

Can a comb lift paper?

Ages 5–7 with a grown-up · 5–10 minutes · Compare before and after rubbing

<https://kiddos.ai/explorations/learning-with-gina-and-ollie/can-a-comb-lift-paper>

Wonder together

What might happen after rubbing the comb?

Materials

A dry blunt-toothed plastic comb, dry wool cloth and a few adult-torn pieces of thin single-layer tissue roughly 5 mm across.

Adult setup – read before trying

Use a calm dry indoor surface away from fans. Adult handles small pieces; keep them from mouths, noses, eyes, younger children and pets. Do not blow. Collect pieces afterward. No balloons, heat, batteries, sockets or appliances.

Try together

1. Hold the comb just above the paper without touching. What do you notice?
2. Rub the comb on dry wool several times, away from the paper.
3. Bring it back just as close. Keep it still. Watch, compare, then rub again to retry.

Keep the comparison clear

Keep fixed: Comb, tissue, still air and a similar close non-touching gap.

What changes: Rubbing the comb with dry wool before the second approach.

Look for: Look for tissue beginning to move before the comb touches it.

Explain with care

Rubbing can transfer electric charge. The charged comb can attract nearby neutral paper strongly enough to lift some pieces.

This is static electricity, not magnetism. Humidity, plastic, wool, weight and distance matter; the first comb may already have charge and not every piece must lift.

Talk about it

What might happen after rubbing the comb?

Answer cue: Welcome a guess before reading the result. No correct prediction is required.

Did any piece move before the comb touched it?

Answer cue: A rise or jump before contact is useful evidence; sweeping or blowing is not.

Did rubbing turn the comb into a magnet?

Answer cue: No. This electric attraction is a different effect from a magnet's pull.

A parent move: Hold the comb still near the tissue so movement is easier to interpret.

Start simply: Adult runs the comparison while the child predicts, points or directs.

Explore further: If quiet, try a closer gap without contact or thinner tissue; keep powered equipment out.

Return to it: Compare this pull with the magnet story without calling them the same force.

In the classroom

Flexible 20-minute small-group session; pause or shorten as needed.

3 min · Wonder

Read pages 1–2. Invite a prediction with words, pointing or a sketch; keep the result hidden.

4 min · Notice the story

Read pages 3–5. Did any piece move before the comb touched it? Separate the observation from the explanation.

9 min · Try together

Use the materials and adult setup on this guide, then follow the activity steps in this guide. Look for tissue beginning to move before the comb touches it.

4 min · Make meaning

Did rubbing turn the comb into a magnet? Invite a drawing, a description or an adult-written note. Hold the comb still near the tissue so movement is easier to interpret.

Understanding check

Did rubbing turn the comb into a magnet?

Answer guidance: No. This electric attraction is a different effect from a magnet's pull.

Participation choices: Adult runs the comparison while the child predicts, points or directs. Accept pointing, words, a drawing or adult-directed action. Use the story alone if the activity is unsuitable.

Words to explore

static electric charge — An imbalance of electric charge on an object.

attract — Pull closer.

Full adult notes and honest limits

Prepare a calm test. An adult stays beside the activity and tears a few roughly 5 mm pieces of thin, single-layer tissue. Use a clean, dry plastic comb with blunt teeth and a dry wool cloth or wool sweater. Spread the paper on a smooth, dry, flat surface, indoors away from fans or breezes. The illustrated sheltered meadow is story staging; still indoor air is easier for a real test. Keep small pieces away from eyes, noses and mouths, do not blow or taste, and collect them afterward. Keep younger siblings and pets away from the small pieces. No balloons, glass, batteries, sockets or appliances are involved.

Compare one change. First bring the unrubbed comb slowly to within about 5 mm of the paper, without touching it, and hold still. Notice the starting behavior; a comb can already carry some charge, so an absolutely motionless control is not guaranteed. Move the comb away, rub it several times on dry wool,

then return to a similar close gap and hold still. Compare what happens. A few pieces may rise, jump or stick; others may stay down. Watch for the first movement before contact. Do not sweep the comb through the paper, blow on it or treat all movement as proof of static attraction.

Explain the invisible pull. Contact and separation during rubbing can transfer charge between the materials, leaving the plastic comb electrically charged. Its electric field shifts charge slightly within nearby neutral paper, causing attraction. The paper does not need an initial net positive charge. If the upward electric force is strong enough relative to the paper's weight, the paper lifts. The simplified arrow on slide 5 indicates pull direction, not a physical beam, wind or magic. This is static electricity, not magnetism; rubbing has not turned the comb into a magnet.

If the first try is quiet, stay curious. Dryness, plastic type, the wool, paper weight and distance all matter. Try thinner, smaller single-layer tissue, a closer non-touching gap or another ordinary plastic comb and wool cloth. Rub again if the effect fades, then wait for your hand and the air to settle. Humid conditions can weaken the demonstration. A few pieces may stick or fall away after touching the comb; this is not a reliable permanent hold. Do not heat materials or add powered equipment. The child can predict, point, draw the before/after, or direct the adult instead of handling tiny pieces.

Reuse the question. For a small group, let one adult run the demonstration while children predict or describe the difference. Compare the same comb, paper and gap before and after rubbing; a winning guess or exact count is unnecessary. Gina and the Magnet Mystery is a separate story about magnetic pulls and pushes, not the source of this static experiment. Do not generalize its metal wording to all metals. These are editorial illustrations and reviewed instructions; no live family trial or measured learning improvement is claimed.

Related reading

Gina and the Magnet Mystery explores magnetic pulls and pushes. The comb activity is static electricity, a distinct effect.

Scientific sources

yale-99-07-04 — <https://teachersinstitute.yale.edu/curriculum/units/1999/7/99.07.04/6>

openstax-college-physics-18-2 — <https://openstax.org/books/college-physics-ap-courses/pages/18-2-conductors-and-insulators>

uh-electrostatic-forces-activity — <https://manoa.hawaii.edu/exploringourfluidearth/chemical/chemistry-and-seawater/atoms-molecules-and-compounds/activity-electrostatic-forces>

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