

Introduction

TEACHER INSTRUCTIONS

Basic Math Practice is a series of reproducible activities designed to help students master basic math concepts. Many students struggle with math because their levels of reading ability impair their understanding of the material. *Basic Math Practice* helps these students develop a strong foundation in math without requiring on-level reading skills.

Many basic math programs simply provide general overviews of each skill covered. However, *Basic Math Practice* addresses skills in a variety of formats with multiple activities, making the program appropriate for students who have different learning styles. This series consists of five books, each with over 100 activities that teach and reinforce basic math skills. The series is organized based on developmental progression. Therefore, the activities in each unit become progressively more advanced.

While *Basic Math Practice* is designed as a supplemental program for reinforcing previously learned skills, it also can be used as additional practice for students who struggle with mastering specific skills. The activities included in *Basic Math Practice* are age-appropriate and are written at a low reading level to ensure success for students who struggle with reading. Additionally, the worksheets contain numerous illustrations to further promote success and understanding of math concepts with little reading. The *Rounding, Reasonableness, and Estimation* book contains activities that require students to have a general understanding of place value; addition; subtraction; units of measurement, including length, weight, time, and temperature; and money.

Features

This series is designed to motivate and engage students who may have difficulty reading, helping them acquire basic math skills. Each unit in the book contains the following:

Teacher Instructions – These pages provide objectives for the unit, definitions of important terms used in the unit, and suggested student-centered activities that will aid the teacher in introducing, reinforcing, and reviewing each math skill.

Unit Worksheets – These pages provide simple instructions, examples, and activities that address the skills of rounding, reasonableness, and estimation. The worksheets include pictorial representations, journal-writing prompts, real-world problems, and word problems that require students to use problem-solving skills. A group activity and a take-home activity are included.

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Unit Assessments – These activities allow the teacher to gauge students' comprehension and mastery of the skills covered in each unit. Additionally, these assessments help students become familiar with standardized test formats. Two assessments are included at the end of each unit.

Three Units

Teacher instructions, unit worksheets, and assessments are presented in three units:

1. Rounding
2. Reasonableness
3. Estimation

This order is the suggested sequence for approaching the math skills covered in this book. However, the units can be presented in any order based on students' needs or curriculum requirements.

Parent/Guardian Letter

This letter provides students' parents/guardians with explanations of the three skills that will be taught. The parent/guardian letter can be found on page XIII.

Dear Parent/Guardian,

Your child is developing rounding, reasonableness, and estimation skills and is learning to use these skills when adding, subtracting, measuring, and solving problems with money.

Rounding is the process of adjusting numbers to make them less exact and easier to work with when solving problems. Your child will be rounding numbers with two and three digits to the tens and hundreds places.

To help your child practice rounding two- and three-digit numbers, write the numbers 0 through 9 two times each on a sheet of paper. Cut out each number, and place all the numbers face down on a table. Have your child turn over two or three numbers, use them to create a two- or three-digit number, and round the number to either the tens or hundreds place. Then, have your child return the numbers to the pile and repeat the activity.

Reasonableness is the quality of being what is expected, usual, or generally acceptable. Your child must use common sense to determine whether an answer is reasonable. A reasonable answer does not have to be exact.

To help develop his or her awareness of what is reasonable, ask your child questions during a task, like preparing dinner. For example, ask if it is reasonable to set the table for four or for nine people, to use the entire container of butter or a tablespoon when baking, or to take 30 minutes or 30 hours to prepare dinner. Ask questions that make your child think, and encourage your child to explain why his or her answers are reasonable.

Estimation is the process of making numbers easier to work with to find amounts, guess measurements, or solve problems in your head. Estimation is used when the exact amount, or computation, is not necessary.

To help develop your child's estimation skills, have him or her estimate the total amount of money owed for a meal at a restaurant or for several grocery items. Have your child round the dollar amount owed before adding, and then estimate what the total will be. Show your child the bill, and compare the estimate to the actual total.

I will send some worksheets home for your child to complete and return to school. Review these activities and worksheets with your child to ensure that he or she understands the skills. Thank you for the opportunity to work with your child.

Sincerely,



ROUNDING, REASONABLENESS, AND ESTIMATION XIII

Research and Standards

This book has been designed using recent research regarding math education as a guide. Relevant quotes from this research as well as a list of state and national standards met by this program can be found on page XIV.

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Progress Chart

A progress chart is provided on page XV so that teachers can track students' mastery of skills. The progress chart also can be used as a visual aid for communicating students' progress to their parents.

Progress Chart	Mastery Codes P, S, A, N	Name: Evaluated By:	Date	Score	Comments

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Teacher Instructions

At the beginning of each unit, teacher instructions are provided, including a list of unit objectives, definitions of important terms that will be used throughout the unit, suggested activities, and directions for group and take-home activities. Most of the activities presented in the teacher instructions are interactive and will pique students' interest in the skills being taught. The terminology used in the objectives, definitions, and suggested activities has been simplified to make it easier for teachers to explain the skills in a way that ensures students' comprehension.

Name:
Date:

Rounding
TEACHER INSTRUCTIONS

Objectives

- Students will review place value, including ones, tens, hundreds, and thousands.
- Students will round numbers to the tens place and hundreds place.
- Students will round monetary amounts to the next whole dollar and ten cent amounts.
- Students will apply mathematic problem-solving strategies to everyday situations.
- Students will use the language of mathematics to express mathematical ideas.

Definitions

rounding – The process of adjusting numbers to make them less exact and easier to work with when solving problems. Rounding makes mental math easier to perform.

place value – The position of a digit within a number; only one digit may be in each place.

ones place – A digit in the ones place represents 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9. For example, the digit 2 in the ones place represents a quantity of 2.

tens place – A digit in the tens place represents 0, 10, 20, 30, 40, 50, 60, 70, 80, or 90. For example, the digit 2 in the tens place represents a quantity of 20.

hundreds place – A digit in the hundreds place represents 0, 100, 200, 300, 400, 500, 600, 700, 800, or 900. For example, the digit 2 in the hundreds place represents a quantity of 200.

thousands place – A digit in the thousands place represents 0, 1,000, 2,000, 3,000, 4,000, 5,000, 6,000, 7,000, 8,000, or 9,000. For example, the digit 2 in the thousands place represents a quantity of 2,000.

Suggested Activities

- Review place value by writing the following numbers on the board: 156, 248, 390, and 472. Have students identify the digits in the ones, tens, and hundreds place for each number. Then, write the following numbers on the board: 2,945 and 7613. Introduce or review the thousands place, using these two numbers. Then, write four blanks with a comma after the thousands place (____,____) on the board. Call out one number and place value at a time, and have volunteers fill in the blanks to create a four-digit number. (Use with pages 4–9.)

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Unit Worksheets

Each unit includes worksheets that address every skill covered in the unit. Unlike most supplemental resources, *Basic Math Practice* provides ample opportunity for practicing and applying each skill. The goal of this program is to provide a variety of approaches to teaching each skill so that every student's learning style is covered and all students master the skill. The teacher has the option of choosing specific worksheets to use as means of review and reinforcement or working through all the worksheets to reinforce students' comprehension.

The worksheets within each unit are arranged so that skills continue to build upon one another. However, each worksheet is a complete assignment that is meant to stand alone. Additionally, each worksheet is designed so that the teacher has the option of using it as an independent or a group activity. If the worksheet is completed by groups of students, the teacher should make sure each student understands the skill and is able to explain the skill in his or her own words. After a skill has been taught, worksheets can be sent home for review or reinforcement.

Some of the worksheets require students to interpret information presented in pictures, tables, graphs, or charts or to use the provided information to answer questions. Some worksheets also have a journal-response question. This question asks students to explain in their own words how they used the skill, how they applied the skill to a real-world situation, or what steps they used to solve the problem. To simplify the steps needed to solve the word problems using monetary values, sales tax will not be included in the process. Teachers can discuss how the sales tax works and the purpose of the sales tax. However, the word problems included in this book do not require students to figure the sales tax.

Word problems based on realistic situations conclude each unit. Real-world problems provide students with the opportunity to apply the skills of rounding, reasonableness, and estimation to situations that students might encounter in everyday life.

Name: _____		Date: _____	
Rounding		ROUNDING HUNDREDS	
Directions: Underline the digit in the hundreds place, and circle the digit in the tens place. Decide if the digit in the tens place is less than, equal to, or greater than 5. Then, round each number to the hundreds place.			
Rounding Rules: <ul style="list-style-type: none"> • If the digit in the tens place is less than 5, round the hundreds place down. • If the digit in the tens place is equal to or greater than 5, round the hundreds place up. • Change the digit in the tens place and the digit in the ones place to 0. 			
1	387 rounds to _____	2	125 rounds to _____
3	650 rounds to _____	4	543 rounds to _____
5	768 rounds to _____	6	872 rounds to _____
7	337 rounds to _____	8	295 rounds to _____
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Unit Activities

A group activity is included in each unit. Group activities are designed to teach students to work cooperatively to complete a task. Students will work with their peers to complete each activity while applying the skills covered in the corresponding unit. Each group activity concludes with a discussion that requires students to support their findings and compare their results.

A take-home activity is provided in each unit. The teacher should thoroughly explain each take-home activity to students before sending it home. Although the take-home activities are designated for at-home completion, nearly any worksheet in this book can be sent home with students for review or reinforcement.

Name: _____	Date: _____
Estimation	<i>GROUP ACTIVITY</i>
<p>Your group will need: several pizza menus or sales flyers</p> <p>Activity: Plan a pizza party for the class. Estimate the number of pizzas needed and what size the pizzas should be so that each person can have three slices. Estimate the total amount owed for the pizzas. Then, answer the questions.</p>	
<p>1</p> <p>How many people will you need to order pizzas for?</p> <p>_____ people</p>	
<p>2</p> <p>What size of pizza will you order, and how much does this size cost?</p> <p>_____ size \$ _____</p>	
<p>3</p> <p>How many pizzas will you order?</p> <p>_____ pizzas</p>	
<p>4</p> <p>What is your estimated total cost of the pizzas?</p> <p>\$ _____</p>	
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Name: _____	Date: _____
Estimation	<i>TAKE-HOME ACTIVITY</i>
<p>Directions: Before doing each activity, estimate what your pulse rate per minute will be. Then, have a friend or family member time you doing the activity. After you finish the activity, find your actual pulse rate per minute and record it. Compare your estimated and actual pulse rates for each activity. Then, answer the questions.</p>	
ACTIVITY 1	
<p>Sit still for 1 minute.</p> <p>Estimated pulse rate: _____ Actual pulse rate: _____</p> <p>Was your estimated pulse rate close to your actual pulse rate? _____</p>	
ACTIVITY 2	
<p>Run in place for 1 minute.</p> <p>Estimated pulse rate: _____ Actual pulse rate: _____</p> <p>Was your estimated pulse rate close to your actual pulse rate? _____</p>	
ACTIVITY 3	
<p>Stand still, and wave your arms up and down for 1 minute.</p> <p>Estimated pulse rate: _____ Actual pulse rate: _____</p> <p>Was your estimated pulse rate close to your actual pulse rate? _____</p>	
<p>1</p> <p>Why does your pulse get faster when you are more active?</p> <p>_____</p> <p>_____</p>	
<p>2</p> <p>Why does your pulse get slower when you sit still?</p> <p>_____</p> <p>_____</p>	
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Unit Assessments

Each unit contains two assessments that cover the skills addressed in the unit. The assessments are designed like standardized tests to give students practice with this format. While reviewing the skills covered in the unit, teachers also can address the skills needed for taking standardized tests.

Basic Math Practice features a variety of test formats, so students will encounter several different types of questions. Most assessments in *Basic Math Practice* require students to eliminate incorrect options and choose the correct answer, while some assessments ask students to identify the correct application of the skill. While these assessments are designed to measure students' knowledge following completion of the units, these assessments also can be used as pretests to measure students' prior knowledge of the skills before beginning the corresponding units.

Answer Key

Answer keys for unit worksheets and assessments are included at the end of the book. Answer keys are not provided for group and take-home activities since they are meant to be open-ended and the answers will vary.

Name: _____
Date: _____

Reasonableness
ASSESSMENT 2

Directions: Look at the items, their quantities, and their prices. Read each question. Then, fill in the circle next to the correct answer.

PACK 1	PACK 2	PACK 3
 8 to 10 cards – \$4.25	 4 to 6 cards – \$1.95	 5 to 8 cards – \$3.50

- 1** What is a reasonable total to pay for 1 pack of "On Ice" cards and 1 pack of "All Stars" cards?
 \$2.00 \$3.00 \$6.00 \$10.00
- 2** What is a reasonable total to pay for 2 packs of "The Majors" cards?
 \$9.00 \$4.00 \$1.00 \$0.75
- 3** What is a reasonable range of cards to get in 1 pack of "All-Stars"?
 less than 3 cards between 4 and 6 cards
 between 8 and 10 cards more than 11 cards
- 4** What is a reasonable number of cards to get in 1 pack of "The Majors" cards?
 5 cards 7 cards 9 cards 15 cards

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Answer Key
BASIC MATH
PRACTICE

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<small>Rounding, Page 7</small>	<small>Rounding, Page 8</small>	<small>Rounding, Page 9</small>
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