

Math Moments that Matter

FIFTH GRADE

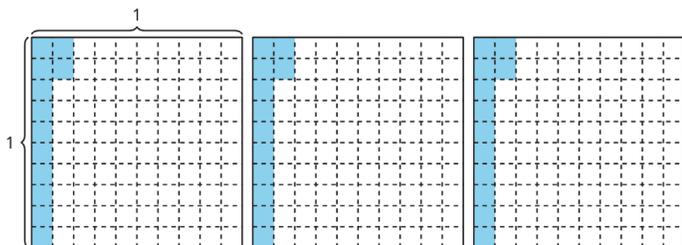


Operations with Decimals

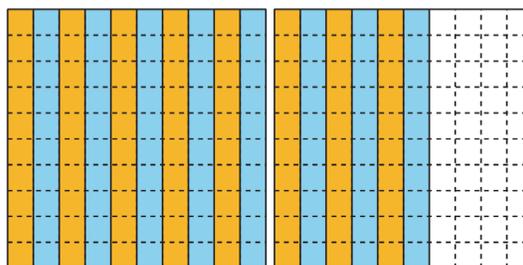
In 5th grade, students deepen their understanding of decimal operations by working with decimals in meaningful situations. Instead of simply following steps, they think about what the numbers represent, choose strategies that make sense, and explain why their answers are reasonable. Through hands-on models, number lines, and place-value reasoning, students connect decimals to whole-number strategies—helping them see how the math works and why.

Students use unit grids to help them see decimals as parts of a whole. In the first image, they shade three groups of 0.12, which helps them visualize multiplying 0.12 by 3 as repeated groups of a decimal amount. In the second image, the grid shows how dividing 1.6 by 0.1 creates 16 groups of one-tenth each. These visuals help students understand that decimals behave much like whole numbers, just in smaller pieces that they can see and count.

EXAMPLE: Unit squares showing three groups of 0.12.



EXAMPLE: Using unit grids to show that dividing 1.6 by 0.1 gives 16 groups of one-tenth



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Modeling and Data Analysis in Math

When 5th graders work with decimals, modeling helps them make sense of real situations and choose strategies that fit the numbers. Whether adding, subtracting, multiplying, or dividing, students learn to reason about what the problem is asking and select tools that support clear thinking. They learn to:

- Make sense of the situation by identifying what quantities represent
- Choose strategies—like models, number lines, or place-value reasoning—that help them work accurately
- Explain why their chosen method makes sense for the context
- Check whether answers are reasonable by estimating or comparing values
- Adjust their approach when needed, showing persistence and flexible thinking

These habits help students connect decimal computation to everyday contexts and build confidence as mathematical thinkers.

What You Might See in the Classroom

Students using number lines or unit grids to show decimal operations.

Teachers asking:

- “How do you know where the decimal point goes?”
- “Can you show that in another way?”
- “Is your answer reasonable?”

Students discussing how place value helps them decide where the decimal point goes.

Multiple strategies being compared: models, equations, decomposing numbers, and estimation.

Students explaining why their answers make sense using benchmarks (familiar reference numbers like $\frac{1}{2}$, 1, or 10) or rounding.

What You Can Do at Home

Talk about decimals in everyday contexts—prices, measurements, distances, and time.

Encourage your student to estimate before solving: “About how much do you think it will be?”

Ask questions like:

- “How do you know where the decimal point goes?”
- “Can you show it with a model or number line?”
- “Does your answer seem reasonable?”

Students comparing multiple strategies

Invite your student to show multiple ways to solve a problem—models, mental math, or equations.

Make it a Math Moment!

We can model the world with math. When students use visuals to explore decimal operations, they’re connecting math to everyday experiences and learning to explain their thinking clearly and confidently.

