High-Altitude Baking Chart

Starting points for baking sea-level recipes above 3,000 feet. General guidance to test: try the smaller change first and change one thing at a time.

Adjustments for a sea-level recipe

Oven temperature	Increase 15 to 25°F (less for chocolate or delicate cakes)
Baking time	Decrease 5 to 8 min per 30 min. Cookies: 1 to 2 min less per 10 min
Sugar	Decrease 1 tbsp per cup
Liquid	Add 1 to 2 tbsp at 3,000 ft, plus 1 1/2 tsp per additional 1,000 ft
Flour	Add 1 tbsp at 3,500 ft, plus 1 tbsp per additional 1,500 ft
Baking powder / soda	Decrease using the chart below
Yeast	Decrease about 25%; let dough rise only until doubled

Baking powder or baking soda

Recipe says	3,000–5,000 ft	5,000–6,500 ft	6,500–8,000 ft
1 tsp	7/8 tsp	1/2 tsp	1/4 tsp
1 1/2 tsp	1 1/4 tsp	3/4 tsp	1/2 tsp
2 tsp	1 1/2 tsp	1 tsp	3/4 tsp
2 1/2 tsp	1 3/4 tsp	1 1/4 tsp	1 tsp
3 tsp	2 tsp	1 1/4 tsp	1 tsp
3 1/2 tsp	2 1/2 tsp	1 1/2 tsp	1 tsp
4 tsp	2 1/2 tsp	1 1/2 tsp	1 tsp

Recipe uses both plus buttermilk or sour cream? Try all baking powder and milk.

Water boils at

Elevation (ft)	°F	°C
0	212°F	100°C
3,000	207°F	97°C
4,000	205°F	96°C
5,000	203°F	95°C
5,280 (Denver)	202°F	95°C
6,000	201°F	94°C
7,000	199°F	93°C
8,000	197°F	92°C
9,000	196°F	91°C
10,000	194°F	90°C

By type of bake

- **Cookies:** often need only small changes; chill dough 30 min to 2 hr to limit spreading.
- **Cakes:** grease and line pans; whip egg whites to soft peaks for angel food or chiffon.
- **Yeast bread:** cooler water, a cold first rise, or an extra punch-down for flavor; bread flour helps.
- **Pie:** crust needs little change; fruit fillings take longer to thicken.
- **Candy:** lower the finish temperature by the number of degrees water boils below 212°F (about 2°F per 1,000 ft).
- **Frying:** lower oil temperature about 3°F per 1,000 ft.

Sources: King Arthur Baking, High-Altitude Baking (adjustments and leavening chart); Colorado State University Extension, Baking at Elevation and High Elevation Food Preparation Guide; USDA FSIS, High Altitude Cooking; NMSU Guide E-215. Boiling points calculated from the U.S. Standard Atmosphere and NIST's equation for water. Free to print and share. Full guide and calculator: recipecatcherkitchen.com/printables/high-altitude-baking-chart/