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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 Sixth 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 sixth-grade practice page provides 12 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	Addition or Subtraction	Understands numbers, ways of representing numbers, relationships among numbers, and number systems; Understands the meanings of operations and how they relate to one another; Computes events and makes reasonable estimates
2	Multiplication	
3	Division	
4	Place Value or Number Sense	
5	Fractions, Decimals, and Percents	Works flexibly with fractions, decimals, and percents to solve problems; Compares and orders fractions, decimals, and percents efficiently; Understands the meaning and effects of arithmetic operations with fractions and decimals
6	Order of Operations and Patterns	Understands the meanings of operations and how they relate to one another
7	Algebra and Algebraic Thinking	Understands patterns, relations, and functions; Represents and analyzes mathematical situations and structures using algebraic symbols
8		
9	Measurement	Understands measurable attributes of objects and the units, systems, and processes of measurement; Applies appropriate techniques and formulas to determine measurements
10	Geometry	Uses visualization and spatial reasoning to solve problems; Analyzes characteristics and properties of two- and three-dimensional geometric shapes
11	Data Analysis/Probability	Selects and uses appropriate statistical methods to analyze data; Understands and applies basic concepts of probability
12	Word Problem/Logic Problem or Mathematical Reasoning	Solves problems that arise in mathematics and in other contexts; Applies and adapts a variety of appropriate strategies to solve problems

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

26

NAME: _____

DIRECTIONS Solve each problem.

SCORE

1. (Y) (N)

2. (Y) (N)

3. (Y) (N)

4. (Y) (N)

5. (Y) (N)

6. (Y) (N)

7. (Y) (N)

8. (Y) (N)

9. (Y) (N)

10. (Y) (N)

11. (Y) (N)

12. (Y) (N)

____ / 12

Total

1.
$$\begin{array}{r} 19 \\ + 24 \\ \hline \end{array}$$

2. $7 \cdot 9 = \underline{\hspace{2cm}}$

3. Divide -48 by 8 .

4. Is $9,642$ greater than $9,462$?

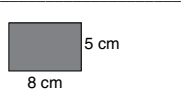
5. Write $4\frac{1}{4}$ as an improper fraction.

6. Write the rule for the pattern.
 $100, 81, 64, 49, 36$


7. Find k .
 $3k = 159$
 $k = \underline{\hspace{2cm}}$

8. $45 \square 8 = 5.625$

9. Calculate the area of the shape.

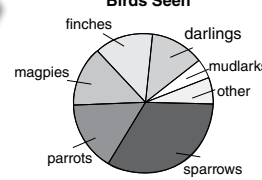


10. Draw a top view of the cube.



11.

Birds Seen



Were more magpies seen than mudlarks?

12. Mia has a bag full of $\$0.10$ and $\$0.25$ coins. In how many different ways can she pay for a drink that costs $\$1.50$?

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#50802—180 Days of Math for Sixth 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 (Y) or incorrect (N) 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. (Y) (N)

1. $92 + 46 = \underline{\hspace{2cm}}$

2. (Y) (N)

2. $-30 \times (-40) = \underline{\hspace{2cm}}$

4. (Y) (N)

3. $6 \overline{)343}$

5. (Y) (N)

4. True or false? $64,281 > 64,218$

6. (Y) (N)

5. Write 9 ones + 5 tenths + 3 hundredths as a decimal.

7. (Y) (N)

6. $36 \div (6 + 3) = \underline{\hspace{2cm}}$

8. (Y) (N)

7. $8.4 + \square = 15.6$

9. (Y) (N)

8. Find h . $17h = 34$

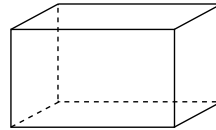
$h = \underline{\hspace{2cm}}$

10. (Y) (N)

9. How many kilometers are in 6,250 meters?

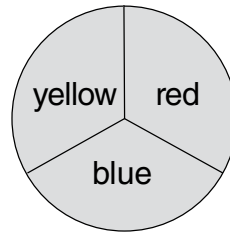
11. (Y) (N)

10. Draw a picture showing what the rectangular prism looks like from the top.

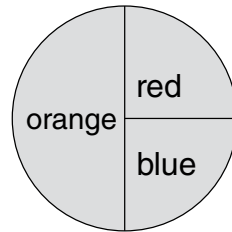


12. (Y) (N)

11. Which spinner would give you the best chance of landing on red?



Spinner A



Spinner B

___ / 12

Total

12. For every apple Lisa buys at the store, she buys three bananas. If Lisa buys 7 apples at the store, how many bananas will she buy?

NAME: _____

DIRECTIONS

Solve each problem.

1. Find the sum of 257 and 64.

2. $10 \cdot 24 =$ _____

3. $9 \overline{)738}$

4. What is the place value of 7 in the number 174,569?

5. Write the improper fraction for $1\frac{2}{3}$.

6. Complete the table. Then write the conversion rule for centimeters to meters.

Centimeter	300	500		900	
Meter	3		7		11

7. Find a . $a + 2 = 10$

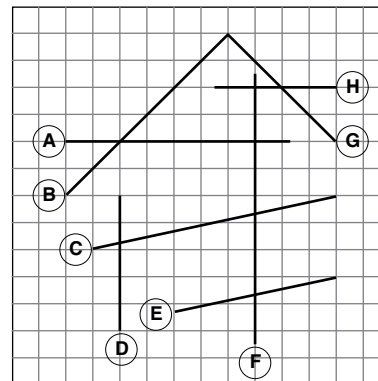
$a =$ _____

8. Find d . $28d = 56$

$d =$ _____

9. How many liters are in 5,275 milliliters?

10. Which line segment is perpendicular to lines A and H?



11. Reina counted the number of tickets sold for the school play for 10 nights. What is the range?
20, 26, 19, 24, 19, 28, 22, 18, 24, 24

12. Mai's pencil is 24 cm long. She sharpens it, and it loses $\frac{1}{8}$ of its length. How long is her pencil now?

SCORE

1. (Y) (N)

2. (Y) (N)

3. (Y) (N)

4. (Y) (N)

5. (Y) (N)

6. (Y) (N)

7. (Y) (N)

8. (Y) (N)

9. (Y) (N)

10. (Y) (N)

11. (Y) (N)

12. (Y) (N)

___ / 12

Total