Becoming

NUTRI-MASTERS

Becoming Nutri-Masters

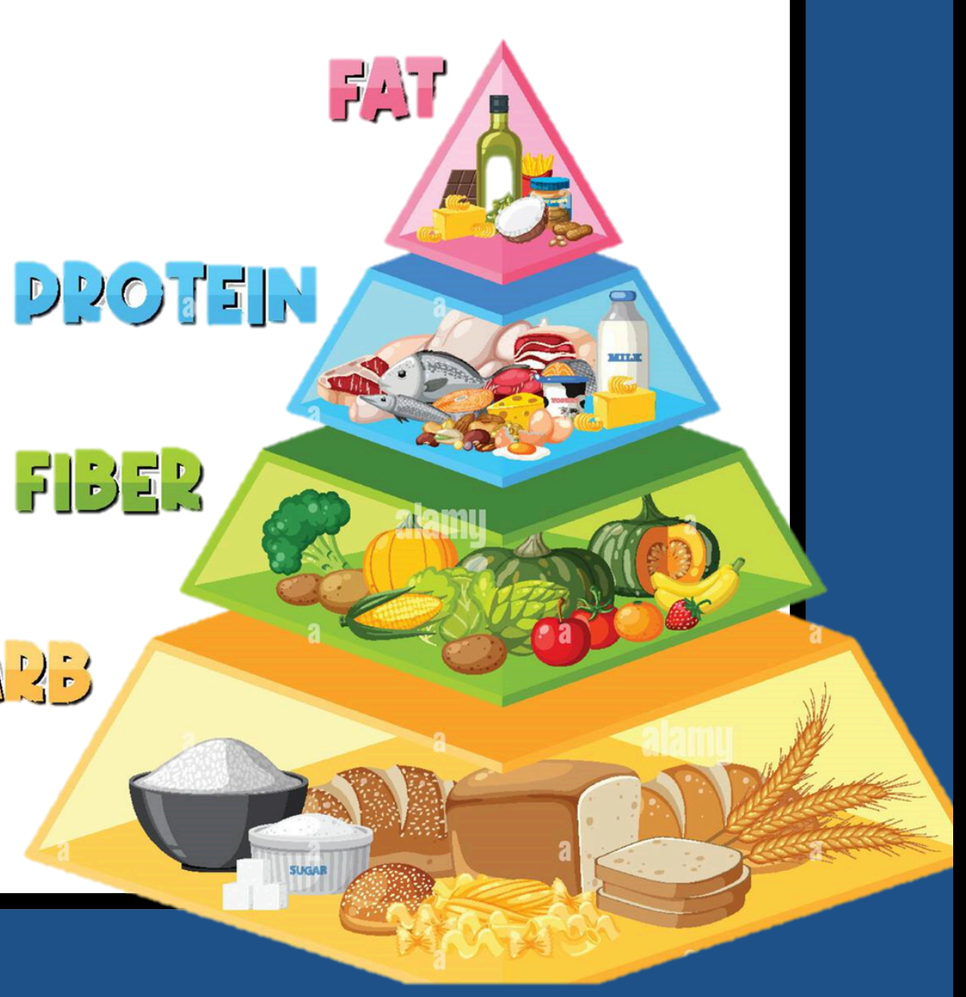
Game Theme
Food Groups

Grade Level
IV-V

Game Type
Card Game

Game Overview

- Nutri-Masters is a concept-based biology learning activity designed to help students understand the five essential nutrient groups through observation, clue analysis, classification, and matching tasks. Players take on the role of nutrition explorers as they decode clues and match each nutrient group to its functions, food sources, and deficiency effects.
- The goal is for players to correctly complete a “Nutrient Board” by earning one card from each of the five food groups - turning them into certified “Nutri-Masters.”
- By the end of the gameplay, students will be able to identify the sources of each food group, their functions in the body, and the potential health issues caused by deficiencies.
- A complete game set, for one group, includes the following materials:
  - 20 cards: 5 nutrient cards (Carbohydrates, Proteins, Fats, Vitamins, Minerals) with 4 cards per nutrient containing key information about their roles and examples of associated foods.
  - Boards or a designated space for each participant to organize collected cards (optional).



Gameplay Instructions

- Explain the objective of the game: to collect all four information cards related to a chosen nutrient group by matching cards during gameplay.
- Divide the class into groups of 5 students.
- Provide each group with a shuffled set of 20 cards and, if available, boards or designated spaces for organizing collected cards.
- Each student in the group selecting one nutrient to focus on (e.g., Carbohydrates, Proteins). Ensure no two students in the same group select the same nutrient.
- Place all cards face down in a grid layout on a flat surface. Ensure students cannot see the content of the cards.
- The game starts by students take turns flipping two cards at a time.
- If both cards belong to their chosen nutrient group, the student keeps them and places them on their board or in their hand.
- If the cards do not match their nutrient group, the student places them back face down in their original positions.
- The first player to collect all four cards related to their chosen nutrient wins.
- For additional rounds, students can switch nutrient groups or reshuffle the cards for a new challenge

Debriefing and Reflection

After the activity, initiate a class discussion with prompts such as:

- Which nutrient was easiest or hardest to match? Why?
- What surprised you about the functions or deficiencies of any nutrient?
- How can you apply this knowledge to your own diet?
- Why is it important to maintain a balanced intake of all five nutrients?

Adaptations for Gamplay

For Lower Grades: For younger students, provide one nutrient group at a time and work together as a class. Use visual flashcards with food images instead of text-heavy clues. Allow verbal matching and group discussion instead of written boards.

For Higher Grades: For older students, add extension challenges like asking students to give real-life examples of nutrient-rich meals. Include a bonus round on nutrient deficiencies in specific populations (e.g., anemia in teens). Ask students to present one nutrient group orally with reasoning.

Becoming NUTRI-MASTERS

They are essential for the growth, repair, and maintenance of body tissues.

They serve as the building blocks for muscles, organs, and the immune system

Sources include meat, fish, dairy, legumes, and nuts.

Deficiency of this nutrient can lead to muscle loss, slowed growth, and weakened immunity

They are the primary source of energy for the body

They provide fuel for all cellular functions and physical activities.

Common sources are bread, pasta, fruits, vegetables, and grains.

Deficiency of this nutrient can cause fatigue, poor mental function, and muscle breakdown.

They are a dense source of energy and are essential for hormone production and nutrient absorption

They are crucial for the structure of cell membranes and provide cushioning for organs.

Examples include butter, oils, nuts, seeds, and fatty fish

Deficiency of this nutrient can result in dry skin, hormone imbalances, and impaired absorption of fat-soluble vitamins.


These nutrients are crucial for immune function, energy production, and overall health.

These nutrients have different roles such as Vitamin C for immunity and Vitamin D for bone health.

The sources include citrus fruits, leafy greens, dairy, and fish.

Deficiency of this nutrient can lead to various health issues, such as scurvy or rickets

These nutrients are important for structural functions and regulating processes within the body.

These nutrients fulfill crucial roles in the body: calcium is essential for bone health, iron is vital for blood formation, and zinc is key in supporting metabolism

The sources include dairy, meat, cereals, and vegetables

Deficiency of this nutrient can lead to conditions such as osteoporosis (from lack of calcium), anemia (from insufficient iron), and a weakened immune response (from low zinc).

ANSWER SHEET

Minerals

- Minerals are important for structural functions and regulating processes within the body.
- They include calcium for bones, iron for blood, and zinc for metabolism.
- Sources include dairy, meat, cereals, and vegetables.
- Mineral deficiencies can lead to conditions such as osteoporosis (from lack of calcium), anemia (from insufficient iron), and a weakened immune response (from low zinc).

ANSWER SHEET

Carbohydrates

- Carbohydrates are the primary source of energy for the body.
- They provide fuel for all cellular functions and physical activities.
- Common sources are bread, pasta, fruits, vegetables, and grains.
- Lack of carbohydrates can cause fatigue, poor mental function, and muscle breakdown.

ANSWER SHEET

Lipid (Fats)

- Lipids are a dense source of energy and are essential for hormone production and nutrient absorption.
- They are crucial for the structure of cell membranes and provide cushioning for organs.
- Examples include butter, oils, nuts, seeds, and fatty fish.
- Deficiencies in lipids can result in dry skin, hormone imbalances, and impaired absorption of fat-soluble vitamins.

ANSWER SHEET

Proteins

- Proteins are essential for the growth, repair, and maintenance of body tissues.
- They serve as the building blocks for muscles, organs, and the immune system.
- Sources include meat, fish, dairy, legumes, and nuts.
- A deficiency in proteins can lead to muscle loss, slowed growth, and weakened immunity

ANSWER SHEET

Vitamins

- Vitamins are crucial for immune function, energy production, and overall health.
- Each vitamin has specific roles, such as Vitamin C for immunity and Vitamin D for bone health.
- Vitamin sources include citrus fruits, leafy greens, dairy, and fish.
- Vitamin deficiencies can lead to various health issues, such as scurvy from lack of Vitamin C or rickets from insufficient Vitamin D.

MY NUTRIENT BOARD