\_\_\_.
4. I am the body's main source of energy and I come in two forms, simple and complex. I am\_\_\_\_\_.
5. I do not provide energy (calories) but I do help regulate many of the chemical processes in the body. You need 13 different forms of me everyday. I am\_\_\_\_\_.
6. I am depended on for nearly every process necessary for life. The body requires 16 types of me everyday from calcium to iron. I am \_\_\_\_\_.



# Activity 1 with answers

## Who am I?

### Fill in the blank with the appropriate nutrient.

1. I serve many functions in the body. I help carry nutrients to the body's cells and I also help regulate body temperature. I am Water.
2. I can be converted into energy. I am also used to build, maintain and repair body tissues. I am Protein.
3. I have a bad reputation in many people's minds but I do serve many functions in the body. For example, I am the most concentrated source of energy and I also am needed for growth and healthy skin. I am Fat.
4. I am the body's main source of energy and I come in two forms, simple and complex. I am Carbohydrates.
5. I do not provide energy (calories) but I do help regulate many of the chemical processes in the body. You need 13 different forms of me everyday. I am vitamin.
6. I am depended on for nearly every process necessary for life. The body requires 16 types of me everyday from calcium to iron. I am mineral.



# Which food item gives most nutrients?

Per serving	Energy	Carbohydrate	Fat	Protein
Chapatti 20g 	<b>70 kcal</b>	<b>15g</b>	<b>0</b>	<b>2g</b>
Ghee 10g 	<b>90kcal</b>	<b>0g</b>	<b>10 g</b>	<b>0g</b>
Milk 3% fat 1 glass/ 240ml 	<b>145 kcal</b>	<b>12g</b>	<b>7g</b>	<b>8g</b>





# EU-India Capacity Building Initiative for Trade Development (CITD)



## Thank you

