Best Water Temperature for Tea

From the teas.co.uk wiki

> **Best water temperature for tea, in summary:** The best water temperature for tea by type: black 95-100C, green 75-80C, white 80-85C, the science behind the numbers, and how to hit it without a thermometer.

Last reviewed by the teas.co.uk team in January 2026.

Water temperature is the single most broken thing about UK tea brewing, and the easiest to fix. Boiling water on green tea destroys the cup. Tepid water on black tea makes coloured water. The right temperature for the right tea takes a thermometer or a phone timer trick, and once you know it, every cup gets noticeably better. This is the reference, organised by tea type with the science behind each number.

The reference table

Tea type	Water temperature	Steep time
Black tea (Yorkshire, Tetley, Twinings, Assam)	95-100°C (just boiled)	4 minutes
English Breakfast / Earl Grey	95-100°C	3-4 minutes
Darjeeling first flush	85-90°C	3 minutes
Oolong	85-95°C	3-5 minutes
Green tea (Sencha, Tetley Pure Green)	75-80°C	1-2 minutes
Matcha	75-80°C	30 seconds whisk
White tea (Silver Needle, White Peony)	80-85°C	3-5 minutes
Pu erh	95-100°C (rinse first)	2-4 minutes
Rooibos	95-100°C	5-7 minutes
Herbal infusions (chamomile, peppermint, fruit)	95-100°C	5-8 minutes
Chai	95-100°C	4-6 minutes (often simmered)

The science behind the numbers

Tea contains three main soluble groups: caffeine (water soluble at any temperature), polyphenols/catechins (extract faster at higher temperatures), and amino acids/L theanine (extract at lower temperatures). The "right" temperature for each tea is the one that brings out the desired balance.

- **Black tea: 95-100°C.** Black tea has been fully oxidised, the catechins have already converted to theaflavins/thearubigins, which extract well at boiling. High temperature releases the malt and body that make a strong cup. Below 90°C the cup is thin.
- **Green tea: 75-80°C.** Catechins (especially EGCG) are bitter when over extracted. At 80°C they emerge in balance with the amino acids; above 85°C they dominate and the cup turns harsh. Water above 90°C is the single biggest reason most UK drinkers think they "don't like" green tea.
- **White tea: 80-85°C.** Delicate; high heat scalds the buds and produces a flat cup. Slightly higher than green because white needs longer steeping.
- **Darjeeling first flush: 85-90°C.** Lighter and more delicate than other blacks; full boiling is overkill and over extracts. Second flush Darjeeling can take 95°C.
- **Oolong: 85-95°C.** Wide range because oolong itself spans light (close to green) to dark (close to black). Light oolongs at 85°C; dark roasted oolongs at 95°C.
- **Pu erh: 95-100°C, rinse first.** The first 30-second steep is poured away ("rinsing the leaves") to remove dust and wake up the leaf. Subsequent infusions hot.
- **Rooibos and herbal: 95-100°C, long steep.** Caffeine free, no over extraction worry. Long steep (5-8 min) brings out the volatile oils.

How to hit the right temperature without a thermometer

If you don't have a kitchen thermometer or a temperature controlled kettle:

- **For 80°C green tea:** Boil the kettle, leave it 90 seconds, then pour. Or boil and pour into a cold cup, leave another 30 seconds, then add the leaf.
- **For 85°C white/Darjeeling first flush:** Boil and leave 60 seconds, then pour.
- **For 95°C black/herbal:** Pour straight from the kettle the moment it clicks off, into a pre warmed cup. (Pre warming keeps the temperature in range during the brew.)

A £15 variable temperature kettle from Argos pays back in under a year if you drink mixed teas. The 80°C button alone transforms green tea drinking.

The pre warmed cup question

Pouring just boiled water into a cold ceramic mug drops the temperature by 10-15°C in the first 30 seconds. For black tea this is fine; for green tea it accidentally helps you hit 80°C. For black tea brewed in a cold mug, the water is at 85°C by the time the bag has bloomed, under extracted. **Pre warm the mug** with a splash of hot water poured out before brewing. The cup is noticeably better.

Soft water vs hard water

UK water hardness varies massively by region. London, the South East, and Cambridge have hard water (high calcium); Scotland, Wales, and the North West have soft. Hard water flattens delicate teas (green, white, Darjeeling) and over extracts strong blacks. Soft water makes everything brighter. More on water hardness and tea. Filtered water (a Brita style jug) closes most of the gap.

FAQ

Should you boil water for tea? Depends on tea. Black, herbal, rooibos, chai: yes (95-100°C). Green and matcha: no (75-80°C). White and Darjeeling first flush: between (80-85°C).

Why does my green tea taste bitter? Almost certainly water too hot or steeped too long. Try 80°C for 90 seconds.

Does water temperature affect caffeine? Slightly, caffeine extracts faster at higher temperatures, but most caffeine is out within the first 30 seconds at any temperature. Brew time matters more than temperature for caffeine content.

Is filtered water better for tea? Yes, especially in hard water regions. Removes excess calcium that flattens the cup. Brita style jug is enough.

Curator's note: a £15 variable temperature kettle is the single best tea related purchase you can make. The 80°C button transforms green and white tea drinking. The 95°C button is also more accurate than "let it stand 10 seconds" guesswork. Lee, teas.co.uk, Tunbridge Wells.

Quick take

Temperature is the most broken and easiest fixed thing in UK tea brewing. Boiling (95 to 100C) for black, rooibos, herbal and chai; 75 to 80C for green and matcha; 80 to 85C for white and first flush Darjeeling. Below 90C a black cup is thin; above 85C a green cup is bitter. Caffeine extracts fast at any heat, so steep time, not temperature, controls strength. No thermometer needed, a timed wait, a pre warmed mug and a filter jug get you most of the way, and a variable temperature kettle gets you the rest.

> **Brew it right:** a sturdy black from Yorkshire Tea, whole leaf green from Teapigs, or matcha from Pukka. Browse the full teas.co.uk shop, and read the water hardness guide.

References cited

- NHS: Water, drinks and your health

FROM THE CURATOR

teas · Get the water temperature right and one decent loose leaf in a clean teapot will outperform five odd bags rushed through.

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