LEVELS A–F · ALIGNED TO US COMMON CORE

ANGL MATHEMATICS

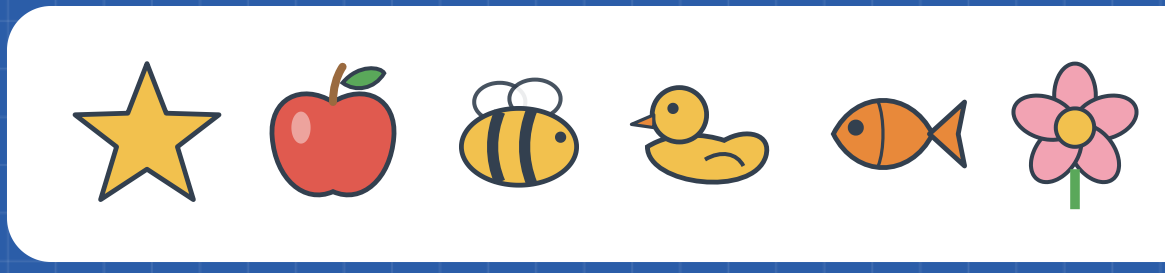
Level E

Multi-Digit Operations, Fractions & Decimals

Recommended ages 9–10

Lesson Book

Write-In Edition



ANGL EDUCATION

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ANGL Mathematics, Level E: Multi-Digit Operations, Fractions & Decimals

Lesson Book, Write-In Edition

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Hello, Grown-Ups!

This book teaches multi-digit place value and operations, multiplication and division, fractions and decimals, measurement, and lines and angles. Your child writes right in it. You read the directions aloud and work beside them.

Every lesson has four pages

Learn	Builds On (what this lesson grows from), Goals, Key Ideas with pictures, and a Worked Example to do together.
Investigate	Hands-on work with counters, frames and objects: break things apart and put them back together.
Practice: Write	Writing practice: numbers, signs and short answers. Start at the green dot.
Practice	Problems to try, ending with a Think problem.

What you need

Base-ten pieces (or the paper ones on the workmats), counters, a ruler with inches and centimeters, a protractor, a set of number cards 0 to 9, graph paper, crayons, a pencil and scissors.

Tips

- Keep sessions short: about 30 minutes, four days a week. Use real objects first, then pictures, then numbers.
- Read the **Grown-up note** at the bottom of each page before you start it.
- Ask "How do you know?" often. Explaining is part of learning math.
- **Writing is not the same as knowing.** Trouble writing a number is not trouble understanding it. Your child may point or say the answer while you write it.

Every ANGL book, from Level A to Calculus, uses these same parts in the same order. The Teaching Guide has a short script for every lesson, Quick Checks, Chapter Tests and all the answers.

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Chapter 1

Place Value and Calculation to 1,000,000





AT THE COOKIE SALE. READ AND WRITE.

Friday: **1,268** cookies

Saturday: **3,405** cookies

1,268 + 3,405 =

___,___ ___ ___

YOU ALREADY KNOW

Place value to 1,000, reading and comparing three-digit numbers, adding and subtracting within 1,000, and multiplying by tens.

YOU WILL LEARN

Place value to a million: each place is ten times the place to its right, reading, comparing and rounding large numbers, and the standard methods for adding and subtracting.

Grown-up note. Talk about the picture first. Ask "Which place is the 8 in 1,268?" and "How many cookies in all?" Accept counting for now, and listen for "ten times" and "regroup."

Chapter 1 Am I Ready?

Readiness

1 · HUNDREDS, TENS AND ONES.

3 hundreds 4 tens 5 ones = ___

2 · EXPANDED FORM.

548 = ___ + ___ + ___

3 · COMPARE.

382 < > = 328

4 · MAKE A TEN.

47 + 85 = ___

Digital Tools for Chapter 1

Scan the code, or go to anglmath.com/le

Base-ten pieces, a place-value chart and a number line

Grown-up note. Card 1 checks hundreds, tens and ones (Level C, Lesson 2.2). Card 2 checks expanded form (Level C, Lesson 2.4). Card 3 checks comparing three-digit numbers (Level C, Lesson 2.7). Card 4 checks making a ten (Level C, Lesson 4.3). If a card is hard, replay that Level C lesson with base-ten pieces before Lesson 1.1.

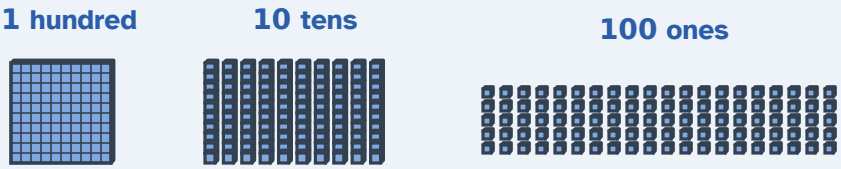
Lesson 1.1 Ten Times the Value

Learn

BUILDS ON Level C, Lesson 2.2, Hundreds, Tens and Ones; Level D, Lesson 3.3, Add Within 1,000

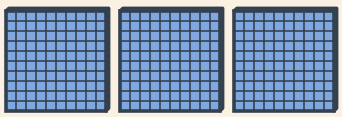
GOALS ★ **I can explain that each digit is ten times the digit in the place to its right.**

KEY IDEAS



Each place is **ten times** the place to its right. 1 hundred is 10 tens, and 1 ten is 10 ones.
So **10 hundreds** make **1,000**.

WORKED EXAMPLE · HUNDREDS AND TENS



3 hundreds = 300

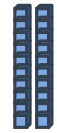
300 = 10 × 30

30 = 10 × 3

The 3 in the hundreds place is worth 300. The 3 in the tens place is worth 30. So 300 is ten times 30, and 30 is ten times 3.

Grown-up note. Each place is ten times the place to its right, at every size. Watch Out: a child may think 300 is only 3 more than 30, or count the pieces one by one. Ask "How many tens make one hundred?" and count the rods.

INVESTIGATE · TRADE UP



2 tens

Trade each ten for 10 ones.
How many ones now?



20 ones

2 × 10 = ___

INVESTIGATE · DIGIT LADDER

In **444**, each 4 is worth ten times the 4 to its right. Fill in the boxes.

400 = 10 × ___ **40 = 10 × ___**

INVESTIGATE · MY WAY

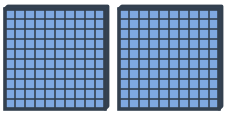
Write a 3-digit number with a 5 in the hundreds place. Show that one digit is ten times the digit to its right.

Grown-up note. Use base-ten pieces. In Trade Up, the child trades each rod for ten cubes and counts them. In Digit Ladder, the child reads each place aloud, then writes the next place down: 400, then 40, then 4.

Lesson 1.1 Ten Times the Value

Practice: Write

WRITE HOW MANY TENS OR ONES MAKE EACH PICTURE.



2 hundreds = ___ tens



5 tens = ___ ones

1 Write each product.

$10 \times 7 =$ ___

$10 \times 60 =$ ___

2 Write how many tens are in 500.

500 = ___ tens

Grown-up note. Read the first row aloud: "2 hundreds is 20 tens." In problem 1, the child adds a 0 to the other factor. Accept the products in either order once the child says "ten times."

Lesson 1.1 Ten Times the Value

Practice

1 Write each product.

$10 \times 5 = ___$

$10 \times 80 = ___$

2 How many tens are in 600?

$600 = ___$ tens

3 Circle the true number sentences.

$300 = 10 \times 30$ $300 = 10 \times 3$

$40 = 10 \times 4$ $90 = 10 \times 90$

4 Write the missing number. 10 hundreds make one thousand.

10 hundreds =

___, ___ ___ ___

5 Draw 2 hundreds flats, then write how many tens.

2 hundreds = ___ tens

Think Is Ben right?

Ben says: The 2 in 720 is ten times the 2 in 72.

Yes No

Grown-up note. Problem 3 needs the true sentences only. For the Think problem, ask "Which place is the 2 in 720 in?" A full answer says the tens: 20, and 20 is 10 times 2.