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INTRODUCTION AND RESEARCH

The Need for Practice

In order to be successful in today’s mathematics classroom, students must deeply understand both concepts and procedures so that they can discuss and demonstrate their understanding. Demonstrating understanding is a process that must be continually practiced in order for students to be successful. According to Marzano (2010, 83), “practice has always been, and will always be, a necessary ingredient to learning procedural knowledge at a level at which students execute it independently.” Practice is especially important to help students apply their concrete, conceptual understanding to a particular procedural skill.

Understanding Assessment

In addition to providing opportunities for frequent practice, teachers must be able to assess students’ understanding of mathematical procedures, terms, concepts, and reasoning (Kilpatrick, Swafford, and Findell 2001). This is important so that teachers can adequately address students’ misconceptions, build on their current understanding, and challenge them appropriately.

Assessment is a long-term process that often involves careful analysis of student responses from a lesson discussion, project, practice sheet, or test. When analyzing the data, it is important for teachers to reflect on how their teaching practices may have influenced students’ responses and to identify those areas where additional instruction may be required. In short, the data gathered from assessments should be used to inform instruction: slow down, speed up, or reteach. This type of assessment is called *formative assessment* and is used to provide a seamless connection between instruction and assessment (McIntosh 1997).

HOW TO USE THIS BOOK

180 Days of Math for First Grade offers teachers and parents a full page of daily mathematics practice activities for each day of the school year.

Easy to Use and Standards-Based

These activities reinforce grade-level skills across a variety of mathematical concepts. The questions are provided as a full practice page, making them easy to prepare and implement as part of a classroom morning routine, at the beginning of each mathematics lesson, or as homework.

Every first-grade practice page provides 8 questions, each tied to a specific mathematical concept. Students are given the opportunity for regular practice in each mathematical concept, allowing them to build confidence through these quick standards-based activities.

Question	Mathematics Concept	NCTM Standards
1	Number Sense	Understands numbers, ways of representing numbers, relationships among numbers, and number systems
2	Addition	Understands meanings of operations and how they relate to one another; Computes fluently and makes reasonable estimates; Develops and uses strategies for whole-number computations, with a focus on addition and subtraction
3	Subtraction	
4	Algebraic Thinking	Understands patterns, relations, and functions; Models situations that involve the addition and subtraction of whole numbers, using objects, pictures, and symbols
5	Geometry	Analyzes characteristics and properties of two-dimensional and three-dimensional geometric shapes and develops mathematical arguments about geometric relationships; Describes attributes and parts of two- and three-dimensional shapes
6	Measurement	Understands measurable attributes of objects and the units, systems, and processes of measurement; Recognizes the attributes of length, volume, weight, area, and time
7	Data Analysis	Formulates questions that can be addressed with data and collects, organizes, and displays relevant data to answer them
8	Word Problem/Logic Problem or Mathematical Reasoning	Builds new mathematical knowledge through problem solving; Solves problems that arise in mathematics and in other contexts

Standards are listed with the permission of the National Council of Teachers of Mathematics (NCTM). NCTM does not endorse the content or validity of these alignments.

HOW TO USE THIS BOOK *(cont.)*

Using the Practice Pages

As outlined on page 4, every question is aligned to a mathematics concept and standard.

Practice pages provide instruction and assessment opportunities for each day of the school year.

Each question ties student practice to a specific mathematics concept.

DAY

52

NAME: _____

DIRECTIONS Solve each problem.

SCORE

1. 😊😊

2. 😊😊

3. 😊😊

4. 😊😊

5. 😊😊

6. 😊😊

7. 😊😊

8. 😊😊

___ / 8

Total

1. Write the number before and after 61.

Before	Number	After
	61	

2. $3 + 5 = \square$

3.

5
- 1

4. Continue the pattern.
10 20 30 40 _____

5. Count the sides.

_____ sides

6. Circle the object that weighs less.

7. Favorite Weekend Activity

Play Video Games	
Read	
Play with Toys	

How many children like to play with toys best?

8. I am a number you say when you count by 10s. I am more than 20 and less than 40. What number am I?

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#50804—180 Days of Math for First Grade

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Using the Scoring Guide

Use the scoring guide along the side of each practice page to check answers and see at a glance which skills may need more reinforcement.

Fill in the appropriate circle for each problem to indicate correct (😊) or incorrect (😞) responses. You might wish to indicate only incorrect responses to focus on those skills. (For example, if students consistently miss numbers 2 and 6, they may need additional help with those concepts as outlined in the table on page 4.) Use the answer key at the back of the book to score the problems, or you may call out answers to have students self-score or peer-score their work.

NAME: _____

DIRECTIONS Solve each problem.

SCORE

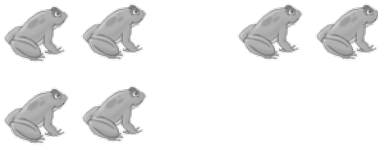
1. 😊 😐

1. Write the number before and after 20.

Before	Number	After
	20	

2. 😊 😐

2. Add.



$$\square + \square = \square$$

3. 😊 😐

3. Subtract.



$$\square - \square = \square$$

4. 😊 😐

4. Write the missing sign.

$$3 \square 1 = 2$$

5. 😊 😐

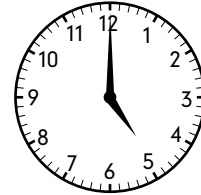
5. Draw a line of symmetry.



6. 😊 😐

6. What time is it?

_____ o'clock



7. 😊 😐

7. Favorite Weekend Activity

Play Video Games	
Read	
Play with Toys	

How many chose reading as their favorite weekend activity?

8. 😊 😐

8. DeShawn had 4 crackers. He ate 2. How many crackers does he have left?

___ / 8
Total

NAME: _____

DIRECTIONS Solve each problem.

1. About how many chairs are in a classroom? Circle one:

20 100

2.

$$\begin{array}{r} 1 \\ 3 \\ + 8 \\ \hline \square \end{array}$$

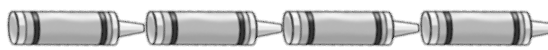
3. $20 - 0 = \square$

4.

$$\begin{array}{r} 8 \\ + \square \\ \hline 10 \end{array}$$

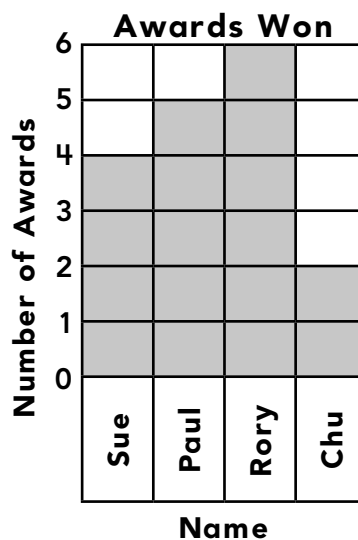
5. Draw a shape with 8 sides.

6. Record the length.



_____ crayons

7.



If Paul wins 2 more awards, who will have won the most awards?

8. Randy will be 10 in 4 years. How old is Randy now?

SCORE

1. 😊 😐

2. 😊 😐

3. 😊 😐

4. 😊 😐

5. 😊 😐

6. 😊 😐

7. 😊 😐

8. 😊 😐

____ / 8
Total