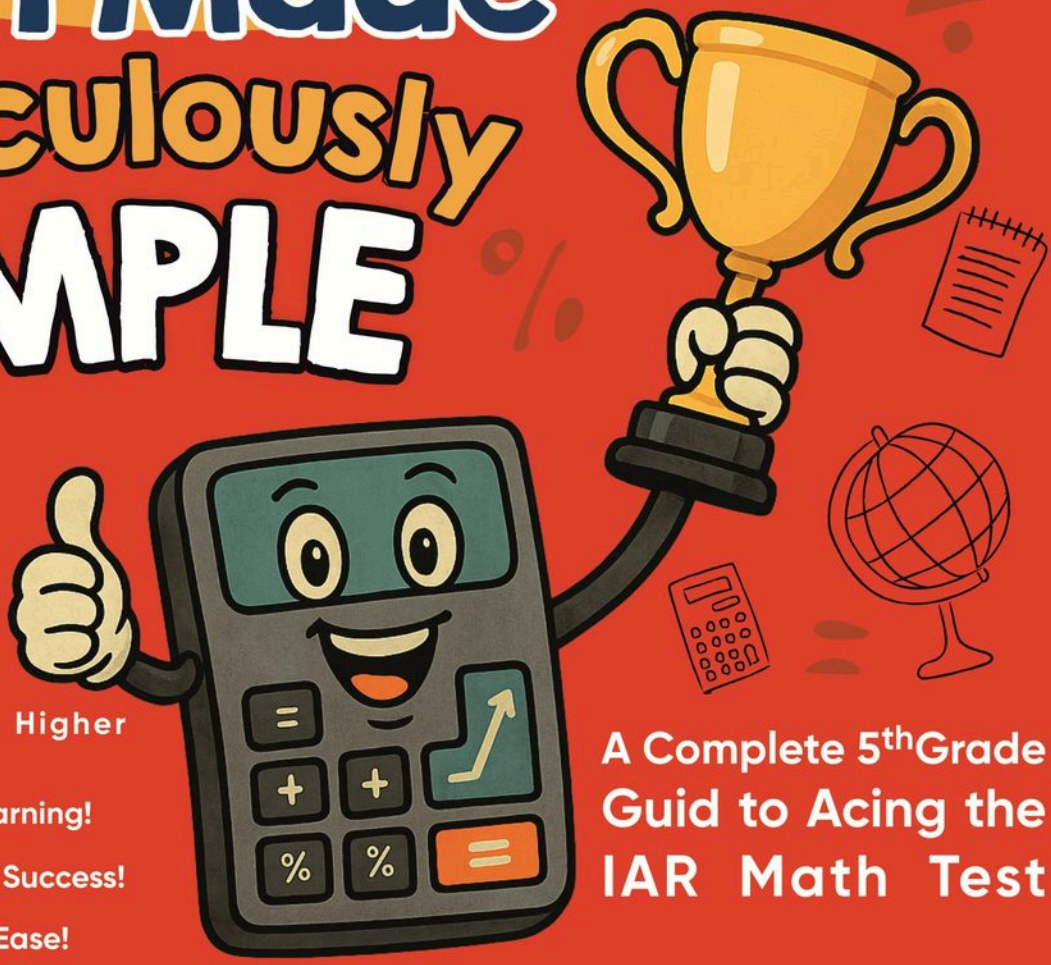
Illinois IAR Grade 5 Math Made Ridiculously SIMPLE



- Smarter Practice. Higher Scores.
- Fast, Fun, Focused Learning!
- Your Shortcut to Math Success!
- Conquer the IAR with Ease!

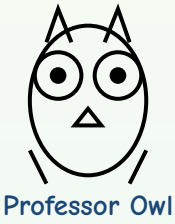
A Complete 5th Grade Guid to Acing the IAR Math Test

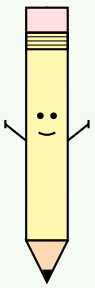
Learn Faster · Understand Deeper · Succeed with Confidence

Reza Nazari

Illinois IAR Grade 5 Math Made Ridiculously Simple

A Comprehensive 5th Grade Guide to Acing IAR Math





with Professor Owl and Pip

Reza Nazari

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A Note for Parents and Teachers

Dear Parents and Teachers,

Welcome to **Illinois IAR Grade 5 Math Made Ridiculously Simple**! Fifth grade is a turning point — students build on what they learned in earlier grades and encounter decimal operations, fraction arithmetic with unlike denominators, volume, the coordinate plane, and algebraic thinking at a deep level.

This book is designed so that a 5^{th} grader can read, understand, and practice *independently*. Every lesson teaches the concept *before* asking students to practice it.

What makes this book effective:

◇ **Teach-first design:** Concepts are explained clearly before any practice problems appear
◇ **Visual-rich:** Area models, number lines, coordinate grids, and volume diagrams throughout
◇ **Gradual difficulty:** Problems start simple and build, so confidence grows naturally
◇ **Student-friendly voice:** Written so 5^{th} graders can read it themselves
◇ **Illinois IAR aligned:** Every lesson targets tested state standards

Tips for Maximum Impact

1. Let them lead. This book is written for the student. Let your child read and work through problems first, then check in.

2. Focus on understanding, not speed. A student who can explain *why* $\frac{1}{3} + \frac{1}{4} = \frac{7}{12}$ understands more than one who memorized the answer.

3. Use real life. Cooking (doubling recipes), shopping (calculating discounts), and building (measuring volume) all reinforce 5^{th} grade math naturally.

4. Normalize struggle. When your child says "I don't get it," respond with "Let's look at the example again together" — not with worry.

5. Track progress together. Use the Mission Dashboard on the progress tracking page to celebrate growth over time.

You don't need to be a math expert. You just need to be in their corner.



Check it?
Scan to review.

Scan Me

The Code Breaker's Guide

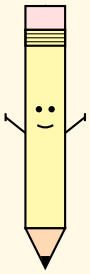
Every agent needs to decode the language of math!

Essential Codes & Symbols for 5th Grade

Symbol	Meaning	Example
$+ \ - \ \times \ \div$	Add, Subtract, Multiply, Divide	$4.5 \times 2.3 = 10.35$
$=$	Is equal to	$\frac{2}{6} = \frac{1}{3}$
$\neq$	Is NOT equal to	$\frac{1}{3} \neq \frac{1}{4}$
$>$ $<$	Greater / Less than	$0.45 > 0.405$
$($ $)$	Parentheses (do this first!)	$3 \times (4 + 2) = 18$
$\{$ $\}$	Braces (grouping)	$\{2, 4, 6, 8\}$
10^n	Powers of 10	$10^3 = 1{,}000$
(x, y)	Ordered pair (coordinate)	Point A at $(3, 5)$
V	Volume	$V = l \times w \times h$
cm^3, in^3, ft^3	Cubic units (volume)	$V = 60\ \text{cm}^3$
$\frac{a}{b}$	Fraction	$\frac{7}{12}$
$\angle$	Angle	$\angle XYZ = 110°$
$\parallel$ $\perp$	Parallel / Perpendicular	$\overline{AB} \perp \overline{CD}$

Essential 5th Grade Vocabulary

Word	What It Means
Expression	Numbers and operations grouped together $(3 + 5 \times 2)$
Evaluate	Find the value of an expression
Coordinate Plane	A grid with an x-axis and y-axis for plotting points
Ordered Pair	(x, y) — the address of a point on the coordinate plane
Origin	The point $(0, 0)$ where the axes cross
Volume	The amount of space inside a 3-D shape (in cubic units)
Unlike Denominators	Fractions with different bottom numbers ($\frac{1}{3}$ and $\frac{1}{5}$)
Common Denominator	A shared denominator used to add/subtract fractions
Powers of 10	$10^1 = 10$, $10^2 = 100$, $10^3 = 1{,}000$, etc.
Thousandths	The third place after the decimal ($0.00\underline{1}$)
Quotient	The answer to a division problem
Composite Figure	A shape made of two or more simpler shapes joined together



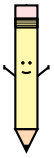
Pip's Tip: Dog-ear this page! Come back to it whenever you hit an unfamiliar symbol or word. An agent who knows the code works twice as fast.



Homework? Scan anytime.

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★ ✎ Reading & Writing Practice ✎ ★



Numbers have three forms: standard, word, and expanded. Master switching between them and you'll be a number wizard!

Write Each Number in Word Form

1. 352,817 _____

2. 4,200,065 _____

3. 920,403 _____

4. 7,018,500 _____

Write Each Number in Standard Form

5. sixty-three thousand, two hundred nine = _____

6. five million, one hundred forty thousand, six hundred = _____

7. eight hundred six thousand, thirty-one = _____

8. two million, nine hundred five = _____

Write in Standard Form

9. $600{,}000 + 50{,}000 + 3{,}000 + 400 + 20 + 7 =$ _____

10. $4{,}000{,}000 + 30{,}000 + 700 + 8 =$ _____

11. $1{,}000{,}000 + 200{,}000 + 9{,}000 + 60 + 1 =$ _____

12. $500{,}000 + 80{,}000 + 100 + 50 + 3 =$ _____

Challenge!

13. A city has a population of 2,704,038. Write this number in word form. _____

14. Write the largest and smallest 7-digit numbers using only the digits 8, 0, 3, 5, 1, 9, 7 (each used once). **Largest:** _____ **Smallest:** _____



Need help? Scan for more.

Scan Me

Comparing and Ordering Numbers

Comparison Symbols

< Less Than

> Greater Than

= Equal To

456,892 < 1,203,500

opens toward the bigger number!

Steps to Compare Numbers

1. **Check the number of digits.**
   More digits = greater number!
2. **Same number of digits?**
   Compare from **LEFT to RIGHT**.
3. **Find the first different digit.**
   The number with the bigger digit wins!
4. **Write the symbol:** <, >, or =

★ Worked Examples

Compare 3,452,810 and 3,457,206

1. Same digits? Yes, both have 7.
2. Compare left to right:
   $3 = 3$, $4 = 4$, $5 = 5$, $2 < 7$
3. **3,452,810 < 3,457,206**

Order from Least to Greatest

875,430 1,250,000 875,290

1. 1,250,000 has **7 digits**, so it's greatest.
2. Compare: 875,290 < 875,430
3. **875,290 < 875,430 < 1,250,000**

Remember!

Always start comparing from the LEFT!

- More digits = **greater** number
- The **alligator mouth** always opens toward the bigger number
- Line up place values to compare



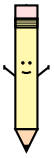
"The alligator is STARVING for the bigger number! Mouth open = bigger wins. It's the hungriest symbol in math. Chomp, chomp!"

Scan Me

Test soon? Scan to review.



★ ✎ Comparing & Ordering Practice ✎ ★



Start from the left and find the first digit that's different. That digit tells you which number is bigger. You've got this!

Compare. Write <, >, or =

1. 542,318 ____ 542,381

2. 1,205,430 ____ 987,654

3. 3,678,921 ____ 3,679,012

4. 850,000 ____ 850,000

5. 2,345,678 ____ 2,354,678

6. 709,815 ____ 4,231,500

Order from Least to Greatest

7. 642,500 624,500 645,200 _____

8. 1,300,450 985,720 1,300,540 _____

9. 403,999 421,300 412,300 _____

10. 520,000 205,000 250,000 _____

Order from Greatest to Least

11. 5,213,890 5,312,890 5,213,980 _____

12. 780,215 2,100,050 780,251 _____

13. 9,102,000 9,010,200 9,100,200 _____

14. 434,400 334,400 343,400 _____

Fill in the Missing Digit to Make the Statement True

15. 4,___52,100 > 4,352,100

16. 826,___47 < 826,547

Challenge!

17. Four cities have populations: City A = 2,485,300, City B = 2,485,030, City C = 2,548,300, City D = 2,458,300. Order from greatest to least. _____



Homework? Scan anytime.

Scan Me