

Hot vs. Cold Jiggle Race

TEACHER DEMO • KIDS DROP & TIME

RUN AT 12:45

15 MIN

The point

Particles never stop jiggling — and **hot particles jiggle faster**. The spreading color is the jiggle made visible: nobody stirs, the water does it alone.

Materials

- 2 identical tall clear glasses on a towel
- Thermos of hot (not boiling) water
- Fridge-cold water
- Food-coloring droppers
- Tape labels HOT / COLD + marker
- Timer + Number Log sheets

Steps

- 1 Fill both glasses **to the same line** — hot (adult pours, 2–3 min early so it calms) and cold. Label them.
- 2 Kids **police the fair test out loud**: same amount, same color, **ONE** drop each, same moment — only temperature differs.
- 3 Kids **predict on the worksheet front** (pencil circle).
- 4 Two kids, droppers **just above the surface**, release **on the count of three**. Start the timer.
- 5 **No stirring, no bumping** — hands in laps. Narrate what the color does in each glass.
- 6 **Log the seconds** to full, even color in each glass (cold may still be swirling at cleanup — log “still going!”).
- 7 Big ✓ **on the true worksheet picture**. Debrief: what pushed the color around?

Say: “Nobody stirred. The water particles did all the pushing — and the HOT particles jiggle faster. Warmer means faster jiggling. Always.”



Fig. 7 — same drop, same water, different jiggle speed

TEACHER PREP

Fridge a bottle of water the day before. Fill the thermos the morning of — the race needs a big hot-cold contrast on cue.

SAFETY

Hot water is **adult-pour only** — hot, not boiling. Glasses stay on the towel at the table's center.

What to watch for

- Hot: wisps and curls, full color in a couple of minutes
- Cold: a slow creeping cloud that may outlast the block
- A child connecting it to the acting game's HOTTER call

EXPECTED RESULT

The hot glass reaches full color several times faster. Same drop, same water — **temperature set the jiggle speed**, and the jiggle did the mixing.