

Introduction to Baking Techniques

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Designed as quick-reference study notes

1. Core Principles of Baking

Principle	What It Means	Why It Matters
Precision	Exact measurements of ingredients (weight vs volume)	Determines texture, rise, and flavor consistency
Temperature Control	Oven temperature, ingredient temperature, dough temperature	Affects gluten development, leavening activity, and crust formation
Timing	Mixing, proofing, baking, cooling intervals	Prevents over/undermixing and ensures proper crumb structure
Ingredient Function	Flour ? structure, Sugar ? sweetness & browning, Fat ? tenderness, Leaveners ? lift	Balancing functions yields the desired final product

2. Fundamental Techniques

2.1 Mixing Methods

Technique	Steps	Typical Products
Creaming	1. Soften butter 2. Beat with sugar until light & fluffy 3. Add eggs one at a time	Cookies, cakes, brownies
Rubbing In (Cutting In)	1. Combine cold butter with flour using fingertips or pastry cutter 2. Produce pea-sized pieces	Shortcrust pastry, scones
Meringue	1. Whisk egg whites 2. Add sugar gradually 3. Reach stiff peaks	Pavlova, angel food cake

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Technique	Steps	Typical Products
Kneading	1. Combine flour, water, yeast, salt 2. Develop gluten by folding & stretching	Breads, pizza dough
Folding	1. Gently turn a light batter into a heavier mixture (e.g., fold whipped egg whites into batter)	Soufflés, chiffon cakes, mousse

2.2 Leavening Methods

Leavener	How It Works	Typical Use
Yeast	Ferments sugars → CO ₂ + ethanol; gas expands dough	Breads, rolls, brioche
Baking Powder	Double-acting: acid + base react when wet and again with heat	Quick breads, pancakes, muffins
Baking Soda	Needs an acid (e.g., buttermilk, lemon) to produce CO ₂	Cookies, gingerbread, some cakes
Steam	Water vapor expands rapidly in hot oven	Choux pastry, popovers, puff pastry

2.3 Shaping & Forming

- **Rolling** – flatten dough to uniform thickness; use parchment or silicone mat to avoid sticking.
- **Cutting** – use sharp cookie cutters or a bench scraper for clean edges.
- **Piping** – fit the appropriate tip; practice consistent pressure for uniform decoration.
- **Proofing** – place shaped dough in a warm, draft-free environment (30°C/86°F) until doubled in size.

3. Oven Management

Aspect	Tips
Pre-heat	Always reach the target temperature before loading; use an oven thermometer for verification.
Rack Position	Middle rack for even heat; lower for browning bottoms, upper for top crust color.

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Aspect	Tips
Steam	Add a pan of boiling water or spray water at the start of bake for crusty loaves.
Rotating	Turn trays halfway through baking for uniform color, especially in convection ovens.
Cooling	Transfer baked goods to a wire rack; avoid leaving them