

## Samples to Success

Sample items provide valuable insight into how students engage with different texts, tasks, and contexts, highlighting the types of opportunities they need for success in the classroom. These items offer a shared reference point for understanding proficiency expectations, complementing the assessment's role in measuring learning. By analyzing items alongside performance data, educators can gain a deeper understanding of students' strengths and areas for growth. Students thrive in environments rich with diverse materials, challenges that vary in task type, and multiple avenues for demonstrating understanding. High-quality instruction, aligned with the learning goals, is the most effective way to support students' growth and prepare them for success.

The items featured in this rubric are a mix of items representative of those found on the Illinois Assessment of Readiness (IAR) and items appropriate for classroom instruction to support and build the skills measured on the IAR. The distinction between a student scoring proficient and above proficient on the IAR is primarily determined by the total points earned on items that require modeling and/or reasoning. Students who can effectively explain and demonstrate their thinking are most likely to earn these points.



## MATHEMATICS GRADE 3

### Operations & Algebraic Thinking

	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<b>3.OA.1</b> <b>Expectation at Proficient:</b>  Interpret the product of two whole numbers in terms of the number of groups and size of each group.	What is the product of $5 \times 4$ ?  <b>Answer: 20</b>	There are 4 rows of 5 desks in a classroom.  Which expression represents the total number of desks in the classroom?  A. $4 - 5$ B. $4 + 5$ <b>C. <math>4 \times 5</math></b> D. $4 \div 5$	Which question can be answered with the expression $5 \times 4$ ?  <b>A. There are 5 books on 4 shelves. How many total books are on all the shelves?</b>  B. There are 5 books on a shelf and 4 fall off. How many books are left on the shelf?  C. There are 5 books on a shelf. A student puts 4 more books on the shelf. How many books are now on the shelf?  D. There are 5 books on a shelf. The books are placed into 4 boxes. How many books are in each box?	A teacher is packing boxes of books. Each box can hold 4 books, and the teacher needs to pack 24 books.  Explain how to determine the total number of boxes the teacher will pack.  <b>The student response should include an explanation of how multiplication is used to determine the product. <math>4 \times ? = 24</math>; 6 boxes</b>

### Operations & Algebraic Thinking

	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<p><b>3.OA.2</b></p> <p><b>Expectation at Proficient:</b></p> <p>Interpret the quotient of two whole numbers in terms of distributing objects equally to determine either the number or size of groups.</p>	<p>What is the quotient of <math>42 \div 7</math> ?</p> <p><b>Answer: 6</b></p>	<p>Joe ran 42 miles last week. He ran the same number of miles each day.</p> <p>Which expression represents the number of miles Joe ran each day?</p> <p>A. <math>42 + 7</math></p> <p>B. <math>42 - 7</math></p> <p>C. <math>42 \times 7</math></p> <p><b>D. <math>42 \div 7</math></b></p>	<p>Which question can be answered with the expression <math>42 \div 7</math> ?</p> <p>A. Joe ran 42 miles this week and 7 miles last week. What is the total number of miles Joe ran?</p> <p>B. Joe ran 42 miles per week for 7 weeks. What is the total number of miles Joe ran?</p> <p><b>C. Joe ran 42 miles last week. He ran the same number of miles each day. How many miles did he run each day?</b></p> <p>D. Joe ran 42 miles last week. Joe ran 7 fewer miles this week than last week. How many miles did Joe run this week?</p>	<p>Joe is training for a race. He wants to run a total of 42 miles this week. He wants to run the same number of miles each day of the week.</p> <p>Explain how to determine the number of miles he should run each day of the week.</p> <p><b>The student response should include an explanation of how division is used to determine the quotient. <math>42 \div 7 = ?</math>; 6 miles</b></p>

### Operations & Algebraic Thinking

	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<p><b>3.OA.3</b></p> <p><b>Expectation at Proficient:</b></p> <p>Use multiplication and division within 100 to solve real world problems focused on situations involving equal groupings, arrays, and measurement quantities.</p> <p>Represent a multiplication</p>	<p>A teacher has 100 stickers and wants to give an equal number of stickers to each of the 20 students in the class.</p> <p>Complete the equation to determine how many stickers each student receives.</p> <p><math>100 \div 20 = \underline{5}</math></p>	<p>A teacher has 100 stickers and wants to give an equal number of stickers to each of the 20 students in the class.</p> <p>Which equation can be used to determine how many stickers each student receives?</p> <p>A. <math>100 \times 20 = x</math></p> <p>B. <math>100 + 20 = x</math></p> <p>C. <math>100 - 20 = x</math></p> <p><b>D. <math>100 \div 20 = x</math></b></p>	<p>A teacher has 100 stickers and wants to give an equal number of stickers to each of the 20 students in the class.</p> <p>Which equation can be used to determine how many stickers each student receives?</p> <p>A. <math>100 \times x = 20</math></p> <p>B. <math>100 + x = 20</math></p> <p>C. <math>100 - x = 20</math></p> <p><b>D. <math>100 \div x = 20</math></b></p>	<p>A teacher has 100 stickers and wants to give an equal number of stickers to each of the 20 students in the class.</p> <p>Which equations can be used to determine how many stickers each student receives?</p> <p>Select the <b>two</b> correct answers.</p> <p><b>A. <math>100 \div 20 = x</math></b></p> <p>B. <math>100 \times x = 20</math></p> <p><b>C. <math>100 \div x = 20</math></b></p> <p>D. <math>100 \times 20 = x</math></p> <p>E. <math>100 + 20 = x</math></p>

and division problem using drawings and equations with a symbol for the unknown number.

### Operations & Algebraic Thinking

3.OA.4	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<b>Expectation at Proficient:</b>	Which number makes the equation true?	Which number makes the equation true?	What number makes the equation true?	Complete each equation.
Determine the unknown number in multiplication or division equations involving three whole numbers to determine the missing value.	$42 \div 6 = ?$ A. 6 <b>B. 7</b> C. 8 D. 9	$42 \div ? = 7$ <b>A. 6</b> B. 7 C. 8 D. 9	$42 \div ? = 7$ <b>Answer: 6</b>	$42 \div 7 = ?$ $? \times 7 = 49$ $48 \div ? = 8$ <b>Answers: 6,7,6</b>

### Operations & Algebraic Thinking

3.OA.5	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<b>Expectation at Proficient:</b>	A teacher sets up 4 tables, and each table has 8 chairs.	A teacher sets up 4 tables, and each table has 8 chairs.	A teacher sets up 4 tables, and each table has 6 chairs. After class, 3 students pick up all the chairs. Each student picks up the same number of chairs.	A teacher sets up 4 tables, and each table has 6 chairs. After class, 3 students pick up all the chairs. Each student picks up the same number of chairs.
Use the properties of operations as strategies to multiply and divide values.	Which equation shows the number of chairs the teacher sets up? A. $8 + 4 = 12$ B. $8 - 4 = 4$ <b>C. <math>8 \times 4 = 32</math></b> D. $8 \div 4 = 2$	How many chairs does the teacher set up? <b>Answer: 32</b>	How many chairs does each of the students pick up? <b>Answer: 8</b>	How many chairs does each of the students pick up? <b>Answer: 8</b>  Which equations can be used to determine the number of chairs each student picks up?  Select the <b>two</b> answers.

A.  $6 \times 4 \div 3 = ?$

B.  $6 \div 3 \times 4 = ?$

C.  $6 \div 4 \times 3 = ?$

D.  $3 \div 6 \times 4 = ?$

E.  $3 \times 6 \div 4 = ?$

### Operations & Algebraic Thinking

3.OA.6	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<b>Expectation at Proficient:</b>  Use multiplication to solve division problems by writing a division equation as an unknown-factor equation recognizing the use of inverse operations.	Select the equation can be used to determine the missing number in $6 \div 3 = ?$ .  A. $6 + 3 = ?$ <b>B. <math>3 \times ? = 6</math></b>  C. $3 - ? = 6$  D. $6 \times ? = 3$	Select the equation can be used to determine the missing number in $24 \div ? = 6$ .  A. $24 \times ? = 6$ <b>B. <math>6 \times ? = 24</math></b>  C. $24 + ? = 6$  D. $6 + ? = 24$	Select the equation can be used to determine the missing number in $72 \div ? = 9$ .  A. $72 \times ? = 9$ <b>B. <math>9 \times ? = 72</math></b>  C. $72 + ? = 9$  D. $9 + ? = 72$	Write a multiplication equation that can be used to determine the missing number in the given equation.  $72 \div ? = 9$  <b>Answer: 8</b>  Explain how your equation relates to the given equation.  <b>The student response should include a multiplication equation and a recognition of inverse operations.</b>

### Operations & Algebraic Thinking

	Below Proficient	Approaching Proficient	Proficient	Above Proficient								
<p><b>3.OA.7</b> <b>Expectation at Proficient:</b></p> <p>Use the relationship between multiplication and division or properties of operations to fluently multiply and divide within 100.</p>	<p>What is <math>12 \times 3</math>?</p> <p>A. 15</p> <p>B. 25</p> <p style="background-color: yellow;"><b>C. 36</b></p> <p>D. 123</p>	<p>Complete each number sentence.</p> <p style="text-align: center;"><math>6 \times \underline{\quad} = 36</math></p> <p style="text-align: center;"><math>35 \div \underline{\quad} = 7</math></p> <p style="background-color: yellow;"><b>Answers: 6, 5</b></p>	<p>Which expressions have a value of 8?</p> <p>Select the <b>two</b> correct answers.</p> <p>A. <math>4 \times 4</math></p> <p>B. <math>2 \times 2</math></p> <p style="background-color: yellow;"><b>C. <math>4 \times 2</math></b></p> <p style="background-color: yellow;"><b>D. <math>16 \div 2</math></b></p> <p>E. <math>21 \div 3</math></p>	<p>Write equations to complete the following table.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">Multiplication equation</th> <th style="padding: 5px;">Division equation</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"><math>6 \times 8 = 56</math></td> <td style="padding: 5px;"><math>56 \div 6 = 8</math></td> </tr> <tr> <td style="padding: 5px;"><math>9 \times 3 = 27</math></td> <td style="padding: 5px; background-color: yellow;"><b><math>27 \div 9 = 3</math></b></td> </tr> <tr> <td style="padding: 5px; background-color: yellow;"><b><math>9 \times 8 = 72</math></b></td> <td style="padding: 5px;"><math>72 \div 8 = 9</math></td> </tr> </tbody> </table>	Multiplication equation	Division equation	$6 \times 8 = 56$	$56 \div 6 = 8$	$9 \times 3 = 27$	<b><math>27 \div 9 = 3</math></b>	<b><math>9 \times 8 = 72</math></b>	$72 \div 8 = 9$
Multiplication equation	Division equation											
$6 \times 8 = 56$	$56 \div 6 = 8$											
$9 \times 3 = 27$	<b><math>27 \div 9 = 3</math></b>											
<b><math>9 \times 8 = 72</math></b>	$72 \div 8 = 9$											

### Operations & Algebraic Thinking

	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<p><b>3.OA.8</b> <b>Expectation at Proficient:</b></p> <p>Use the four operations to solve two-step word problems.</p> <p>Represent word problems with equations</p>	<p>What is <math>7 \times 4</math>?</p> <p>A. 11</p> <p>B. 16</p> <p style="background-color: yellow;"><b>C. 28</b></p> <p>D. 32</p>	<p>What value makes both number sentences true?</p> <p style="text-align: center;"><math>48 \div 8 = ?</math></p> <p style="text-align: center;"><math>8 \times ? = 48</math></p> <p style="background-color: yellow;"><b>Answer: 6</b></p>	<p>Which number sentence is true?</p> <p>A. <math>3 \times 2 = 9 \div 3</math></p> <p>B. <math>16 \div 4 = 8 \times 2</math></p> <p style="background-color: yellow;"><b>C. <math>6 \times 4 = 48 \div 2</math></b></p> <p>D. <math>56 \div 4 = 7 \times 3</math></p>	<p>A teacher has 7 packages of pens. Each package contains 6 pens.</p> <p>Billy claims there are 42 pens because <math>6 \times 7 = 42</math>.</p> <p>Jay claims there are 42 pens because <math>42 \div 7 = 6</math>.</p> <p>Explain why both students are correct.</p> <p style="background-color: yellow;"><b>The student response should include an explanation that the</b></p>

that include a letter for the unknown quantity.

Assess the reasonableness of their solution which could include estimation or rounding strategies.

unknown value is the same in both equations.

### Operations & Algebraic Thinking

#### 3.OA.9

**Expectation at Proficient:**

Use properties of operations to explain arithmetic patterns within the context of addition and multiplication tables.

#### Below Proficient

Complete the table using the rule "add 2."

Input	Output
3	5
6	8
7	9

#### Approaching Proficient

Complete the table using the rule "multiply by 3."

Input	Output
2	6
3	9
4	12

#### Proficient

Which rule is represented in the table?

Input	Output
2	6
3	8
4	10

- A. add 3, add 1
- B. add 1, multiply by 2
- C. multiply by 3
- D. multiply by 2, add 3

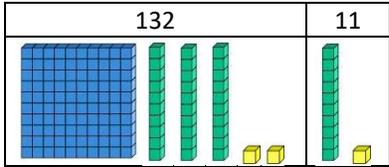
#### Above Proficient

Write a rule to represent the table.

Input	Output
2	3
4	7
7	13

Possible answer: multiply by 2, subtract 1.

### Number & Operations in Base Ten

3.NBT.2	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<p><b>Expectation at Proficient:</b></p> <p>Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.</p>	<p>Add. What is the sum?</p> $173 + 16$ $\begin{array}{r} 173 \\ + 16 \\ \hline \end{array}$ <p>A. 163 B. 169 C. 183 <b>D. 189</b></p>	<p>Which equation can be used to find the value of <math>132 - 11</math>?</p>  <p>A. <math>1 + 3 + 2 - 1 - 1 = 121</math> B. <math>10 + 30 + 2 - 10 - 20 = 121</math> <b>C. <math>100 + 30 + 2 - 10 - 1 = 121</math></b> D. <math>100 + 30 + 2 + 10 + 1 = 121</math></p>	<p>Subtract.</p> $852 - 369$ <p><b>Answer: 483</b></p>	<p>Explain how a student could use addition to find the unknown value in the following expression.</p> $? - 537 = 108$ <p>The student response should include strategies for using addition related to subtraction; 645.</p>

### Number & Operations in Base Ten

3.NBT.3	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<p><b>Expectation at Proficient:</b></p> <p>Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., <math>9 \times 80</math>, <math>5 \times 60</math>) using strategies based on place value and properties of operations. (A range of</p>	<p>What is <math>20 \times 4</math>?</p> <p>A. 6 B. 24 C. 60 <b>D. 80</b></p>	<p>What is <math>20 \times 8</math>?</p> <p><b>Answer: 160</b></p>	<p>A store sells boxes of cookies. Each box contains 20 cookies. Jordan buys 8 boxes of cookies.</p> <p>What is the total number of cookies Jordan buys?</p> <p><b>Answer: 160</b></p>	<p>A store sells boxes that contain cookies and muffins. Each box contains 20 cookies and 10 muffins. Jordan buys 8 boxes.</p> <p>What is the total number of cookies and muffins Jordan buys?</p> <p><b>Answer: 240</b></p>

algorithms may be used.)

### Number & Operations - Fractions

#### 3.NF.1

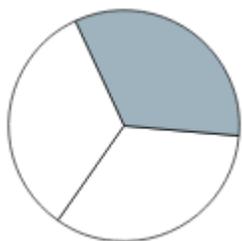
#### Expectation at Proficient:

Identify a fraction ( $1/b$ ) as the quantity formed by one part when a whole is partitioned into  $b$  equal parts; understand a fraction  $a/b$  as the quantity formed by a part of size  $1/b$ .

#### Below Proficient

The model is divided into equal parts.

What fraction of the model is shaded?

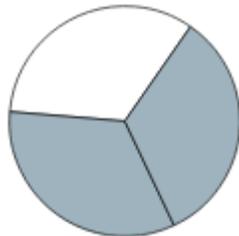


- A.  $\frac{1}{2}$
- B.  $\frac{1}{3}$
- C.  $\frac{2}{3}$
- D.  $\frac{2}{4}$

#### Approaching Proficient

The model is divided into equal parts.

What fraction of the model is shaded?

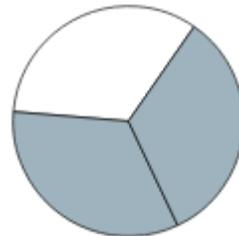


- A.  $\frac{1}{2}$
- B.  $\frac{1}{3}$
- C.  $\frac{2}{3}$
- D.  $\frac{2}{4}$

#### Proficient

The model is divided into equal parts.

What fraction of the model is shaded?



Answer:  $\frac{2}{3}$

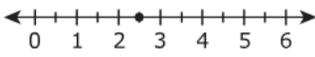
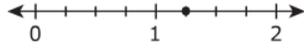
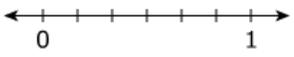
#### Above Proficient

A pie is cut into 8 equal slices. Jacque eats 3 pieces of the pie. Lorena eats 2 pieces of the pie.

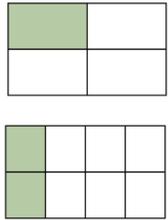
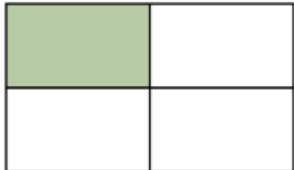
What fraction of the pie is left? Draw a model to support your answer.

Answer:  $\frac{3}{8}$ ; The fraction model should represent 8 equal-sized parts, with either 3 or 5 sections shaded.

## Number & Operations - Fractions

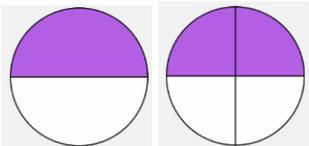
3.NF.2	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<p><b>Expectation at Proficient:</b></p> <p>Identify a fraction as a number on the number line; represent fractions on a number line diagram.</p>	<p>A number line is shown. What fraction is represented by the point plotted?</p>  <p>A. <math>\frac{1}{2}</math>                      B. <math>1\frac{1}{3}</math>                      C. 2                      D. <math>2\frac{1}{2}</math></p>	<p>A number line is shown. What fraction is represented by the point plotted?</p>  <p>A. <math>\frac{1}{2}</math>                      B. <math>1\frac{1}{3}</math>                      C. <math>1\frac{1}{4}</math>                      D. <math>2\frac{1}{5}</math></p>	<p>A number line is shown. Select a point on the number line to represent <math>\frac{5}{6}</math>.</p>  <p>A point should be plotted on the 5<sup>th</sup> tick mark to the right of zero.</p>	<p>Create a number line to locate the fraction <math>3\frac{1}{5}</math>. Plot the point on the number line.</p> <p>The student should draw a number line with tick marks representing fifths. A point should be plotted on the 1st tick mark to the right of 3.</p>

## Number & Operations - Fractions

3.NF.3a	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<p><b>Expectation at Proficient:</b></p> <p>Explain equivalence of fractions in special cases and compare fractions by reasoning about their size.</p> <p>Identify two fractions as equivalent if they have the same relative size compared</p>	<p>Two models are shown. Each model represents a whole.</p>  <p>Use the models to complete the equation.</p> $\frac{1}{4} = \frac{2}{8}$	<p>What value makes the equation true?</p> $\frac{1}{4} = \frac{2}{8}$	<p>The model shown represents the fraction <math>\frac{1}{4}</math>.</p>  <p>Create another model to represent an equivalent fraction with a denominator of 8.</p> <p>The student should draw a model with 8 equal-sized sections, 2 of which are shaded.</p>	<p>Jax and Ava each have a whole cake. Both cakes are the same size. Jax cuts his cake into 4 equal pieces. Ava cuts her cake into 8 equal pieces.</p> <p>Create a fraction model to represent each cake.</p> <p>The student response should include two equal-sized shapes: one divided into 4 equal sections and the other divided into 8 equal sections. The shape with 8 sections should have twice as many sections shaded as the shape with 4 sections.</p>

to 1 whole, based on the same whole or the same point on a number line.

### Number & Operations - Fractions

	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<p><b>3.NF.3b</b></p> <p><b>Expectation at Proficient:</b></p> <p>Recognize and generate simple equivalent fractions.</p> <p><math>(\frac{1}{2} = \frac{2}{4}</math> and <math>\frac{4}{6} = \frac{2}{3})</math></p>	<p>Two fraction models are shown. Each fraction model represents 1 whole.</p> <p>Which fraction is equivalent to <math>\frac{1}{2}</math>?</p>  <p>A. <math>\frac{1}{3}</math></p> <p>B. <math>\frac{2}{4}</math></p> <p>C. <math>\frac{3}{2}</math></p> <p>D. <math>\frac{4}{1}</math></p>	<p>Which fraction is equivalent to <math>\frac{1}{3}</math>?</p> <p>A. <math>\frac{1}{6}</math></p> <p>B. <math>\frac{2}{6}</math></p> <p>C. <math>\frac{3}{6}</math></p> <p>D. <math>\frac{4}{6}</math></p>	<p>Which fraction comparison is correct?</p> <p>A. <math>\frac{1}{2} = \frac{2}{1}</math></p> <p>B. <math>\frac{2}{3} = \frac{4}{6}</math></p> <p>C. <math>\frac{2}{4} = \frac{3}{2}</math></p> <p>D. <math>\frac{3}{4} = \frac{1}{2}</math></p>	<p>Explain how to complete the comparison.</p> $\frac{3}{5} = \frac{6}{10} = \frac{9}{15}$ <p>The numerator in each fraction should be multiplied by the same value as the denominator; <math>\times 2</math> in the first fraction and <math>\times 3</math> in the second fraction.</p>

### Number & Operations - Fractions

	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<p><b>3.NF.3c</b></p> <p><b>Expectation at Proficient:</b></p> <p>Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers.</p> <p><math>(\frac{3}{1} = 3</math> and <math>\frac{3}{3} = 1)</math></p>	<p>Which fraction is equivalent to the number 1?</p> <p>A. <math>\frac{1}{2}</math></p> <p>B. <math>\frac{2}{1}</math></p> <p>C. <math>\frac{1}{1}</math></p> <p>D. <math>\frac{2}{3}</math></p>	<p>Which fraction is equivalent to the number 2?</p> <p>A. <math>\frac{1}{2}</math></p> <p>B. <math>\frac{4}{2}</math></p> <p>C. <math>\frac{4}{1}</math></p> <p>D. <math>\frac{2}{2}</math></p>	<p>Which fractions are equivalent to a whole number?</p> <p>Select the <b>three</b> correct answers.</p> <p>A. <math>\frac{2}{2}</math></p> <p>B. <math>\frac{3}{1}</math></p> <p>C. <math>\frac{1}{4}</math></p> <p>D. <math>\frac{4}{2}</math></p> <p>E. <math>\frac{4}{3}</math></p>	<p>Justify the comparison.</p> $\frac{15}{5} > \frac{10}{5}$ <p>The student response should include a comparison of fractions as whole numbers; <math>3 &gt; 2</math>.</p>

## Number & Operations - Fractions

3.NF.3d	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<p><b>Expectation at Proficient:</b></p> <p>Compare two fractions with the same numerator or the same denominator by reasoning about their size.</p> <p>Understand that comparisons are valid only when the two fractions refer to the same whole.</p> <p>Record results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify conclusions.</p>	<p>Complete the comparison with <math>=, &lt;, or &gt;</math>.</p> $\frac{1}{3} \square \frac{2}{3}$ <p>Answer: <math>&lt;</math></p>	<p>Complete the comparison with <math>=, &lt;, or &gt;</math>.</p> $\frac{1}{2} \square \frac{1}{3}$ <p>Answer: <math>&gt;</math></p>	<p>Which fractions are greater than <math>\frac{3}{8}</math>?</p> <p>Select the <b>three</b> correct answers.</p> <p>A. <math>\frac{3}{4}</math></p> <p>B. <math>\frac{3}{10}</math></p> <p>C. <math>\frac{2}{8}</math></p> <p>D. <math>\frac{5}{8}</math></p> <p>E. <math>\frac{8}{8}</math></p>	<p>Complete each comparison with <math>=, &lt;, or &gt;</math>.</p> $\frac{3}{8} \square \frac{3}{4}$ $\frac{5}{6} \square \frac{5}{8}$ $\frac{5}{5} \square \frac{4}{4}$ <p>Answers: <math>&lt;, &gt;, =</math></p>

## Measurement & Data

### 3.MD.1

#### Expectation at Proficient:

Identify, write, and measure time to the nearest minute using analog or digital clocks. Identify, write, and measure time to the nearest minute and solve word problems involving addition and subtraction of time intervals, including representing problems on a number line.

Solve word problems involving addition and subtraction of time intervals in minutes.

#### Below Proficient

The clock shows a time in the afternoon. What time is represented by the clock?



A. 2:15 p.m.

B. 2:30 p.m.

C. 3:10 p.m.

D. 3:20 p.m.

#### Approaching Proficient

The clock shows a time in the afternoon. What time is represented by the clock?



Answer: 2:15 p.m.

#### Proficient

At Lincoln Elementary School, math class begins at the time shown on the clock. Math class is 30 minutes long. At what time does math class end?



Answer: 2:45 p.m.

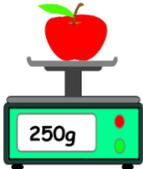
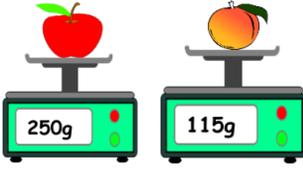
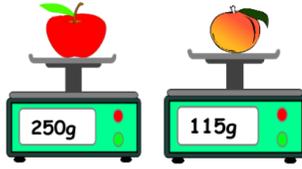
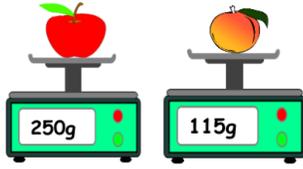
#### Above Proficient

At Lincoln Elementary School, math class begins at 1:50 p.m. Math class is 45 minutes long.

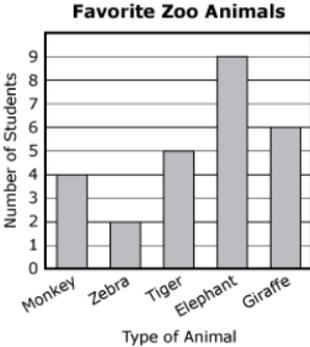
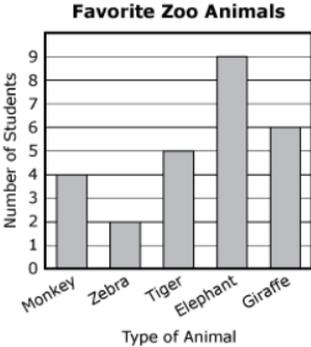
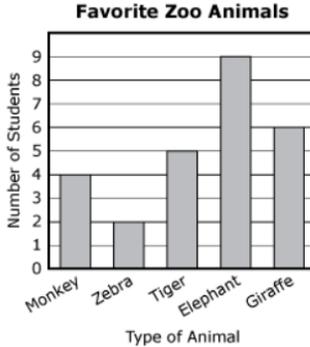
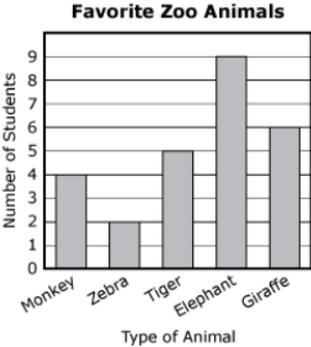
At what time does math class end?

Answer: 2:35 p.m.

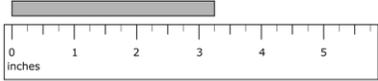
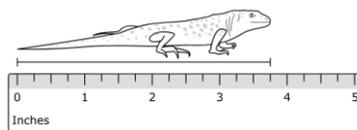
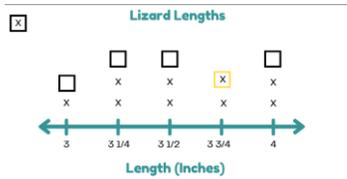
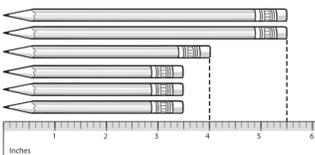
## Measurement & Data

	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<p><b>3.MD.2</b> <b>Expectation at Proficient:</b></p> <p>Measures and estimates liquid volumes and masses in standard units and solves one-step word problems using any of the four operations in the same units.</p>	<p>The scale measures mass in grams, g.</p> <p>What is the mass, in grams, of 2 apples?</p> <div style="text-align: center;">  </div> <p style="background-color: yellow; display: inline-block; padding: 2px;">Answer: 500</p>	<p>The scales measure mass in grams, g.</p> <p>What is the combined mass, in grams, of the apple and the peach?</p> <div style="text-align: center;">  </div> <p style="background-color: yellow; display: inline-block; padding: 2px;">Answer: 365</p>	<p>The scales measure mass in grams, g.</p> <p>What is difference in mass between the apple and the peach?</p> <div style="text-align: center;">  </div> <p style="background-color: yellow; display: inline-block; padding: 2px;">Answer: 135</p>	<p>The scales measure mass in grams, g.</p> <p>What is total mass, in grams, of 2 apples and 1 peach?</p> <div style="text-align: center;">  </div> <p style="background-color: yellow; display: inline-block; padding: 2px;">Answer: 615</p>

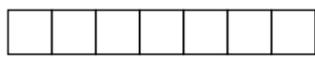
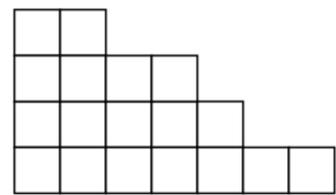
## Measurement & Data

	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<p><b>3.MD.3</b> <b>Expectation at Proficient:</b></p> <p>Constructs scaled picture graphs and bar graphs to represent data with several categories and calculates solutions to one- and two-step “how many more” and “how many less” problems using the graphs.</p>	<p>The favorite zoo animal of students is shown.</p> <div style="text-align: center;">  </div> <p>Which animal was chosen 6 times?</p> <p style="background-color: yellow; display: inline-block; padding: 2px;">Answer: Giraffe</p>	<p>The favorite zoo animal of students is shown.</p> <div style="text-align: center;">  </div> <p>How many students chose Elephant?</p> <p style="background-color: yellow; display: inline-block; padding: 2px;">Answer: 9</p>	<p>The favorite zoo animal of students is shown.</p> <div style="text-align: center;">  </div> <p>How many more students chose Elephant than Monkey and Zebra combined?</p> <p style="background-color: yellow; display: inline-block; padding: 2px;">Answer: 3</p>	<p>The favorite zoo animal of students is shown.</p> <div style="text-align: center;">  </div> <p>Explain how to use the graph to determine the total number of students that are represented.</p> <p style="background-color: yellow; display: inline-block; padding: 2px;">A student response should include a valid explanation as well as the total: 26.</p>

## Measurement & Data

	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<p><b>3.MD.4</b> <b>Expectation at Proficient:</b></p> <p>Measures lengths using rulers marked with halves and fourths of an inch, records measurement data, and creates accurate line plots with horizontal scales marked in whole numbers, halves, or quarters.</p>	<p>Joshua measures the length of a highlighter as shown.</p>  <p>What is the length, in inches, of the highlighter?</p> <p>A. 2  <b>B. 3</b>            C. 4            D. 5</p>	<p>Joshua measures the length of a rectangle as shown.</p>  <p>What is the length, in inches, of the rectangle?</p> <p>A. <math>3\frac{1}{4}</math>            B. <math>3\frac{1}{2}</math>            C. <math>3\frac{3}{4}</math>            D. <math>4\frac{1}{4}</math></p>	<p>Joshua measures the length of a lizard as shown. He will record the length on the line plot.</p>  <p>Complete Joshua's line plot to include the length of the lizard. Drag and drop an X into the correct box.</p> 	<p>Joshua measures the lengths of 6 pencils as shown.</p>  <p>Create a line plot to represent the pencil lengths, in inches.</p> <p>The student should create a line plot with 3 X's above <math>3\frac{1}{2}</math>, 1 X above 4, and 2 X's above <math>5\frac{1}{2}</math>.</p>

## Measurement & Data

	Below Proficient	Approaching Proficient	Proficient	Above Proficient
<p><b>3.MD.5</b> <b>Expectation at Proficient:</b></p> <p>Explains area as an attribute of plane figures and applies concepts of area measurement accurately.</p> <p>Calculate area by using unit squares.</p>	<p>The figure shown is made up of unit squares.</p>  <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <p><b>KEY</b></p> <p><span style="display: inline-block; width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></span> = 1 unit square</p> </div> <p>What is the area, in square units, of the figure?</p> <p>A. 1  <b>B. 7</b>            C. 49            D. 71</p>	<p>The figure shown is made up of unit squares.</p>  <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <p><b>KEY</b></p> <p><span style="display: inline-block; width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></span> = 1 unit square</p> </div> <p>What is the area, in square units, of the figure?</p> <p><b>Answer: 7</b></p>	<p>The figure shown is made up of unit squares.</p>  <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <p><b>KEY</b></p> <p><span style="display: inline-block; width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></span> = 1 unit square</p> </div> <p>What is the area, in square units, of the figure?</p> <p><b>Answer: 18</b></p>	<p>The key for unit squares is shown.</p> <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <p><b>KEY</b></p> <p><span style="display: inline-block; width: 15px; height: 15px; border: 1px solid black; margin-right: 5px;"></span> = 1 unit square</p> </div> <p>Sketch 2 different figures to represent an area of 12 square units.</p> <p>The student response should include two figures each made up of 12 unit squares, without overlap or extra spaces between squares.</p>

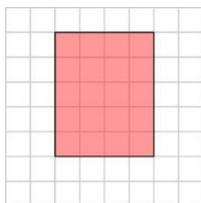
Use a square with side lengths of 1 unit as "one square unit" of area to measure the area of a plane figure.

### Measurement & Data

**3.MD.6**  
**Expectation at Proficient:**  
 Measure areas by counting unit squares.

#### Below Proficient

Each unit square in the given figure has sides that are 1 inch long.

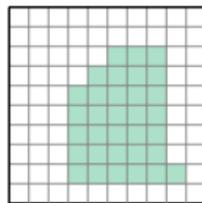


What is the area, in square inches, of the shaded rectangle?

- A. 9
- B. 18
- C. 20**
- D. 45

#### Approaching Proficient

Each unit square in the given figure has sides that are 1 inch long.

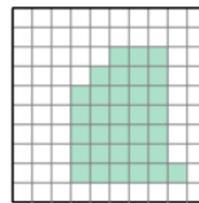


What is the area, in square inches, of the shaded figure?

- A. 7
- B. 26
- C. 30
- D. 33**

#### Proficient

Each unit square in the given figure has sides that are 1 inch long.



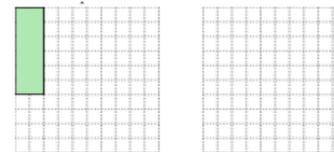
What is the area, in square inches, of the shaded figure?

**Answer: 33**

#### Above Proficient

The rectangle below has dimensions 2 units by 6 units.

Create another figure with the same area, but different dimensions.



The student response should include another figure with an area of 12 square units (for example, a 3x4 rectangle or another irregular figure.)

### Measurement & Data

**3.MD.7a**  
**Expectation at Proficient:**

#### Approaching Proficient

A closet floor is in the shape of a rectangle. Gina completely

#### Proficient

A closet floor is in the shape of a rectangle. Gina completely covers

#### Above Proficient

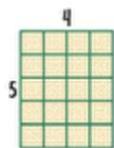
A closet floor is in the shape of a rectangle. Gina completely covers

#### Above Proficient

A closet floor is in the shape of a rectangle. Gina completely covers

Recognizes that a tiled area is equal to multiplying the two-side lengths.

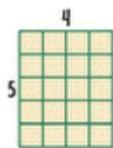
covers the floor with tiles as shown. Each tile is a 1-foot square.



Which equation can be used to determine the area, in square feet, of the closet floor?

- A.  $4 + 5 = 9$
- B.  $4 \times 5 = 20$
- C.  $2 + 4 + 2 + 5 = 13$
- D.  $2 \times 4 + 2 \times 5 = 18$

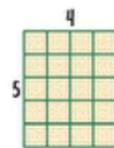
the floor with tiles as shown. Each tile is a 1-foot square.



Complete the equation to determine the area, in square feet of the closet floor.

$$\underline{4} \times \underline{5} = \underline{20}$$

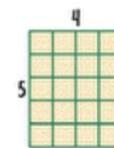
the floor with tiles as shown. Each tile is a 1-foot square.



What is the area, in square feet, of the closet floor?

Answer: 20

the floor with tiles as shown. Each tile is a 1-foot square.



Explain how to determine the area, in square feet, of the closet floor.

The student response should include an explanation of area as *length*  $\times$  *width* or the process of counting tiles; 20.

### Measurement & Data

#### 3.MD.7b

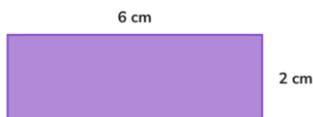
Expectation at Proficient:

Use multiplication to find areas of rectangles within the solving of real world and mathematical problems.

Use mathematical reasoning to explain whole-number products as rectangular areas.

#### Below Proficient

A rectangle and its dimensions are shown.

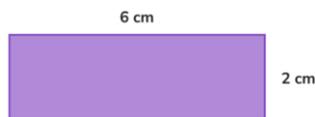


What is the area, in square cm, of the rectangle?

- A. 8
- B. 12
- C. 16
- D. 26

#### Approaching Proficient

A rectangle and its dimensions are shown.



What is the area, in square cm, of the rectangle?

Answer: 12

#### Proficient

Mary is making a flag that is in the shape of a rectangle. The flag has a width of 4 feet and a length of 6 feet.

What is the area, in square feet, of the flag?

Answer: 24

#### Above Proficient

Mary is making a flag that is in the shape of a rectangle. The flag has a width of 4 feet and a length of 6 feet.

Sketch another flag with the same area and different dimensions.

The student response should include a rectangle with dimensions of 3 ft by 8 ft, 2 ft by 12 ft, or 1 ft by 24 ft.

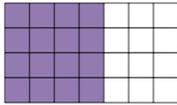
Measurement & Data

**3.MD.7c**  
Expectation at Proficient:

Use area models to demonstrate the distributive property that represents the area of a rectangle with whole-number side lengths.

**Below Proficient**

A rectangle has a length of 7 units and a width of 4 units. An area model and equation are shown.



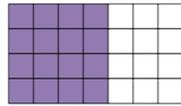
$$(4 \times 4) + (3 \times \underline{\quad}) = 28$$

Which number completes the equation?

- A. 3
- B. 4**
- C. 7
- D. 10

**Approaching Proficient**

A rectangle has a length of 7 units and a width of 4 units. Use the model shown to determine the area, in square units, of the rectangle.



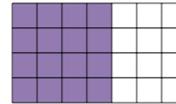
$$(4 \times 4) + (3 \times 4) = \underline{\quad}$$

- A. 12
- B. 16
- C. 28**
- D. 56

**Proficient**

Luis has a rectangular garden. The length of the garden is 7 meters, and the width is 4 meters. He plants the garden into two crops as shown in the table and model.

Crop	Length (m)	Width (m)
Corn	4	4
Peas	3	4



What is the total area, in square meters, of Luis' garden?

- A. 15 because  $4 + 4 + 4 + 3 = 15$
- B. 20 because  $(4 + 4) + (4 + 3) = 20$
- C. 28 because  $(4 \times 4) + (4 \times 3) = 28$**
- D. 56 because  $(4 + 4) \times (4 + 3) = 56$

**Above Proficient**

Luis has a rectangular garden. The length of the garden is 7 meters, and the width is 4 meters. He plants the garden into two different crops.

Draw an area model to show the rectangle divided into two parts.

Explain how the area of each part in the model can be used to determine the area, in square meters, of the garden.

Answers will vary. The student response should include explanation of how to use an area model to demonstrate the distributive property.

Measurement & Data

**3.MD.7d**

**Below Proficient**

**Approaching Proficient**

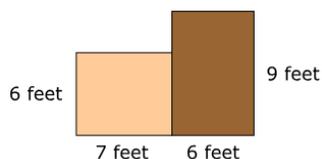
**Proficient**

**Above Proficient**

**Expectation at Proficient:**

Finds areas of irregular figures, in real world problems, by decomposing them into non-overlapping simple rectangles and adding the areas, recognizing the area as additive.

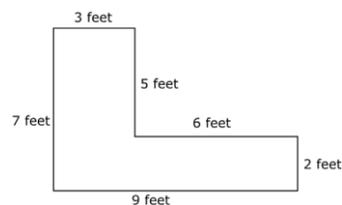
A figure is made up of two rectangles as shown. The total area can be determined by adding the area of each smaller rectangle.



Complete the equation to represent the total area, in square feet, of the figure.

$$(6 \times 7) + (9 \times 6) = \text{total area}$$
$$42 + 54 = \underline{96}$$

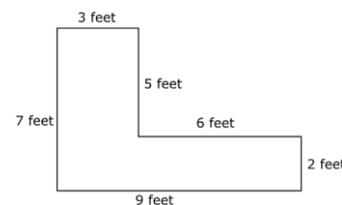
Sully's garden is made from two rectangles as shown.



What is the area, in square feet, of Sully's garden?

- A. 15
- B. 33**
- C. 35
- D. 63

Sully's garden is made from two rectangles as shown.

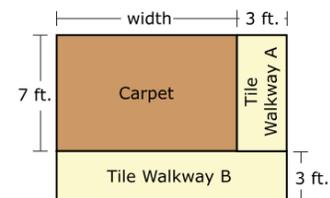


What is the area, in square feet, of Sully's garden?

**Answer: 33**

The carpet in the Hawkins' living room has a length of 7 feet and an area of 70 square ft. The width is 2 feet more than the length. The family wants to put tile walkways on two sides of the carpet, with lengths and widths as shown.

**Carpet and Walkways**



Explain how to determine the total area of the carpet and the tile walkways?

**The student response should include an explanation of using addition of areas to determine the total area;  $70+21+39=130$ .**

**Measurement & Data**

3.MD.8

Below Proficient

Approaching Proficient

Proficient

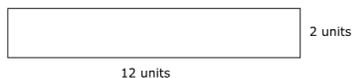
Above Proficient

**Expectation at Proficient:**

Use properties of polygons to determine perimeter when side lengths are known or unknown side lengths when perimeter is known.

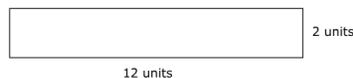
Recognize situations where polygons have the same perimeter and different areas or the same area and different perimeters.

What is the perimeter, in units, of the rectangle shown?



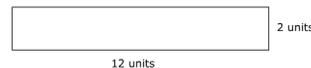
- A. 14
- B. 24
- C. 28**
- D. 122

What is the perimeter, in units, of the rectangle shown?



**Answer: 28**

A rectangle has a length of 12 units and a width of 2 units (shown).



What shape has the same perimeter but a different area than the rectangle?

- A. length: 10, width: 4**
- B. length: 10, width: 1
- C. length: 8, width: 4
- D. length: 8, width: 1

A square has a side length of 4 units.

A rectangle has a side length of 2 units.

The area of the square and rectangle are the same.

What is the width, in units, of the rectangle?

**Answer: 8**

**Geometry**

3.G.1

Below Proficient

Approaching Proficient

Proficient

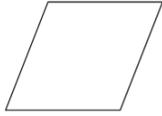
Above Proficient

**Expectation at Proficient:**

Classify shapes (e.g., rhombuses, rectangles, and others) according to their attributes (e.g., having four sides), and recognize that the shared attributes can define a larger category (e.g., quadrilaterals).

Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

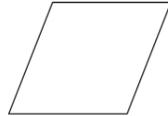
A shape is shown.



Which name best describes the shape?

- A. square
- B. rectangle
- C. circle
- D. rhombus

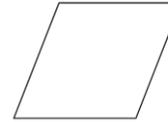
A shape is shown.



Which name CANNOT be used to describe the shape?

- A. quadrilateral
- B. rhombus
- C. parallelogram
- D. square

A shape is shown.



Which names describe the shape?

Select the **three** answers.

- A. quadrilateral
- B. square
- C. rectangle
- D. parallelogram
- E. rhombus

Explain the similarities and differences between a rhombus and a parallelogram.

The student response should include that both share the properties of a quadrilateral, however a rhombus has 4 congruent sides lengths.

**Geometry**

3.G.2

Below Proficient

Approaching Proficient

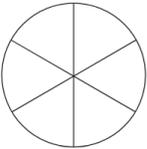
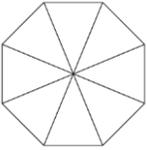
Proficient

Above Proficient

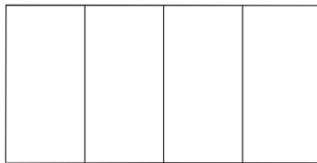
**Expectation at Proficient:**

Partition shapes into  $b$  parts with equal areas. Express the area of each part as a unit fraction  $1/b$  of the whole. (Grade 3 expectations are limited to fractions with denominators  $b = 2, 3, 4, 6, 8$ .)

Which shape is divided into parts that each represent  $\frac{1}{2}$  of the whole?

- A. 
- B. 
- C. 
- D. 

A rectangle is divided into parts with equal areas as shown.

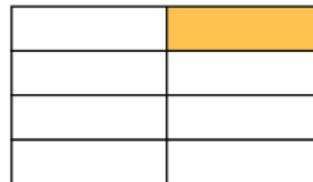


What fraction describes the area of each part of the rectangle?

- A.  $\frac{1}{2}$
- B.  $\frac{1}{3}$
- C.  $\frac{1}{4}$
- D.  $\frac{1}{5}$

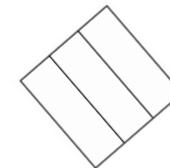
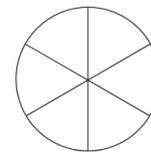
A rectangle is divided into parts with equal areas as shown.

What fraction of the shape is shaded?



- A.  $\frac{1}{2}$
- B.  $\frac{1}{4}$
- C.  $\frac{1}{6}$
- D.  $\frac{1}{8}$

Each of the following shapes is divided into parts with equal areas. Shade  $\frac{1}{3}$  of each of the following shapes.



The student should shade 2 sections of the circle model and 1 section of the square model.