

Reading Real Temperatures

KIDS HANDS-ON

RUN AT 11:15

20 MIN

The point

Temperature stops being a feeling and becomes a **number a child reads for themselves** — and water's two magic numbers (32 °F and 212 °F) are where its state changes happen.

Materials

- Kid stick thermometers (3–4)
- Infrared no-touch thermometer gun
- Clear glass of ice water · clear glass of warm tap water
- Binder **Number Log** sheets + pencils

Steps

- 1 Hand out stick thermometers. Kids **hold the tip in ice water**, watch the line fall, and read the number out loud.
- 2 Same in **warm water** — watch the line climb. Read it.
- 3 IR gun goes around the circle: each kid **points and reads one thing** — room air (a wall), the window, their own palm.
- 4 Everyone writes their numbers in the **Number Log** (a grown-up writes first for copying).
- 5 Announce the two magic numbers, pointing at the log's boxes: **32 °F** — freeze-and-melt line; **212 °F** — boil line.
- 6 Tease the afternoon: **“After lunch we’ll point the gun at the hot plate and watch water cross BOTH lines.”**

Say: “Hot and cold aren’t magic — they’re a NUMBER. And water keeps its promises: it always melts at the same number, and always boils at the same number.”



Fig. 2 — two waters, two very different numbers

TEACHER PREP

Battery-check the IR gun and any digital thermometers. Stage ice water just before — it should read close to 32 °F while the kids watch. Warm tap water only; no kettle here.

What to watch for

- Ice water reading lands near **32** — right ON the melt line (the ice is holding it there)
- Kids discovering their own hand is about 98 — warmer than gallium's melting point (next card!)
- Stick thermometers need a slow count to ten before reading

EXPECTED RESULT

Ice water $\approx$ 32–35 °F, room air $\approx$ 70 °F, warm water $\approx$ 100–110 °F. **Different heat = different number, and the state-change lines sit at fixed numbers.**