ACE | Dallas ISD
Accelerating Campus Excellence

Mathematics

Student Expectations Analysis Handbook

Grade 4

2016-2017

TEKS Mathematical Process Standards

(1) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding.	
The student is expected to:	
Live it!	(A) apply mathematics to problems arising in everyday life, society, and the workplace.
Execute it!	(B) use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.
Work it!	(C) select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.
Share it!	(D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.
Represent it!	(E) create and use representations to organize, record, and communicate mathematical ideas.
Connect it!	(F) analyze mathematical relationships to connect and communicate mathematical ideas.
Defend it!	(G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

Grade 4 Texas Essential Knowledge and Skills

4.2 Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals
and understand relationships related to place value. *The student is expected to:*
(A) interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left. ***S***
(B) represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals. ***R***
(C) compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >, <, or =. ***S***
(D) round whole numbers to a given place value through the hundred thousands place. ***S***
(E) represent decimals, including tenths and hundredths, using concrete and visual models and money. ***S***
(F) compare and order decimals using concrete and visual models to the hundredths. ***S***
(G) relate decimals to fractions that name tenths and hundredths. ***R***
(H) determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line. ***S***
4.3 Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. *The student is expected to:*
(A) represent a fraction a/b as a sum of fractions $1/b$, where a and b are whole numbers and $b > 0$, including when $a > b$. ***S***
(B) decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations. ***S***
(C) determine if two given fractions are equivalent using a variety of methods. ***S***
(D) compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or <. ***R***
(E) represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations. ***R***
(F) evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole. ***S***
(G) represent fractions and decimals to the tenths or hundredths as distances from zero on a number line. ***S***
4.4 Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. *The student is expected to:*
(A) add and subtract whole numbers and decimals to the hundredths place using the standard algorithm. ***R***
(B) determine products of a number and 10 or 100 using properties of operations and place value understandings. ***S***
(C) represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15. ***S***
(D) use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties. ***S***
(E) represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations. ***S***
(F) use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor. ***S***
(G) round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers. ***S***
(H) solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders. ***R***

Grade 4 Texas Essential Knowledge and Skills

4.5 Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. *The student is expected to:*

(A) represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity. ***R***

(B) represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence. ***R***

(C) use models to determine the formulas for the perimeter of a rectangle ($l + w + l + w$ or $2l + 2w$), including the special form for perimeter of a square ($4s$) and the area of a rectangle ($l \times w$). ***NT***

(D) solve problems related to perimeter and area of rectangles where dimensions are whole numbers. ***R***

4.6 Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. *The student is expected to:*

(A) identify points, lines, line segments, rays, angles, and perpendicular and parallel lines. ***S***

(B) identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure. ***S***

(C) apply knowledge of right angles to identify acute, right, and obtuse triangles. ***S***

(D) classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size. ***R***

4.7 Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. *The student is expected to:*

(A) illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers. ***NT***

(B) illustrate degrees as the units used to measure an angle, where 1/360 of any circle is one degree and an angle that "cuts" n/360 out of any circle whose center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers. ***NT***

(C) determine the approximate measures of angles in degrees to the nearest whole number using a protractor. ***R***

(D) draw an angle with a given measure. ***S***

(E) determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures. ***S***

4.8 Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. *The student is expected to:*

(A) identify relative sizes of measurement units within the customary and metric systems. ***S***

(B) convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table. ***S***

(C) solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate. ***R***

4.9 Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. *The student is expected to:*

(A) represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions. ***R***

(B) solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot. ***S***

Grade 4 Texas Essential Knowledge and Skills

4.10 Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. *The student is expected to:*

(A) distinguish between fixed and variable expenses. ***S***

(B) calculate profit in a given situation. ***S***

(C) compare the advantages and disadvantages of various savings options. ***NT***

(D) describe how to allocate a weekly allowance among spending, saving, including for college, and sharing. ***NT***

(E) describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending. ***S***

Mathematics

Reporting Category 1
Numerical Representations and Relationships

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Essential Knowledge and Skills 4.2A

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Numerical Representations and Relationships (1)
Knowledge and Skills	**4.2 Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value.** *The student is expected to:*
Student Expectation	(A) interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left. ***Supporting***
Bundling Opportunity	4.2B The student is expected to represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals. ***Readiness***
Student Expectation Breakouts	• interpret the value of each place-value position as 10 times the position to the right • interpret the value of each place-value position as one-tenth of the value of the place to its left
Question Stem	2015 Test Released Questions

In the number shown, one digit is underlined and one digit is circled.

$\underline{7}\textcircled{7},000$

Which statement about the circled digit is true?

A Its value is 10 times greater than the value of the underlined digit.

B Its value is $\frac{1}{10}$ the value of the underlined digit.

C Its value is 70 times the value of the underlined digit.

D Its value is $\frac{1}{70}$ the value of the underlined digit.

Process Standards Alignment
4.1B
4.1G

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Essential Knowledge and Skills 4.2A

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Data
District:
Feeder Pattern:
Campus:

Vocabulary

place value	period	millions
10 times	units	billions
one-tenth	thousands	

Vertical Alignment

Grade 3	Grade 4	Grade 5
nd Decomposing Numbers: Place Value		
(2) Number and operations. The student applies mathematical process standards to represent and compare whole numbers and understand relationships related to place value. The student is expected to:	(2) Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to:	(2) Number and operations. The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value. The student is expected to:
(A) compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate.		
	(B) represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals.	
(B) describe the mathematical relationships found in the base-10 place value system through the hundred thousands place.	(A) interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left.	(A) represent the value of the digit in decimals through the thousandths using expanded notation and numerals.

Common Errors; Common Misconceptions

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Essential Knowledge and Skills 4.2B

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Reporting Category	Numerical Representations and Relationships (1)
Knowledge and Skills	**4.2 Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value.** *The student is expected to:*
Student Expectation	(B) represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals. ***Readiness***
Bundling Opportunity	4.2A The student is expected to interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left. ***Supporting***
Student Expectation Breakouts	• represent the value of the digit in whole numbers through 1,000 using expanded notation and numerals • represent the value of the digit in whole numbers through 100,000 using expanded notation and numerals • represent the value of the digit in whole numbers through 100,000,000 using expanded notation and numerals • represent the value of the digit in whole numbers through 1,000,000,000 using expanded notation and numerals • represent the value of the digit in decimals to the tenths using expanded notation and numerals • represent the value of the digit in decimals to the hundredths using expanded notation and numerals
Question Stem	2015 Released Test Questions

Lillian paid sixty-one dollars and thirty-nine cents for groceries. The digit 3 in this number has a value of —

A (3×10) dollars

B (3×1) dollars

C (3×0.01) dollar

D (3×0.1) dollar

Process Standards Alignment
4.1A
4.1B
4.1D
4.1F

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.2B

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Data
District:
Feeder Pattern:
Campus:

Vocabulary

place value	tens	billions	hundredths
periods	hundreds	decimal	expanded form
units	thousands	decimal point	expanded notation
ones	millions	tenths	

Vertical Alignment

Grade 3	Grade 4	Grade 5
nd Decomposing Numbers: Place Value		
(2) Number and operations. The student applies mathematical process standards to represent and compare whole numbers and understand relationships related to place value. The student is expected to:	(2) Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to:	(2) Number and operations. The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value. The student is expected to:
(A) compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate.		
	(B) represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals.	
(B) describe the mathematical relationships found in the base-10 place value system through the hundred thousands place.	(A) interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left.	(A) represent the value of the digit in decimals through the thousandths using expanded notation and numerals.

Common Errors; Common Misconceptions

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Essential Knowledge and Skills 4.2C

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Numerical Representations and Relationships (1)
Knowledge and Skills	**4.2 Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value.** *The student is expected to:*
Student Expectation	(C) compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >, <, or =. ***Supporting***
Bundling Opportunity	4.2B The student is expected to represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals. ***Readiness***
Student Expectation Breakouts	• compare whole numbers to 1,000 and represent comparisons using the symbols >, <, or = • compare whole numbers to 100,000 and represent comparisons using the symbols >, <, or = • compare whole numbers to 100,000,000 and represent comparisons using the symbols >, <, or = • order whole numbers to 1,000 • order whole numbers to 1,000 and represent comparisons using the symbols >, <, or = • order whole numbers to 100,000 • order whole numbers to 100,000 and represent comparisons using the symbols >, <, or = • order whole numbers to 100,000,000 • order whole numbers to 100,000,000 and represent comparisons using the symbols >, <, or =
Question Stem	2013 – 2015 STAAR

No test questions are available for analysis.

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.2C

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Data
District:
Feeder Pattern:
Campus:

Vocabulary

compare	is greater than (>)	money
order	is less than (<)	dimes
whole numbers	is equal to (=)	penny

Vertical Alignment

Grade 3	Grade 4	Grade 5
paring and Ordering Numbers		
(2) Number and operations. The student applies mathematical process standards to represent and compare whole numbers and understand relationships related to place value. The student is expected to:	(2) Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to:	(2) Number and operations. The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value. The student is expected to:
(D) compare and order whole numbers up to 100,000 and represent comparisons using the symbols >, <, or =.	(C) compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >, <, or =.	(B) compare and order two decimals to thousandths and represent comparisons using the symbols >, <, or =.
	(F) compare and order decimals using concrete and visual models to the hundredths.	

Common Errors; Common Misconceptions

ACE | Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.2D

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Numerical Representations and Relationships (1)
Knowledge and Skills	**4.2 Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value.** *The student is expected to:*
Student Expectation	(D) round whole numbers to a given place value through the hundred thousands place. ***Supporting***
Bundling Opportunity	4.4G The student is expected to round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers. ***Supporting***
Student Expectation Breakouts	• round whole numbers to 10 • round whole numbers to 100 • round whole numbers to 1,000 • round whole numbers to 10,000 • round whole numbers to 100,000
Question Stem	2013 – 2015 STAAR
No test questions are available for analysis.	

Essential Knowledge and Skills 4.2D

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Data
District:
Feeder Pattern:
Campus:

Vocabulary

round	place value	thousands
whole numbers	tens	ten thousands
	hundreds	hundred thousands

Vertical Alignment

Grade 3	Grade 4	Grade 5
Applying Strategies for Estimation		
(4) Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. The student is expected to:	(2) Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to:	(2) Number and operations. The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value. The student is expected to:
	(D) round whole numbers to a given place value through the hundred thousands place.	
(B) round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems.	(4) Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to:	(C) round decimals to tenths or hundredths.
	(G) round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers.	

Common Errors; Common Misconceptions

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.2E

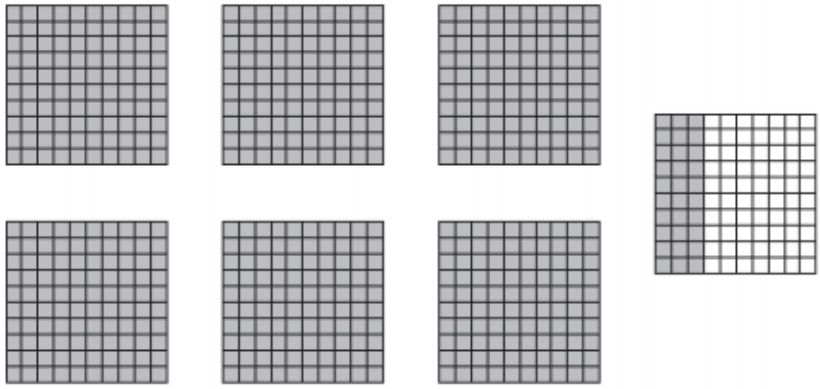
Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Numerical Representations and Relationships (1)
Knowledge and Skills	**4.2 Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value.** *The student is expected to:*
Student Expectation	(E) represent decimals, including tenths and hundredths, using concrete and visual models and money. ***Supporting***
Bundling Opportunity	4.2F The student is expected to compare and order decimals using concrete and visual models to the hundredths. ***Supporting*** 4.3G The student is expected to represent fractions and decimals to the tenths or hundredths as distances from zero on a number line. ***Supporting***

Student Expectation Breakouts	• represent tenths using
	  ○ concrete models
	  ○ visual models
	  ○ money
	• represent hundredths using
	  ○ concrete models
	  ○ visual models
	  ○ money

Question Stem	2013 STAAR (Realigned)

The model below is shaded to represent a decimal.



How is this decimal written in words?

A Six and thirty hundredths

B Six hundred three

C Six and thirty tenths

D Six and three hundredths

Process Standards Alignment
4.1C

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Essential Knowledge and Skills 4.2E

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Question Stem	2013 STAAR (Realigned)

Each picture below represents a different amount of money. In which amount of money is the digit 9 in the hundredths place?

A

B

C

D

Process Standards Alignment
4.1A

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Essential Knowledge and Skills 4.2E

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Data
District:
Feeder Pattern:
Campus:

Vocabulary

decimals	concrete models	money
tenths	visual models	dime
hundredths	base-ten blocks	penny

Vertical Alignment

Grade 3	Grade 4	Grade 5
nd Decomposing Numbers: Place Value		
(2) Number and operations. The student applies mathematical process standards to represent and compare whole numbers and understand relationships related to place value. The student is expected to:	(2) Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to:	(2) Number and operations. The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value. The student is expected to:
(A) compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate.		
	(B) represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals.	(A) represent the value of the digit in decimals through the thousandths using expanded notation and numerals.
(B) describe the mathematical relationships found in the base-10 place value system through the hundred thousands place.	(A) interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left.	
	(E) represent decimals, including tenths and hundredths, using concrete and visual models and money.	

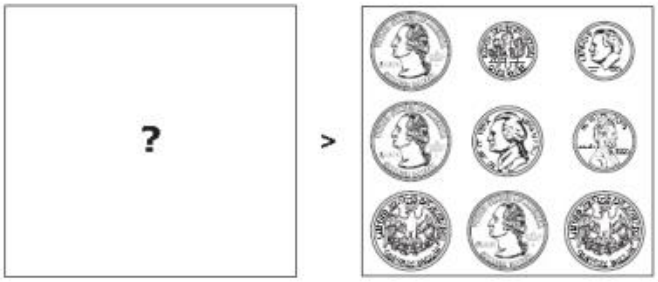
Common Errors; Common Misconceptions

Essential Knowledge and Skills 4.2F

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Numerical Representations and Relationships (1)
Knowledge and Skills	**4.2 Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value.** *The student is expected to:*
Student Expectation	(F) compare and order decimals using concrete and visual models to the hundredths. ***Supporting***
Bundling Opportunity	4.2E The student is expected to represent decimals, including tenths and hundredths, using concrete and visual models and money. ***Supporting*** 4.2G The student is expected to relate decimals to fractions that name tenths and hundredths. ***Readiness***
Student Expectation Breakouts	• compare decimals using concrete models to the hundredths • compare decimals using visual models to the hundredths • order decimals using concrete models to the hundredths • order decimals using visual models to the hundredths
Question Stem	2014 STAAR (Realigned)

Sherri has an amount of money that would make the comparison below true.



Which amount of money would make the comparison true?

F

H

G

J

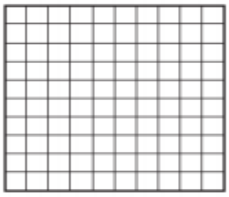
Process Standards Alignment
4.1A

Essential Knowledge and Skills 4.2F

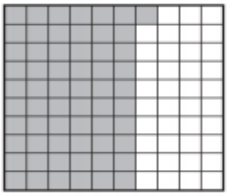
Grade 4 Mathematics Student Expectation Analysis Frequency: 1

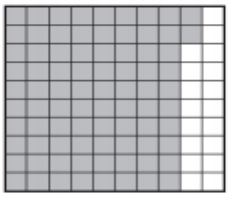
Question Stem	2014 STAAR (Realigned)

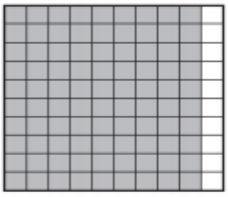
The decimal number 0.82 can be shaded on the grid below.

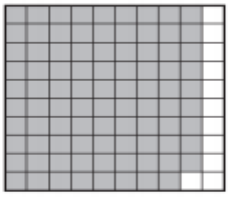


Which grid is shaded to represent a decimal less than 0.82?

A 

C 

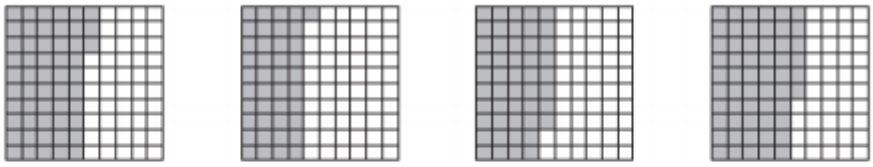
B 

D 

Process Standards Alignment
4.1C

Question Stem	2013 STAAR (Realigned)

The shaded models below represent four different decimal numbers.



Which list shows these decimal numbers in order from least to greatest?

A 0.53 0.41 0.48 0.56

B 0.41 0.48 0.53 0.56

C 0.56 0.53 0.48 0.41

D 0.41 0.53 0.56 0.48

Process Standards Alignment
No standard is noted.

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Essential Knowledge and Skills 4.2F

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Data
District:
Feeder Pattern:
Campus:

Vocabulary

concrete model	decimal	tenths	order
visual model	decimal point	hundredths	greatest to least
place value		compare	least to greatest

Vertical Alignment

Grade 3	Grade 4	Grade 5
paring and Ordering Numbers		
(2) Number and operations. The student applies mathematical process standards to represent and compare whole numbers and understand relationships related to place value. The student is expected to:	(2) Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to:	(2) Number and operations. The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value. The student is expected to:
(D) compare and order whole numbers up to 100,000 and represent comparisons using the symbols >, <, or =.	(C) compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >, <, or =.	(B) compare and order two decimals to thousandths and represent comparisons using the symbols >, <, or =.
	(F) compare and order decimals using concrete and visual models to the hundredths.	

Common Errors; Common Misconceptions

ACE | Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.2G

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Reporting Category	Numerical Representations and Relationships (1)
Knowledge and Skills	**4.2 Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value.** *The student is expected to:*
Student Expectation	(G) relate decimals to fractions that name tenths and hundredths. ***Readiness***
Bundling Opportunity	4.3G The student is expected to represent fractions and decimals to the tenths or hundredths as distances from zero on a number line. ***Supporting***
Student Expectation Breakouts	• relate decimals to fractions that name tenths • relate decimals to fractions that name hundredths
Question Stem	2013 STAAR (Realigned)

Antwaan decorated 2.5 cakes with chocolate icing. Which fraction is equivalent to this number?

A $\frac{25}{100}$

B $\frac{5}{10}$

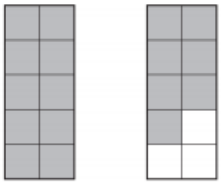
C $2\frac{5}{10}$

D $2\frac{5}{100}$

Process Standards Alignment
4.1A
4.1B
4.1F

Question Stem	2014 STAAR (Realigned)

The model below is shaded to represent the part of two cakes eaten at a party.



Which fraction and decimal represent the part of these cakes eaten at the party?

F $\frac{17}{20}$ and 0.17

G $1\frac{7}{10}$ and 1.7

H $1\frac{7}{20}$ and 1.7

J $1\frac{7}{10}$ and 1.07

Process Standards Alignment
4.1C

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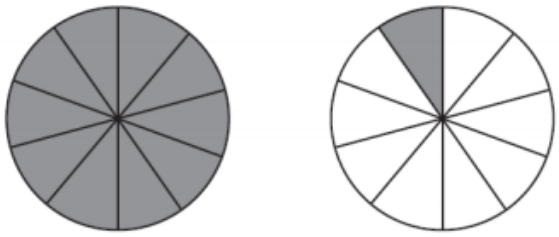
Essential Knowledge and Skills 4.2G

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2014 STAAR (Realigned)

The model below is shaded to represent $1\frac{1}{10}$.



Which decimal does the model represent?

A 1.1

B 11.0

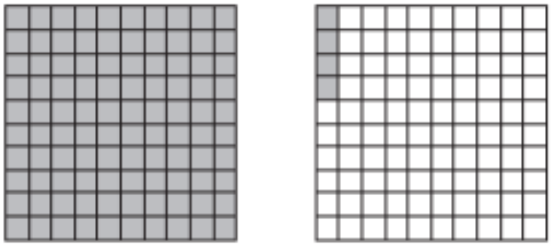
C 1.01

D 10.1

Process Standards Alignment
No standard is noted.

Question Stem	2013 STAAR (Realigned)

The model below is shaded to represent $1\frac{4}{100}$.



Which decimal does the model represent?

F 1.04

G 1.4

H 14.0

J 1.004

Process Standards Alignment
No standard is noted.

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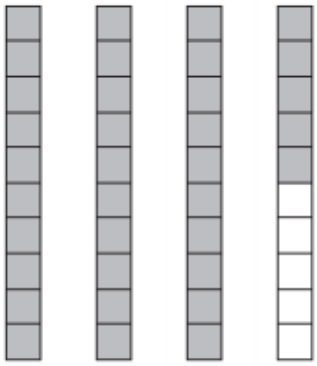
Essential Knowledge and Skills 4.2G

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2013 STAAR (Realigned)

The model below is shaded to represent a number greater than 1.



Which fraction and decimal represent this number?

A $\frac{35}{100}$ and 0.35

B $3\frac{5}{10}$ and 3.5

C $3\frac{5}{100}$ and 3.5

D $3\frac{5}{10}$ and 3.05

Process Standards Alignment
No standard is noted.

Essential Knowledge and Skills 4.2G

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Data District: Feeder Pattern: Campus:	**Vocabulary** decimals tenths fractions hundredths
Vertical Alignment	(2) Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to: (G) relate decimals to fractions that name tenths and hundredths.
Common Errors; Common Misconceptions	

Essential Knowledge and Skills 4.2H

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Numerical Representations and Relationships (1)
Knowledge and Skills	**4.2 Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value.** *The student is expected to:*
Student Expectation	(H) determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line. ***Supporting***
Bundling Opportunity	4.2G The student is expected to relate decimals to fractions that name tenths and hundredths. ***Readiness*** 4.3G The student is expected to represent fractions and decimals to the tenths or hundredths as distances from zero on a number line. ***Supporting***
Student Expectation Breakouts	• determine the corresponding decimal to the tenths place of a specified point on a number line • determine the corresponding decimal to the hundredths place of a specified point on a number line
Question Stem	2013 STAAR (Realigned)

Which number does point *Y* best represent on the number line below?

A 24.8

B 23.2

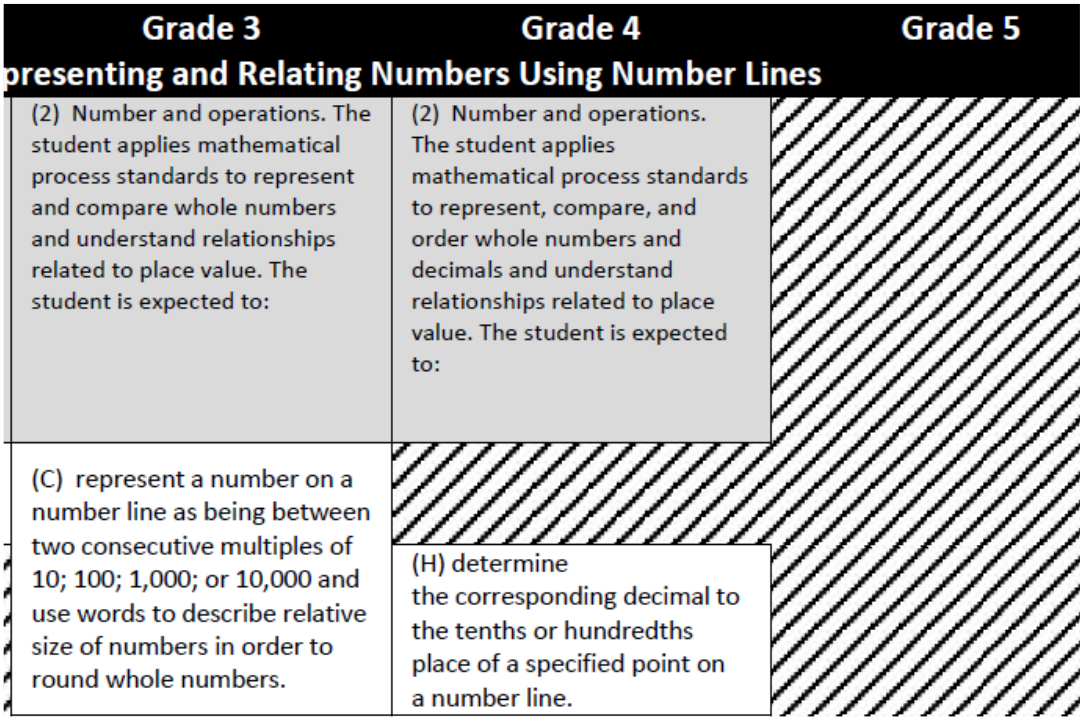
C 24.2

D 23.8

Process Standards Alignment
4.1C

Essential Knowledge and Skills 4.2H

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Data District: Feeder Pattern: Campus:	**Vocabulary** decimals fractions tenths hundredths number line point
Vertical Alignment	
Common Errors; Common Misconceptions	

Essential Knowledge and Skills 4.3A

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Numerical Representations and Relationships (1)
Knowledge and Skills	**4.3 Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems.** *The student is expected to:*
Student Expectation	(A) represent a fraction *a/b* as a sum of fractions 1/*b*, where *a* and *b* are whole numbers and *b* > 0, including when *a* > *b*. ***Supporting***
Question Stem	2015 Released Test Questions

Which expression is equivalent to $\frac{6}{5}$?

A $\frac{1}{6} + \frac{1}{5}$

B $\frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$

C $\frac{1}{5} + \frac{6}{1}$

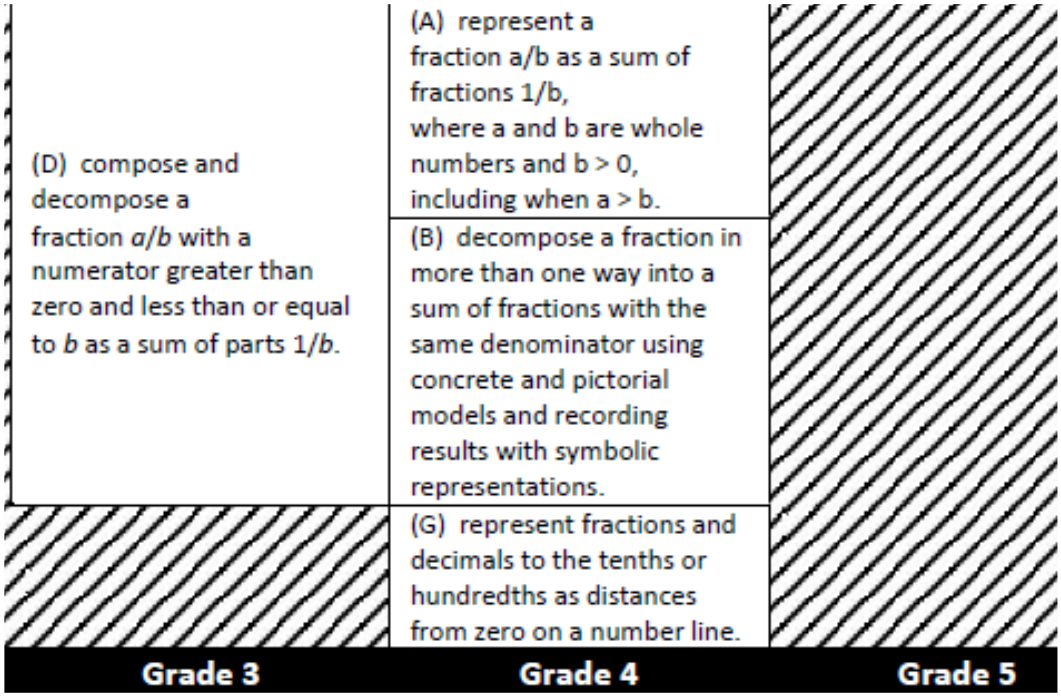
D $\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6}$

Process Standards Alignment
4.1B
4.1F

Data	**Vocabulary**	
District:	fraction	unit fraction
Feeder Pattern:	numerator	sum
Campus:	denominator	decompose

Essential Knowledge and Skills 4.3A

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Vertical Alignment	
Common Errors; Common Misconceptions	

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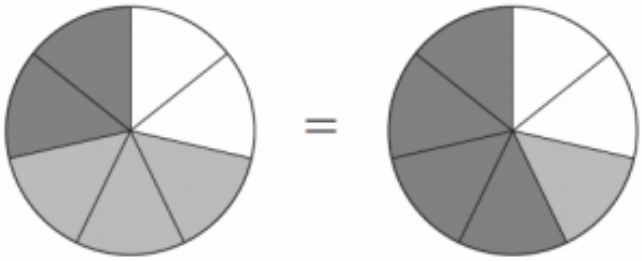
Essential Knowledge and Skills 4.3B

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Numerical Representations and Relationships (1)
Knowledge and Skills	**4.3 Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems.** *The student is expected to:*
Student Expectation	(B) decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations. ***Supporting***
Bundling Opportunity	4.3E The student is expected to represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations. ***Readiness*** 4.3F The student is expected to evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole. ***Supporting***
Student Expectation Breakout	• decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete models and recording results with symbolic representations • decompose a fraction in more than one way into a sum of fractions with the same denominator using pictorial models and recording results with symbolic representations
Question Stem	2015 Released Test Questions

The two models are shaded to represent the same fraction, $\frac{5}{7}$.

Model 1 Model 2



Which equation shows that the two models represent the same fraction?

A $\frac{2}{7}+\frac{3}{7}=\frac{4}{7}+\frac{1}{7}$

B $\frac{2}{7}+\frac{3}{7}=\frac{5}{7}+\frac{1}{7}$

C $\frac{1}{2}+\frac{1}{3}=\frac{1}{4}+\frac{1}{1}$

D $\frac{1}{2}+\frac{1}{3}=\frac{1}{5}+\frac{1}{1}$

Process Standards Alignment
4.1B
4.1E
4.1F

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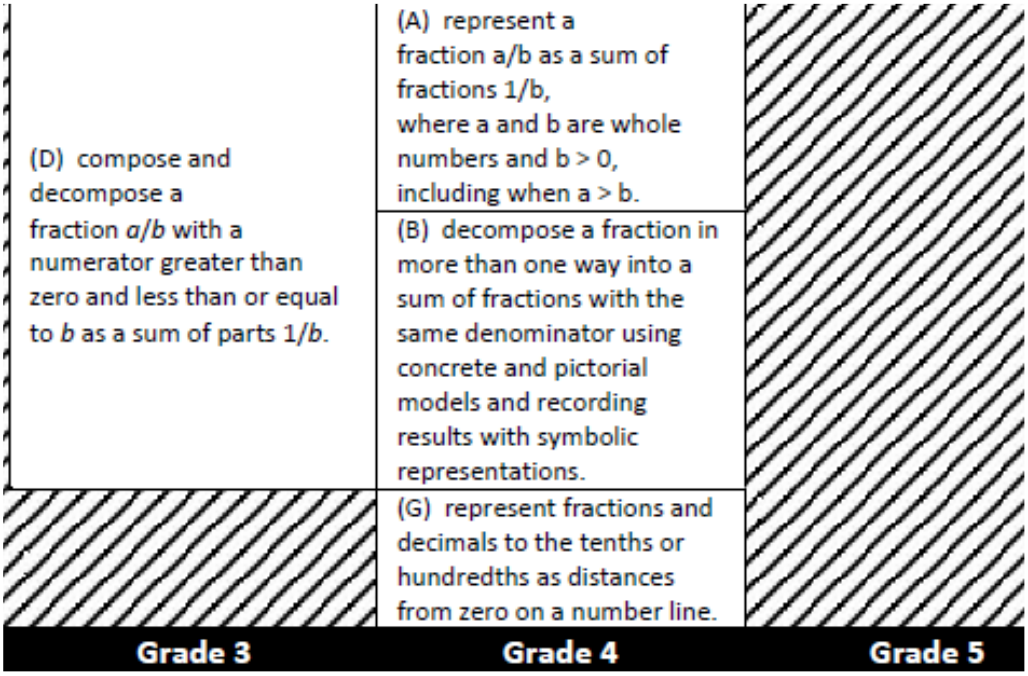
Essential Knowledge and Skills 4.3B

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Data District: Feeder Pattern: Campus:	**Vocabulary** fraction numerator denominator unit fraction sum decompose concrete pictorial symbolic
Vertical Alignment	
Common Errors; Common Misconceptions	

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Essential Knowledge and Skills 4.3C

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Numerical Representations and Relationships (1)
Knowledge and Skills	**4.3 Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems.** *The student is expected to:*
Student Expectation	(C) determine if two given fractions are equivalent using a variety of methods. ***Supporting***
Bundling Opportunity	4.3D The student is expected to compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or <. ***Readiness***
Question Stem	2015 Released Test Questions

Which statement about the fractions $\frac{5}{10}$ and $\frac{6}{12}$ is true?

A These fractions are both greater than 1, because their denominators are greater than their numerators.

B These fractions are both equal to 1, because their denominators are greater than their numerators.

C These fractions are equivalent, because their denominators are half their numerators.

D These fractions are equivalent, because their denominators are twice their numerators.

Process Standards Alignment
4.1B
4.1G

Question Stem	2014 STAAR (Realigned)

Last year Ryan went to school for 36 out of 52 weeks. Which fraction is **NOT** equivalent to $\frac{36}{52}$?

A $\frac{10}{26}$

B $\frac{9}{13}$

C $\frac{72}{104}$

D $\frac{18}{26}$

Process Standards Alignment
4.1B
4.1G

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Essential Knowledge and Skills 4.3C

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Question Stem	2014 STAAR (Realigned)
Jackson sold towels at the beach. If he sold 7 out of every 9 towels he had, which statement could be true? **F** Out of 27 towels, he sold 21. **G** Out of 18 towels, he sold 7. **H** Out of 36 towels, he sold 35. **J** Out of 72 towels, he sold 63.	**Process Standards Alignment** 4.1A

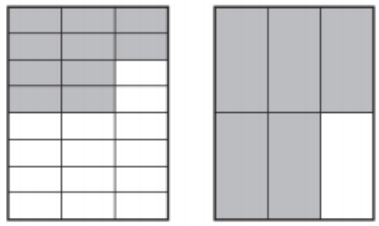
Question Stem	2014 STAAR (Realigned)
A teacher bought a bag of clothespins. In the bag, $\frac{6}{18}$ of the clothespins are blue. Which fraction is equivalent to the fraction of clothespins that are blue? **F** $\frac{1}{2}$ **G** $\frac{2}{3}$ **H** $\frac{1}{4}$ **J** $\frac{1}{3}$	**Process Standards Alignment** 4.1A

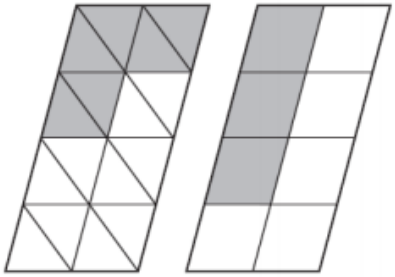
Essential Knowledge and Skills 4.3C

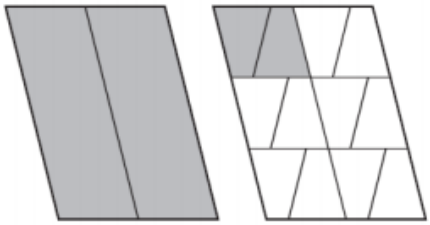
Grade 4 Mathematics Student Expectation Analysis Frequency: 1

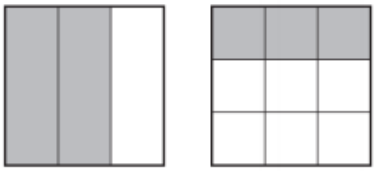
Question Stem	2014 STAAR (Realigned)

Which pair of models is shaded to represent equivalent fractions?

A 

C 

B 

D 

Process Standards Alignment
4.1C

Question Stem	2013 STAAR (Realigned)

Edna completed $4\frac{2}{3}$ puzzles. Which improper fraction is equivalent to the number of puzzles Edna completed?

F $\frac{9}{3}$

G $\frac{14}{3}$

H $\frac{10}{3}$

J $\frac{24}{3}$

Process Standards Alignment
No standard is noted.

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Essential Knowledge and Skills 4.3C

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Question Stem	2013 STAAR (Realigned)	
Kwan has a garden. If $\frac{7}{10}$ of the plants in his garden are daisies, which statement could be true? **A** Out of a total of 7 plants, 1 plant is a daisy. **B** Out of a total of 50 plants, 7 plants are daisies. **C** Out of a total of 35 plants, 15 plants are daisies. **D** Out of a total of 50 plants, 35 plants are daisies.		**Process Standards Alignment** 4.1A

Question Stem	2013 STAAR (Realigned)	
Scott completed $\frac{4}{6}$ of a project on Saturday. Which fraction is equivalent to $\frac{4}{6}$? **A** $\frac{16}{24}$ **B** $\frac{8}{18}$ **C** $\frac{16}{18}$ **D** $\frac{20}{24}$		**Process Standards Alignment** 4.1A

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Essential Knowledge and Skills 4.3C

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Question Stem	2013 STAAR (Realigned)

Antonia colored 36 of the 60 pictures in her coloring book. Which fraction is **NOT** equivalent to the fraction of pictures Antonia colored?

A $\frac{6}{10}$

B $\frac{3}{5}$

C $\frac{8}{20}$

D $\frac{18}{30}$

Process Standards Alignment
4.1B

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Essential Knowledge and Skills 4.3C

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Data
District:
Feeder Pattern:
Campus:

Vocabulary

fractions	common denominator	area model
compare	pictorial model	strip diagram
equivalent	number line	

Vertical Alignment

Grade 3	Grade 4	Grade 5
Determining Equivalence and Comparing Part-to-Whole		
(3) Number and operations. The student applies mathematical process standards to represent and explain fractional units. The student is expected to:	(3) Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to:	
(F) represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines.		
(G) explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model.	(C) determine if two given fractions are equivalent using a variety of methods.	
(H) compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models.	(D) compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or <.	

Common Errors; Common Misconceptions

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Essential Knowledge and Skills 4.3D

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Reporting Category	Numerical Representations and Relationships (1)
Knowledge and Skills	**4.3 Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems.** *The student is expected to:*
Student Expectation	(D) compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or <. ***Readiness***
Bundling Opportunity	4.3C The student is expected to determine if two given fractions are equivalent using a variety of methods. ***Supporting***
Question Stem	2015 Released Test Questions

Faith has completed $\frac{6}{18}$ of her math homework. Olivia has completed $\frac{4}{9}$ of her math homework. Which of these girls has completed a greater fraction of her math homework?

A Faith, because $\frac{6}{18} > \frac{4}{9}$

B Faith, because $\frac{6}{18} < \frac{4}{9}$

C Olivia, because $\frac{4}{9} < \frac{6}{18}$

D Olivia, because $\frac{4}{9} > \frac{6}{18}$

.

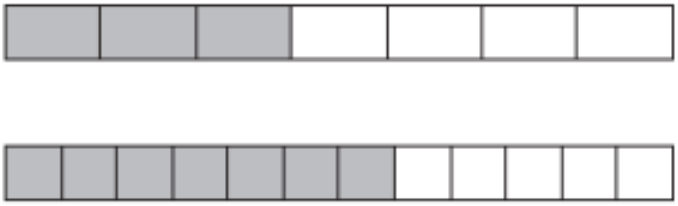
Process Standards Alignment
4.1A
4.1B
4.1G

Essential Knowledge and Skills 4.3D

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2013 STAAR (Realigned)

The models below are shaded to represent two different fractions.



Which statement is true?

F $\frac{3}{7} > \frac{7}{12}$

G $\frac{3}{4} < \frac{7}{12}$

H $\frac{3}{7} < \frac{7}{12}$

J $\frac{4}{7} > \frac{5}{7}$

Process Standards Alignment
4.1E

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Essential Knowledge and Skills 4.3D

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2013 STAAR (Realigned)

A teacher wrote several nouns, verbs, adjectives, and adverbs on the board. The table below shows the fraction of each type of word written on the board.

Words

Type of Word	Fraction of Words on Board
Noun	$\frac{3}{7}$
Verb	$\frac{3}{14}$
Adjective	$\frac{1}{14}$
Adverb	$\frac{2}{7}$

Which correctly compares two of these fractions?

F $\frac{1}{14} > \frac{3}{7}$

G $\frac{3}{7} > \frac{3}{14}$

H $\frac{3}{14} < \frac{1}{14}$

J $\frac{2}{7} < \frac{3}{14}$

Process Standards Alignment
4.1F

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Essential Knowledge and Skills 4.3D

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Data
District:
Feeder Pattern:
Campus:

Vocabulary

fractions	common denominator	pictorial model
compare	is greater than (>)	number line
equivalent	is less than (<)	area model
	is equal to (=)	strip diagram

Vertical Alignment

Grade 3	Grade 4	Grade 5
Determining Equivalence and Comparing Part-to-Whole		
(3) Number and operations. The student applies mathematical process standards to represent and explain fractional units. The student is expected to:	(3) Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to:	
(F) represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines.		
(G) explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model.	(C) determine if two given fractions are equivalent using a variety of methods.	
(H) compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models.	(D) compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or <.	

Common Errors; Common Misconceptions

Essential Knowledge and Skills 4.3G

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Numerical Representations and Relationships (1)
Knowledge and Skills	**4.3 Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems.** *The student is expected to:*
Student Expectation	(G) represent fractions and decimals to the tenths or hundredths as distances from zero on a number line. ***Supporting***
Bundling Opportunity	4.2G The student is expected to relate decimals to fractions that name tenths and hundredths. ***Readiness***
Student Expectation Breakouts	• represent fractions to the tenths as distances from zero on a number line • represent fractions to the hundredths as distances from zero on a number line • represent decimals to the tenths as distances from zero on a number line • represent decimals to the hundredths as distances from zero on a number line
Question Stem	2013 STAAR (Realigned)

5 Which point best represents $36\frac{1}{4}$ on the number line below?

F Point *R*

G Point *S*

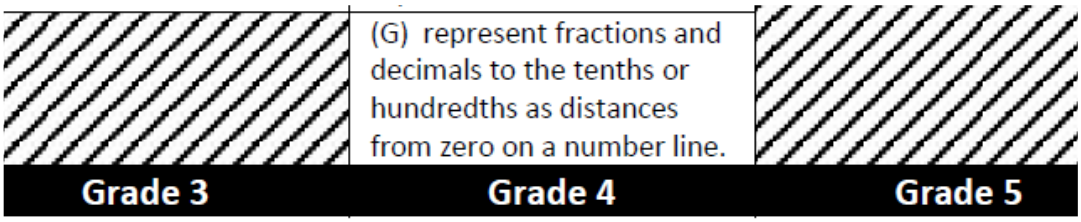
H Point *T*

J Point *U*

Process Standards Alignment
4.1A
4.1B
4.1F

Essential Knowledge and Skills 4.3G

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Data District: Feeder Pattern: Campus:	**Vocabulary** decimals fractions tenths hundredths number line point distance zero
Vertical Alignment	
Common Errors; Common Misconceptions	

Mathematics

Reporting Category 2
Computations
and
Algebraic Relationships

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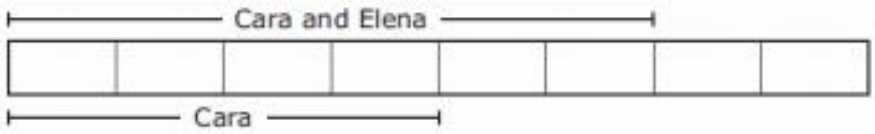
Essential Knowledge and Skills 4.3E

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Reporting Category	Computations and Algebraic Relationships (2)
Knowledge and Skills	**4.3 Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems.** *The student is expected to:*
Student Expectation	(E) represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations. ***Readiness***
Bundling Opportunity	4.3F The student is expected to evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole. ***Supporting***
Student Expectation Breakout	• represent and solve addition of fractions with equal denominators using objects that build to the number line and properties of operations • represent and solve addition of fractions with equal denominators using pictorial models that build to the number line and properties of operations • represent and solve subtraction of fractions with equal denominators using objects that build to the number line and properties of operations • represent and solve subtraction of fractions with equal denominators using pictorial models that build to the number line and properties of operations
Question Stem	2015 Released Test Questions

Cara and Elena used fabric to make costumes for a talent show. Cara used $\frac{4}{8}$ of the fabric for her costume. The girls used $\frac{6}{8}$ of the fabric altogether.



What fraction of the fabric did Elena use?

A $\frac{10}{16}$

B $\frac{10}{8}$

C $\frac{2}{8}$

D $\frac{1}{2}$

Process Standards Alignment
4.1A
4.1B
4.1E
4.1F

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Essential Knowledge and Skills 4.3E

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Data
District:
Feeder Pattern:
Campus:

Vocabulary

fraction	addition	concrete	Commutative Property
numerator	sum	pictorial	Associative Property
denominator	subtraction	number line	
	difference		

Vertical Alignment

Grade 3	Grade 4	Grade 5
	Adding and Subtracting Fractions and Ra	
	(3) Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to:	(3) Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to:
	(E) represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations.	(H) represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations.
	(F) evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole.	(K) add and subtract positive rational numbers fluently.

Common Errors; Common Misconceptions

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Essential Knowledge and Skills 4.3F

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Computations and Algebraic Relationships (2)
Knowledge and Skills	**4.3 Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems.** *The student is expected to:*
Student Expectation	(F) evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole. ***Supporting***
Bundling Opportunity	4.3E The student is expected to represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations. ***Readiness***
Student Expectation Breakout	• evaluate the reasonableness of sums of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole • evaluate the reasonableness of differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole
Question Stem	2015 Released Test Question

Hailey and Wendy painted an entire wall together. Hailey painted $\frac{3}{7}$ of the wall, and Wendy painted the rest. Which statement is true?

A Hailey painted less than half the wall, and Wendy painted more than half the wall.

B Hailey painted more than half the wall, and Wendy painted less than half the wall.

C Each girl painted more than half the wall.

D Each girl painted less than half the wall.

Process Standards Alignment
4.1A
4.1B
4.1G

Essential Knowledge and Skills 4.3F

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Data
District:
Feeder Pattern:
Campus:

Vocabulary

fraction	addition	reasonableness	one-half (1/2)
numerator	sum	benchmark fractions	three-fourths (3/4)
denominator	subtraction	zero (0)	one whole (a/a)
	difference	one-fourth (1/4)	

Vertical Alignment

Grade 3	Grade 4	Grade 5
	Adding and Subtracting Fractions and Ra	
	(3) Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to:	(3) Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to:
	(E) represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations.	(H) represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations.
	(F) evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole.	(K) add and subtract positive rational numbers fluently.

Common Errors; Common Misconceptions

Essential Knowledge and Skills 4.4B

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Computations and Algebraic Relationships (2)
Knowledge and Skills	**4.4 Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy.** *The student is expected to:*
Student Expectation	(B) determine products of a number and 10 or 100 using properties of operations and place value understandings. ***Supporting***
Bundling Opportunity	4.4C The student is expected to represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15. ***Supporting*** 4.4D The student is expected to use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties. ***Supporting***
Student Expectation Breakouts	• determine products of a number and 10 using properties of operations and place value understandings • determine products of a number 100 using properties of operations and place value understandings.
Question Stem	2014 STAAR (Realigned)

Lionel sells boxes of greeting cards. The table below shows the number of cards in different numbers of boxes.

Greeting Cards

Number of Boxes	49	67	82	114
Number of Greeting Cards	4,900	6,700	8,200	

How many greeting cards are in 114 of these boxes?

A 10,000

B 1,140

C 11,400

D 11,004

Process Standards Alignment
4.1B

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Essential Knowledge and Skills 4.4A

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Reporting Category	Computations and Algebraic Relationships (2)
Knowledge and Skills	**4.4 Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy.** *The student is expected to:*
Student Expectation	(A) add and subtract whole numbers and decimals to the hundredths place using the standard algorithm. ***Readiness***
Bundling Opportunity	(G) The student is expected to round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers. ***Supporting***
Student Expectation Breakouts	• add whole numbers using the standard algorithm • add decimals to the hundredths place using the standard algorithm • subtract whole numbers using the standard algorithm • subtract decimals to the hundredths place using the standard algorithm
Question Stem	2015 Released Test Questions

The locations and lengths of three of the longest tunnels in the world are listed.

- Gotthard Base Tunnel in Switzerland, 57.07 km
- Seikan Tunnel in Japan, 53.85 km
- Channel Tunnel between England and France, 50.45 km

What is the difference between the length of the Channel Tunnel and the length of the Gotthard Base Tunnel in kilometers?

A 3.22 km

B 7.62 km

C 6.62 km

D 7.42 km

Process Standards Alignment
4.1A
4.1B
4.1F

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Essential Knowledge and Skills 4.4A

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2014 STAAR (Realigned)

Mrs. Zapata paid a total of $8.17 to mail three packages.

- She paid $2.77 to mail the first package.
- She paid $3 to mail the second package.

How much did Mrs. Zapata pay to mail the third package?

F $3.60

G $2.40

H $6.37

J Not here

Process Standards Alignment 4.1B

Question Stem	2014 STAAR (Realigned)

Enrique bought a football and a puzzle at a store.

- He paid $15.35 for the football.
- He paid a total of $24.02 for the football and the puzzle.

How much did Enrique pay for the puzzle, in dollars and cents?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

Process Standards Alignment 4.1A

Question Stem	2014 STAAR (Realigned)

The table below shows the scores for two divers at a diving championship.

Diving Championship

Diver	Score
Carl	399.8
Eric	462.25

What is the difference between these two scores?

A 73.45

B 137.65

C 62.45

D 173.45

Process Standards Alignment No standard is noted.

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Essential Knowledge and Skills 4.4A

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2013 STAAR (Realigned)
Owen lives 145.25 kilometers from Houston, Texas. Sharon lives 209.5 kilometers from Houston. What is the difference between these two distances? **F** 64.25 km **G** 54.35 km **H** 124.30 km **J** 144.35 km	**Process Standards Alignment** 4.1A

Question Stem	2013 STAAR (Realigned)
Mr. Lee mailed 3 packages. The greatest amount he paid to mail one of these packages was $3.60. The least amount he paid to mail one of these packages was $1.70. What could be the total amount Mr. Lee paid to mail the 3 packages? **A** $8.30 **B** $11.50 **C** $5.10 **D** $10.80	**Process Standards Alignment** 5.1B

Essential Knowledge and Skills 4.4A

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Data
District:
Feeder Pattern:
Campus:

Vocabulary

addition	decimals	regroup
subtraction	tenths	
whole numbers	hundredths	

Vertical Alignment

Grade 3	Grade 4	Grade 5
Whole Numbers, Decimals, and Rational Numbers		
(4) Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. The student is expected to:	(4) Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to:	(3) Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to:
(A) solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction.	(A) add and subtract whole numbers and decimals to the hundredths place using the standard algorithm.	(A) estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division.

Common Errors; Common Misconceptions

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Essential Knowledge and Skills 4.4B

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Question Stem	2013 STAAR (Realigned)	**Process Standards Alignment** 4.1A

A season pass at a water park costs $100. A total of 125 people paid for a season pass. What was the total cost of these season passes?

A $225

B $12,500

C $12,005

D $1,250

Data	**Vocabulary**	
District:	multiplication	place value
Feeder Pattern:	factor	properties
Campus:	product	

Vertical Alignment

(E) represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting.	(B) determine products of a number and 10 or 100 using properties of operations and place value understandings.	(B) multiply with fluency a three-digit number by a two-digit number using the standard algorithm.
(F) recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts.		
(G) use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties.	(C) represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15.	
	(D) use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties.	

Essential Knowledge and Skills 4.4B

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Common Errors; Common Misconceptions	

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Essential Knowledge and Skills 4.4C

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Computations and Algebraic Relationships (2)
Knowledge and Skills	**4.4 Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy.** *The student is expected to:*
Student Expectation	(C) represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15. ***Supporting***
Bundling Opportunity	4.4B The student is expected to determine products of a number and 10 or 100 using properties of operations and place value understandings. ***Supporting*** 4.4D The student is expected to use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties. ***Supporting***
Student Expectation Breakouts	• represent the product of 2 two-digit numbers using arrays, including perfect squares through 15 by 15 • represent the product of 2 two-digit numbers using area models, including perfect squares through 15 by 15 • represent the product of 2 two-digit numbers using equations, including perfect squares through 15 by 15
Question Stem	2013 - 2015 STAAR

No test questions are available for analysis.

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Essential Knowledge and Skills 4.4C

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Data District: Feeder Pattern: Campus:	**Vocabulary** multiplication, arrays, rectangle, width factor, area models, perfect square product, equations, length
Vertical Alignment	

(E) represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting.	(B) determine products of a number and 10 or 100 using properties of operations and place value understandings.	(B) multiply with fluency a three-digit number by a two-digit number using the standard algorithm.
(F) recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts.		
(G) use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties.	(C) represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15.	
	(D) use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties.	

Common Errors; Common Misconceptions	

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Essential Knowledge and Skills 4.4D

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Computations and Algebraic Relationships (2)
Knowledge and Skills	**4.4 Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy.** *The student is expected to:*
Student Expectation	(D) use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties. ***Supporting***
Bundling Opportunity	4.4B The student is expected to determine products of a number and 10 or 100 using properties of operations and place value understandings. ***Supporting*** 4.4C The student is expected to represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15. ***Supporting***
Student Expectation Breakouts	• use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number using: ○ mental math ○ partial products ○ The Commutative Property of Multiplication ○ The Associative Property of Multiplication ○ The Distributive Property of Multiplication • use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a two-digit number using: ○ mental math ○ partial products ○ The Commutative Property of Multiplication ○ The Associative Property of Multiplication ○ The Distributive Property of Multiplication The first breakout may reflect a four-digit, three-digit, or a two-digit factor multiplied by a one-digit factor.
Question Stem	2014 STAAR (Realigned)

There are 990 football players on high school teams in a city. Each team has the same number of players. Which group of teams could **NOT** describe the teams of football players in this city?

F 45 teams with 22 players on each team

G 27 teams with 70 players on each team

H 33 teams with 30 players on each team

J 18 teams with 55 players on each team

Process Standards Alignment
4.1B

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Essential Knowledge and Skills 4.4D

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Question Stem	2013 STAAR (Realigned)
The list below shows the number of picture frames Shelly sold on each day of an art sale. • She sold 16 picture frames on Thursday. • She sold 22 picture frames on Friday. • She sold 25 picture frames on Saturday. The cost of each picture frame was $14. What was the total cost of these picture frames in dollars? Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.	**Process Standards Alignment** 4.1B

Question Stem	2013 STAAR (Realigned)
There are 39 containers of water for the students at a race. Each container holds 24 quarts of water. How many quarts of water are in the 39 containers? **A** 234 qt **B** 936 qt **C** 1,026 qt **D** 836 qt	**Process Standards Alignment** 4.1A

Question Stem	2013 STAAR (Realigned)
On Monday 149 people each bought 1 CD at a music store. On Tuesday 263 people each bought 1 CD. All the CDs cost $9. What was the total amount paid for the CDs on these two days? **A** $3,608 **B** $1,341 **C** $2,367 **D** $3,708	**Process Standards Alignment** 4.1B

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Essential Knowledge and Skills 4.4D

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Data District: Feeder Pattern: Campus:	**Vocabulary** multiplication factor product mental math partial products Commutative Property of Multiplication Associative Property of Multiplication Distributive Property of Multiplication
Vertical Alignment	

(E) represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting.	(B) determine products of a number and 10 or 100 using properties of operations and place value understandings.	(B) multiply with fluency a three-digit number by a two-digit number using the standard algorithm.
(F) recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts.		
(G) use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties.	(C) represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15.	
	(D) use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties.	

Common Errors; Common Misconceptions	

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Essential Knowledge and Skills 4.4E

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Computations and Algebraic Relationships (2)
Knowledge and Skills	**4.4 Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy.** *The student is expected to:*
Student Expectation	(E) represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations. ***Supporting***
Bundling Opportunity	4.4F The student is expected to use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor. ***Supporting*** 4.4H The student is expected to solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders. ***Readiness***
Student Expectation Breakouts	• represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays • represent the quotient of up to a four-digit whole number divided by a one-digit whole number using area models • represent the quotient of up to a four-digit whole number divided by a one-digit whole number using equations Each of these breakouts may reflect a four-digit, three-digit, or a two-digit dividend divided by a one-digit divisor.
Question Stem	2013 STAAR (Realigned)

Terrell spent $306 on a television and 3 video games. He spent $243 on the television. Each video game was the same price. How much did Terrell spend on each video game?

A $21, because $306 - 243 = 63$ and $63 \div 3 = 21$

B $1,647, because $306 + 243 = 549$ and $549 \times 3 = 1{,}647$

C $183, because $306 + 243 = 549$ and $549 \div 3 = 183$

D $189, because $306 - 243 = 63$ and $63 \times 3 = 189$

Process Standards Alignment
4.1G

Essential Knowledge and Skills 4.4E

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Data District: Feeder Pattern: Campus:	**Vocabulary** division dividend divisor quotient remainder arrays area model equations whole numbers
Vertical Alignment	

(K) solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts.	(E) represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations.	(C) solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm.
	(F) use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor.	
	(H) solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.	

Common Errors; Common Misconceptions	

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Essential Knowledge and Skills 4.4F

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Computations and Algebraic Relationships (2)
Knowledge and Skills	**4.4 Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy.** *The student is expected to:*
Student Expectation	(F) use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor. ***Supporting***
Bundling Opportunity	4.4G The student is expected to round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers. ***Supporting*** 4.4H The student is expected to solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders. ***Readiness***
Student Expectation Breakouts	• use strategies and algorithms, including the standard algorithm, to divide a two-digit dividend by a one-digit divisor • use strategies and algorithms, including the standard algorithm, to divide a three-digit dividend by a one-digit divisor
Question Stem	2014 STAAR (Realigned)

Isaiah put 301 floor tiles in 7 rows. Each row had the same number of tiles. How many tiles did Isaiah put in each row?

F 43

G 41

H 42

J 40

Process Standards Alignment
4.1A

Question Stem	2014 STAAR (Realigned)

A water dispenser contains 512 fluid ounces of water. What is the total number of 8-fluid-ounce cups of water that can be filled from the dispenser?

F 611

G 64

H 4,096

J 61

Process Standards Alignment
4.1B

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Essential Knowledge and Skills 4.4F

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Question Stem	2013 STAAR (Realigned)

The picture below shows the number of prizes that were in 5 treasure chests.

54 prizes | 31 prizes | 47 prizes | 64 prizes | 56 prizes

Mr. Washington opened the chests and put all the prizes into 7 equal groups. How many prizes did Mr. Washington put into each group?

F 34

G 1,764

H 36

J 252

Process Standards Alignment
4.1B

Essential Knowledge and Skills 4.4F

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Data District: Feeder Pattern: Campus:	**Vocabulary** division dividend divisor quotient remainder algorithm
Vertical Alignment	

<table>
<tr><td>(K) solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts.</td><td>(E) represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations.</td><td rowspan="4">(C) solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm.</td></tr>
<tr><td rowspan="3"></td><td>(F) use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor.</td></tr>
<tr><td>(H) solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.</td></tr>
</table>

Common Errors; Common Misconceptions	

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Essential Knowledge and Skills 4.4G

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Computations and Algebraic Relationships (2)
Knowledge and Skills	**4.4 Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy.** *The student is expected to:*
Student Expectation	(G) round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers. ***Supporting***
Bundling Opportunity	4.4A The student is expected to add and subtract whole numbers and decimals to the hundredths place using the standard algorithm. ***Readiness*** 4.4D The student is expected to use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties. ***Supporting*** 4.4F The student is expected to use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor. ***Supporting***
Student Expectation Breakouts	• round to the nearest 10 to estimate solutions involving whole numbers • round to the nearest 100 to estimate solutions involving whole numbers • round to the nearest 1,000 to estimate solutions involving whole numbers • use compatible numbers to estimate solutions involving whole numbers These breakouts can be repeated to specifically address addition, subtraction, multiplication, and division.
Question Stem	2014 STAAR (Realigned)

A baseball coach bought some bats and gloves for the school's baseball team. The bats cost $20 to $35, and the gloves cost $30 to $60. Which of these does NOT represent a reasonable total purchase price for 15 bats and 12 gloves?

A $1,350

B $890

C $1,200

D $705

Process Standards Alignment
4.1B

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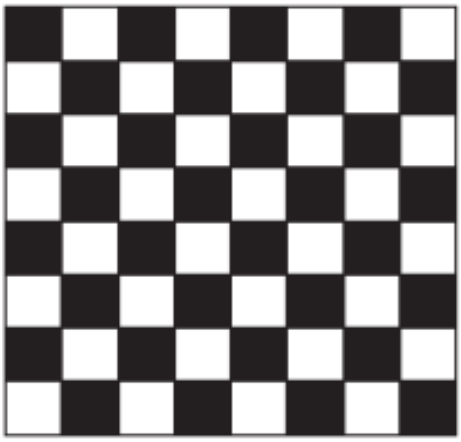
Essential Knowledge and Skills 4.4G

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Question Stem	2014 STAAR (Realigned)

Yuan has a game board like the one shown below.



Which of the following is the best estimate of the number of black squares that are on 188 of these game boards?

F 4,000

G 3,000

H 2,500

J 6,000

Process Standards Alignment
4.1B

Question Stem	2014 STAAR (Realigned)

The number of worker bees in two bee colonies is shown below.

- Colony A has 24,815 worker bees.
- Colony B has 7,144 worker bees.

Which of the following is the best estimate of the difference between the number of worker bees in these colonies?

F 23,000

G 18,000

H 13,000

J 16,000

Process Standards Alignment
4.1B

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.4G

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Question Stem	2013 STAAR (Realigned)
Nathan washes 26 cars each day he works at a car wash. He worked 34 days during the summer. About how many cars did Nathan wash during these 34 days? **A** 900 **B** 600 **C** 1,800 **D** 1,200	**Process Standards Alignment** 4.1B

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.4G

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Data

District:

Feeder Pattern:

Campus:

Vocabulary

estimate
round
compatible numbers
place value
closest
nearest

Vertical Alignment

Grade 3	Grade 4	Grade 5
Applying Strategies for Estimation		
(4) Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy. The student is expected to:	(2) Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to:	(2) Number and operations. The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value. The student is expected to:
	(D) round whole numbers to a given place value through the hundred thousands place.	
(B) round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems.	(4) Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to:	(C) round decimals to tenths or hundredths.
	(G) round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers.	

Common Errors; Common Misconceptions

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.4H

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Reporting Category	Computations and Algebraic Relationships (2)
Knowledge and Skills	**4.4 Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy.** *The student is expected to:*
Student Expectation	(H) solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders. ***Readiness***
Bundling Opportunity	4.4D The student is expected to use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties. ***Supporting*** 4.4F The student is expected to use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor. ***Supporting*** 4.4G The student is expected to round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers. ***Supporting***
Student Expectation Breakouts	• solve with fluency one-step problems involving multiplication • solve with fluency two-step problems involving multiplication • solve with fluency one- step problems involving division, including interpreting remainders • solve with fluency two-step problems involving division, including interpreting remainders.
Question Stem	2015 Released Test Questions

Kareem will use beads to make bracelets. He has 475 beads and needs to use 9 beads for each bracelet. What is the greatest number of bracelets Kareem can make with 475 beads?

A 52

B 49

C 45

D 53

Process Standards Alignment
4.1A
4.1B
4.1F

Question Stem	2014 STAAR (Realigned)

Zenobia put 3 large pictures and 4 small pictures on each page of a photo album. What is the total number of large pictures and small pictures on 9 pages of the album?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

Process Standards Alignment
4.1B

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.4H

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2014 STAAR (Realigned)

The table below shows the prices of different movie tickets.

Movie Ticket Prices

Type of Movie	Adult Ticket	Child Ticket
General admission	$10	$7
Matinee	$8	$7
Special event	$14	$12
3-D	$13	$10

Mr. Gallego bought 2 adult tickets and 4 child tickets for his family and paid a total of $66. For which type of movie are Mr. Gallego's tickets?

A General admission

B Matinee

C Special event

D 3-D

Process Standards Alignment 4.1B

Question Stem	2014 STAAR (Realigned)

Each of 16 students in a class made a poetry book. Each book contained 24 poems. How many poems are in 16 books?

A 484

B 364

C 384

D 168

Process Standards Alignment 4.1A

Question Stem	2014 STAAR (Realigned)

Isabel has 745 strawberries. She separated the strawberries into 5 equal groups. How many strawberries are in 2 of the groups?

F 202, because $745 \div 5 = 101$ and $101 \times 2 = 202$

G 282, because $745 \div 5 = 141$ and $141 \times 2 = 282$

H 298, because $745 \div 5 = 149$ and $149 \times 2 = 298$

J 290, because $745 \div 5 = 145$ and $145 \times 2 = 290$

Process Standards Alignment 4.1G

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.4H

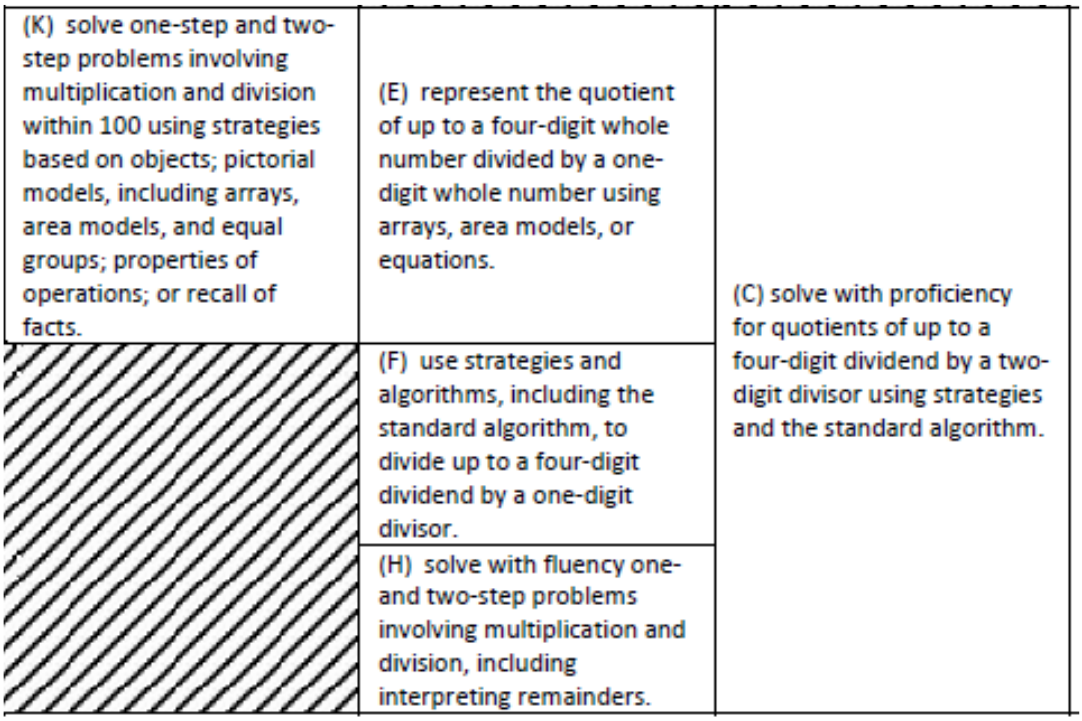
Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2013 STAAR (Realigned)
There are four times as many cows as horses on a farm. There are twice as many horses as pigs on the farm. Which list shows the number of each type of animal on this farm? **F** 9 cows, 36 horses, and 18 pigs **G** 48 cows, 12 horses, and 24 pigs **H** 32 cows, 16 horses, and 8 pigs **J** 72 cows, 18 horses, and 9 pigs	**Process Standards Alignment** 4.1A

Question Stem	2013 STAAR (Realigned)
Oscar used a total of 315 blocks to make 5 towers. He used an equal number of blocks to make each tower. How many blocks did Oscar use to make each tower? **A** 65 **B** 63 **C** 61 **D** 79	**Process Standards Alignment** 4.1A

Essential Knowledge and Skills 4.4H

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Data District: Feeder Pattern: Campus:	**Vocabulary** multiplication division quotient factor dividend remainder product divisor
Vertical Alignment	
Common Errors; Common Misconceptions	

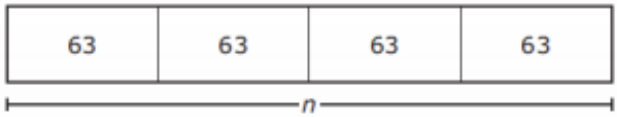
Essential Knowledge and Skills 4.5A

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

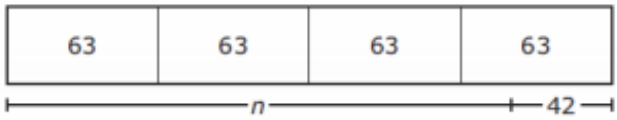
Reporting Category	Computations and Algebraic Relationships (2)
Knowledge and Skills	**4.5 Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations.** *The student is expected to:*
Student Expectation	(A) represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity. ***Readiness***
Bundling Opportunity	4.4H The student is expected to solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders. ***Readiness***
Student Expectation Breakouts	• represent multi-step problems involving addition with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity • represent multi-step problems involving subtraction with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity • represent multi-step problems involving multiplication with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity • represent multi-step problems involving division with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity Additional breakouts can combine any two and then three operations until all four operations are included.
Question Stem	2015 Released Test Questions

Madeline has 4 rolls of tape. Each roll contains 63 inches of tape. Madeline used 42 inches of tape for a project. Which diagram shows a way to find n, the number of inches of tape that Madeline has left?

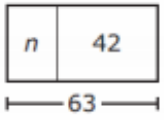
A



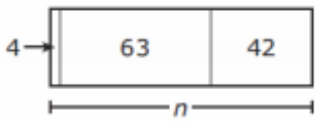
B



C



D



Process Standards Alignment

4.1A
4.1B
4.1D
4.1F

Essential Knowledge and Skills 4.5A

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Data
District:
Feeder Pattern:
Campus:

Vocabulary

addition	whole number	sum	quotient
subtraction	strip diagram	difference	factor
multiplication	equation	dividend	product
division	unknown quantity	divisor	variable

Vertical Alignment

Grade 3	Grade 4	Grade 5
Representing Problem Situations with an Equals Sign		
(5) Algebraic reasoning. The student applies mathematical process standards to analyze and create patterns and relationships. The student is expected to:	(5) Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:	(4) Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:
(A) represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations.	(A) represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity.	(B) represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity.
(B) represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations.		

Common Errors; Common Misconceptions

Essential Knowledge and Skills 4.5B

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Reporting Category	Computations and Algebraic Relationships (2)
Knowledge and Skills	**4.5 Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations.** *The student is expected to:*
Student Expectation	(B) represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence. ***Readiness***
Bundling Opportunity	4.4A The student is expected to add and subtract whole numbers and decimals to the hundredths place using the standard algorithm. ***Readiness*** 4.4B The student is expected to determine products of a number and 10 or 100 using properties of operations and place value understandings. ***Supporting***
Question Stem	2015 Released Test Questions

The table shows a relationship between the input numbers and the output numbers generated by a number machine.

Number Machine

Input	Output
1	79
2	80
3	81
4	82

Which number machine shows the same relationship as the one shown in the table?

A Input → +1 → Output

B Input → ×40 → Output

C Input → +78 → Output

D Input → ×79 → Output

Process Standards Alignment

4.1B
4.1D
4.1F

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.5B

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2014 STAAR (Realigned)

Adam puts the same number of cherry tomatoes on each salad he makes in his restaurant. The table below shows the number of cherry tomatoes in different numbers of salads.

Salads

Number of Salads	25	35	50	100
Number of Cherry Tomatoes	125	175	250	500

Which statement describes the relationship between the number of salads and the number of cherry tomatoes?

A The number of salads $\times 4$ = the number of cherry tomatoes

B The number of salads $+ 10$ = the number of cherry tomatoes

C The number of salads $\times 5$ = the number of cherry tomatoes

D The number of salads $+ 100$ = the number of cherry tomatoes

Process Standards Alignment
4.1F

Question Stem	2014 STAAR (Realigned)

The table below shows the relationship between the number of red stars and the number of white stars Adyssen drew on different posters.

Posters

Number of White Stars	7	10		19
Number of Red Stars	28	31	35	40

Based on the pattern in the table, which number sentence can be used to find the number of white stars Adyssen drew if she drew 35 red stars on a poster?

F $19 - 10 = 9$

G $35 - 21 = 14$

H $7 + 10 = 17$

J $10 + 3 = 13$

Process Standards Alignment
4.1E

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.5B

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2014 STAAR (Realigned)

The table below shows the relationship between the number of cars and the number of trucks at a car dealership on different days.

Car Dealership

Number of Trucks	Number of Cars
78	110
95	127
83	115
72	104
91	123

Which statement describes the relationship between the number of cars and the number of trucks at the dealership?

A The number of cars + 17 = the number of trucks

B The number of cars − 32 = the number of trucks

C The number of cars − 17 = the number of trucks

D The number of cars + 32 = the number of trucks

Process Standards Alignment
4.1F

Question Stem	2014 STAAR (Realigned)

The table below shows the number of airplanes that landed in different numbers of hours at an airport.

Airport

Number of Hours	Number of Airplanes
2	20
5	50
9	
10	100

The same number of airplanes landed each hour. How many airplanes landed in 9 hours at the airport?

A 80, because 50 + 30 = 80

B 45, because 9 × 5 = 45

C 90, because 9 × 10 = 90

D 50, because 100 − 50 = 50

Process Standards Alignment
4.1G

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.5B

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2013 STAAR (Realigned)

A number sentence is shown below.

□ × 25 = ○

Which table shows numbers that correctly complete the number sentence?

F

□	3	5	7	9
○	75	125	175	200

H

□	3	5	7	9
○	75	100	125	150

G

□	3	5	7	9
○	25	50	75	100

J

□	3	5	7	9
○	75	125	175	225

Process Standards Alignment
No standard is noted.

Question Stem	2013 STAAR (Realigned)

The table below shows the amount of money Hector earned and spent during each of four months.

Hector's Money

Month	Amount Earned	Amount Spent
May	$27	$12
June	$39	$24
July	$46	$31
August	$43	$28

Which of the following describes the relationship in the table?

F Amount spent + 12 = amount earned

G Amount spent × 2 = amount earned

H Amount spent + 15 = amount earned

J Amount spent − 15 = amount earned

Process Standards Alignment
4.1F

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.5B

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2013 STAAR (Realigned)

The table below shows the total number of computers in different numbers of classrooms in a school.

School Computers

Total Number of Computers	Number of Classrooms
105	15
84	12
42	6
21	3

Which of the following describes the relationship in the table?

A Total number of computers − 19 = number of classrooms

B Total number of computers ÷ 3 = number of classrooms

C Total number of computers − 90 = number of classrooms

D Total number of computers ÷ 7 = number of classrooms

Process Standards Alignment
4.1F

Question Stem	2013 STAAR (Realigned)

The table below shows two related sets of numbers.

△	○
60	20
45	15
33	11
9	3

Which of the following describes the relationship in the table?

F △ − 15 = ○

G △ ÷ 3 = ○

H △ − 40 = ○

J △ ÷ 6 = ○

Process Standards Alignment
4.1F

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.5B

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Data District: Feeder Pattern: Campus:	**Vocabulary** table, value, input expression, sequence, output pattern, position, relationship
Vertical Alignment	

Grade 3	Grade 4	Grade 5
Applying Multiple Representations for Foundations of Fu		
(5) Algebraic reasoning. The student applies mathematical process standards to analyze and create patterns and relationships. The student is expected to:	(5) Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:	(4) Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:
(E) represent real-world relationships using number pairs in a table and verbal descriptions.	(B) represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence.	(C) generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph.
		(D) recognize the difference between additive and multiplicative numerical patterns given in a table or graph.

Common Errors; Common Misconceptions	

Mathematics

Reporting Category 3
Geometry and Measurement

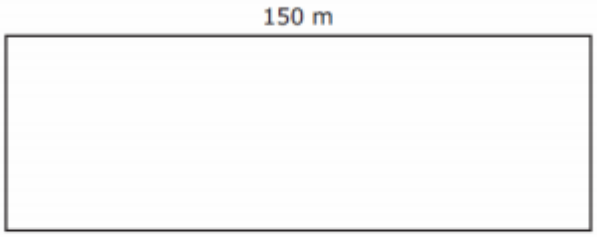
ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.5D

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Reporting Category	Geometry and Measurement (3)
Knowledge and Skills	**4.5 Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations.** *The student is expected to:*
Student Expectation	(D) solve problems related to perimeter and area of rectangles where dimensions are whole numbers. ***Readiness***
Bundling Opportunity	4.5C The student is expected to use models to determine the formulas for the perimeter of a rectangle ($l + w + l + w$ or $2l + 2w$), including the special form for perimeter of a square ($4s$) and the area of a rectangle ($l \times w$). ***NT***
Student Expectation Breakouts	• solve problems related to perimeter of rectangles where dimensions are whole numbers • solve problems related to area of rectangles where dimensions are whole numbers
Question Stem	2015 Released Test Questions

The model shows a rectangular field with a length of 150 m. The perimeter of the field is 400 m.



What is the width of the field in meters?

A 250 m

B 100 m

C 125 m

D 50 m

Process Standards Alignment

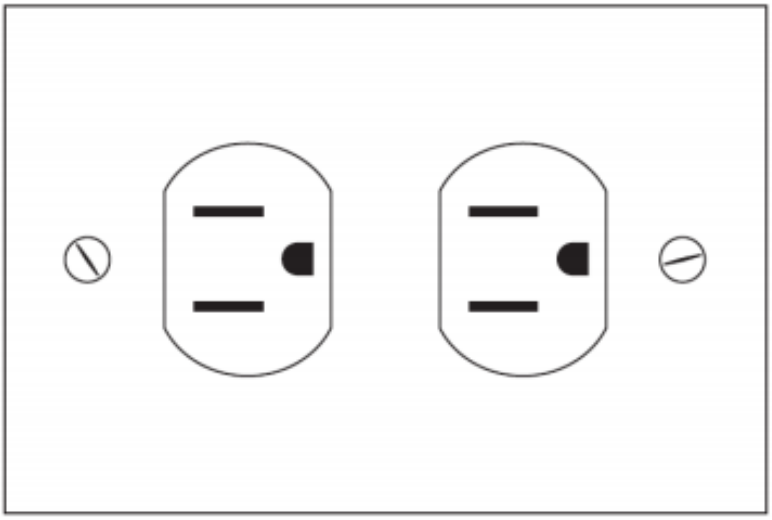
4.1A
4.1B
4.1C
4.1E
4.1F

Essential Knowledge and Skills 4.5D

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2014 STAAR (Realigned)

Kacey bought a rectangular wall plate for an electrical outlet. A picture of the wall plate is shown below. Use the ruler provided to measure the dimensions of the wall plate to the nearest centimeter.



Which measurement is closest to the perimeter, in centimeters, of the wall plate?

F 44 cm

G 96 cm

H 40 cm

J 20 cm

Process Standards Alignment
4.1F

Question Stem	2014 STAAR (Realigned)

The side length of a square is 20 millimeters. Which statement about this square is true?

A The perimeter of the square is 400 millimeters, because $20 \times 20 = 400$.

B The perimeter of the square is 80 millimeters, because $20 \times 4 = 80$.

C The area of the square is 40 square millimeters, because $20 \times 2 = 40$.

D The area of the square is 80 square millimeters, because $20 \times 4 = 80$.

Process Standards Alignment
4.1G

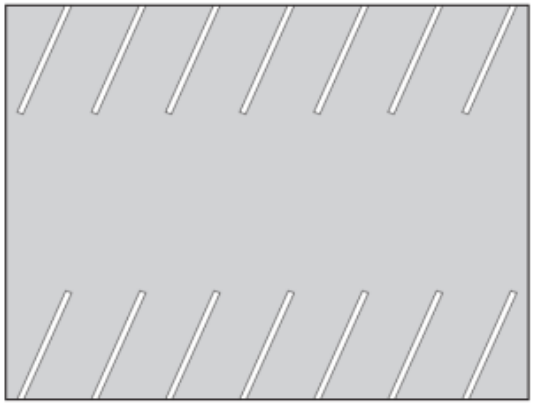
ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.5D

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2014 STAAR (Realigned)

A rectangular parking lot is represented by the scale drawing below. Use the ruler provided to measure the length and width of the rectangle to the nearest inch.



SCALE
1 inch represents 20 feet.

Which measurement is closest to the area, in square feet, of the actual parking lot?

A 8,000 square feet

B 360 square feet

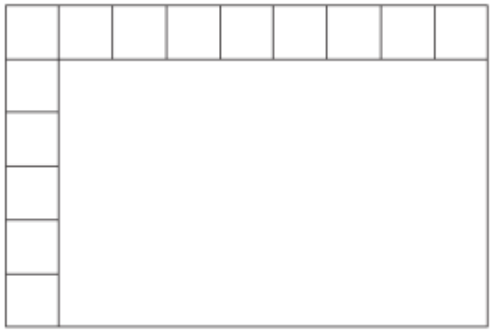
C 4,800 square feet

D 280 square feet

Process Standards Alignment
4.1G

Question Stem	2013 STAAR (Realigned)

The model below represents the length and width of a rectangular exercise mat.



= 1 square meter

What is the area of this mat in square meters?

A 15 square meters

B 45 square meters

C 54 square meters

D 30 square meters

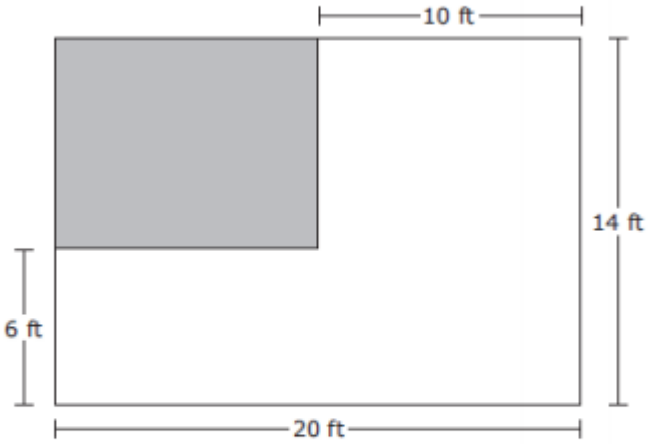
Process Standards Alignment
4.1C

Essential Knowledge and Skills 4.5D

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2013 STAAR (Realigned)

Harman is painting a rectangular wall. He has already painted the rectangular shaded section, as shown below.



What is the area of the shaded section Harman has already painted?

F 80 square feet

G 140 square feet

H 56 square feet

J 280 square feet

Process Standards Alignment
No standard is noted.

Data	**Vocabulary**		
District:	perimeter	dimensions	width
Feeder Pattern:	area	whole numbers	side length
Campus:	rectangle	length	

Essential Knowledge and Skills 4.5D

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Vertical Alignment

Grade 3	Grade 4	Grade 5
	Connecting Algebra and Geom	
	(5) Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:	(4) Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:
	(C) use models to determine the formulas for the perimeter of a rectangle ($l + w + l + w$ or $2l + 2w$), including the special form for perimeter of a square ($4s$) and the area of a rectangle ($l \times w$).	(G) use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l \times w \times h$, $V = s \times s \times s$, and $V = Bh$).
	(D) solve problems related to perimeter and area of rectangles where dimensions are whole numbers.	(H) represent and solve problems related to perimeter and/or area and related to volume.

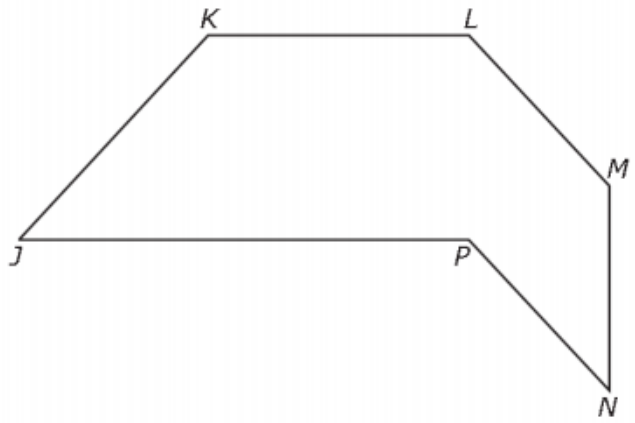
Common Errors; Common Misconceptions

Essential Knowledge and Skills 4.6A

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Geometry and Measurement (3)
Knowledge and Skills	**4.6 Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties.** *The student is expected to:*
Student Expectation	(A) identify points, lines, line segments, rays, angles, and perpendicular and parallel lines. ***Supporting***
Bundling Opportunity	4.6C The student is expected to apply knowledge of right angles to identify acute, right, and obtuse triangles. ***Supporting*** 4.6D The student is expected to classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size. ***Readiness***
Student Expectation Breakouts	• identify points • identify lines • identify line segments, • identify rays • identify angles • identify perpendicular lines • identify parallel lines
Question Stem	2014 STAAR (Realigned)

A figure is shown below.



Which two line segments appear to be parallel?

A Line segments *LM* and *NP*

B Line segments *MN* and *NP*

C Line segments *JK* and *JP*

D Line segments *KL* and *LM*

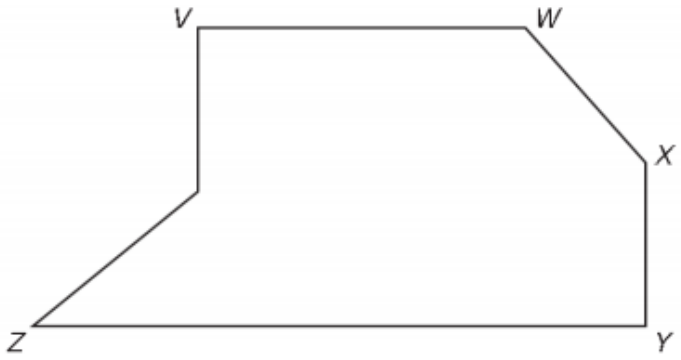
Process Standards Alignment
No standard is noted.

Essential Knowledge and Skills 4.6A

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Question Stem	2014 STAAR (Realigned)

Five angles are labeled on the figure shown below.



The labeled angles appear to be —

F 1 acute angle, 1 right angle, and 3 obtuse angles

G 2 acute angles, 2 right angles, and 1 obtuse angle

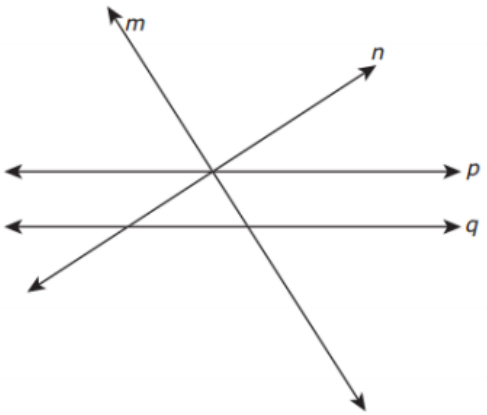
H 1 acute angle, 2 right angles, and 2 obtuse angles

J 2 acute angles, 1 right angle, and 2 obtuse angles

Process Standards Alignment
No standard is noted.

Question Stem	2013 STAAR (Realigned)

A group of lines is shown below.



Which two lines appear to be perpendicular?

F Lines *m* and *p*

G Lines *p* and *q*

H Lines *m* and *n*

J Lines *n* and *q*

Process Standards Alignment
No standard is noted.

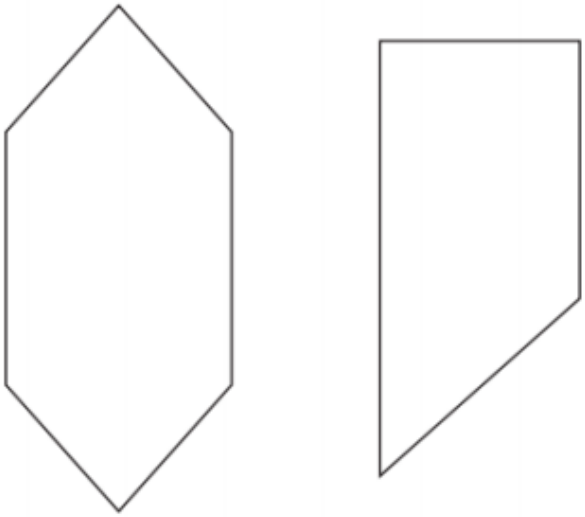
ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.6A

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Question Stem	2013 STAAR (Realigned)

Two figures are shown below.



Which statement about these two figures appears to be true?

F There are a total of 5 acute angles.

G There are a total of 5 obtuse angles.

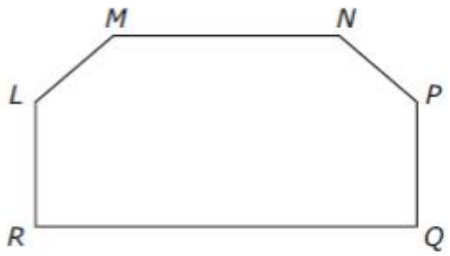
H There are a total of 2 acute angles.

J There are a total of 2 obtuse angles.

Process Standards Alignment
4.1C

Question Stem	2013 STAAR (Realigned)

The figure below has 6 labeled angles.



Which list shows only the angles that appear to be right angles?

F Angle *L*, angle *M*, angle *N*, and angle *P*

G Angle *L*, angle *P*, angle *Q*, and angle *R*

H Angle *Q* and angle *R*

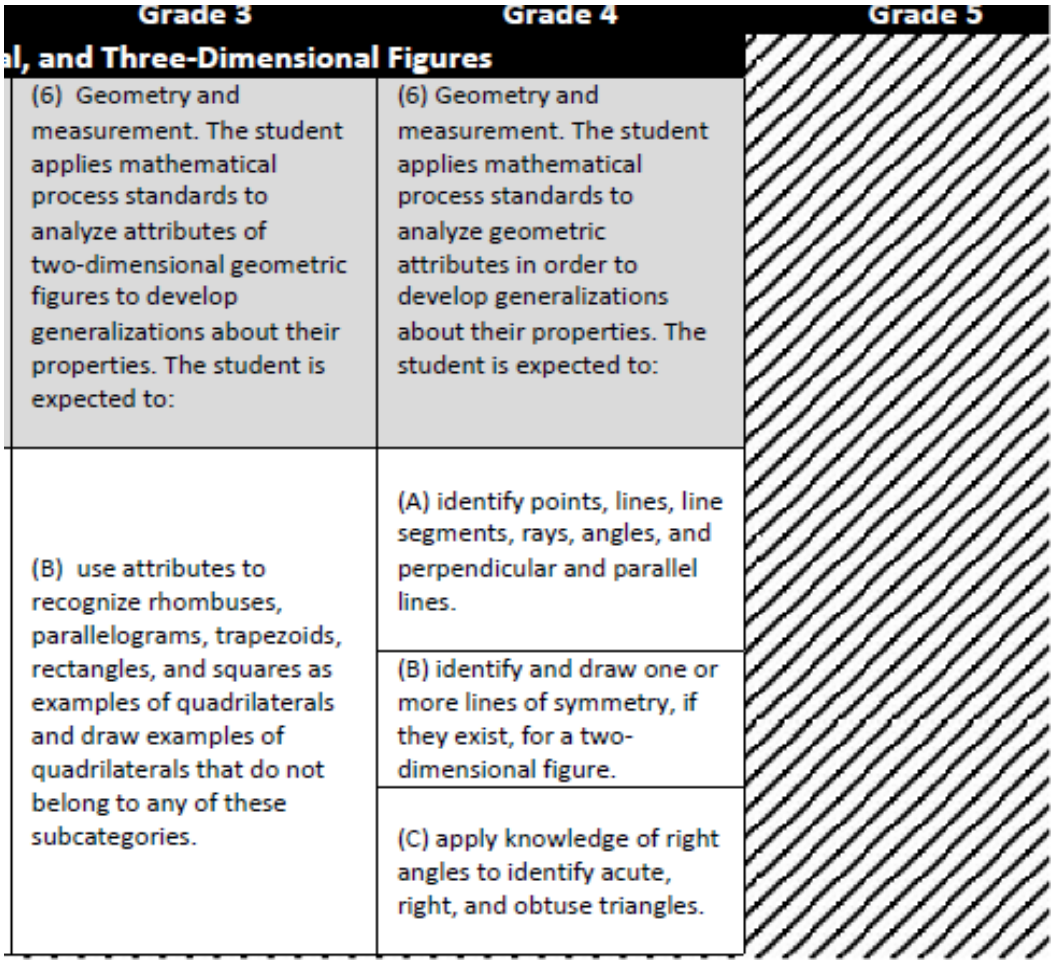
J Angle *M* and angle *N*

Process Standards Alignment
No standard is noted.

ACE | Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.6A

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Data District: Feeder Pattern: Campus:	**Vocabulary** point — end points — parallel lines line — ray — perpendicular lines line segment — angle — right angles
Vertical Alignment	
Common Errors; Common Misconceptions	

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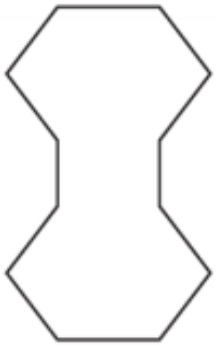
Essential Knowledge and Skills 4.6B

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

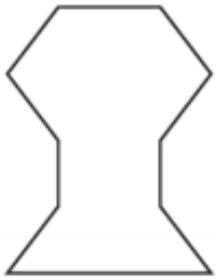
Reporting Category	Geometry and Measurement (3)
Knowledge and Skills	**4.6 Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties.** *The student is expected to:*
Student Expectation	(B) identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure. ***Supporting***
Student Expectation Breakouts	• identify one or more lines of symmetry, if they exist, for a two-dimensional figure • draw one or more lines of symmetry, if they exist, for a two-dimensional figure
Question Stem	2014 STAAR (Realigned)

Which figure appears to have exactly 2 lines of symmetry?

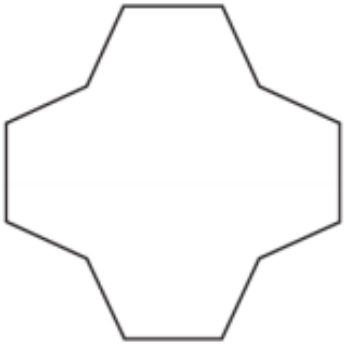
F



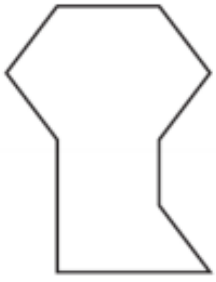
H



G



J



Process Standards Alignment
No standard is noted.

Data	**Vocabulary**
District: Feeder Pattern: Campus	two-dimensional symmetry line of symmetry

Essential Knowledge and Skills 4.6B

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Vertical Alignment

Grade 3	Grade 4	Grade 5
l, and Three-Dimensional Figures		
(6) Geometry and measurement. The student applies mathematical process standards to analyze attributes of two-dimensional geometric figures to develop generalizations about their properties. The student is expected to:	(6) Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to:	
(B) use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories.	(A) identify points, lines, line segments, rays, angles, and perpendicular and parallel lines.	
	(B) identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure.	
	(C) apply knowledge of right angles to identify acute, right, and obtuse triangles.	

Common Errors; Common Misconceptions

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.6C

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

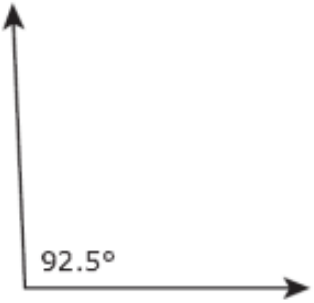
Reporting Category	Geometry and Measurement (3)
Knowledge and Skills	**4.6 Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties.** *The student is expected to:*
Student Expectation	(C) apply knowledge of right angles to identify acute, right, and obtuse triangles. ***Supporting***
Bundling Opportunity	4.6A The student is expected to identify points, lines, line segments, rays, angles, and perpendicular and parallel lines. ***Supporting*** 4.6D The student is expected to classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size. ***Readiness***
Student Expectation Breakouts	• apply knowledge of right angles to identify acute triangles • apply knowledge of right angles to identify right triangles • apply knowledge of right angles to identify obtuse triangles
Question Stem	2014 STAAR (Realigned)

Bert drew an angle that has the characteristics listed below.

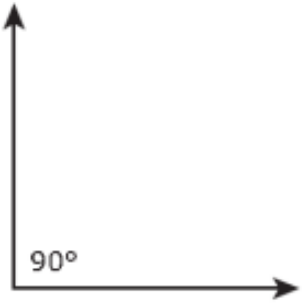
- It has a measure greater than 88.5°.
- It is an obtuse angle.

Which of the following could be the angle Bert drew?

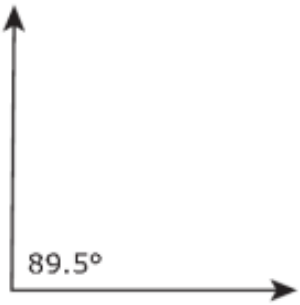
A



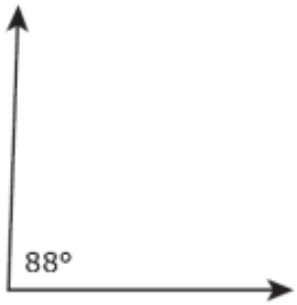
C



B



D



Process Standards Alignment
4.1B

Essential Knowledge and Skills 4.6C

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

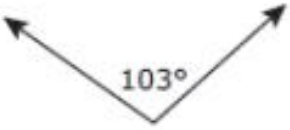
Question Stem	2013 STAAR (Realigned)

Danica drew an angle that has the characteristics listed below.

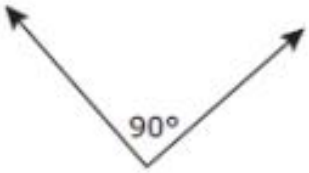
- Its measure is less than 108.5°.
- It is an acute angle.

Which of the following could be the angle Danica drew?

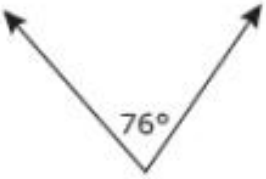
A



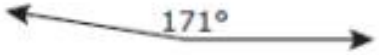
C



B



D



Process Standards Alignment
4.1B

Data	**Vocabulary**	
District:	triangle	right triangle
Feeder Pattern:	right angle	obtuse triangle
Campus:	acute triangle	

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Essential Knowledge and Skills 4.6C

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Vertical Alignment

Grade 3	Grade 4	Grade 5
l, and Three-Dimensional Figures		
(6) Geometry and measurement. The student applies mathematical process standards to analyze attributes of two-dimensional geometric figures to develop generalizations about their properties. The student is expected to:	(6) Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to:	
(B) use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories.	(A) identify points, lines, line segments, rays, angles, and perpendicular and parallel lines.	
	(B) identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure.	
	(C) apply knowledge of right angles to identify acute, right, and obtuse triangles.	

Common Errors; Common Misconceptions

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Essential Knowledge and Skills 4.6D

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Reporting Category	Geometry and Measurement (3)
Knowledge and Skills	**4.6 Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties.** *The student is expected to:*
Student Expectation	(D) classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size. ***Readiness***
Bundling Opportunity	4.6A The student is expected to identify points, lines, line segments, rays, angles, and perpendicular and parallel lines. ***Supporting*** 4.6C The student is expected to apply knowledge of right angles to identify acute, right, and obtuse triangles. ***Supporting***
Student Expectation Breakouts	• classify two-dimensional figures based on the presence or absence of parallel lines • classify two-dimensional figures based on the presence or absence of perpendicular lines • classify two-dimensional figures based on the presence or absence of angles of a specified size
Question Stem	2015 Released Test Questions

Which figure **cannot** have parallel line segments?

A Square

B Pentagon

C Triangle

D Trapezoid

Process Standards Alignment
4.1B
4.1F

Question Stem	2014 STAAR (Realigned)

Which statement about a pentagon is true?

F It must have parallel sides.

G It must have more vertices than sides.

H It must have no right angles.

J It must have 5 sides.

Process Standards Alignment
No standard is noted.

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Essential Knowledge and Skills 4.6D

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Data
District:
Feeder Pattern:
Campus:

Vocabulary

two-dimensional	parallel lines	angle	obtuse angle
presence	perpendicular lines	acute angle	
absence		right angle	

Vertical Alignment

Grade 3	Grade 4	Grade 5
ional and Three-Dimensional Figures		
(6) Geometry and measurement. The student applies mathematical process standards to analyze attributes of two-dimensional geometric figures to develop generalizations about their properties. The student is expected to:	(6) Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to:	(5) Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to:
(A) classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language.	(D) classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.	(A) classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

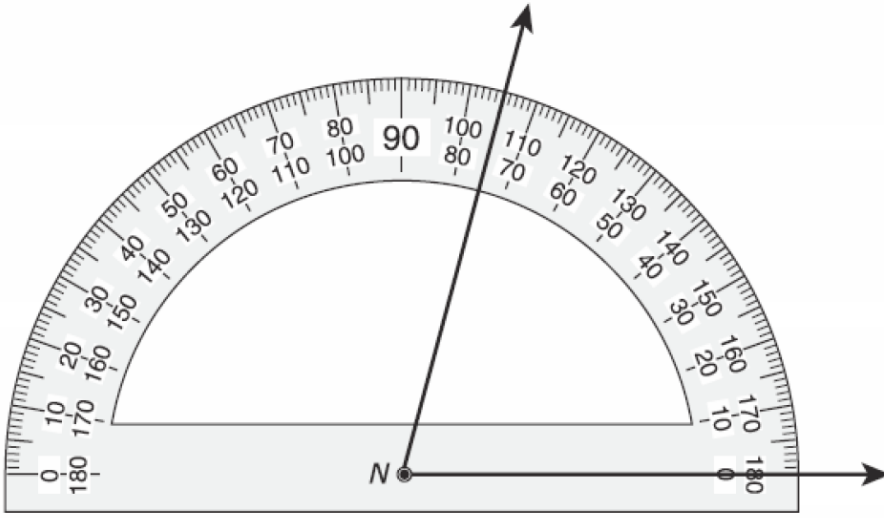
Common Errors; Common Misconceptions

Essential Knowledge and Skills 4.7C

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Reporting Category	Geometry and Measurement (3)
Knowledge and Skills	**4.7 Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees.** *The student is expected to:*
Student Expectation	(C) determine the approximate measures of angles in degrees to the nearest whole number using a protractor. ***Readiness***
Bundling Opportunity	4.7E The student is expected to determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures. ***Supporting***
Question Stem	2015 Released Test Questions

Angle *N* is shown on this protractor.



What is the measure of angle *N* to the nearest degree?

A 75°

B 105°

C 80°

D 180°

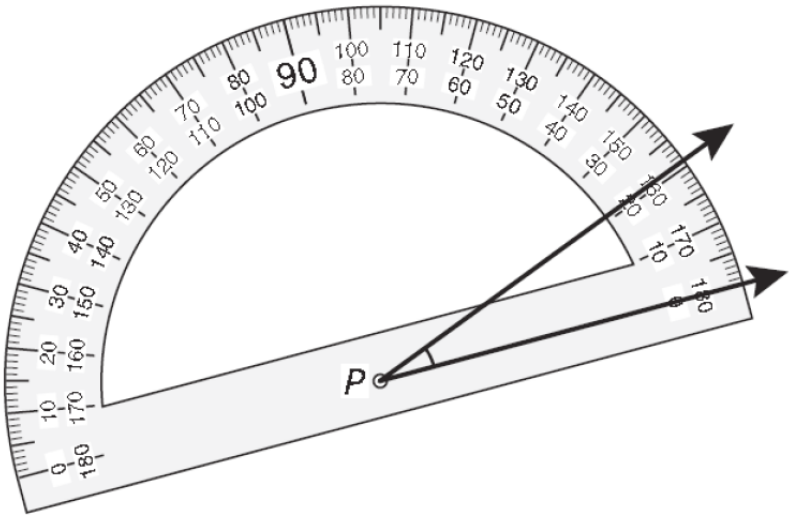
Process Standards Alignment
4.1B
4.1C
4.1F

Essential Knowledge and Skills 4.7C

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2014 STAAR (Realigned)

In the diagram below, what is the measure of angle *P* to the nearest degree?



F 21°

G 159°

H 39°

J 161°

Process Standards Alignment
4.1C

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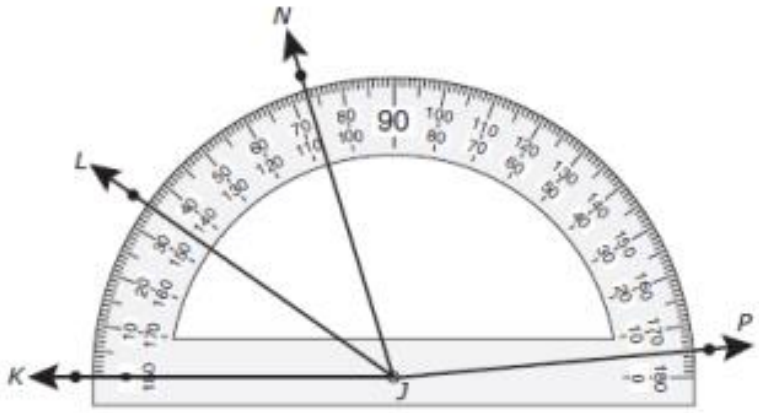
Essential Knowledge and Skills 4.7C

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2013 STAAR (Realigned)

Angle *NJP* and angle *KJL* are shown below.



What is the difference between the measures of angle *NJP* and angle *KJL* to the nearest degree?

F 107°

G 67°

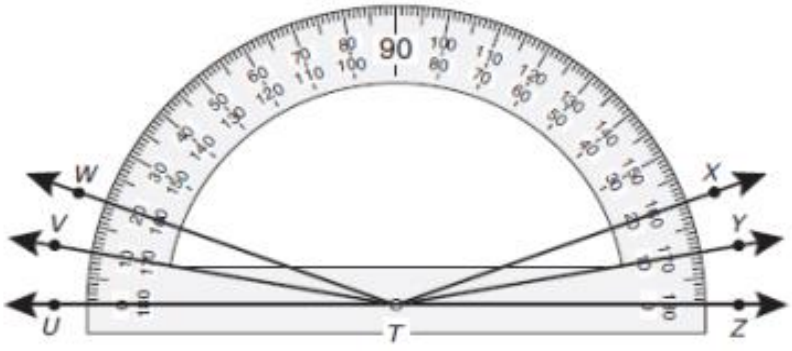
H 102°

J 35°

Process Standards Alignment
4.1C

Question Stem	2013 STAAR (Realigned)

Which angle does NOT appear to have a measure of 160°?



A ∠*VTY*

B ∠*WTZ*

C ∠*WTY*

D ∠*UTX*

Process Standards Alignment
4.1C

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Essential Knowledge and Skills 4.7C

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Data District: Feeder Pattern: Campus:	**Vocabulary** angle degree ray protractor measure
Vertical Alignment	

Grade 3	Grade 4	Grad
	Measuring Angles	
	(7) Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to:	
	(A) illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers.	
	(B) illustrate degrees as the units used to measure an angle, where 1/360 of any circle is one degree and an angle that "cuts" *n*/360 out of any circle whose center is at the angle's vertex has a measure of *n* degrees. Angle measures are limited to whole numbers.	
	(C) determine the approximate measures of angles in degrees to the nearest whole number using a protractor.	
	(D) draw an angle with a given measure.	
	(E) determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.	

Essential Knowledge and Skills 4.7C

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

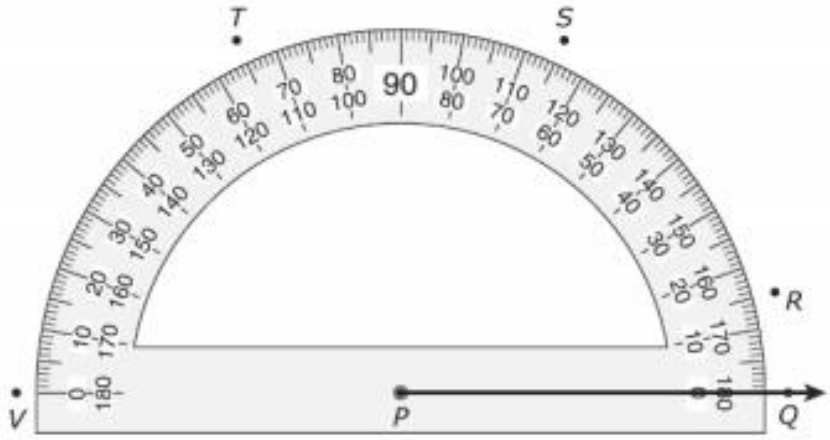
Common Errors; Common Misconceptions	

Essential Knowledge and Skills 4.7D

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Geometry and Measurement (3)
Knowledge and Skills	**4.7 Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees.** *The student is expected to:*
Student Expectation	(D) draw an angle with a given measure. ***Supporting***
Question Stem	2015 Released Test Questions

Frank is using a protractor to construct an angle that measures 65°. First he draws ray *PQ*, as shown on the protractor.



To complete the 65° angle, Frank should draw another ray that starts at point *P* and passes through —

A point *R*

B point *S*

C point *T*

D point *V*

Process Standards Alignment
4.1A
4.1B
4.1C
4.1F

Data	**Vocabulary**	
District:	angle	point
Feeder Pattern:	ray	protractor
Campus	degree	

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Essential Knowledge and Skills 4.7D

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Vertical Alignment

Grade 3	Grade 4	Grade 5
	Measuring Angles	
	(7) Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to:	
	(A) illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers.	
	(B) illustrate degrees as the units used to measure an angle, where 1/360 of any circle is one degree and an angle that "cuts" *n*/360 out of any circle whose center is at the angle's vertex has a measure of *n* degrees. Angle measures are limited to whole numbers.	
	(C) determine the approximate measures of angles in degrees to the nearest whole number using a protractor.	
	(D) draw an angle with a given measure.	
	(E) determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.	

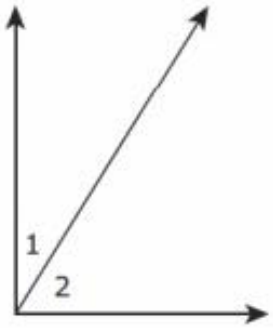
Common Errors; Common Misconceptions

Essential Knowledge and Skills 4.7E

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Geometry and Measurement (3)
Knowledge and Skills	**4.7 Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees.** *The student is expected to:*
Student Expectation	(E) determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures. ***Supporting***
Bundling Opportunity	4.7C The student is expected to determine the approximate measures of angles in degrees to the nearest whole number using a protractor. ***Readiness***
Student Expectation Breakouts	• determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one angle measure • determine the measure of an unknown angle formed by two non-overlapping adjacent angles given both angle measures
Question Stem	2015 Released Test Questions

Angle 1 and angle 2 form a right angle.



The measure of angle 1 is 32°. What is the measure of angle 2?

A 32°

B 90°

C 58°

D 62°

Process Standards Alignment
4.1B
4.1E
4.1F

Data	**Vocabulary**		
District:	angle	degree	adjacent
Feeder Pattern:	ray	protractor	sum
Campus:	measure		

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Essential Knowledge and Skills 4.7E

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Vertical Alignment

Grade 3	Grade 4	Grade 5
	Measuring Angles	
	(7) Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to:	
	(A) illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers.	
	(B) illustrate degrees as the units used to measure an angle, where 1/360 of any circle is one degree and an angle that "cuts" *n*/360 out of any circle whose center is at the angle's vertex has a measure of *n* degrees. Angle measures are limited to whole numbers.	
	(C) determine the approximate measures of angles in degrees to the nearest whole number using a protractor.	
	(D) draw an angle with a given measure.	
	(E) determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.	

Common Errors; Common Misconceptions

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Essential Knowledge and Skills 4.8A

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Geometry and Measurement (3)
Knowledge and Skills	**4.8 Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement.** The student is expected to:
Student Expectation	(A) identify relative sizes of measurement units within the customary and metric systems. ***Supporting***
Student Expectation Breakouts	• identify relative sizes of measurement units within the customary system • identify relative sizes of measurement units within the metric system
Question Stem	2014 STAAR (Realigned)

Which of these is closest to the width of a student's chair?

A 15 feet

B 15 yards

C 15 miles

D 15 inches

Process Standards Alignment
4.1A

Data	**Vocabulary**			
District:	customary system	ounce	metric system	milliliter
Feeder Pattern:	inch	cup	millimeter	liter
Campus	foot	pint	centimeter	milligram
	yard	quart	meter	gram
	mile	gallon	kilometer	kilogram

ACE | Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.8A

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Vertical Alignment

Grade 3	Grade 4	Grade 5
	Solving Problems Using Measureme	
	(8) Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to:	(7) Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to:
	(A) identify relative sizes of measurement units within the customary and metric systems.	
	(B) convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.	(A) solve problems by calculating conversions within a measurement system, customary or metric.
	(C) solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate.	

Common Errors; Common Misconceptions

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Essential Knowledge and Skills 4.8B

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Geometry and Measurement (3)
Knowledge and Skills	**4.8 Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement.** The student is expected to:
Student Expectation	(B) convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table. ***Supporting***
Bundling Opportunity	4.8C The student is expected to solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate. ***Readiness***
Student Expectation Breakouts	• convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit when given other equivalent measures represented in a table • convert measurements within the same measurement system, customary or metric, from a larger unit into a smaller unit when given other equivalent measures represented in a table Additional breakouts involve isolating the measurement system.
Question Stem	2013 – 2015 STAAR

No test questions are available for analysis.

Data	**Vocabulary**	
District:	customary system	equivalent
Feeder Pattern:	metric system	table
Campus	conversion	

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.8B

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Vertical Alignment

Grade 3	Grade 4	Grade 5
	Solving Problems Using Measureme	
	(8) Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to:	(7) Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to:
	(A) identify relative sizes of measurement units within the customary and metric systems.	
	(B) convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.	(A) solve problems by calculating conversions within a measurement system, customary or metric.
	(C) solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate.	

Common Errors; Common Misconceptions

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.8C

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Reporting Category	Geometry and Measurement (3)
Knowledge and Skills	**4.8 Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement.** The student is expected to:
Student Expectation	(C) solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate. ***Readiness***
Bundling Opportunity	4.8B The student is expected to convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table. ***Supporting***
Student Expectation Breakouts	• solve problems that deal with measurements of length using addition, subtraction, multiplication, or division as appropriate • solve problems that deal with measurements of intervals of time using addition, subtraction, multiplication, or division as appropriate • solve problems that deal with measurements of liquid volumes using addition, subtraction, multiplication, or division as appropriate • solve problems that deal with measurements of mass using addition, subtraction, multiplication, or division as appropriate • solve problems that deal with measurements of money using addition, subtraction, multiplication, or division as appropriate Additional breakouts involve decomposing each breakout listed to isolate each operation.
Question Stem	2015 Released Test Questions

Vivian had a $5 bill, 3 quarters, 2 dimes, and 5 nickels. She paid for a poster that cost $5.36. How much money does she have left?

A $1.16

B $0.84

C $6.20

D $0.04

Process Standards Alignment
4.1A
4.1B
4.1F

Question Stem	2014 STAAR (Realigned)

Terrence drew a figure. Each side of the figure is the same length as the line segment below. Use the ruler provided to measure the line segment to the nearest inch.

This figure could be a —

F square with a perimeter of 6 inches

G triangle with a perimeter of 6 inches

H square with a perimeter of 12 inches

J triangle with a perimeter of 12 inches

Process Standards Alignment
4.1B

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.8C

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2014 STAAR (Realigned)

The watch below shows the time Edward finished a hike on Saturday afternoon.

Edward began the hike on Saturday at 10:15 A.M. How long did he hike?

A 5 hours 20 minutes

B 6 hours 20 minutes

C 5 hours 40 minutes

D 7 hours 40 minutes

Process Standards Alignment
4.1C

Question Stem	2014 STAAR (Realigned)

Which object has a capacity closest to 30 cups?

F

Tablespoon

H

Water bottle

G

Serving bowl

J

Cereal bowl

Process Standards Alignment
4.1A

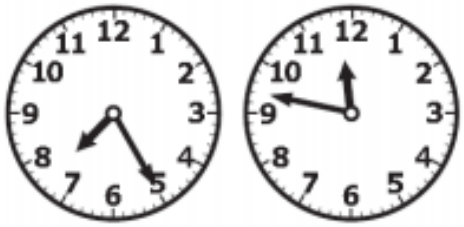
Essential Knowledge and Skills 4.8C

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

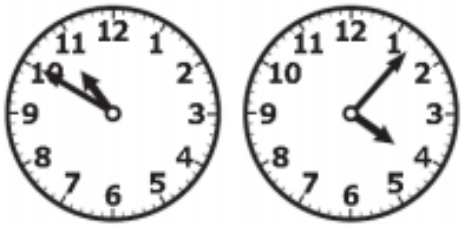
Question Stem	2014 STAAR (Realigned)

An airplane flight lasted 5 hours 22 minutes. Which pair of clocks could show the time the flight started and the time it finished?

A



C



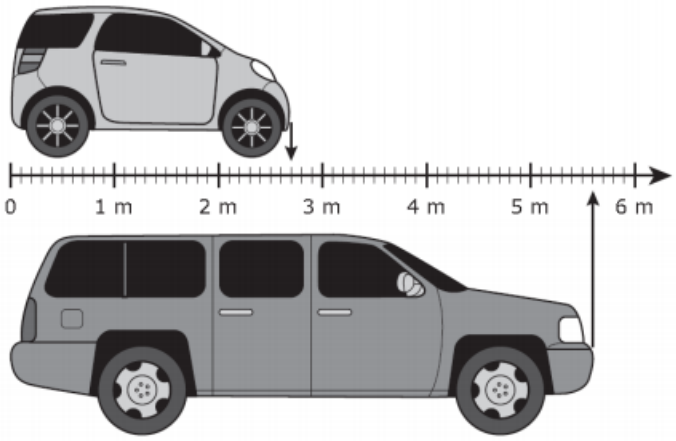
B

D

Process Standards Alignment
4.1C

Question Stem	2014 STAAR (Realigned)

The model below represents the lengths of two automobiles in meters.



What is the difference between the lengths of these automobiles in meters?

F 8.3 m

G 3.9 m

H 3.1 m

J 2.9 m

Process Standards Alignment
4.1C

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.8C

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2014 STAAR (Realigned)

The actual size of Sam's name tag is shown below.

Use the ruler provided to measure the length and width of this name tag to the nearest centimeter. What is the difference between the length and the width of Sam's name tag in centimeters?

F 5 cm

G 14 cm

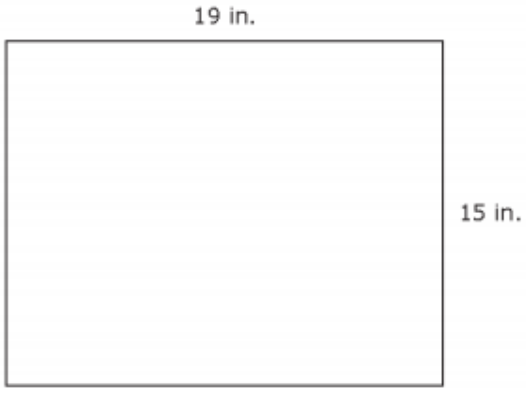
H 9 cm

J 4 cm

Process Standards Alignment
4.1B

Question Stem	2014 STAAR (Realigned)

Adam has 60 inches of ribbon. He wants to use the ribbon to make a border around the perimeter of a rectangular picture. The dimensions of the picture are shown below.



Does Adam have enough ribbon to make a border around this picture?

F No, because $19 + 19 + 15 + 15 = 68$, and $68 > 60$

G Yes, because $19 + 15 = 34$, and $60 > 34$

H No, because $19 + 19 + 19 + 19 = 76$, and $76 > 60$

J Yes, because $15 + 15 + 15 + 15 = 60$, and $60 = 60$

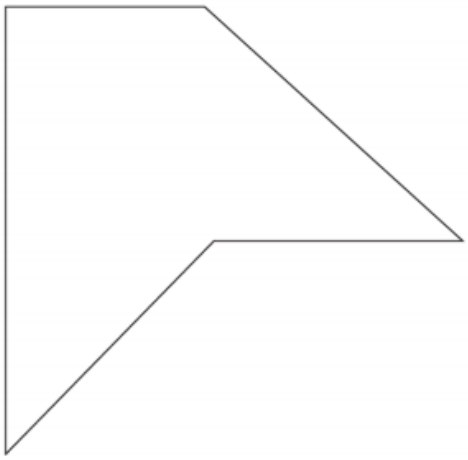
Process Standards Alignment
4.1G

Essential Knowledge and Skills 4.8C

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2014 STAAR (Realigned)	Process Standards Alignment

Melinda drew the figure shown below. Use the ruler provided to measure the length of each side of the figure to the nearest centimeter.



What is the perimeter in centimeters of the figure Melinda drew?

F 45 cm

G 31 cm

H 36 cm

J 26 cm

4.1C

Question Stem	2013 STAAR (Realigned)	Process Standards Alignment

Stephanie and Tamara both started running a race at 8:15 A.M. Stephanie finished the race in 4 hours 30 minutes. Tamara finished the race in 1 hour 15 minutes after Stephanie did. At what time did Tamara finish the race?

F 2:00 P.M.

G 12:45 P.M.

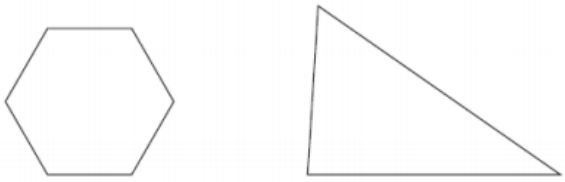
H 1:00 P.M.

J Not here

4.1A

Question Stem	2013 STAAR (Realigned)	Process Standards Alignment

Use the ruler provided to measure the side lengths of the figures below to the nearest centimeter.



What is the difference between the perimeters of these figures?

F 2 cm

G 9 cm

H 29 cm

J 5 cm

4.1C

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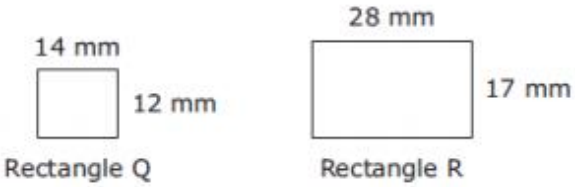
Essential Knowledge and Skills 4.8C

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2013 STAAR (Realigned)

The dimensions of two rectangles are shown below.



Which statement about these rectangles is true?

A The perimeter of Rectangle Q is 19 millimeters less than the perimeter of Rectangle R.

B The perimeter of Rectangle Q is 38 millimeters less than the perimeter of Rectangle R.

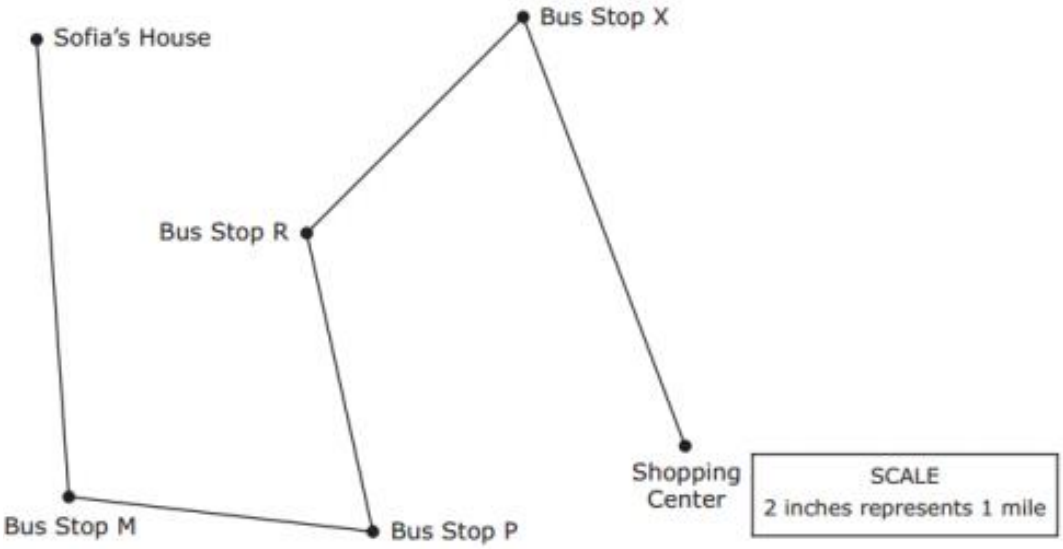
C The perimeter of Rectangle Q is 14 millimeters less than the perimeter of Rectangle R.

D The perimeter of Rectangle Q is 42 millimeters less than the perimeter of Rectangle R.

Process Standards Alignment
4.1B

Question Stem	2013 STAAR (Realigned)

21 The diagram below models the bus route Sofia takes to get from her house to a shopping center. Use the ruler provided to measure Sofia's route to the nearest inch.



If 2 inches in the drawing represents 1 mile, which distance is closest to the length of the actual bus route Sofia takes to get from her house to the shopping center?

A 24 mi

B 6 mi

C 5 mi

D 12 mi

Process Standards Alignment
4.1C

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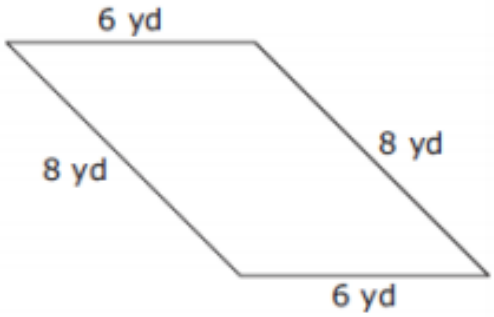
Essential Knowledge and Skills 4.8C

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2013 STAAR (Realigned)

The side lengths of Terry's sandbox are shown below.



Terry buys 30 yards of fence. Does he have enough fence to go completely around his sandbox?

A No, because $8 \times 4 = 32$ and $32 > 30$

B Yes, because $8 + 6 = 14$ and $14 < 30$

C No, because $8 \times 6 = 48$ and $48 > 30$

D Yes, because $8 + 6 + 8 + 6 = 28$ and $28 < 30$

Process Standards Alignment
4.1G

Question Stem	2013 STAAR (Realigned)

At 7:26 A.M., Dante started delivering packages.

- At 10:34 A.M., he delivered the last package.
- He delivered a total of 18 packages.
- He spent about the same amount of time delivering each package.

Which of the following is the best estimate of the number of minutes Dante spent delivering each package?

F 10 min

G 180 min

H 60 min

J 20 min

Process Standards Alignment
4.1B

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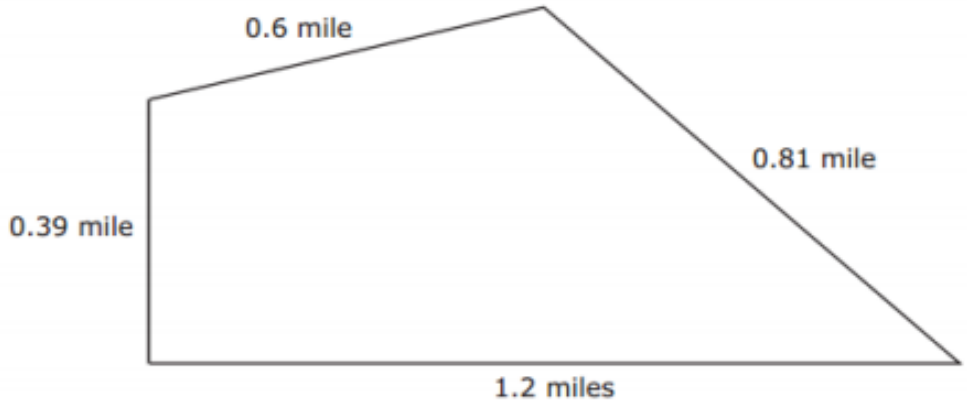
Essential Knowledge and Skills 4.8C

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2013 STAAR (Realigned)

The side lengths of a field are shown below.



What is the perimeter of the field?

A 1.41 mi

B 3.18 mi

C 3 mi

D 2 mi

Process Standards Alignment
No standard is noted.

Question Stem	2013 STAAR (Realigned)

39 The sign below shows the starting time of a music concert.

Evander plans to leave his house 1 hour 40 minutes before the concert starts. At what time should Evander leave his house?

A 5:45 P.M.

B 6:45 P.M.

C 5:35 P.M.

D 9:05 P.M.

Process Standards Alignment
4.1A

Essential Knowledge and Skills 4.8C

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Question Stem	2013 STAAR (Realigned)

The clock below shows the time Vicente's football practice began.

Football practice lasted 1 hour 15 minutes. Which digital clock shows the time football practice ended?

A

C

B

D

Process Standards Alignment
4.1C

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Essential Knowledge and Skills 4.8C

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Data
District:
Feeder Pattern:
Campus:

Vocabulary

measurement	mile	time	liquid volume	gallon	currency
length	millimeter	second	ounce	milliliter	coins
inch	centimeter	minute	cup	liter mass	change
foot	meter	hour	pint	milligram	cost
yard	kilometer	day	quart	killogram	total

Vertical Alignment

Grade 3	Grade 4	Grade 5
	Solving Problems Using Measureme	
	(8) Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to:	(7) Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to:
	(A) identify relative sizes of measurement units within the customary and metric systems.	
	(B) convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.	(A) solve problems by calculating conversions within a measurement system, customary or metric.
	(C) solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate.	

Common Errors; Common Misconceptions

Mathematics

Reporting Category 4
Data Analysis
and
Personal Financial Literacy

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.9A

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Reporting Category	Data Analysis and Personal Financial Literacy (4)
Knowledge and Skills	**4.9 Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data.** The student is expected to:
Student Expectation	(A) represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions. ***Readiness***
Bundling Opportunity	4.9B The student is expected to solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot. ***Supporting***
Student Expectation Breakout	• represent data on a frequency table marked with whole numbers and fractions • represent data on a dot plot marked with whole numbers and fractions • represent data on a stem-and-leaf plot marked with whole numbers and fractions
Question Stem	2015 Released Test Questions

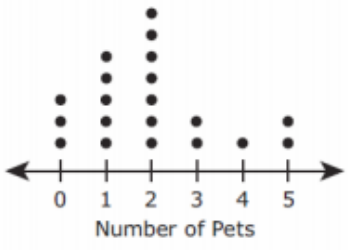
The table shows the number of pets that each student in Mrs. Morris's class owns.

Students' Pets

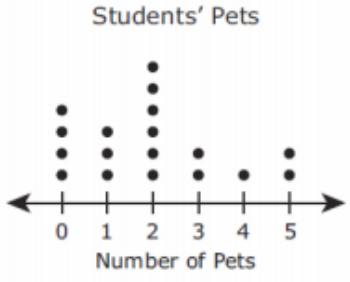
Number of Pets	Frequency
0	𝍸
1	III
2	𝍸 II
3	II
4	I
5	II

Which dot plot represents the data in the table?

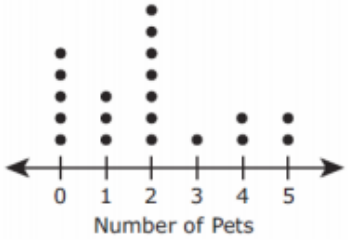
A



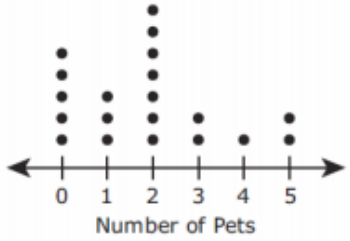
C



B



D



Process Standards Alignment
4.1A
4.1B
4.1D
4.1F

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.9A

Grade 4 Mathematics Student Expectation Analysis Frequency: 3

Data District: Feeder Pattern: Campus:	**Vocabulary** data, dot plot, stem-and-leaf plot, place value frequency table, number line, stem tally marks, vertical, leaf
Vertical Alignment	
Common Errors; Common Misconceptions	

Vertical Alignment

Grade 3	Grade 4	Grade 5
Representing Data		
(8) Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:	(9) Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:	9) Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:
(A) summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals.	(A) represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions.	(A) represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots.

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Essential Knowledge and Skills 4.9B

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Data Analysis and Personal Financial Literacy (4)
Knowledge and Skills	**4.9 Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data.** The student is expected to:
Student Expectation	(B) solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot. ***Supporting***
Bundling Opportunity	4.9A The student is expected to represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions. ***Readiness***
Student Expectation Breakout	• solve one-step problems using data in whole number, decimal, and fraction form in a frequency table • solve two-step problems using data in whole number, decimal, and fraction form in a frequency table • solve one-step problems using data in whole number, decimal, and fraction form in a dot plot • solve two-step problems using data in whole number, decimal, and fraction form in a dot plot • solve one-step problems using data in whole number, decimal, and fraction form in a stem-and-leaf plot • solve two-step problems using data in whole number, decimal, and fraction form in a stem-and-leaf plot Additional breakouts involve decomposing each representation and isolating the forms of data (i.e. whole number, decimal or fraction).
Question Stem	2015 Released Test Questions

Karnika recorded the number of minutes she practiced volleyball each week for several weeks. She used a stem and leaf plot to organize the data.

Volleyball Practice Time

Stem	Leaf
14	0 2 2
15	5 5
16	0

14|2 means 142 minutes.

Based on the data, what is the amount of time in minutes Karnika practiced volleyball?

A 894 min

B 597 min

C 594 min

D 1,224 min

Process Standards Alignment

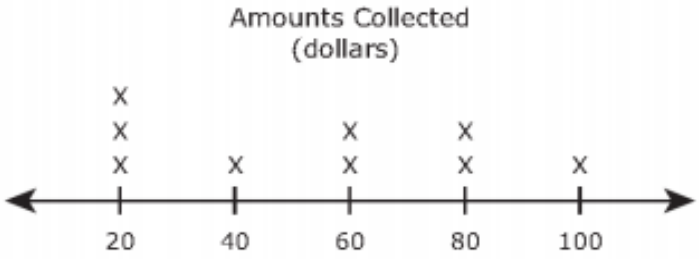
4.1A
4.1B
4.1E
4.1F

Essential Knowledge and Skills 4.9B

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Question Stem	2014 STAAR (Realigned)

The 10 members of an art club collected a total of $520 during a fund-raiser. The amounts collected by 9 of the members are represented on the line plot below.



How many dollars were collected by the tenth member of the art club?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

Process Standards Alignment
4.1D

ACE Dallas ISD Accelerating Campus Excellence

Essential Knowledge and Skills 4.9B

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Data
District:
Feeder Pattern:
Campus:

Vocabulary

data	frequency table	dot plot	stem-and-leaf plot
whole number	tally marks	number line	place value
decimal		vertical	stem
fraction			leaf

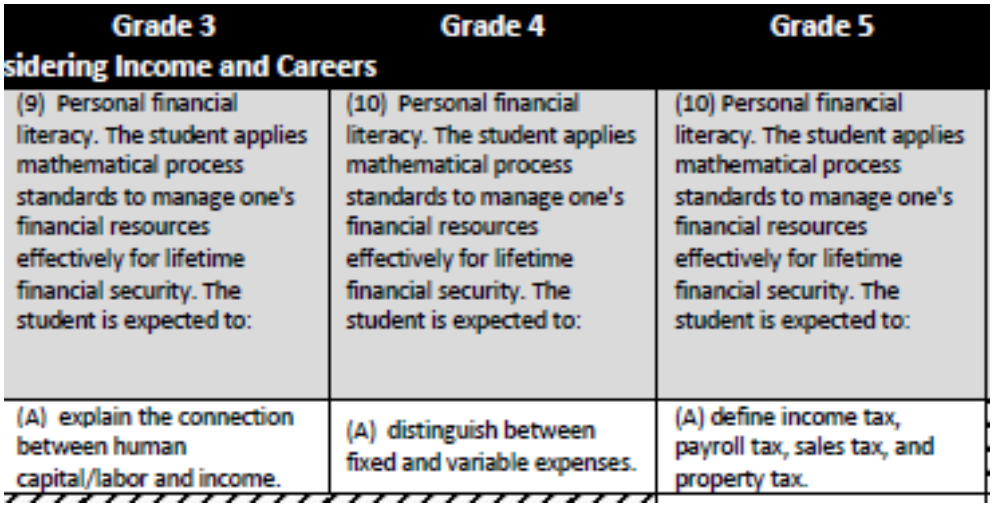
Vertical Alignment

Grade 3	Grade 4	Grade 5
d Solving Problems Using Representations of Data		
(8) Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:	(9) Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:	9) Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:
(B) solve one- and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals.	(B) solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.	(C) solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot.

Common Errors; Common Misconceptions

Essential Knowledge and Skills 4.10A

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Data Analysis and Personal Financial Literacy (4)
Knowledge and Skills	**4.10 Persona l financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security.** *The student is expected to:*
Student Expectation	(A) distinguish between fixed and variable expenses. ***Supporting***
Question Stem	2013 – 2015 STAAR
No test questions are available for analysis.	
Data District: Feeder Pattern: Campus:	**Vocabulary** distinguish variable needs fixed expenses wants
Vertical Alignment	

Grade 3	Grade 4	Grade 5
sidering Income and Careers		
(9) Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:	(10) Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:	(10) Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:
(A) explain the connection between human capital/labor and income.	(A) distinguish between fixed and variable expenses.	(A) define income tax, payroll tax, sales tax, and property tax.

Common Errors; Common Misconceptions	

Essential Knowledge and Skills 4.10B

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Data Analysis and Personal Financial Literacy (4)
Knowledge and Skills	**4.10 Persona l financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security.** *The student is expected to:*
Student Expectation	(B) calculate profit in a given situation. ***Supporting***
Bundling Opportunity	4.4A The student is expected to add and subtract whole numbers and decimals to the hundredths place using the standard algorithm. ***Readiness***
Question Stem	2015 Released Test Questions

Raina sold pens decorated with fancy tape.

- Raina's expenses were $11.57 for supplies.
- Raina sold 12 pens for $2 each.

What was Raina's profit?

A $24.00

B $35.57

C $12.43

D $2.43

Process Standards Alignment
3.1A
3.1B
3.1F

Data	**Vocabulary**		
District:	calculate	addition	income
Feeder Pattern:	profit	subtraction	expense
Campus:	loss	difference	sales

Essential Knowledge and Skills 4.10B

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Vertical Alignment

Grade 3	Grade 4	Grade 5
nsidering Income and Careers		
(9) Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:	(10) Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:	(10) Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:
(A) explain the connection between human capital/labor and income.	(A) distinguish between fixed and variable expenses.	(A) define income tax, payroll tax, sales tax, and property tax.
		(B) explain the difference between gross income and net income.
(B) describe the relationship between the availability or scarcity of resources and how that impacts cost.	(B) calculate profit in a given situation.	

Common Errors; Common Misconceptions

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Essential Knowledge and Skills 4.10E

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Reporting Category	Data Analysis and Personal Financial Literacy (4)
Knowledge and Skills	**4.10 Persona l financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security.** *The student is expected to:*
Student Expectation	(E) describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending. ***Supporting***
Student Expectation Breakout	• describe the basic purpose of financial institutions, including keeping money safe • describe the basic purpose of financial institutions, including borrowing money • describe the basic purpose of financial institutions, including lending
Question Stem	2015 Released Test Questions

Which of these services is **not** provided by a financial institution such as a bank or credit union?

A Informing customers of the amount of money in their accounts

B Informing customers of how the money in their accounts must be spent

C Providing cash when customers make withdrawals from their accounts

D Providing loans to customers that can be paid back over time with interest

Process Standards Alignment
4.1A
4.1B
4.1G

Data	**Vocabulary**		
District:	financial institutions	saving	deposit
Feeder Pattern:	banks	lending	withdrawal
Campus:	credit unions	borrowing	interest

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Essential Knowledge and Skills 4.10E

Grade 4 Mathematics Student Expectation Analysis Frequency: 1

Vertical Alignment

Grade 3	Grade 4	Grade 5
Considering Credit and Debt		
(9) Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:	(10) Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:	(10) Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:
(D) explain that credit is used when wants or needs exceed the ability to pay and that it is the borrower's responsibility to pay it back to the lender, usually with interest.	(E) describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.	(C) identify the advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments.

Common Errors; Common Misconceptions