The *Mid-Year Assessment* in the *Assessment Handbook* is a written assessment that you may use to determine how students are progressing toward a range of Grade-Level Goals. Input student data from Progress Check 6 and the Mid-Year Assessment into the *Assessment Management Spreadsheets*.

### Materials
- Study Link 6•10
- Slate

### ASSESSMENT ITEMS

#### CONTENT ASSESSED

<table>
<thead>
<tr>
<th></th>
<th>LESSON(S)</th>
<th>SELF</th>
<th>ORAL/SLATE</th>
<th>WRITTEN</th>
<th>OPEN RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify place value in numbers to billions. [Number and Numeration Goal 1]</td>
<td>6-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solve problems involving percent. [Number and Numeration Goal 2]</td>
<td>6-5</td>
<td></td>
<td></td>
<td>20b–20d</td>
<td></td>
</tr>
<tr>
<td>Convert among fractions, decimals, and percents. [Number and Numeration Goal 5]</td>
<td>6-5, 6-6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Find common denominators. [Number and Numeration Goal 5]</td>
<td>6-9, 6-10</td>
<td></td>
<td>3, 4</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Use paper-and-pencil algorithms to solve problems involving whole numbers. [Operations and Computation Goals 1 and 3]</td>
<td>6-8–6-10</td>
<td>5</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Add and subtract fractions with like denominators. [Operations and Computation Goal 4]</td>
<td>6-8–6-10</td>
<td>5</td>
<td></td>
<td>6, 8</td>
<td>19c</td>
</tr>
<tr>
<td>Add and subtract fractions with unlike denominators. [Operations and Computation Goal 4]</td>
<td>6-8–6-10</td>
<td>6</td>
<td></td>
<td>7, 9–13</td>
<td>19b</td>
</tr>
<tr>
<td>Use benchmarks to estimate sums and differences. [Operations and Computation Goal 6]</td>
<td>6-8–6-10</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construct stem-and-leaf plots. [Data and Chance Goal 1]</td>
<td>6-3, 6-4, 6-6</td>
<td>1, 2</td>
<td></td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>Identify and use data landmarks; interpret data. [Data and Chance Goal 2]</td>
<td>6-1–6-3, 6-5–6-7</td>
<td></td>
<td></td>
<td>1–5a, 16</td>
<td>17, 20a</td>
</tr>
<tr>
<td>Understand how sample size affects results. [Data and Chance Goal 2]</td>
<td>6-5, 6-6</td>
<td>3</td>
<td></td>
<td>5b, 5c</td>
<td>20e</td>
</tr>
<tr>
<td>Measure to the nearest ( \frac{1}{8} ) of an inch. [Measurement and Reference Frames Goal 1]</td>
<td>6-2, 6-3</td>
<td>1</td>
<td></td>
<td></td>
<td>19a</td>
</tr>
</tbody>
</table>

#### LOOKING BACK: CUMULATIVE ASSESSMENT

**Objective** To assess students’ progress on mathematical content through the end of Unit 6.

**Materials**
- Study Link 6•11
- *Math Journal 1*, p. 204
- *Math Masters*, pp. 183–186

#### LOOKING AHEAD: PREPARING FOR UNIT 7

**Math Boxes 6•11**

**Study Link 6•11: Unit 7 Family Letter**
Getting Started

Math Message • Self Assessment


Study Link 6-10 Follow-Up

Briefly review students’ answers.

1 Looking Back: Cumulative Assessment

Math Message Follow-Up

(Self Assessment, Assessment Handbook, p. 180)

The Self Assessment offers students the opportunity to reflect upon their progress.

Oral and Slate Assessments

Problems 1 and 2 provide summative information and can be used for grading purposes. Problems 3 and 4 provide formative information that can be useful in planning future instruction.

Oral Assessment

1. Decide if the sum or difference for each fraction expression is closest to 0, \( \frac{1}{2} \), or 1.

\[
\begin{align*}
\frac{3}{8} + \frac{1}{2} & \quad \frac{3}{5} + \frac{1}{9} \\
\frac{1}{5} + \frac{1}{4} & \quad \frac{1}{12} + \frac{1}{9} \\
\frac{8}{8} - \frac{1}{9} & \quad \frac{2}{4} - \frac{1}{2}
\end{align*}
\]

2. Round the following numbers to the indicated place value:

- 489 to the nearest ten 490
- 608 to the nearest ten 610
- 23,605 to the nearest hundred 23,600
- 18.27 to the nearest tenth 18.3
- 200.73 to the nearest whole number 201

Slate Assessment

3. Write the decimal and percent for each fraction:

\[
\begin{align*}
\frac{2}{3} & \quad \frac{2}{3} = 0.66\overline{6}\% \\
\frac{3}{10} & \quad \frac{3}{10} = 0.3; 30\% \\
\frac{7}{25} & \quad \frac{7}{25} = 0.28; 28\%
\end{align*}
\]

4. Rename as improper fractions:

\[
\begin{align*}
\frac{2\frac{3}{7}}{7} & \quad \frac{2\frac{3}{6}}{6}, \text{ or } \frac{13}{3} \\
\frac{4\frac{1}{2}}{2} & \quad \frac{4\frac{9}{2}}{2}
\end{align*}
\]
Part A  Recognizing Student Achievement

Problems 1–16 provide summative information and may be used for grading purposes.

Problem(s)  Description
1–5a, 16  Find and use data landmarks.
6, 8  Add and subtract fractions with like denominators.
7, 9–13  Add and subtract fractions with unlike denominators.
14, 15  Find a common denominator.
5b, 5c  Understand how sample size affects results.

Part B  Informing Instruction

Problems 17–22 provide formative information that can be useful in planning future instruction.

Problem(s)  Description
17  Read and interpret stem-and-leaf plots.
18  Construct stem-and-leaf plots.
19a–b  Add and subtract fractions with unlike denominators.
19c  Add and subtract fractions with common denominators.
21  Find a common denominator.
20a–20d, 22  Convert between fractions, decimals, and percents.
20e  Understand how sample size affects results.

Use the checklists on pages 267 and 269 of the Assessment Handbook to record results. Then input the data into the Assessment Management Spreadsheets to keep an ongoing record of students’ progress toward Grade-Level Goals.

Open Response

(Assessment Handbook, p. 184)

Mean Age

The open-response item requires students to apply skills and concepts from Unit 6 to solve a multistep problem. See Assessment Handbook, pages 95–99 for rubrics and students’ work samples for this problem.
**Mid-Year Assessment**
*(Assessment Handbook, pp. 228–233)*

The Mid-Year Assessment *(Assessment Handbook, pages 228–233)* provides an additional assessment opportunity that you may use as part of your balanced assessment plan. This assessment covers some of the important concepts and skills presented in *Fifth Grade Everyday Mathematics*. They should be used to complement the ongoing and periodic assessments that appear within lessons and at the end of the units. Please see the *Assessment Handbook*, pages 100 and 101 for further information.

### 2 Looking Ahead: Preparing for Unit 7

#### Math Boxes 6·11
*(Math Journal 1, p. 204)*

**INDEPENDENT ACTIVITY**

**Mixed Practice** This Math Boxes page previews Unit 7 content.

#### Study Link 6·11:
**Unit 7 Family Letter**
*(Math Masters, pp. 183–186)*

**INDEPENDENT ACTIVITY**

**Home Connection** The Unit 7 Family Letter provides parents and guardians with information and activities related to Unit 7 topics.

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**Student Page**

**Lesson 6·11**

**Math Boxes**

1. Use your calculator to rename each of the following in different numbers.
   
   a. 3.125
   
   b. 3.43
   
   c. 0.729
   
   d. 1.9683

2. Write the following numbers in order from greatest to least.
   
   0.083, 0.080, 0.082, 0.080, 0.080, 0.080

3. Complete the table and state the rule.
   
   | In | Out |
   |
   |----|-----|
   | 10 | 60  |
   | 15 | 90  |
   | 19 | 114 |

**Written Assessment continued**

19. a. Use your ruler to draw a line segment that is 2 1/2 in. long.
   
   b. If you erase 2 in. from this line segment, how long would it be?

20. One survey reported three types of books for 10th graders. The results of the survey were as follows:
   
   - Adventure books: 24%
   - Mystery books: 30%
   - Other: 46%

   a. Circle the bar graph that best represents the survey results.
   
   b. If 100 students answered the survey, how many of them chose adventure?

21. If you try to decide what kinds of books to buy for the library in your town, how many 10th graders would you interview?  Answers vary.

22. Explain one way to rename 1 1/6 as a percent without using a calculator.

Answers vary.

23. Explain how you would use the multiplication rule to find common denominators for the fractions you added in Problem 11.

Sample answer: Multiply the denominators, 3 and 5, to get the common denominator of 15.

Answers vary.

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**Assessment Master** p. 183

**Written Assessment continued**

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**Mid-Year Assessment** *(Assessment Handbook, pp. 228–233)*

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**Math Boxes 6·11** *(Math Journal 1, p. 204)*

**INDEPENDENT ACTIVITY**

**Mixed Practice** This Math Boxes page previews Unit 7 content.

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**Study Link 6·11: Unit 7 Family Letter** *(Math Masters, pp. 183–186)*

**INDEPENDENT ACTIVITY**

**Home Connection** The Unit 7 Family Letter provides parents and guardians with information and activities related to Unit 7 topics.

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**Student Page**

**Lesson 6·11**

**Math Boxes**

1. Use your calculator to rename each of the following in different numbers.
   
   a. 3.125
   
   b. 3.43
   
   c. 0.729
   
   d. 1.9683

2. Write the following numbers in order from greatest to least.
   
   0.083, 0.080, 0.082, 0.080, 0.080, 0.080

3. Complete the table and state the rule.
   
   | In | Out |
   |
   |----|-----|
   | 10 | 60  |
   | 15 | 90  |
   | 19 | 114 |

4. Explain one way to rename 1 1/6 as a percent without using a calculator.

Answers vary.

5. Explain how you would use the multiplication rule to find common denominators for the fractions you added in Problem 11.

Sample answer: Multiply the denominators, 3 and 5, to get the common denominator of 15.

Answers vary.
Exponents and Negative Numbers

In Unit 7, your child will learn to write exponential and scientific notation for naming very large and very small numbers. These topics become increasingly important later on when your child begins algebra. If you have enjoyed playing math games in the past, you might want to play Exponent Ball during these lessons.

Your child will also review how parentheses make expressions unambiguous and will learn rules that determine the order for performing operations in a mathematical expression.

Finally, your child will learn to work with positive and negative numbers, using a variety of tools. For example, your child will use number lines and red and black “counters” to model addition and subtraction problems.

The counter activities are especially helpful. Students use counters to represent an account balance. The red counters (−$1) represent a debit, and the black counters (+$1) represent a credit. If there are more red counters than black ones, the account is “in the red,” that is, the balance is negative. On the other hand, if there are more black counters than red ones, the account is “in the black,” that is, the balance is positive. By adding or subtracting red and black counters from an account, your child can model addition and subtraction of positive and negative numbers. To assist your child, you might want to explain how a checking or savings account works. Students will practice their new skills in the Credits/Debits Game.

Please keep this Family Letter for reference as your child works through Unit 7.
Vocabulary

Important terms in Unit 7:

**account balance** An amount of money that you have or that you owe.

**exponential notation** A way to show repeated multiplication by the same factor. For example, $2^3$ is exponential notation for $2 * 2 * 2$.

**expression** A mathematical phrase made up of numbers, variables, operation symbols, and/or grouping symbols. An expression does not contain symbols such as $=, >,$ and $<.$

**in the black** Having a positive balance; having more money than is owed.

**in the red** Having a negative balance; owing more money than is available.

**negative number** A number less than zero.

**nested parentheses** Parentheses within parentheses in an expression. Expressions are evaluated from within the innermost parentheses outward following the order of operations.

Example:

$$((6 * 4) - 2) / 2$$

$$= (24 - 2) / 2$$

$$= 22 / 2 = 11$$

**number-and-word notation** A way of writing a large number using a combination of numbers and words. For example, 27 billion is number-and-word notation for 27,000,000,000.

**opposite of a number** A number that is the same distance from 0 on the number line as a given number but on the opposite side of 0. For example, the opposite of +3 is −3; the opposite of −5 is +5.

**order of operations** Rules that tell the order in which operations in an expression should be carried out. The order of operations is:

1. Do operations inside grouping symbols first. (Use rules 2–4 inside the grouping symbols.)
2. Calculate all the expressions with exponents.
3. Multiply and divide in order from left to right.
4. Add and subtract in order from left to right.

**parentheses** ( ) Grouping symbols used to indicate which operations in an expression should be done first.

**scientific notation** A system for writing numbers in which a number is written as the product of a power of 10 and a number that is at least 1 and less than 10. Scientific notation allows you to write big and small numbers with only a few symbols. For example, $4 * 10^{12}$ is scientific notation for 4,000,000,000,000.

**standard notation** Our most common way of representing whole numbers, integers, and decimals. Standard notation is base-ten, place-value numeration. For example, standard notation for three hundred fifty-six is 356.
As You Help Your Child with Homework

As your child brings assignments home, you might want to go over the instructions together, clarifying them as necessary. The answers listed below will guide you through this unit’s Study Links.

**Study Link 7.1**
1. Should be $6^3 = 6 \times 6 \times 6$; 216
2. Should be $2^5 = 2 \times 2 \times 2 \times 2 \times 2$; 512
3. Should be $4^2 = 4 \times 4 = 16$; 16,384
4. Should be $4^2 = 4 \times 4 = 16$; 16,384
5. 14.7
6. 0.48
7. $\frac{15}{7}$, or $2 \frac{1}{7}$

**Study Link 7.2**
1. billion
2. $10^3$
3. trillion
4. $10^3$
5. thousand; $10^3$
6. $10^6$
7. $2^4 \times 3$
8. $2^2 \times 3 \times 5$
9. 3,000 + 200 + 60 + 4

**Study Link 7.3**
1. 600; 3
2. 2
3. 500 million
4. 260 million
5. 10 million
6. 125

**Study Link 7.4**
1. $(3 \times 2) - (4 / 1) = 6 - 4 = 2$
2. $(3 + 3 - 1) / 2 = 5 / 2 = 2.5$
3. $(3 - 1) + (4 / 2) = 2 + 2 = 4$
4. $(4 + 1 - 3) / 2 = 2 / 2 = 1$
5. $6 = 1 + (4 \times 2) - 3$
6. $(4^2 - (3 \times 3)) + 1((2 + 1) \times 9) - 1$
7. $a = 1 \frac{1}{12}$, or $1 \frac{1}{3}$
8. $p = 1 \frac{1}{2}$
9. $d = 2 \frac{2}{8}$, or $2 \frac{1}{4}$
10. $y = 0$

**Study Link 7.5**
1. 34
2. 25
3. 28
4. 30
5. 21
6. 28
7. false
8. true
9. true
10. true
11. false
12. true
13. false
14. true
15. $z = 9,204$
16. $r = 78,002$
17. $s = 1.25$

**Study Link 7.6**
1. Sales were at their highest in 1930. Sales dropped by 60 million from 1940 to 1970.
2. Before TV sets were common, more people went to the movies.
3. Sales were at their highest in 1930. Sales dropped by 60 million from 1940 to 1970.

**Study Link 7.7**
1. 2.6
2. 1.58
3. -5.5
4. -9.8
5. -1.2, -1, 3.8, $5 \frac{1}{4}$, $5 \frac{3}{8}$
6. F
7. F
8. F
9. T
10. T
11. -1 < 1; T
13. $f = 12.53$
15. $n = \frac{3}{4}$

**Study Link 7.8**
1. <
2. >
3. >
4. >
5. 2 debt
6. 5 cash
7. -9
9. -88

11. 3
15. $a = 30$
17. $p = 5$

**Study Link 7.9**
1. -41
2. 43
3. 0
4. -8
5. 40
6. 20
7. -85
8. -0.5
9. 2
10. (-10)
12. $u = 65,664$
13. $e = 3$
14. $w = 30.841$
15. $m = 5.46$

**Study Link 7.10**
1. $\frac{1}{8}$
2. $1 \frac{1}{4}$
3. $1 \frac{1}{5}$
4. $\frac{1}{8}$
5. $\frac{1}{4}$

**Insect Lengths**

**Study Link 7.11**
1. $-5 - (-58) = 53$
3. $10^4$
7. 20,000
13. $7 \times 10^3$
19. $b = 0.46$
21. $a = 1,571$
23. $137 \frac{3}{4}$, or $137 \frac{7}{9}$