

One More Idea: Warm Things Grow

REVEAL AT REVIEW

10 MIN

WARM WATER

The point

Everything is made of tiny jiggling particles. Here is one more idea: **heat makes them jiggle harder** — and jiggling-harder particles need a little more room. So warm things **grow**, just a whisker. That is why a stuck jar lid loosens under hot water: the metal lid grows more than the glass jar.

Do it

- 1 Find a jar with a stubborn metal lid.
- 2 Run **hot tap water** over just the lid for 20 seconds (adult hands).
- 3 Twist — it gives! Ask: “What did the heat do to the lid’s particles?”
- 4 They jiggled harder, spread a whisker apart, and the lid grew looser.

Say: “You can’t see the particles — but you just used them to open a jar.”



Fig. 1 — warm the lid: its particles jiggle harder, spread, and the lid loosens

What to watch for

- The click that an invisible idea just did **visible work**
- Kids hunting for other examples — sidewalk cracks, bridge gaps

A PEEK AHEAD

JIGGLE PARTICLES HARD ENOUGH AND SOME LEAP RIGHT OUT OF THE LIQUID AND FLY AWAY — THAT ESCAPE IS CALLED **EVAPORATION**, AND IT GETS A WHOLE LESSON SOON.