

Trudy Harris: Math You Can See

Patterns, clocks, counting, measurement, and data become visible through images and situations students can inspect.

6 core books	Grades 1-3	Catalogue reviewed
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You are the teacher.

Use these as an author/series study, a read-aloud sequence, or a source of book-to-book comparisons. Change the order when your students need a different entry point.

Teaching purpose

Students compare how Trudy Harris repeatedly turns abstract mathematical ideas into something visible: a pattern to extend, a clock sequence to follow, quantities to count, objects to measure, or marks to tally. The sequence moves across domains while keeping visual representation at the center.

Recommended grade band

Grades 1-3

The Big Question

How can a picture, pattern, or representation make mathematics easier to see?

Source and confidence boundary

Titles, book IDs, authors, and listed reading levels were checked against the updated TumbleBookLibrary Book_List.xlsx. Mathematical concept labels in this set were also checked against the existing TumbleTA math catalogue. Grade-band recommendations are instructional recommendations for the set, not catalogue claims about every individual title.

Before reading

Tell students to look for the representation before solving. Ask: What can I see here that the mathematics is using - a pattern, line, clock, coin, count, group, or tally?

Core reading sequence

COUNT

20 Hungry Piggies

Book ID 8452 · Trudy Harris · Math story · Reading level 2.1

Why it belongs: A counting story gives students a visible sequence of quantities and a reason to keep track accurately.

Unique contribution: It offers the simplest representation in the set: countable objects changing across a story.

Ask What helps you know that every pig has been counted once?

SEE THE
REPEAT

Pattern Bugs

Book ID 8576 · Trudy Harris · Math story · Reading level 2.4

Why it belongs: Insect images make repeating structure visible so students can identify the unit and predict what comes next.

Unique contribution: It moves from counting separate objects to recognizing structure across a sequence.

Ask What is the smallest part of the pattern that keeps repeating?

Pattern Fish

Book ID 8577 · Trudy Harris · Math story · Reading level 2.5

Why it belongs: Fish imagery offers another patterned context with different visual details.

Unique contribution: It lets students separate the mathematical structure from the objects used to display it.

Ask How can two pictures look different but use the same kind of pattern?

The Clock Struck One

Book ID 8485 · Trudy Harris · Math story · Reading level 3.8 · Teacher read-aloud/shared reading

Why it belongs: A familiar cumulative frame uses clock time to organize events and sequence.

Unique contribution: It shows a representation - the clock - doing work that a simple count cannot do.

Ask What can the clock tell you that the story words alone might make harder to track?

Book ID 8587 · Trudy Harris · Math story · Reading level 3.1

Why it belongs: A treasure context gives length or measurement a visible comparison purpose.

Unique contribution: It shifts from patterns in ordered objects to comparison using a measurement system.

Ask What must stay the same when two objects are measured so the comparison is fair?

Book ID 8612 · Trudy Harris · Math story · Reading level 3.1

Why it belongs: Tally marks turn repeated observations into organized data.

Unique contribution: It closes with representation as a memory tool: the marks preserve information so it can be compared later.

Ask What can a tally show at a glance that would be hard to remember without recording?

Optional extensions

100 Days of School

Book ID 8449 · Trudy Harris

Why optional: A strong counting-and-grouping extension for cumulative quantities and place-value thinking.

Splitting the Herd

Book ID 8607 · Trudy Harris

Why optional: A more demanding extension for dividing a collection into groups and explaining how the groups were formed.

Selection note

The core is limited to six titles so every book has a distinct job. The point of an author/series set is not to catalogue everything held; it is to make recurring craft, structure, or instructional design visible.

Across-the-set teaching moves

1. Ask students to point to the representation before discussing the answer.
2. Name the unit being counted, repeated, measured, or tallied.
3. Translate one representation into another - picture to number sentence, clock to words, tally to count.
4. Compare two books that use different pictures to express similar mathematical structure.
5. Ask what information the representation makes easier to notice.

Book-to-book connections

20 Hungry Piggies + Pattern Bugs

Compare counting each object with noticing a repeated unit.

Pattern Fish + The Clock Struck One

Compare visual repetition with a representation that organizes time.

The Royal Treasure Measure + Tally Cat Keeps Track

Compare measurement data with recorded frequency data.

Culminating discussion

Choose three Trudy Harris books and explain what each representation makes visible that would be harder to see without it.

Teacher look-fors

- Names the representation precisely.
- Explains what information the representation preserves or reveals.
- Transfers between two forms of representation.
- Distinguishes the picture's decorative features from its mathematical structure.

Existing-set duplication check

Closest existing Text Set: Stuart J. Murphy: Math in Everyday Problems

What overlaps: Both author sets cross several elementary math domains.

Why this set is genuinely different: Murphy emphasizes the everyday problem that creates mathematical need; Harris is especially useful for studying how visual and symbolic representations make mathematical structure visible.

Production note

Author and series sets can legitimately reuse a title that appears in another Text Set when the instructional job is different. Reuse should be explicit and purposeful rather than accidental.