

# **NIOS lesson adaptation project**

**By EMBRACE Volunteers**

(A community initiative of Harchan Foundation Trust)

## **Chapter 3**

### **Food Groups**

(Printable Version)

- **Simplified Lesson**
- **Previous Year Questions with Answers**
- **Terminal Questions**

This project is aimed at supporting children with different needs. Information provided is adapted to the best of knowledge by the volunteers. For complete information please refer to the NIOS resources in <https://www.nios.ac.in/online-course-material/secondary-courses.aspx>.

## LESSON 3

### Food Groups

#### Classification of Food items:

Function	Nutrient	Food
Energy giving food	Carbohydrates and fats	Cereals, fats, sugar
Body building food	Proteins	Pulses, milk, meat, chicken
Regulatory and protective foods	Vitamins and minerals	Fruits and vegetables

#### The Five Food Group system:

Food Groups	Food	Nutrients present
Cereals, Grains	Rice, wheat, ragi, jowar	Carbohydrates, Proteins, Fibre, Vitamin B
Pulses and Legumes	Dals, rajmah, soyabean, green gram	Carbohydrates, protein, fibre
Milk, Egg, Meat products	Curd, Paneer, cheese, egg, fish, meat	Proteins, Fats, vitamins, minerals
Fruits and vegetables	Mango, banana, spinach, amla, beans, carrot	Vitamin A, Vitamin C, Fibre
Fats and Sugar	Butter, ghee, oil, sugar, honey, jaggery	Carbohydrates, Fats

#### **Characteristics of food groups:**

##### **Cereals:**

- They are the main source of energy in our diet.
- Whole cereals and grains has good amount of fibre which is good for digestive system. Fibre prevents life style diseases.
- Cereals should be eaten in unrefined way to get good amount of fibre.
- Cereals are rich vitamin B complex.

Ex: We should use wheat flour instead of maida, Dalia and brown rice instead of polished rice.

##### **Pulses and legumes:**

- These are main sources of protein. Ex: urad, rajma, arhar and Bengal gram.
- They have good amount of vitamin B, calcium and iron.

- Pulses and cereals should be included in every meal to obtain good quality of protein.

Ex: Soya nuggets can be added for variety in the food.

#### **Milk, egg and meat products:**

- These are rich in protein, fat, vitamin A and calcium.
- Cheese and Paneer have mainly protein as nutrient.
- Eggs are rich source of almost all nutrients except vitamin C. So it recommended for growing children, pregnant women and lactating mothers.
- Meat, chicken and fish are source of high quality protein, vitamin A and vitamin B.

It is advisable to consume, cereals, pulses and milk products.

Ex: Dal-rice, idly-sambar, dal-roti, dosa-sambar along with curd and butter milk is excellent examples of high protein quality meals.

#### **Food Exchange:**

Replacing one food with another food which is equally rich in the same nutrients.

- Ex.
- Roti with subzi can be exchanged with Pongal and sambar
  - Coffee can be exchanged with tea

#### **Food Pyramid:**

- Indicates that we should consume food from all food groups
- Food items at the top should be taken in less quantity
- Food items at the bottom should be taken in larger quantity
- Helps in planning a balanced diet
- Helps in selection of alternate foods

#### **Balanced Diet:**

A balanced diet is one which contains all the nutrients in adequate quantity to meet the body's requirements.

#### **Meal Planning:**

Meal planning is a process of making a plan about what we should eat each day in every meal.

#### **Importance of meal Planning:**

To give the body all the required nutrients.

To include food from all the five food groups.

#### **Skills needed for meal Planning:**

- Skills to use the affordable, seasonable, locally grown, fresh and nutritious food and give variety.
- Skill to fulfil the nutritional needs and likes of every family member.
- Skill to use underutilized foods such as leaves of carrot, radish, beetroot.
- Ability to use the left-over food items.
- Skills such as

- Goal setting
- Planning
- Problem solving
- Decision making to save time, energy and money

#### **Factors affecting Meal Planning:**

<b><u>Factors</u></b>	<b><u>Description</u></b>
<b><u>Age</u></b>	The nutritional requirements vary with age so the type of food, its quantity and quality also change.
<b><u>Weather</u></b>	In winters our body needs more energy to maintain the body temperature. So energy rich foods like peanut chikki, etc help us to maintain body temperature.
<b><u>Sex</u></b>	A man requires more protein and energy than a woman. So sex should be considered while meal planning.
<b><u>Occupation</u></b>	We must consider the nature of occupation of each family member while planning meals.
<b><u>Physiological needs</u></b>	While planning a meal, physiological needs of individual family member should be kept in mind E.g. A growing adolescent needs more protein and energy rich food.
<b><u>Seasonal availability</u></b>	Seasonal food items are fresh, nutritious, less expensive and easily available than the off season food items.
<b><u>Price</u></b>	Income of a family has a direct impact on meal planning. One can plan balanced meals without increasing the budget. For example, use groundnuts instead of cashew nuts and almonds;

#### **Family Meals:**

Family meal or Thali meal is the meal for the family. It should contain one food item from each of the five food groups in every meal.

#### **Sample:**

<b>Food Groups</b>	<b>Meal 1</b>	<b>Meal 2</b>
Cereals, Grains	Chappathi	Rice
Pulses and Legumes	Arhar dal	Urad dal

Milk, Egg, Meat products	Paneer curry	Chicken curry
Fruits and vegetables	Potato and beans subji guava	Tomato and cucumber salad orange
Fats and Sugar	Oil/ghee used for cooking	Oil/ ghee used for cooking

## **PREVIOUS YEARS QUESTIONS**

### **1 Mark Questions:**

1. Seasonal foods should be preferred while planning meals because they are \_\_\_\_
  - a. Fresh
  - b. Nutritious
  - c. Less expensive
  - d. All of the above

Ans: d. all of the above

### **2 Mark Questions:**

1. Explain the term 'Food Exchange' with the help of an example.

#### **Food Exchange:**

Substitution of one food item with the other within a group in such a way that the nutrients provided by them are approximately the same is called Food Exchange.

Ex: One glass of milk and roti can be exchanged with one cheese(paneer) sandwich.

2. Define a balanced diet.

#### **Balanced Diet:**

A balanced diet is one which contains all the nutrients in adequate quantity to meet the body's requirements.

3. How is meal planning of family members influenced by their occupation?

People like sports person, farmers do more manual work than people like businessmen and teachers. So they require more protein and carbohydrates. So the occupation of the person should be considered when doing meal planning.

4. Which four skills you would use while planning meals for your family?

- Skills to use the affordable, seasonable, locally grown, fresh and nutritious food and give variety.
- Skill to fulfil the nutritional needs and likes of every family member.
- Skill to use under utilized foods such as leaves of carrot, radish, beetroot.
- Ability to use the left-over food items.
- Skills such as
  - a. Goal setting
  - b. Planning
  - c. Problem solving
  - d. Decision making to save time, energy and money

### **3 Mark Questions:**

- 1. What is a balanced meal? List any four factors that affect meal planning.**

Balanced meal :

A balanced meal is one which contains all the nutrients in adequate quantity to meet the body's requirements.

Four factors that affect meal planning:

1. Age
2. Sex
3. Weather
4. Occupation

- 2. Give five reasons for including butter in our meals. Give one alternative food for a person who does not like butter.**

Butter should be included in our meals because

- a. It provides the essential fatty acids
- b. It contains fat soluble vitamins.
- c. It has vitamins A,D
- d. It provides vitamins like E and K
- e. It is a concentrated source of energy

The alternate for butter is ghee.

### **4 Mark Questions:**

- 1. Using all five food groups, plan a balanced lunch for an adolescent girl.**

Food groups	Food items
Cereals	Whole wheat roti
Pulses and legumes	Rajma curry

Milk, egg and milk products	Boiled egg, milk
Fruits and vegetables	Carrot, Beetroot veg salad, Pomegranate
Fats and Sugar	Besanladoo with jaggery

**2. Plan a balanced meal for a family living in Punjab.**

<b><u>Breakfast</u></b>	<b><u>Lunch</u></b>	<b><u>Dinner</u></b>
Radish Parata, Curd, Banana, oil/ghee for cooking	Roti / Rice Cooked Dhal Rajma Curry Palak Paneer Lassi Guava Oil/ghee for cooking	Roti, Carrot, cucumber salad, Buttermilk

## **TERMINAL QUESTIONS**

**1. Explain the importance of classification of foods and list the five food groups.**

Importance of classification of foods:

To group the similar food items together

To group the food items based on the nutrient content.

Five food groups:

- i) Cereals, grains and their products
- ii) Pulses and legumes
- iii) Milk, egg and meat products
- iv) Fruits and vegetables
- v) Fats and sugar

**2. Describe the term ‘food exchange’ with the help of examples.**

Food Exchange:

Substitution of one food item with the other within a group in such a way that the nutrients provided by them are approximately the same is called Food Exchange.

Ex: One glass of milk and roti can be exchanged with one cheese (paneer) sandwich

**3. Explain ‘balanced diet’ and ‘meal planning’ in your own words.**

Balanced Diet:

A balanced diet is one which contains all the nutrients in adequate quantity to meet the body’s requirements.

Meal Planning:

Meal planning is a process of making a plan about what we should eat each day in every meal.

**4. State the importance of meal planning.**

To give the body all the required nutrients.

To include food from all the five food groups.

**5. Briefly explain three important factors that influence meal planning.**

Age: The nutritional requirements vary with age so the type of food, its quantity and quality also change.

Ex: Old people eat soft and fibre rich food in small quantity.

Adolescents eat a variety of food and in more quantity as compared to children

Weather: In winters our body needs more energy to maintain the body temperature. So energy rich foods like peanut chikki, etc help us to maintain body temperature.

Sex: A man requires more protein and energy than a woman. So sex should be considered while meal planning.