

SPECTRUM[®]

MATH

Grade 4

On select pages, you will see a QR code for an instructional video that corresponds to the skills. Videos are also available on carsondellosa.com and YouTube @CarsonDellosaPublishingGroup.

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- Tap the link that appears on your screen



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Spectrum[®]

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Spectrum Introduction

For more than 20 years, Spectrum® workbooks have been the solution for helping students meet and exceed learning goals. Each title in the Spectrum workbook series offers grade-appropriate instruction and reinforcement in an effective sequence for learning success.

Spectrum partners with you in supporting your student's educational journey every step of the way! This book will help them navigate Grade 4 math and will give you the support you need to make sure they learn everything they need to know. Inside you will find:

Chapter Introductions

These introductions provide useful information about the chapter. They may include:

Helpful Definitions

These terms either appear in the chapter or are important for the skills being taught.

Tools and Tips

Tools and tips to support and reinforce skills are explained here.

Chapter 1: Addition and Subtraction Facts through 10 ...

Helpful Definitions

math fluency: the ability to quickly recall equations such as addition and subtraction facts.

While it is important for your student to understand how addition and subtraction work, it is also important for them to learn to solve problems quickly and correctly in their heads. The addition and subtraction problems in this chapter should fall into this category.

fact family: a set of addition and subtraction facts that are related by being made from the same numbers. For example, the numbers 5, 4, and 9 are a fact family:

$$\begin{aligned} 5 + 4 &= 9 \\ 4 + 5 &= 9 \\ 9 - 5 &= 4 \\ 9 - 4 &= 5 \end{aligned}$$

word problem: a math problem expressed with words, usually describing a real-life scenario where the math concept could occur.

Skills Checklist

- Demonstrate fluency for addition and subtraction through 10
- Solve word problems using addition and subtraction through 10
- Understand the relationship between addition and subtraction through 10
- Understand the relationship between counting on and back and addition and subtraction
- Find the unknown number in addition and subtraction equations within 10

Tools and Tips

Fact Families

Seeing how numbers are related in a fact family builds the understanding of the relationship between addition and subtraction. Addition can undo subtraction and vice-versa. To help your student with fact families, make up word problems like this:

There are 4 black letters and 3 white letters. What is the sum of black plus white? What is the sum of white plus black? How many are left over when the white letters nap? How many are left awake when the black letters nap?

Clue Words

In the future, your student will need to identify what math operation needs to be done to solve a word problem. To help your student prepare for this, point out the clue words that make a word problem either addition or subtraction.

Addition	Subtraction
in all	fewer
sum	left
total	take away
altogether	minus
plus	difference
add	remain

However, clue words can sometimes point students to the wrong operation. So, it is very important to make sure your student understands the context of each problem before solving. This is where acting out problems, drawing what's happening, or using hands-on items like pennies, fish crackers, or paper clips to act out the problem can give your student a solid understanding of which operation the problem is asking them to do.

Skills Checklist

This checklist helps ensure your student is practicing grade-level skills.

Lessons

Lesson 2.1 Counting and Writing 10 through H
Complete
1. ___ ten ___ ones = ___

These pages begin with a definition, step-by-step instructions where needed, and examples, followed by independent practice.

Enrichment

How many more students play soccer than play guitar?

These problems appear throughout the book. They allow your student to dig deeper and apply the skill they learned in a different way than it is practiced on the page. The two types of problems will ask your student to think critically and explain reasoning .

Pretests

Pretest Chapter 1
Add
1. $\begin{array}{r} 4 \\ +0 \\ \hline \end{array}$ 2. $\begin{array}{r} 6 \\ +0 \\ \hline \end{array}$ 3. $\begin{array}{r} 2 \\ +1 \\ \hline \end{array}$ 4. $\begin{array}{r} 3 \\ +2 \\ \hline \end{array}$ 5. $\begin{array}{r} 1 \\ +1 \\ \hline \end{array}$ 6. $\begin{array}{r} 3 \\ +0 \\ \hline \end{array}$

These quick skill assessments serve as a starting point for the chapter. They will include the skills covered in the chapter and allow your student to gage what they already know and what they need extra practice with.

Posttests

Posttest Chapter 3
Add
1. $\begin{array}{r} 8 \\ +6 \\ \hline \end{array}$ 2. $\begin{array}{r} 6 \\ +9 \\ \hline \end{array}$ 3. $\begin{array}{r} 2 \\ +9 \\ \hline \end{array}$ 4. $\begin{array}{r} 4 \\ +9 \\ \hline \end{array}$ 5. $\begin{array}{r} 7 \\ +8 \\ \hline \end{array}$ 6. $\begin{array}{r} 7 \\ +5 \\ \hline \end{array}$

These end-of-chapter assessments test to see if your student gained the skills they needed from the chapter they just completed. You can compare these tests to the pretests and measure your student's growth.

Learning Checkpoints

Learning Checkpoint Chapters 1-2
Add or subtract

These reviews break up the book into halfway points to prepare your student for the final test.

Final Test

Final Test
Add
1. $\begin{array}{r} 5 \\ +3 \\ \hline \end{array}$ 2. $\begin{array}{r} 8 \\ +2 \\ \hline \end{array}$ 3. $\begin{array}{r} 0 \\ +0 \\ \hline \end{array}$ 4. $\begin{array}{r} 1 \\ +3 \\ \hline \end{array}$ 5. $\begin{array}{r} 6 \\ +4 \\ \hline \end{array}$ 6. $\begin{array}{r} 2 \\ +2 \\ \hline \end{array}$

This test covers the skills learned in the book. Use this comprehensive test to assess what your student has learned and to identify what they still need to work on.

Answer Key

The answers to the lessons, reviews, and tests are provided in an answer key.

Chapter 1: Adding and Subtracting

Helpful Definitions

addends: the numbers that are added together

sum: the result of adding two or more numbers

$$\begin{array}{l} \text{addend} \longrightarrow 3 \\ \text{addend} \longrightarrow + 4 \\ \text{sum} \longrightarrow \hline 7 \end{array}$$

minuend: the first number in a subtraction problem; the number from which another number is to be subtracted

subtrahend: the second number in a subtraction problem; the number that is to be subtracted

difference: the result of subtracting one number from another

$$\begin{array}{l} \text{minuend} \longrightarrow 10 \\ \text{subtrahend} \longrightarrow - 4 \\ \text{difference} \longrightarrow \hline 6 \end{array}$$

regrouping: moving amounts (usually 10) from one part of a calculation to another so it is easier to do the calculation; for example, in the problem below, it is not possible to subtract 4 ones from 0 ones, so 1 ten needs to be regrouped into 10 more ones. There are now 10 ones to subtract 4 ones from.

$$\begin{array}{r|l} \begin{array}{r} 120 \\ - 14 \\ \hline \end{array} & \begin{array}{r} \overset{1}{\cancel{1}}\overset{10}{\cancel{2}}0 \\ - 14 \\ \hline \end{array} \\ \hline & \begin{array}{r} \overset{1}{\cancel{1}}\overset{10}{\cancel{2}}\overset{0}{\cancel{0}} \\ - 14 \\ \hline 6 \end{array} \\ \hline & \begin{array}{r} \overset{1}{\cancel{1}}\overset{10}{\cancel{2}}\overset{0}{\cancel{0}} \\ - 14 \\ \hline 06 \end{array} \\ \hline & \begin{array}{r} \overset{1}{\cancel{1}}\overset{10}{\cancel{2}}\overset{0}{\cancel{0}} \\ - 14 \\ \hline 106 \end{array} \end{array}$$

Name _____

Pretest Chapter 1

Add or subtract.

1.
$$\begin{array}{r} 12 \\ + 7 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 35 \\ + 3 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 55 \\ + 23 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 42 \\ + 7 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 32 \\ + 25 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 13 \\ + 12 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 56 \\ + 13 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 43 \\ + 24 \\ \hline \end{array}$$

9.
$$\begin{array}{r} 54 \\ + 33 \\ \hline \end{array}$$

10.
$$\begin{array}{r} 54 \\ + 23 \\ \hline \end{array}$$

11.
$$\begin{array}{r} 36 \\ + 12 \\ \hline \end{array}$$

12.
$$\begin{array}{r} 75 \\ + 24 \\ \hline \end{array}$$

13.
$$\begin{array}{r} 25 \\ - 12 \\ \hline \end{array}$$

14.
$$\begin{array}{r} 49 \\ - 27 \\ \hline \end{array}$$

15.
$$\begin{array}{r} 57 \\ - 46 \\ \hline \end{array}$$

16.
$$\begin{array}{r} 75 \\ - 23 \\ \hline \end{array}$$

17.
$$\begin{array}{r} 29 \\ - 15 \\ \hline \end{array}$$

18.
$$\begin{array}{r} 89 \\ - 27 \\ \hline \end{array}$$

19.
$$\begin{array}{r} 45 \\ - 4 \\ \hline \end{array}$$

20.
$$\begin{array}{r} 59 \\ - 48 \\ \hline \end{array}$$

21.
$$\begin{array}{r} 54 \\ - 42 \\ \hline \end{array}$$

22.
$$\begin{array}{r} 79 \\ - 27 \\ \hline \end{array}$$

23.
$$\begin{array}{r} 27 \\ - 6 \\ \hline \end{array}$$

24.
$$\begin{array}{r} 65 \\ - 55 \\ \hline \end{array}$$

Name _____

Pretest Chapter 1

Solve each problem.

Show your work.



- 25.** There are 42 pages in Sasha's comic book. Last night, Sasha read 18 pages. How many more pages does she have left to read?

There are _____ pages left to read.

- 26.** Mr. Mehta has 13 new students in his fourth-grade class. He already has 22 students in the class. How many students are in Mr. Mehta's class?

There are _____ students in his class.

- 27.** Wei and Nadia want to throw a surprise party for Omar. They plan to send 35 invitations. If Wei writes 23, how many invitations does Nadia need to write?

Nadia needs to write _____ invitations.

- 28.** Mateo's lacrosse team is in the playoffs. There were 22 goals made in the first game. Mateo's team made 13 of them. How many goals were scored by the other team?

The other team scored _____ goals.

Name _____

Lesson 1.1 Adding 1- and 2-Digit Numbers

When adding multi-digit numbers, add the ones first. Then, add the tens.

$$\begin{array}{r} 23 \\ + 16 \\ \hline \end{array}$$

$$\begin{array}{r} 23 \\ + 16 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 23 \\ + 16 \\ \hline 39 \end{array}$$

Add.

1.
$$\begin{array}{r} 11 \\ + 8 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 10 \\ + 3 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 25 \\ + 4 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 81 \\ + 8 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 52 \\ + 7 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 74 \\ + 23 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 20 \\ + 30 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 41 \\ + 8 \\ \hline \end{array}$$

9.
$$\begin{array}{r} 50 \\ + 11 \\ \hline \end{array}$$

10.
$$\begin{array}{r} 20 \\ + 15 \\ \hline \end{array}$$

11.
$$\begin{array}{r} 46 \\ + 21 \\ \hline \end{array}$$

12.
$$\begin{array}{r} 34 \\ + 34 \\ \hline \end{array}$$

13.
$$\begin{array}{r} 60 \\ + 13 \\ \hline \end{array}$$

14.
$$\begin{array}{r} 35 \\ + 12 \\ \hline \end{array}$$

15.
$$\begin{array}{r} 51 \\ + 48 \\ \hline \end{array}$$



How does knowing $4 + 5 = 9$ help you solve $40 + 50$? Explain.

Name _____

Lesson 1.2 Subtracting 1- and 2-Digit Numbers

When subtracting multi-digit numbers, subtract the ones first. Then, subtract the tens.

$$\begin{array}{r} 53 \\ - 21 \\ \hline \end{array}$$

$$\begin{array}{r} 53 \\ - 21 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 53 \\ - 21 \\ \hline 32 \end{array}$$

Subtract.

1.
$$\begin{array}{r} 33 \\ - 12 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 43 \\ - 20 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 91 \\ - 30 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 76 \\ - 11 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 27 \\ - 10 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 18 \\ - 13 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 38 \\ - 27 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 97 \\ - 33 \\ \hline \end{array}$$

9.
$$\begin{array}{r} 49 \\ - 8 \\ \hline \end{array}$$

10.
$$\begin{array}{r} 94 \\ - 13 \\ \hline \end{array}$$

11.
$$\begin{array}{r} 87 \\ - 5 \\ \hline \end{array}$$

12.
$$\begin{array}{r} 71 \\ - 20 \\ \hline \end{array}$$

13.
$$\begin{array}{r} 85 \\ - 63 \\ \hline \end{array}$$

14.
$$\begin{array}{r} 15 \\ - 11 \\ \hline \end{array}$$

15.
$$\begin{array}{r} 99 \\ - 7 \\ \hline \end{array}$$

16.
$$\begin{array}{r} 62 \\ - 12 \\ \hline \end{array}$$

Name _____

Lesson 1.4 Adding 2-Digit Numbers with Regrouping

If the digits in the ones column add to more than 9, regroup the ten to the tens column.

$$\begin{array}{r} 45 \\ + 36 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ 45 \\ + 36 \\ \hline 1 \end{array}$$

Add the ones.
 $5 + 6 = 11$

$$\begin{array}{r} 1 \\ 45 \\ + 36 \\ \hline 81 \end{array}$$

Add the tens.
 $1 + 4 + 3 = 8$

Add.

1.
$$\begin{array}{r} 27 \\ + 38 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 78 \\ + 13 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 27 \\ + 47 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 55 \\ + 26 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 29 \\ + 18 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 19 \\ + 15 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 56 \\ + 19 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 27 \\ + 45 \\ \hline \end{array}$$

9.
$$\begin{array}{r} 37 \\ + 26 \\ \hline \end{array}$$

10.
$$\begin{array}{r} 48 \\ + 14 \\ \hline \end{array}$$

11.
$$\begin{array}{r} 52 \\ + 28 \\ \hline \end{array}$$

12.
$$\begin{array}{r} 77 \\ + 15 \\ \hline \end{array}$$

13.
$$\begin{array}{r} 47 \\ + 33 \\ \hline \end{array}$$

14.
$$\begin{array}{r} 65 \\ + 25 \\ \hline \end{array}$$

15.
$$\begin{array}{r} 75 \\ + 18 \\ \hline \end{array}$$

16.
$$\begin{array}{r} 39 \\ + 17 \\ \hline \end{array}$$