



INNOVATIVE TEACHING-LEARNING (PEDAGOGY) REPORT

Title of the Activity	“Food Molecule Match-Up” – A Collaborative Molecular Card Game for Learning Food Chemistry
Subject	FT302E: Food Chemistry
Department	Food Technology
Academic Year	2024-25
Name of the Faculty	Prasanna Prakash Bhalerao
Objective(s)	<ul style="list-style-type: none">✓ To enhance student understanding of chemical structures and functional groups in food molecules.✓ To improve retention of complex biochemical properties through peer-led game-based learning.✓ To make learning interactive and enjoyable through hands-on participation.
Course Outcomes Addressed	<ul style="list-style-type: none">✓ CO1: Explain the chemistry and classification of carbohydrates, proteins, and lipids.✓ CO2: Illustrate the structural properties and functional roles of water and enzymes in food.✓ CO3: Evaluate the role of food additives, color, and flavor compounds in food systems.✓ CO4: Apply knowledge of food chemistry in explaining changes during processing and storage.
Materials/Resources Required	<ul style="list-style-type: none">✓ Laminated molecule cards (carbohydrates, amino acids, enzymes, fats, vitamins, additives)✓ Functional group matching cards✓ Scoreboard and team tokens✓ Whiteboard/markers
Brief Description of the Activity	<ul style="list-style-type: none">✓ Students are divided into small teams (3–4 per team).✓ Each team receives a set of “Molecule Cards” with names, structures, or formulas of key food compounds.✓ On the board, functional groups and related food applications are listed (e.g., emulsifier, antioxidant).✓ Teams race to match molecules with their correct functions or categories based on clues.✓ Bonus rounds include explaining why a match is correct and discussing the role during food processing.
Learning Outcome	<ul style="list-style-type: none">✓ Reinforced memory of structural and functional details of food molecules.



- ✓ Strengthened conceptual connections between **chemical structures and food behavior**.
- ✓ Encouraged collaborative learning, critical thinking, and peer teaching.
- ✓ Promoted engagement through **gamification of theory-heavy content**.

Glimpses

