Ingredient Functionality, Textures, and Plating

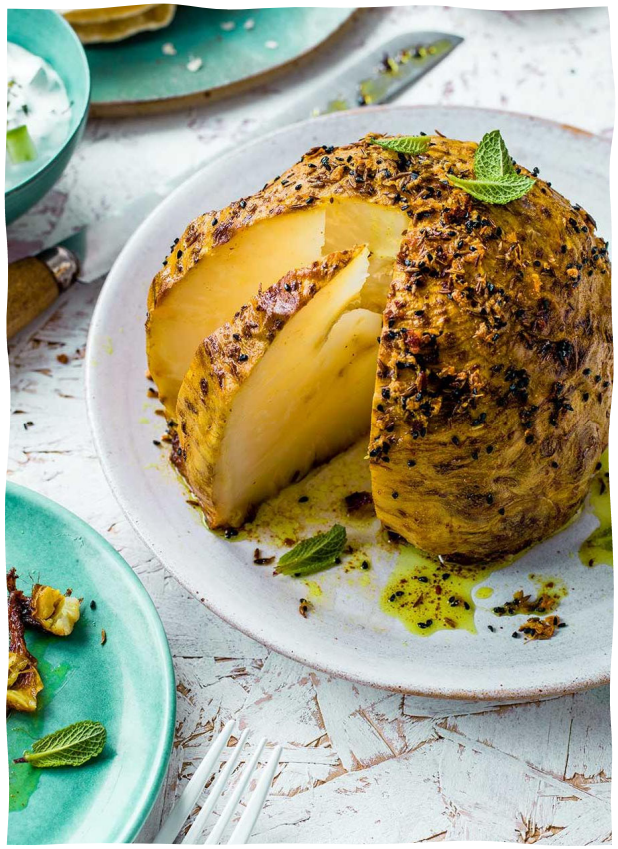
Introduction

- Show how ingredient functionality creates texture and balance.
- Dish Framework: Steak, Potatoes, Sauce, and Vegetables
- What happens if we change one ingredient?

The Meat (Protein Functionality)

Structure and chew from proteins (myosin, collagen)
Maillard reaction → crust and flavor
Brining/acid → tenderize and retain moisture
Resting → juiciness preserved
Texture: tender, juicy, seared crust
Does not have to be actual meat

Plant Forward



The Potatoes and Bread (Starch Functionality)

- Russet → fluffy mash/roast
- Waxy → creamy, hold shape
- Fat coats starch → crisp exterior
- Texture: crispy outside, fluffy inside, creamy, velvety

The Sauce (Emulsification and Carriers)

- Fat + liquid + emulsifier = body and mouthfeel
- Reduction → viscosity, cling
- Butter mount → silky sheen
- Broken sauce → greasy and separated
- Texture: smooth, rich, glossy

The Vegetables (Contrast and Freshness)

- Blanch + shock → vibrant color, crisp-tender
- Overcook → dull, mushy
- Acid too early → toughens veg
- Texture: bright, crunchy, fresh

Plating It All Together

- Meat: tender and juicy, umami
- Potatoes: silky smooth, creamy
- Sauce: smooth and rich, umami
- Vegetables: vibrant and crisp-tender, acidic balance
- Ingredient science → texture and balance on the plate

Why does this work?

Wrap-Up and Takeaway

- Great cooking = controlling functionality for desired texture/mouthfeel
- Classroom activity: asymmetrical plating
- Teach the WHY, not just the HOW