Ohio OST Grade 5 Math Step by Step

A Beginner Friendly Guide to Learning Math

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STEP BY STEP

Grade 5 Math Made Easy!

Hi there, math superstar! ⭐

*This book teaches you Grade 5 math **one step at a time**. Every topic shows you a clear set of steps, then you practice using those steps until they feel easy!*

- ✅ *Follow the **steps** — they're your recipe!*
- ✅ *Try the **examples** along the way!*
- ✅ *Mistakes help you **learn**!*

Ready to take it step by step? Let's go! 🚀

> *"I'm Owlbert! I'll guide you through every step. Just follow along!"*

CHAPTER

1

Place Value & Decimals

What's Inside

1.1 Place Value Relationships

What You'll Learn

- Explain how each digit's value is 10 times the digit to its right
- Find the value of a digit based on its place
- Compare the values of the same digit in different places

Words to Know

- ***Place Value*** — How much a digit is worth based on where it sits in a number.
- ***Digit*** — One of the symbols 0–9 used to write numbers.
- ***Value*** — The amount a digit represents because of its position.

How to Find and Compare Digit Values

1. Find the digit's ***place*** — ones, tens, hundreds, thousands, tenths, hundredths, or thousandths.
2. Each place is 10 ***times*** the place to its right and $\frac{1}{10}$ of the place to its left.
3. Multiply the digit by its ***place value*** to find what it's worth.

***Example:** In $3{,}550$, how does the value of the 5 in the hundreds place compare to the 5 in the tens place?*

Step 1 *Find each digit's place:*

*The first 5 is in the **hundreds** place. The second 5 is in the **tens** place.*

Step 2 *Hundreds is one place to the left of tens, so it is 10 times greater.*

Step 3 *Find the values: $5 \times 100 = 500$ and $5 \times 10 = 50$.*

✔ *The 5 in the hundreds place is 10 times the 5 in the tens place (500 vs. 50).*

***Example:** In 0.777, compare the 7 in the tenths place to the 7 in the thousandths place.*

Step 1 *The first 7 is in the **tenths** place. The third 7 is in the **thousandths** place.*

Step 2 *Tenths is two places to the left of thousandths: $10 \times 10 = 100$ times greater.*

Step 3 *Values: $7 \times 0.1 = 0.7$ and $7 \times 0.001 = 0.007$.*

✔ *The 7 in the tenths place is 100 times the 7 in the thousandths place.*

⚠ ***Watch Out!*** *The same digit can mean very different things! The 4 in $4{,}000$ is worth $4{,}000$, but the 4 in 0.04 is only worth 0.04.*

Place Value Relationships Practice

Identify the Place

1. What place is the 6 in $6{,}432$? _____

2. What place is the 8 in 3.482? _____

Compare Digit Values

3. In $2{,}255$, the 2 in the thousands place is how many times the 5 in the tens place? _____

4. In 0.66, the 6 in the tenths place is how many times the 6 in the hundredths place? _____

Find the Value

5. Value of 9 in $9{,}301$: _____

6. Value of 4 in 0.245: _____

7. Mia says the 5 in $5{,}500$ and the 5 in 550 are worth the same. Is she right? Explain.

Answer: _____

CHAPTER

2

Operations with Decimals

What's Inside

2.1 Add Decimals

What You'll Learn

- Add decimals to the hundredths place
- Line up decimal points and annex zeros before adding

Words to Know

- ***Decimal point*** — *The dot that separates the whole-number part from the fractional part.*
- ***Annex zeros*** — *Adding zeros to the end of a decimal so both numbers have the same number of decimal places.*
- ***Regroup*** — *When a column adds to 10 or more, carry the extra to the next column.*

How to Add Decimals

1. *Write the numbers vertically and **line up the decimal points**.*
2. ***Annex zeros** so both numbers have the same number of decimal places.*
3. ***Add** each column from right to left, regrouping when a column totals 10 or more.*
4. ***Bring down** the decimal point into the answer.*

Example: Add $5.6 + 3.87$.

Step 1 *Write vertically, decimal points lined up.*

Step 2 *Annex a zero:* $5.6 \to 5.60$.

Step 3 *Add right to left: hundredths* $0+7=7$*; tenths* $6+8=14$*, write* 4*, carry* 1*; ones* $5+3+1=9$.

Step 4 *Bring down the decimal point.*

✔ $5.6 + 3.87 = 9.47$

Example: Add $12.95 + 8.67$.

Step 1 *Write vertically, decimal points aligned.*

Step 2 *Both have two decimal places — no zeros needed.*

Step 3 *Hundredths:* $5+7=12$*, write* 2*, carry* 1*. Tenths:* $9+6+1=16$*, write* 6*, carry* 1*. Ones:* $2+8+1=11$*, write* 1*, carry* 1*. Tens:* $1+0+1=2$.

Step 4 *Bring down the decimal point.*

✔ $12.95 + 8.67 = 21.62$

⚠ ***Watch Out!*** *Don't line up the last digits — line up the* ***decimal points****!* $3.9 + 0.14$ *is NOT* 3.9 *over* 0.14 *matched at the right. Write* $3.90 + 0.14$.

Add Decimals Practice

Line Up and Annex Zeros

1. $4.3 + 2.56 =$ _____

2. $8 + 1.47 =$ _____

Add With Regrouping

3. $6.78 + 5.94 =$ _____

4. $9.85 + 3.67 =$ _____

Put It All Together

5. $3.94 + 8.08 + 1.53 =$ _____

6. *Jake ran 2.4 km on Monday and 3.75 km on Tuesday. How far did he run in total?*

Answer: _____ *km*

THANK YOU

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