

Illinois IAR Grade 3 Math Made Easy

Study Guide with Key Concepts, Review & Practice

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WELCOME TO

Grade 3 Math Study Guide



Hi there, math learner! ★

This study guide has everything you need to learn Grade 3 math. Each topic explains the **key idea**, shows you **examples**, and gives you **practice problems** to try.

Ready? Let's go! 🚀



Learn



Practice



Succeed

How to Use This Book

Here's what you'll find inside each topic!

Key Concept

The main idea explained clearly. Read this first to understand the topic.

Examples

See how to solve problems step by step. Follow along carefully!

Practice

Try problems on your own! Answers are in the back of the book.

Owl Tips

Look for Owl's tips — they help you remember important tricks!

Tip: *Work through one topic at a time. Don't rush
— understanding is more important than speed!*

X¹ Math Symbols You Should Know X¹

You'll see these symbols throughout this book!

Symbol	Name	What It Means	
+	Plus (Add)	Put numbers together.	$3 + 5 = 8$
-	Minus (Subtract)	Take away from a number.	$9 - 4 = 5$
×	Times (Multiply)	Add equal groups.	$4 \times 3 = 12$
÷	Divide	Split into equal groups.	$12 \div 3 = 4$
=	Equals	Both sides are the same.	$2 + 3 = 5$
>	Greater Than	The left number is bigger.	$7 > 3$
<	Less Than	The left number is smaller.	$2 < 9$
$\frac{1}{2}$	Fraction Bar	Part of a whole. $\frac{1}{2}$ means 1 out of 2 equal parts	

“ Remember the Alligator! ”



The **greater than** (>) and **less than** (<) symbols are like an alligator's mouth. The alligator always wants to eat the **bigger** number!

$$8 > 3$$

8 is greater than 3

$$2 < 9$$

2 is less than 9

 Key Math Words for Grade 3

- **Sum** — the answer when you add
- **Difference** — the answer when you subtract
- **Product** — the answer when you multiply
- **Quotient** — the answer when you divide
- **Factor** — a number you multiply
- **Array** — objects in rows and columns
- **Fraction** — a part of a whole
- **Numerator** — the top number in a fraction
- **Denominator** — the bottom number
- **Equation** — a math sentence with =
- **Estimate** — a smart guess, close to the real answer
- **Perimeter** — the distance around a shape
- **Area** — the space inside a shape
- **Rounding** — making a number simpler by going to the nearest ten or hundred



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PREVIEW

CHAPTER

1

Number Sense & Place Value

★ *What's Inside* ★

1.1 <i>Place Value: Ones, Tens, Hundreds</i>	2
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★ 1.1 Place Value: Ones, Tens, Hundreds ★

🎯 In this lesson you will learn:

- Understand that a digit's value depends on its position
- Identify the ones, tens, and hundreds places
- Write numbers in expanded form

🎓 What Is Place Value?

Place value tells us how much a digit is worth based on where it sits in a number.

Look at the number **527**:

H	T	O
5	2	7

- The **5** is in the **hundreds** place → 500
- The **2** is in the **tens** place → 20
- The **7** is in the **ones** place → 7

Expanded form: $527 = 500 + 20 + 7$

A **0** is a placeholder. In 308, the 0 means zero tens: $308 = 300 + 0 + 8$.



“ Think of place value like floors in a building! Ones are on the first floor, tens on the second, hundreds on the top. Higher floor = bigger value! ”



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 Show 364 with Base-Ten Blocks

1. 3 hundreds = 300
2. 6 tens = 60
3. 4 ones = 4

✓ **Answer:** $364 = 300 + 60 + 4$

 What Is the Value of 6 in 461?

1. Find which place the 6 is in: **tens**
2. The tens place means we multiply by 10

✓ **Answer:** The value of 6 in 461 is 60.

 Place Value Practice

1. What is the value of 3 in 382? _____
2. What is the value of 6 in 561? _____
3. Write 259 in expanded form: _____
4. Write the number for $600 + 30 + 9$: _____



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5. Write 406 in expanded form: _____

6. Lily has 3 hundred-dollar bills, 5 ten-dollar bills, and 2 one-dollar bills. How much money does Lily have?

Answer: _____ dollars



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CHAPTER

2

Multiplication & Division

★ *What's Inside* ★

2.1 <i>Understanding Multiplication</i>	6
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★ 2.1 Understanding Multiplication ★

🎯 In this lesson you will learn:

- Understand multiplication as counting equal groups
- Read and write multiplication sentences
- Use arrays and dot groups to show multiplication

🎓 What Is Multiplication?

Multiplication is a fast way to add **equal groups**.

3×4 means “3 groups of 4”:

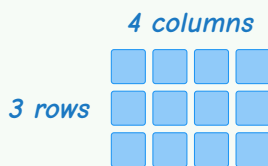


Instead of adding $4 + 4 + 4 = 12$, we simply write $3 \times 4 = 12$.

$$\underbrace{5}_{\text{groups}} \times \underbrace{7}_{\text{in each}} = \underbrace{35}_{\text{total}}$$

The numbers we multiply are called **factors**. The answer is called the **product**.

We can also show multiplication as an **array** (rows and columns):



3 rows of 4 = 12



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“ Think about it this way: the first number tells you HOW MANY groups, and the second tells you HOW MANY in each group! ”

Show 2×6 with Equal Groups

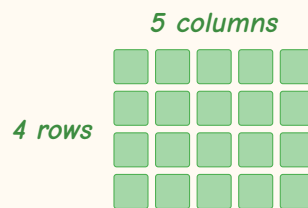
2×6 means “2 groups of 6”:



1. We have 2 groups with 6 in each group
2. As repeated addition: $6 + 6 = 12$

✓ **Answer:** $2 \times 6 = 12$

Write a Multiplication Sentence for an Array



1. Count the rows: 4 rows
2. Count the columns: 5 in each row
3. Write the sentence: 4×5

✓ **Answer:** $4 \times 5 = 20$



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✎ Multiplication Practice ✎

1. Write the multiplication sentence:



2. Write the multiplication sentence:



3. Write as multiplication: $6 + 6 + 6 + 6 =$ _____ $\rightarrow$ _____

4. $5 \times 3 =$ _____

5. $4 \times 4 =$ _____

6. There are 5 bags with 4 apples in each bag. How many apples are there in all?

Answer: _____ apples



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THANK YOU

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- ✓ *Hundreds of practice problems*
- ✓ *Complete answer key with explanations*
- ✓ *Colorful visuals and step-by-step examples*
- ✓ *Reference sheets and progress trackers*

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