Same paper. Different fall.

Ages 4–7 with a grown-up · 5–10 minutes · Compare shape

https://kiddos.ai/explorations/learning-with-gina-and-ollie/same-paper-different-fall

Wonder together

Can Gina make it fall faster? Keep it flat—or crumple it?

Materials

One intact sheet of ordinary paper.

Adult setup — read before trying

Use still indoor air away from fans. Keep feet on the floor; release without pushing from a comfortable height. Keep the landing space clear.

Try together

1. With an adult, take one intact sheet and stand on the floor in still indoor air.
2. Release the flat sheet roughly horizontal without pushing.
3. Crumple the same sheet and drop again from the same starting height.
4. Repeat and describe what changed.

Keep the comparison clear

Keep fixed: The same amount of paper, starting height and gentle release.

What changes: The shape of the sheet: flat, then compactly crumpled.

Look for: Describe a fluttering fall and a more direct fall. Repeat because individual drops vary.

Explain with care

Gravity pulls both shapes down. Air resists their motion, and the wide sheet usually experiences more air resistance than the compact ball.

Crumpling does not add weight. This is not evidence that heavier objects always fall faster.

Talk about it

Can Gina make it fall faster? Keep it flat—or crumple it?

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

How did each shape move on the way down?

Answer cue: The flat sheet may flutter or drift; the compact ball generally reaches the floor sooner.

Did we add any paper when we crumpled it?

Answer cue: No. We changed shape while keeping the same sheet.

A parent move: Invite descriptions such as flutter, twist or drop before introducing air resistance.

Start simply: An adult does the drops while the child points to the shape to try.

Explore further: Repeat each shape several times and notice whether every fall looks identical.

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Return to it: Ask what you would keep the same to compare the two falls again.

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. How did each shape move on the way down? 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. Describe a fluttering fall and a more direct fall. Repeat because individual drops vary.

4 min · Make meaning

Did we add any paper when we crumpled it? Invite a drawing, a description or an adult-written note. Invite descriptions such as flutter, twist or drop before introducing air resistance.

Understanding check

Did we add any paper when we crumpled it?

Answer guidance: No. We changed shape while keeping the same sheet.

Participation choices: An adult does the drops while the child points to the shape to try. Accept pointing, words, a drawing or adult-directed action. Use the story alone if the activity is unsuitable.

Words to explore

gravity — The pull that brings the paper toward the ground.

air resistance — The push of air against the moving paper.

Full adult notes and honest limits

Use one intact sheet of ordinary paper in still indoor air, away from fans. Hold the flat sheet roughly horizontal and release without a push; then crumple the same sheet into a compact ball and release from the same starting height. Keep feet on the floor. Repeat a few times: a flat sheet can flutter, tilt or drift, so individual drops vary. The crumpled sheet generally reaches the floor sooner because its compact shape experiences less air resistance. You changed shape while keeping the amount of paper, release height and gentle release the same. Crumpling does not add weight. Gravity pulls both forms downward; air resists their motion. Accept the child's prediction before explaining. Ask them to describe the motion or direct the release; no timing, reading or grasping skill is required. This compares one paper sheet in two shapes in air, not a rule that heavier objects always fall faster. The story's dropping scene is the literary bridge; its balloon/weight metaphor is not used as the explanation here.

Related reading

Gina and the Great Gravity Hug includes playful dropping. Use gravity and air resistance for the explanation, rather than its balloon metaphor.

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Scientific sources

yale-falling-bodies-air-resistance — https://yppsweb2.its.yale.edu/physics/demos/viewdemo.asp?ID=2C50.10&Record=Back

sciencebuddies-parachutes-forces — https://www.sciencebuddies.org/teacher-resources/lesson-plans/parachutes-forces

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App Store: https://apps.apple.com/app/id6720721998

Available physical books: https://www.amazon.com/author/kiddos-books