

Dissolve to Particles

KIDS HANDS-ON

RUN AT 10:20

15 MIN

The point

A solid ball can **dissolve** — its particles let go of each other and spread out into the water. Nothing vanishes: the cloud IS the ball.

Materials

- Playdoh or soft clay, 2 marble-size balls per child (water-based — tested)
- Clear jar or glass of water per child, filled halfway
- Spoon per child
- Jumbo hand lenses

Steps

- 1 Ball in hand: “one thing, or a crowd?” **Drop it in.**
- 2 **Stir and mash** with the spoon — the water clouds as the ball’s particles spread out. That spreading is called **dissolve**.
- 3 Hold jars to the window: clear water is **transparent**, the cloudy mix is **opaque** (or in between — **translucent**). Sort the jars by see-through-ness.
- 4 **Lens on the cloud:** still no single particle visible.
- 5 **Leave one jar still all afternoon** — check it at closing circle: the particles are settling into a layer at the bottom.

Say: “Where did the ball go? Nowhere — its particles are ALL still in there, spread out and hiding in the water. That’s what dissolve means.”



Fig. 3 — the ball becoming a cloud of its own particles

TEACHER PREP

Pre-portion 2 balls per child. **Test one ball the day before** — oil-based modeling clay will NOT dissolve; water-based playdoh clouds beautifully.

What to watch for

- The water clouding exactly the color of the ball
- Kids using transparent / translucent / opaque unprompted (the vocabulary moment worth waiting for)
- At closing circle: the settled layer — the particles never stopped existing

EXPECTED RESULT

Cloudy, opaque water — the whole ball, spread out as particles; by day’s end a settled layer proves **nothing disappeared**.