

ONLINE COURSE

BARISTA FOUNDATION

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LESSON 5: ESPRESSO MACHINE & GRINDER BASICS

ESPRESSO MACHINE BASICS

Every espresso machine, whether it's a small home unit or a professional multi-group machine has similar components:

- **Group head:** The brewing chamber where your portafilter locks in. This is where hot water is evenly dispersed over the coffee puck.
- **Portafilter:** The handle with a basket that holds your ground coffee. Single baskets, double baskets, and bottomless portafilters all have different uses.
- **Steam wand:** Used for heating and texturing milk. Mastering it is essential for latte art.
- **Hot water tap:** For making Americanos or pre-heating cups.
- **Pressure gauge:** Shows brewing pressure (usually around 9 bars for espresso) and boiler steam pressure.
- **Drip tray:** Catches excess liquid; should be kept clean to avoid bad smells.
- **Control panel or levers:** Used to start and stop shots, sometimes programmable for consistent volumes.

Pro Tip: Always pre-warm your portafilter and cup. Cold metal or ceramic can drop your espresso's temperature and mute its flavour.



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Your grinder is just as important, as it determines how quickly water passes through your coffee, and therefore, how your espresso tastes.

- **Hopper:** Hold your coffee beans; keep it covered to protect beans from light and air.
- **Burrs:** Flat or conical discs that crush beans into consistent particles. Burr quality and sharpness matter more than motor power.
- **Dosing chamber or chute:** Where the ground coffee exits. Keep it clean to avoid stale coffee mixing with fresh grounds.
- **Adjustment collar or dial:** Lets you control grind size, from coarse (for slow flow) to fine (for slower flow). Small adjustments make big differences.

Pro Tip: Grind only what you need for each shot to keep your coffee fresh. Pre-ground coffee loses flavour, sometimes as fast as within minutes.



LESSON 5:

THE ESPRESSO RECIPE

Espresso is all about balancing dose, yield, and time:

- **Dose:** The dry coffee weight in the basket (e.g., 20g).
- **Yield:** The liquid espresso weight in the cup (e.g., 40g for a double shot).
- **Time:** The total extraction time, usually 25–27 seconds for a balanced shot.

If your shot is sour and thin, it might be under-extracted, so try a finer grind. If it's bitter and harsh, it might be over-extracted, so you should go coarser.



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LESSON 5:

THE MILK-BEVERAGE RECIPE

Milk-beverage is all about balancing dose, yield, and time:

- **Dose:** The dry coffee weight in the basket (e.g., 20g).
- **Yield:** The liquid espresso weight in the cup (e.g., 40g for a double shot).
- **Time:** The total extraction time, usually 26–28 seconds for a balanced shot.

If your shot is sour and thin, it might be under-extracted, so try a finer grind. If it's bitter and harsh, it might be over-extracted, so you should go coarser.



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LESSON 5:

KEY TECHNICAL STEPS AND WHY THEY MATTER

Your grinder is just as important, as it determines how quickly water passes through your coffee, and therefore, how your espresso tastes.

- **Purge:** Flush the group head to clear old grounds and stabilise temperature.
- **Distribute evenly:** Prevents water from flowing through less-dense areas, avoiding “channelling.”
- **Dose accurately:** A scale ensures every shot starts the same.
- **Tamp firmly and evenly:** A level tamp creates uniform resistance to water flow.
- **Clean and dry portafilter:** Residual moisture can cause uneven extraction.
- **Insert and lock:** Firm twist to seal in the group head.
- **Engage pump:** Start the extraction and watch for even, golden-brown flow.
- **Stop at target:** Cut the shot when you hit your yield/time to avoid over-extraction.

Pro Tip: Consistency is your best friend. Even small lapses, like uneven tamping or not purging, can ruin an otherwise perfect shot.



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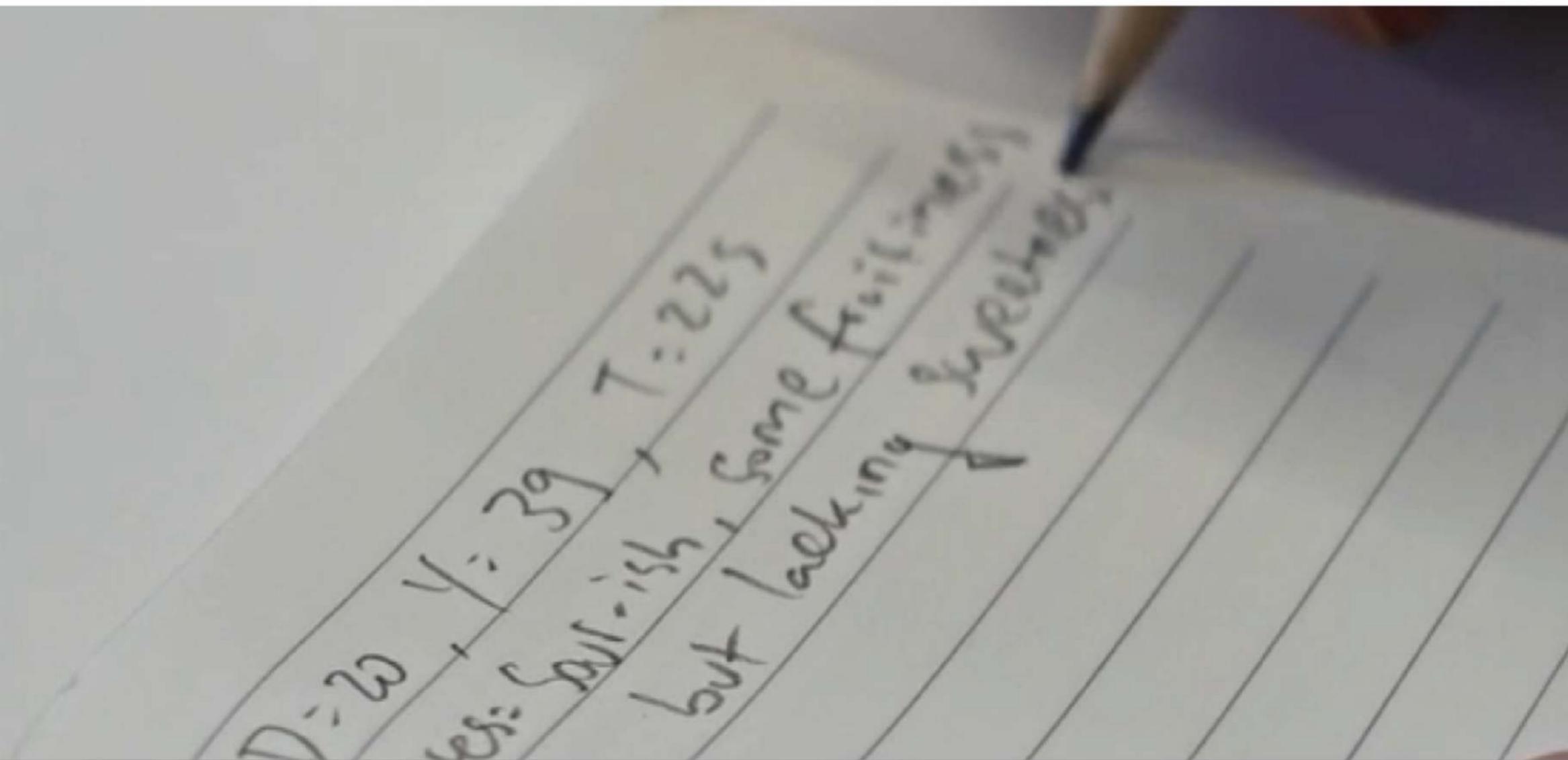
HOMEWORK

If you have pre-ground coffee:

Practice distributing and tamping consistently.

If you have a grinder:

Adjust the grind size and note how the extraction time changes. Keep a log of your dose, yield, and time – this will be your espresso “journal.”



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