Same leaf. Different numbers?

Ages 5–7 with a grown-up · 10–15 minutes · Measure with equal units

https://kiddos.ai/explorations/learning-with-gina-and-ollie/same-leaf-different-numbers

Wonder together

More or fewer? If we use bigger measuring pieces, will we need more or fewer?

Materials

A closed book and two sets of large safe matching blocks, one set longer in the measuring direction.

Adult setup — read before trying

Use age-appropriate blocks without loose parts. Adult helps align along one straight book edge. Each set has identical pieces in the same orientation. If needed, an adult prepares large paper rectangles instead.

Try together

1. Lay a closed book flat. Guess the count along one edge.
2. Use equal pieces, end to end. Same side. No gaps or overlaps.
3. Try longer units on that edge. Say “about” if the fit is not exact.

Keep the comparison clear

Keep fixed: The same book edge, starting point and end-to-end placement without gaps or overlaps.

What changes: The length of each measuring unit.

Look for: Say the count together with the unit, and compare shared endpoints.

Explain with care

The same length takes fewer larger units. The number changes because the unit changes; the object does not shrink.

The story’s six-small/three-double-length example is exact. Household objects may need “about five” or “five and a little more.” Use the same unit when comparing two objects.

Talk about it

More or fewer? If we use bigger measuring pieces, will we need more or fewer?

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

Which units did you need fewer of?

Answer cue: Larger units cover the same length with fewer repetitions.

Did the book get shorter when the count was smaller?

Answer cue: No. The endpoints stayed the same; the measuring units became larger.

A parent move: Treat a gap as something to investigate: “Are we measuring the book or the spaces?”

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Start simply: Choose a short edge that takes three or four units; pointing or directing is enough.

Explore further: Predict the count for a third, larger unit, then check without a speed race.

Return to it: Ask for both a number and its unit when describing an informal measurement.

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. Which units did you need fewer of? 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. Say the count together with the unit, and compare shared endpoints.

4 min · Make meaning

Did the book get shorter when the count was smaller? Invite a drawing, a description or an adult-written note. Treat a gap as something to investigate: “Are we measuring the book or the spaces?”

Understanding check

Did the book get shorter when the count was smaller?

Answer guidance: No. The endpoints stayed the same; the measuring units became larger.

Participation choices: Choose a short edge that takes three or four units; pointing or directing is enough. Accept pointing, words, a drawing or adult-directed action. Use the story alone if the activity is unsuitable.

Words to explore

unit — An equal-sized piece used repeatedly to measure something.

Full adult notes and honest limits

Use a closed book and two sets of large toy blocks, with the second set longer in the measuring direction. Each set must have identical blocks that are safe for the child’s age and have no loose parts. An adult helps line them along one straight edge, all in the same orientation. Repeat along the same book edge with the second set. Start at the edge, keep units touching and do not overlap them. A book that does not fit whole blocks can be described as “about five blocks” or “five blocks and a little more.” This is informal length measurement, not a ruler calibration. If suitable blocks are unavailable, an adult can prepare two sets of large paper rectangles: identical within each set, with the second set longer. Use the same orientation for every piece.

The illustrated leaf is a deliberately exact model: six small units and three units twice as long cover identical endpoints. Real leaves and household blocks need not match those counts. Say the number and the unit together. For the same object and measured direction, larger units require fewer repetitions; the object has not changed length. When comparing two objects, use the same unit on both.

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Parent move: let the child notice an accidental gap and ask “Are we measuring the leaf or the spaces?” Help close the gap without calling the first attempt wrong. The child may place blocks, point to a boundary, count aloud or direct the adult. A group can compare two block rows laid beside one demonstration book. If counting six is difficult, begin with a shorter edge and three or four blocks.

A gentle later check: point to the three-big-unit row and ask whether the leaf shrank. Invite the child to show the shared endpoints. An older child can predict what happens with a third, larger unit. Avoid speed races, scores or claims that a child must master conversion formulas.

Discovery connection: carousel 04, Can paper be a bridge?, changes a structure; this activity adds a way to compare its span fairly. Carousel 17 adds observing a real plant over time. Ollie Teaches Time is related reading about measuring time, a different quantity from length. The leaf-measurement example is editorial and is not in that story. No family learning trial was performed.

Related reading

Ollie Teaches Time explores measuring time, a different quantity from length.

Scientific sources

nrich-units — https://nrich.maths.org/eyfs-activities/how-long-are-you

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

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