

Apple Crumble

Two varieties, one that holds shape and one that melts. A 71°C pre-cook that activates pectin methylesterase and sets cell walls. Brown-butter oat crumble baked hot. A flake of Maldon on top.

Yield: **23 cm** (6–8) Active: **25 min** Total: **1 hr 30** Oven: **200°C** (400°F) Pre-cook: **71°C**

INGREDIENTS

METRIC · VOLUME RIGHT COLUMN

APPLES (60:40)

Holds-shape (Braeburn / Granny / Honeycrisp / Pink Lady)	600g	~4
Melts (McIntosh / Golden / Cortland / Reinette)	400g	~2–3
Light brown sugar	60g	¼ cup
Lemon juice	15g	1 tbsp
Lemon zest	2g	1 tsp
Cornstarch (not flour)	10g	1 tbsp
Cinnamon (Ceylon)	2g	1 tsp
Cardamom (opt.)	0.5g	¼ tsp
Freshly grated nutmeg	–	pinch
Fine sea salt	2g	½ tsp

PRE-COOK

Unsalted butter	30g	2 tbsp
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BROWN-BUTTER OAT CRUMBLE

Butter (→ brown)	140g	10 tbsp
Flour	150g	1¼ c
Rolled oats (NOT instant)	100g	1 c
Light brown sugar	100g	½ c
Demerara	40g	3 tbsp
Fine salt	3g	½ tsp
Flaky salt (Maldon) on top	–	2 pinch
Cinnamon	2g	1 tsp
Toasted pecans / hazelnuts (opt.)	60g	½ c

TO SERVE

Crème fraîche OR brown-butter ice cream OR soft-whipped cream (unsweetened, soft peaks)

Kit: 23 cm (9") round dish, 5 cm deep · 30 cm sauté pan · light saucepan · scale · instant-read thermometer

METHOD

- Oven 200°C (400°F).** Grease dish. Peel, core, cut apples to **2 cm chunks**.
 2 cm = holds-shape stays distinct, melts still cooks through. Smaller → all sauce. Larger → raw centres.
- Toss.** Acid first (lemon juice + zest — stops browning), then sugar + cornstarch + spices + salt.
- Pre-cook.** 30 g butter, medium-high, foaming. All apples + liquid in. Stir, 8–10 min, to **71°C (160°F)** centre and *visible reduced syrup* — not running water.
 60–82°C hold activates pectin methylesterase → low-ester pectin that cross-links with calcium and firms cells through baking. The difference between tender-and-intact vs. mush. — Kenji, SE 2013; McGee pp. 285–86
- Transfer + cool.** Into the baking dish. *Cool to warm* while you make the crumble. Hot filling under crumble → bottom steams instead of crisping.
- Brown the butter.** 140 g in light saucepan, medium heat, swirl. Deep golden solids, toasted-hazelnut smell, 6–8 min. Pull off immediately.
 Maillard on milk proteins → hundreds of nutty, toasted compounds melted butter can't provide. The single biggest lift for 30 seconds of work. — McGee pp. 32–38
- Build crumble.** Whisk flour + oats + both sugars + fine salt + cinnamon. Pour warm brown butter over (every brown bit). Fork to **pebbles pea-to-walnut**, not sand. Fold in nuts if using. Range of sizes = textural range.
 Old-fashioned oats absorb fat without dissolving, keeping topping pebbled + chewy. Instant oats melt back to streusel. — Ficoni, How Baking Works 2010
- Scatter over warm filling.** Loose and craggy, *do not pack*. Air gaps let the oven crisp every piece. **Two pinches Maldon on top.**
- Bake 200°C (400°F), 35–45 min**, on a sheet pan (for bubble-over), rotate at halfway. *Not 180°C — most pale soggy tops are baked 25° too cool.*
- Rest 10 min on a rack.** Non-negotiable. The cornstarch-thickened juices have to cool from 95°C to ~75°C to set. Serve warm (not molten) with crème fraîche or brown-butter ice cream on the edge of the plate.
 Maldon flake on top delivers discrete pulses of salt over 2–3 seconds — not seasoning, contrast. This is the element that makes the dish memorable. — Nosrat, Salt Fat Acid Heat 2017

Done: Deep golden-brown (mahogany edges). Visible bubbling through cracks in the topping — thick syrupy, not just edges. Internal filling **93–96°C (200–205°F)**. **Serve warm**, not hot. 10 min rest or the filling pours instead of spoons.

ELEVATION

TIER 1 — NO EXTRA TIME

- **Calvados / apple brandy** — 15 ml in pre-cook
- **Vanilla paste** — ½ tsp in pre-cook
- **Orange zest** — 1 tsp with the lemon
- **Toasted oats** — dry-toast 3 min before mix

TIER 2 — WORTH IT

- **Miso caramel** — 100g sugar → caramel + 50g butter + 20g white miso + 75g cream
- **Caramel core** — 60g caramel over apples *before* topping
- **Spiced brown butter** — cardamom + clove + star anise in the browning butter, strain
- **Quince swap** — replace 200g melts apple w/ firm pear or quince

TIER 3 — RESTAURANT

- **BB ice cream** — 115g brown butter, 250+250 milk/cream, 6 yolks, 150g sugar, vanilla, 82°C custard, chill, churn
- **Dehydrated apple chip** — 1 mm slices, simple syrup, 65°C dehydrator
- **Cidre reduction** — 500 ml hard cider to 100 ml syrup
- **Apple-miso caramel** — 100g sugar dark caramel + 100ml cider + 15g miso + butter

TROUBLESHOOT

Watery bottom	Skipped pre-cook. Reduce to syrup, not water.
All mush	One variety only / over pre-cooked. 60:40 + stop at 71°C.
Raw centres	Chunks too big / no pre-cook. 2 cm max.
Pale soggy top	Oven too cool / packed / filling too hot. 200°C, loose, cool filling.
Greasy top	Butter too hot / over-mixed. Warm not hot; stir to pebbles.
Burnt top, raw middle	Oven too hot / dish too shallow. Tent foil at 25 min.
No crunch	Instant oats / no demerara. Rolled only; demerara on top.
Flat flavour	No flaky salt on top / no acid. Always both.

CHARTER PREP & STORAGE

Galley move	Par-freeze assembled unbaked. Bake from frozen at service.
Ramekins	6 × 250 ml. 190°C, 35–40 min from frozen.
Crumble mix	1 wk fridge / 3 mo frozen. Airtight.
Apple filling	3 d fridge. Bake from cold +5 min.
Assembled whole	24 hr fridge / 3 mo frozen. Frozen: 190°C 55–65 min.
Baked whole	3 d fridge / 3 mo frozen. Refresh 180°C 10–15 min.
Scaling	x2 same temp. x4: 190°C, 45–55 min. Never stack sauté pans in pre-cook.