

Entry Points – Grade 6

ELA

Common Core Crosswalk with DC CAS-Alt Entry Points

August 2012

ELA	Sixth Grade						
DC Strand	DC Standard*	Essential and Prioritized Skill	Entry Point Less Complex	Entry Point More Complex	Entry Point Most Complex	CC Strand	CC Matched Standard
Language Development	6.LD-V.7.Determine the meaning of unfamiliar words, using knowledge of English language structure, Greek and Latin roots (e.g., annus, aqua), suffixes (e.g., -it is, osis), and prefixes (e.g., multi-, dis-, anti-, hyper-, syn-).	Define unfamiliar words using English language structures, Greek and Latin roots or affixes.	<ul style="list-style-type: none"> ◆ Categorize affixes as prefix or suffix. ◆ Locate prefixes and suffixes in a text. ◆ Identify prefixes. ◆ Identify suffixes. ◆ Identify roots. 	<ul style="list-style-type: none"> ◆ Create a collection of words, suffixes and prefixes and the definitions . ◆ Match definition to the corresponding Latin or Greek roots. ◆ Match the meanings of Greek or Latin suffixes and prefixes with the correct suffix or prefix (e.g., given a choice of two texture symbols, student will touch a texture symbol meaning "not" when presented with the prefix "anti"). 	<ul style="list-style-type: none"> ◆ Identify the meaning of unfamiliar words using knowledge of Greek and Latin roots, suffixes, or prefixes. ◆ Define a new word with a familiar Greek or Latin prefix or suffix. ◆ Make new words by adding Greek or Latin suffixes and prefixes to familiar words. 	Language	6.L.4.b Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., audience, auditory, audible).
Language Development	6.LD-V.9 Determine the meaning of figurative language, including similes, metaphors, personification, and grade appropriate idioms.	Interpret figurative language.	<ul style="list-style-type: none"> ◆ Define similes, metaphors, personification or idioms. 	<ul style="list-style-type: none"> ◆ Identify metaphors. ◆ Identify similes. ◆ Categorize phrases into idioms and non-idioms. ◆ Categorize phrases into similes and non-similes. ◆ Categorize phrases into metaphors and non-metaphors. ◆ Identify examples of personification. 	<ul style="list-style-type: none"> ◆ Illustrate the "real" meaning of an idiom. ◆ Match the meaning of common idioms to an appropriate picture, phrase or sentence. ◆ Match a metaphor with a phrase with the same meaning. ◆ Match similes with phrases with the same meaning (e.g., given two object choice-one being we and one a cat, the student will touch the wet one when asked the meaning of "it's raining cat's and dogs"). 	Language	6.L.5.a Interpret figures of speech (e.g., personification) in context.

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DC Strand	DC Standard*	Essential and Prioritized Skill	Entry Point Less Complex	Entry Point More Complex	Entry Point Most Complex	CC Strand	CC Matched Standard
Literary Text	6.LT-C.1. Analyze the relevance of the setting (e.g., time, place, and situation) to the mood and tone of the text).	Analyze how setting affects mood and tone of text.	<ul style="list-style-type: none"> ◆ Identify the setting of a text. ◆ Match a picture of the setting or situation to a selection of the text. ◆ Illustrate the setting of a text (e.g., match a picture of the setting or situation to a selection of the text). 	<ul style="list-style-type: none"> ◆ Identify the mood or tone of a text. ◆ Describe the setting (time & place) of a story (e.g., use pictures or words to describe the setting). ◆ Classify the mood (e.g., happy, sad, or scary, etc.). 	<ul style="list-style-type: none"> ◆ Compare the setting to the mood/tone (e.g., match a dark forest to a scared face). ◆ Explain how the setting affects the text. ◆ Classify the mood (e.g., happy, sad, or scary, etc.) and explain the reason for choice. 	Reading: Literature	6.R.L.5 Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot.
Literary Text	6.LT-G.2. Identify the characteristics of different forms of prose (short story, novel, novella, essay).	Identify characteristics of different forms of prose.	Identify a short story. Identify a novel. Identify an essay.	Sort texts into appropriate categories (essay, novel). Define the various prose forms (novel, short story). Sort selections of different literary forms into the appropriate category. Match literary forms with the appropriate definitions.	Compare and contrast the structural elements of different literary forms (e.g., short story/novel/novella). Make an outline listing all the prose forms and give the characteristics of each.	Reading: Literature	6.R.L.9 Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories) in terms of their approaches to similar themes and topics.

ELA	Sixth Grade						
DC Strand	DC Standard*	Essential and Prioritized Skill	Entry Point Less Complex	Entry Point More Complex	Entry Point Most Complex	CC Strand	CC Matched Standard
Literary Text	6.LT-T.3. Apply knowledge that theme, whether stated or implied, refers to the basic meaning of a literary text.	Identify themes in literary text and explain the meaning of the themes using supporting details from the text.	<ul style="list-style-type: none"> ◆ Identify characters in a story. ◆ Identify the setting of a story. ◆ Summarize the plot. 	<ul style="list-style-type: none"> ◆ Identify the theme of a story. ◆ Distinguish between plot and topic. ◆ Distinguish between plot and theme . ◆ After reading or listening to a theme based story, create a picture depicting the theme(s). ◆ Distinguish between topic and theme (e.g., Students often have difficulty distinguishing amongst the main topic, plot, and story themes. The following examples should provide clarity. The plot: A boy meets a girl, the boy loses the girl, and the boy finds the girl. Theme is that "love conquers all." The 	<ul style="list-style-type: none"> ◆ Illustrate the theme "Heroism demands unusual courage and risk-taking" for two different stories after listening to each story that addresses the topic. ◆ Understanding that the same story can have multiple themes (e.g., select tow themes from a single text). ◆ Understand that multiple stories can have the same theme (e.g., after reading several texts, determine a common theme). ◆ Select a story and write an essay that identifies the theme and explain how the theme related to the text . 	Reading: Literature	6.R.L.1 : Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
Literary Text	6.LT-P.7. Respond to and analyze the effects of figurative language (personification, metaphor, simile, hyperbole) and graphics (capital letters) to uncover the meaning of a poem.	Respond to and analyze figurative language and graphics to interpret the meaning of a poem.	<ul style="list-style-type: none"> ◆ Label hyperbole, simile, etc from a poem. ◆ Match the definitions with the appropriate figurative language . 	<ul style="list-style-type: none"> ◆ Given figurative language from a poem, the student will indicate how it makes them feel. ◆ Select the meaning of figurative language in a poem from 3 choices. ◆ Rephrase figurative language using your own words (e.g., student may choose the appropriate picture/object to represent the symbol of Robert Frost's "The Road not Taken" -for ◆ instance, a question mark to indicate a possible path or what might have been). ◆ Choose the meaning of a poem from a list of 3 possible choices. ◆ Draw an illustration representing figurative language . 	<ul style="list-style-type: none"> ◆ Determine which words are important to the meaning of a poem. ◆ Analyze how figurative language helps create the meaning of a poem. ◆ Match figurative language to appropriate aspects of the meaning of the poem (e.g., Langston Hughes' "Dreams" students will compare the metaphor "life is a broken winged bird that cannot fly" to an appropriate moral/lesson - such as "don't give up"). 	Reading: Literature	6.R.L.4 Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone.

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DC Strand	DC Standard*	Essential and Prioritized Skill	Entry Point Less Complex	Entry Point More Complex	Entry Point Most Complex	CC Strand	CC Matched Standard
Informational Text	6.IT-E.1. Identify and analyze the author's stated purpose, main ideas, supporting ideas, and supporting evidence.	Identify and analyze stated purpose, main ideas, or supporting details.	<ul style="list-style-type: none"> ◆ Answer questions of who, what, where, when, or how in relation to an expository text. 	<ul style="list-style-type: none"> ◆ Identify the author's stated purpose of expository text (newspaper, pamphlets, etc.). ◆ Identify main ideas in informational text. ◆ List supporting details in informational text. ◆ Identify the purpose of an expository text (e.g., choose the purpose from 3 different choices). 	Draw conclusions about the author's stated purpose by identifying the main idea and supporting details. Categorize information into main idea or supporting evidence.	Reading: Informational Text	6.R.1.6 Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.
Informational Text	6.IT-E.3. Identify and use organizational structures in text, including chronological order, comparison and contrast, cause and effect, logical order and classification schemes.	Identify and use organizational structure in text.	<ul style="list-style-type: none"> ◆ Finish cause and effect scenarios from a text using pictures or words. ◆ Identify what comes next on a timeline from a choice of 3 events. ◆ Identify words that give clues to text structures (If.. Then, because, since, then, first, next, lastly,...). 	<ul style="list-style-type: none"> ◆ Explain cause and effect relationships in a text. ◆ Identify chronological order in informational text. ◆ Highlight cause and effect in a text. 	<ul style="list-style-type: none"> ◆ Sequence events from a text in chronological order to answer a question. ◆ Order events in chronological order on a historical timeline. ◆ Use graphic organizers to illustrate the structure of the text. ◆ Use a Venn diagram to compare and contrast information in a text. 	Reading: Informational Text	5.R.1.5 Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.

CONTENT Reading/ELA

STRAND Language Development

Grade 6			
Learning Standards as written			Essential and Prioritized Skills
Language Development	6LD-V7	Determine the meaning of unfamiliar words using knowledge of English language structure, Greek and Latin roots (e.g., annus, aqua) suffixes (e.g., -itis, -osis, and prefixes (e.g., multi-, dis-, anti-, hyper-, syn-).	<ul style="list-style-type: none"> Define unfamiliar words using English language structure, Greek and Latin roots or affixes
Less Complex		Possible Entry Points	More Complex
<u>The student will:</u>		<u>The student will:</u>	<u>The student will:</u>
Language Development	<ul style="list-style-type: none"> Categorize affixes as prefix or suffix Locate prefixes and suffixes in a text Identify prefixes Identify suffixes Identify roots 	<ul style="list-style-type: none"> Create a collection of words, suffixes and prefixes and the definitions Match definition to the corresponding Latin or Greek roots Match the meanings of Greek or Latin suffixes and prefixes with the correct suffix or prefix (e.g., given a choice of two texture symbols, student will touch a texture symbol meaning "not" when presented with the prefix "anti") 	<ul style="list-style-type: none"> Identify the meaning of unfamiliar words using knowledge of Greek and Latin roots, suffixes, or prefixes Define a new word with a familiar Greek or Latin prefix or suffix Make new words by adding Greek or Latin suffixes and prefixes to familiar words

STRAND Language Development

Grade 6			
Learning Standards as written			Essential and Prioritized Skills
Language Development	6LD-V9	Determine the meaning of figurative language, including similes, metaphors, personification, and grade-appropriate idioms.	<ul style="list-style-type: none"> Interpret figurative language
Less Complex		Possible Entry Points	More Complex
<u>The student will:</u>		<u>The student will:</u>	<u>The student will:</u>
Language Development	<ul style="list-style-type: none"> Define similes, metaphors, personification or idioms 	<ul style="list-style-type: none"> Identify metaphors Identify similes Categorize phrases into idioms and non-idioms. Categorize phrases into similes and non-similes Categorize phrases into metaphors and non-metaphors Identify examples of personification 	<ul style="list-style-type: none"> Illustrate the "real" meaning of an idiom Match the meaning of common idioms to an appropriate picture, phrase or sentence. Match a metaphor with a phrase with the same meaning Match similes with phrases with the same meaning (e.g., given two object choice—one being wet and one a cat, the student will touch the wet one when asked the meaning of "it's raining cat's and dogs")

General Education Example: Students identify similes, such as *Twinkle, twinkle little star ... like a diamond in the sky*; metaphors, such as *You were the wind beneath my wings*; hyperbole, such as *Cleaner than clean, whiter than white*; and personification, such as *The North Wind told the girl that he would blow so hard it would be impossible to walk up the steep hill*.

CONTENT Reading/ELA
STRAND Literary Text

Grade 6			
Learning Standards as written			Essential and Prioritized Skills
Literary Text	6LT-C1	Analyze the relevance of the setting (e.g., time, place, and situation) to the mood and tone of the text.	<ul style="list-style-type: none"> Analyze how setting affects mood and tone of text
Less Complex		Possible Entry Points	More Complex
The student will:		The student will:	The student will:
Literary Text	<ul style="list-style-type: none"> Identify the setting of a text. Match a picture of the setting or situation to a selection of the text Illustrate the setting of a text (e.g., match a picture of the setting or situation to a selection of the text) 	<ul style="list-style-type: none"> Identify the mood or tone of a text. Describe the setting (time & place) of a story (e.g., use pictures or words to describe the setting) Classify the mood (e.g., happy, sad, or scary, etc.) 	<ul style="list-style-type: none"> Compare the setting to the mood/tone (e.g., match a dark forest to a scared face) Explain how the setting affects the text Classify the mood (e.g., happy, sad, or scary, etc.) and explain the reason for choice

General Education Example: Students read excerpts from *I Know Why the Caged Bird Sings* by Maya Angelou. Students examine the relevance of the setting to the mood in the text.

STRAND Literary Text

Grade 6			
Learning Standards as written			Essential and Prioritized Skills
Literary Text	6LT-G2	Identify the characteristics of different forms of prose (short story, novel, novella, essay).	<ul style="list-style-type: none"> Identify characteristics of different forms of prose
Less Complex		Possible Entry Points	More Complex
The student will:		The student will:	The student will:
Literary Text	<ul style="list-style-type: none"> Identify a short story Identify a novel Identify an essay 	<ul style="list-style-type: none"> Sort texts into appropriate categories (essay, novel). Define the various prose forms (novel, short story) Sort selections of different literary forms into the appropriate category Match literary forms with the appropriate definition 	<ul style="list-style-type: none"> Compare and contrast the structural elements of different literary forms (e.g., short story/novel/novella) Make an outline listing all the prose forms and give the characteristics of each

General Education Example: Students read different forms of prose. They describe the characteristics of a short story and provide an example, such as *"The Night the Bed Fell"* by James Thurber. They describe the characteristics of a novel and provide an example, such as *The Westing Game* by Ellen Raskin. They describe a novella as a short novel and provide an example, such as *The Gold Cadillac* by Mildred Taylor. Finally, they describe an essay as a short piece of writing on one subject or theme and provide an example, such as an essay by Ralph Waldo Emerson.

CONTENT Reading/ELA
STRAND Literary Text

Grade 6			
Learning Standards as written			Essential and Prioritized Skills
Literary Text	6LT-T3	Apply knowledge that theme, whether stated or implied, refers to the basic meaning of a literary text.	◆ Identify themes in literary text and explain the meaning of the themes using supporting details from the text.
Less Complex		Possible Entry Points	More Complex
<u>The student will:</u>		<u>The student will:</u>	<u>The student will:</u>
Literary Text	<ul style="list-style-type: none"> ◆ Identify characters in a story ◆ Identify the setting of a story ◆ Summarize the plot 	<ul style="list-style-type: none"> ◆ Identify the theme of a story ◆ Distinguish between plot and topic (e.g., see footnote) ◆ Distinguish between plot and theme (e.g., see footnote) ◆ After reading or listening to a theme based story, create a picture depicting the theme(s) ◆ Distinguish between topic and theme (e.g., <i>Students often have difficulty distinguishing amongst the main topic, plot, and story themes. The following example should provide clarity. The plot: A boy meets a girl, the boy loses the girl, and the boy finds the girl. The theme is that "love conquers all." The topic is love.</i>) 	<ul style="list-style-type: none"> ◆ Compare/contrast two different themes for two different stories after listening to each story that address a topic ◆ Understand that the same story can have multiple themes (e.g., select two themes from a single text) ◆ Understand that multiple stories can have the same theme (e.g., after reading several texts, determine a common theme) ◆ Select a story and write an essay that identifies the theme and explain how the theme relates to the text

General Education Example: Students explore the theme "Heroism demands unusual courage and risk-taking" in King Arthur and the Knights of the Round Table and The Adventures of Robin Hood and write paragraphs explaining how each author illustrates this theme in different ways.

CONTENT Reading/ELA
STRAND Literary Text

Grade 6			
Learning Standards as written			Essential and Prioritized Skills
Literary Text	6LT-P7	Respond to and analyze the effects of figurative language (personification, metaphor, simile, hyperbole) and graphics (capital letters, punctuation) to uncover the meaning of the poem.	<ul style="list-style-type: none"> Respond to and analyze figurative language and graphics to interpret the meaning of a poem
Less Complex		Possible Entry Points	More Complex
The student will:		The student will:	The student will:
Literary Text	<ul style="list-style-type: none"> Label hyperbole, simile etc., from a poem Match the definitions with the appropriate figurative language 	<ul style="list-style-type: none"> Given figurative language from a poem, the student will indicate how it makes them feel Select the meaning of figurative language in a poem from 3 choices Rephrase figurative language using your own words(e.g., student may choose the appropriate picture/object to represent the symbol of Robert Frost's "The Road not Taken" –for instance, a question mark to indicate a possible path or what might have been) Choose the meaning of a poem from a list of 3 possible choices Draw an illustration representing figurative language 	<ul style="list-style-type: none"> Determine which words are important to the meaning of a poem and explain why Analyze how figurative language helps create the meaning of a poem Match figurative language to appropriate aspects of the meaning of the poem (e.g., Langston Hughes' "Dreams" students will compare the metaphor "life is a broken winged bird that cannot fly" to an appropriate moral/lesson – such as "don't give up")

General Education Example: Students describe the features of a poem, such as "Mother to Son" by Langston Hughes, that illustrate many kinds of figurative language.

CONTENT Reading/ELA

STRAND Informational Text

Grade 6			
Learning Standards as written			Essential and Prioritized Skills
Informational Text	6IT-E1	Identify and analyze the author's stated purpose, main ideas, supporting ideas, and supporting evidence.	◆ Identify and analyze stated purpose, main ideas, or supporting details
Less Complex		Possible Entry Points	
The student will:		The student will:	
Informational Text	<ul style="list-style-type: none"> ◆ Answer questions of who, what, where, when, or how in relation to an expository text 	<ul style="list-style-type: none"> ◆ Identify the author's stated purpose of expository text (newspapers, pamphlets, etc.) ◆ Identify main ideas in informational text ◆ List supporting details in informational text ◆ Identify the purpose of an expository text (e.g., choose the purpose from 3 different choices) 	<ul style="list-style-type: none"> ◆ Draw conclusions about the author's stated purpose by identifying the main idea and supporting details ◆ Categorize information into main idea or supporting evidence

General Education Example: Students describe Leonardo da Vinci's greatest achievements after reading Leonardo da Vinci: Artist, Inventor, and Scientist of the Renaissance by Francesca Romei. They provide important information detailed in the text.

STRAND Informational Text

Grade 6			
Learning Standards as written			Essential and Prioritized Skills
Informational Text	6IT-E3.	Identify and use organizational structures in text, including chronological order, comparison and contrast, cause and effect, logical order, and classification schemes.	◆ Identify and use organizational structure in text
Less Complex		Possible Entry Points	
The student will:		The student will:	
Informational Text	<ul style="list-style-type: none"> ◆ Finish cause and effect scenarios from a text using pictures or words ◆ Identify what comes next on a timeline from a choice of 3 events ◆ Identify words that give clues to text structure (If...then, because, since, then, first, next, lastly, ...) 	<ul style="list-style-type: none"> ◆ Explain cause and effect relationships in a text. ◆ Identify chronological order in informational text ◆ Highlight cause and effect in a text. 	<ul style="list-style-type: none"> ◆ Sequence events from a text in chronological order to answer a question ◆ Order events in chronological order on a historical timeline ◆ Use graphic organizers to illustrate the structure of the text. ◆ Use a Venn diagram to compare and contrast information in a text

General Education Example: Students evaluate how well the comparison and contrast organizational structure of their English textbook (e.g., a section that distinguishes similes from metaphors) serves the reader's comprehension.

Entry Points – Grade 6

Mathematics

Mathematics		Sixth Grade					
DC Strand	DC Standard*	Essential and Prioritized Skill	Entry Point Less Complex	Entry Point	Entry Point More Complex	CCSS Strand	CCSS Matched Standard
Number Sense and Operations	6NSO- N5 Identify and determine common equivalent fractions, mixed numbers, decimals, and percentages.	Recognize and understand common equivalent fractions, mixed numbers, decimals, or percentages.	*Identify place value of digits in a decimal (ones and tenths place) *Use place value chart to identify the value of each digit in a decimal to the hundredths place *Identify a decimal *Identify a percent (%)	*Use manipulatives (pictures) to order fractions *Match a fraction to a model *Match a decimal to a model *Order numbers on a number line, including fractions and decimals	*Use visual representations (i.e., money) to compare equivalent fractions and decimals *Model equivalent fractions, mixed numbers, percentages or decimals *Use visual representations (pictures, models, etc.) to compare equivalent decimals and percents	Number and Operations-- Fractions Number and Operations in Base Ten Ratios and Proportional Relationships	4.NF.2. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $\frac{1}{2}$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model. 5.NBT.3. Read, write, and compare decimals to thousandths. 6.RP.3c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means $\frac{30}{100}$ times the quantity); solve problems involving finding the whole, given a part and the percent.

Number Sense and Operations	6NSO-N6 Apply number theory concepts — including prime and composite numbers; prime factorization; greatest common factor; least common multiple; and divisibility rules for 2, 3, 4, 5, 6, 9, and 10 — to the solution of problems.	Use prime or composite numbers, factorization, greatest and least common multiples, or divisibility rules to solve problems.	*Identify prime numbers *Use a number line to identify and order prime numbers *Count by 5s *Count by 3s	*Use a model to identify multiples of two-digit numbers *Sort objects into even groups to determine common multiples	*Use a model to illustrate prime factorization *Use pictures and manipulatives to determine which numbers are divisible by another number (e.g., sort a group of 6 and a group of 8 by 3 to determine which is divisible by 3) *Create a factor tree for a number	Operations and Algebraic Thinking The Number System	4.OA.4. Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite. 6.NS.4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. For example, express $36 + 8$ as $4(9 + 2)$.
Number Sense and Operations	6NSO-E18 Estimate results of computations with whole numbers and with positive fractions, mixed numbers, decimals, and percentages. Determine reasonableness of estimates.	Estimate to solve problems involving fractions, mixed numbers, decimal or percentages.	*Identify positive numbers on a number line *Solve simple real life addition and subtraction problems involving whole numbers *Identify mixed numbers	*Use manipulatives to solve simple real life whole number addition or subtraction problems using estimation strategy *Use a number line to round a decimal to the nearest whole number.	*Use an estimation strategy (i.e., number line) to solve a real life problem with percentages *Solve real life fraction addition or subtraction problems using pictorial examples and/or manipulatives by estimating to the closest whole number	Expressions and Equations	7.EE.3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional $\frac{1}{10}$ of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar $9\frac{3}{4}$ inches long in the center of a door that is $27\frac{1}{2}$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.

<p>Number Sense and Operations</p>	<p>6NSO-C8 Select and use appropriate operations to solve problems involving addition, subtraction, multiplication, division, and positive integer exponents with whole numbers and with positive fractions, mixed numbers, decimals, and percentages.</p>	<p>Solve addition, subtraction, multiplication, and division problems with whole numbers, mixed numbers, fractions, decimals, or percentages using order of operations.</p>	<p>*Construct a number line demonstrating positive numbers *Solve multiplication problems using manipulatives or repeated addition *Illustrate a word problem with manipulatives</p>	<p>*Recognize that there is a correct order of operations to solve a problem (PEMDAS) *Identify key words to determine correct operation (e.g., all together, half, etc.) *Use a chart or model of operations to help determine the order while solving real life problems *Solve addition and subtraction problems with whole numbers and mixed numbers</p>	<p>*Given a simple equation, use the order of operations to obtain the correct answer (i.e., multiplication before addition) *Solve problems involving fractions, mixed numbers, decimals and percentages using order of operations. For instance, figuring out the sales tax for a loaf of bread and then determine how much change you will get from \$2.00 *Solve a word problem that requires two different operations</p>	<p>Operations and Algebraic Thinking Number and Operations-- Fractions Equations and Expressions</p>	<p>3.OA.8. Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. 4.NF.3d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem. 6.EE.2.c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). For example, use the formulas $V = s^3$ and $A = 6s^2$ to find the volume and surface area of a cube with sides of length $s = 1/2$.</p>
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Number Sense and Operations	6NSO-C13 Calculate given percentages of quantities, and solve problems involving discounts at sales, interest earned, and tips.	Solve problems involving the calculation of percentages	<ul style="list-style-type: none"> *Use visual representations to order percents *Identify 25%, 50%, and 100% using a model *Write, read, or name decimals to tenths (.1, .2, .3) *Write, read, or name percents 	<ul style="list-style-type: none"> *Convert one number form to another to solve a problem (e.g., convert a decimal to a percent) *Rename a decimal as a percent by multiplying by 100 and adding the percent sign *Rename a percent as a decimal by dividing by 100 and delete the percent sign 	<ul style="list-style-type: none"> *Calculate percentages using a calculator and task analysis to solve a problem *Calculate discount price using a percentage chart 	Ratios and Proportional Relationships	<p>6.RP.3c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.</p> <p>6.RP.3d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.</p>
Patterns, Relations and Algebra	6PRA1 Use the properties of equality to solve problems using letter name variables (e.g., $1/4 + x = 7/12$).	Solve problems of equality using letter name variables	<ul style="list-style-type: none"> *Distinguish between variables and numbers in an equation *Distinguish between an equation and an expression *Recognize inverse (opposite) operations (addition (+) is the inverse of subtraction (-) and vice versa) 	<ul style="list-style-type: none"> *Solve an equation with a letter name variable as the solution (e.g., $4 + 1 = x$) *Label a problem as equal or unequal *Match two equations that are equal 	<ul style="list-style-type: none"> *Solve an equation with a letter name variable in a position other than the solution (e.g., $9 + x = 10$) *Use algebra tiles or other manipulatives to represent and solve variable expressions 	Expressions and Equations	<p>6.EE.2. Write, read, and evaluate expressions in which letters stand for numbers.</p> <p>6.EE.4. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions $y + y + y$ and $3y$ are equivalent because they name the same number regardless of which number y stands for.</p> <p>6.EE.6. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.</p>

Patterns, Relations and Algebra	6PRA4 Simplify expressions of the first degree by combining like terms, and evaluate using specific values.	Simplify and solve equations given x	<ul style="list-style-type: none"> *Identify variables in an equation *Replace variable with a given number 	<ul style="list-style-type: none"> *Match like terms ($4x + x + 7$) *Simplify an expression *Replace variable with a given number and solve the equation 	<ul style="list-style-type: none"> *Simplify an expression and then solve given x *Use algebra tiles or other manipulatives to represent and/or solve variable expressions 	Expressions and Equations	<p>6.EE.2. Write, read, and evaluate expressions in which letters stand for numbers.</p> <p>6.EE.6. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.</p>
Patterns, Relations and Algebra	6PRA9 Produce and interpret graphs that represent the relationship between two variables (x and y) in everyday situations.	Create and interpret graphs that represent the relationship between variables	<ul style="list-style-type: none"> *Identify (by pointing, matching, or listing) one or both variables in a table *Identify (by pointing, matching, or listing) one or both variables on a graph 	<ul style="list-style-type: none"> *Answer questions about points on a graph *Answer questions based on a data table 	<ul style="list-style-type: none"> *Create a table that represents a set of related variables *Translate information from a graph into an equation 	Expressions and Equations	6.EE.9. Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation $d = 65t$ to represent the relationship between distance and time.

Measurement	6M3 Develop strategies to find the area and perimeter of complex shapes (e.g., subdividing them into basic shapes such as quadrilaterals, triangles, circles).	Understand how to find the area or perimeter of complex shapes.	<p>*Use two basic shapes to make another basic shape (two triangles to make a square)</p> <ul style="list-style-type: none"> • Categorize shapes as simple or complex • Match simple shapes to complex shapes (in the diagram below match circle to circle and rectangle to rectangle) 	<p>*Using ruler or manipulatives measure the perimeter of basic shapes</p> <ul style="list-style-type: none"> • Compute the area of basic shapes • Demonstrate understanding of perimeter (e.g., by placing one inch tiles around the outside of a desk) 	<p>*Using manipulatives subdivide complex shapes into basic shapes and calculate area or perimeter *Use formulas for area or perimeter to solve real life problems involving complex shapes</p>	Measurement and Data Geometry	<p>3.MD.7d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.</p> <p>3.MD.8. Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.</p> <p>4.MD.3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.</p> <p>6.G.1. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.</p>
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Measurement	6M6 Identify, measure, describe, classify, and construct various angles, triangles, and quadrilaterals; measure the interior angles of various polygons.	Identify, measure, describe, classify, and construct various two-dimensional polygons and measure angles	*Identify triangles and quadrilaterals *Sort shapes into polygons vs. non-polygons	*Identify 90, 45, or 180 degree angles • Classify shapes as two or three dimensional • Make/describe models of the different two-dimensional shapes and name them • Measure angles • Classify polygons by their characteristics (e.g. number of sides and number of angles)	*Choose a quadrilateral from several different shapes, name it, and measure angles *Construct a triangle by tracing a manipulative (30-60-90, 45-45-90, 60-60-60 triangles) and measure the angles using cut-outs (30°, 45°, 60° and 90° angles.)	Geometry	5.G.4. Classify two-dimensional figures in a hierarchy based on properties.
Measurement	6M8 Know and use the formulas for the volumes and surface areas of cubes and rectangular prisms, given the lengths of their sides.	Understand and use formulas to find volume or surface area	*Distinguish between a 2- dimensional and 3- dimensional shapes *Identify 3- dimensional shapes	Define surface area *Define volume	*Calculate surface area and volume • Use task analysis to calculate surface area • Use task analysis to calculate volume *Calculate the volume and/or surface area using task analysis and given values	Geometry	2. Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = l w h$ and $V = b h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems. 6.G.4. Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

CONTENT Mathematics
 STRAND Number Sense & Operations

Grade 6

Learning Standards as written

Number Sense and Operations
 6NSO-N5 Identify and determine common equivalent fractions, mixed numbers, decimals, and percentages.

Essential and Prioritized Skill

- ◆ Recognize and understand common equivalent fractions, mixed numbers, decimals, or percentages.

Less Complex

Possible Entry Points

More Complex

The student will:

The student will:

The student will:

Number Sense

- ◆ Identify place value of digits in a decimal (ones and tenths place)
- ◆ Use place value chart to identify the value of each digit in a decimal to the hundredths place
- ◆ Identify a decimal
- ◆ Identify a percent (%)

- ◆ Use manipulative (pictures) to order fractions
- ◆ Match a fraction to a model
- ◆ Match a decimal to a model
- ◆ Order numbers on a number line, including fractions and decimals

- ◆ Use visual representations (i.e. money) to compare equivalent fractions and decimals
- ◆ Model equivalent fractions, mixed numbers, percentages or decimals
- ◆ Use visual representations (pictures, models, etc.) to compare equivalent decimals and percents

General Education Example

Example: Look at the following four fractions:

$27/12$ $4/3$ $36/27$ $20/15$

Three of the fractions are equivalent in the sense that they can all be simplified to the same fraction. Which fraction is not equal to the others?

(See also 6.NSO-N.2)

CONTENT Mathematics
STRAND Number Sense & Operations

Grade 6

Learning Standards as written

Number Sense and Operations 6NSO-N6 Apply number theory concepts — including prime and composite numbers; prime factorization; greatest common factor; least common multiple; and divisibility rules for 2, 3, 4, 5, 6, 9, and 10 — to the solution of problems.

Essential and Prioritized Skill

- ◆ Use prime or composite numbers, factorization, greatest and least common multiples, or divisibility rules to solve problems.

	Less Complex	Possible Entry Points	More Complex
Number Sense	<p style="text-align: center;"><u>The student will:</u></p> <ul style="list-style-type: none"> ◆ Identify prime numbers ◆ Use a number line to identify and order prime numbers ◆ Count by 5s ◆ Count by 3s 	<p style="text-align: center;"><u>The student will:</u></p> <ul style="list-style-type: none"> ◆ Use a model to identify multiples of two-digit numbers ◆ Sort objects into even groups to determine common multiples 	<p style="text-align: center;"><u>The student will:</u></p> <ul style="list-style-type: none"> ◆ Use a model to illustrate prime factorization ◆ Use pictures and manipulatives to determine which numbers are divisible by another number (e.g., sort a group of 6 and a group of 8 by 3 to determine which is divisible by 3) ◆ Create a factor tree for a number

General Education Example

Example: Circle the number(s) in the following list that are divisible by 3.

35 43 51 60 111 160 4,380

CONTENT Mathematics
 STRAND Number Sense & Operations

Grade 6

Learning Standards as written

Number Sense and Operations ^{6NSO-E18} Estimate results of computations with whole numbers and with positive fractions, mixed numbers, decimals, and percentages. Determine reasonableness of estimates.

Essential and Prioritized Skill

- ◆ Estimate to solve problems involving fractions, mixed numbers, decimal or percentages.

Less Complex

The student will:

- ◆ Identify positive numbers on a number line.
- ◆ Solve simple real life addition and subtraction problems involving whole numbers
- ◆ Identify mixed numbers

Possible Entry Points

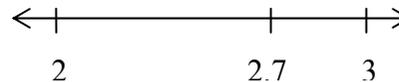
The student will:

- ◆ Use manipulative to solve simple real life whole number addition or subtraction problems using estimation strategy
- ◆ Use a number line to round a decimal to the nearest whole number. See example provided below:

More Complex

The student will:

- ◆ Use an estimation strategy (i.e. number line) to solve a real life problem with percentages
- ◆ Solve real life fraction addition or subtraction problems using pictorial examples and/or manipulatives by estimating to the closest whole number



Is 2.7 closest to 2 or 3?

Answer: 3

Estimation

General Education Example

Example: If you started counting your heartbeats at midnight on January 1, 2000, when would you count the millionth beat? The billionth beat?

CONTENT Mathematics
 STRAND Number Sense & Operations

Grade 6

Learning Standards as written

Number Sense and Operations 6NSO-C8 Select and use appropriate operations to solve problems involving addition, subtraction, multiplication, division, and positive integer exponents with whole numbers and with positive fractions, mixed numbers, decimals, and percentages.

Essential and Prioritized Skill

- ◆ Solve addition, subtraction, multiplication, and division problems with whole numbers, mixed numbers, fractions, decimals, or percentages using order of operations.

Less Complex

The student will:

- ◆ Construct a number line demonstrating positive numbers
- ◆ Solve multiplication problems using manipulatives or repeated addition
- ◆ Illustrate a word problem with manipulatives

Possible Entry Points

The student will:

- ◆ Recognize that there is a correct order of operations to solve a problem (PEMDAS)
- ◆ Identify key words to determine correct operation (e.g., all together, half, etc.).
- ◆ Use a chart or model of operations to help determine the order while solving real life problems
- ◆ Solve addition and subtraction problems with whole numbers and mixed numbers

More Complex

The student will:

- ◆ Given a simple equation, use the order of operations to obtain the correct answer (i.e., multiplication before addition)
- ◆ Solve problems involving fractions, mixed numbers, decimals and percentages using order of operations. For instance, figuring out the sales tax for a loaf of bread, and then determine how much change you will get from \$2.00
- ◆ Solve a word problem that requires two different operations

Computation

General Education

Example: Suppose that when a positive number n is divided by 7, the result is a , and when the same number is divided by 8, the result is b . How do a and b compare?

A) $a < b$

B) $a = b$

C) $a > b$

D) It depends on the value of n .

CONTENT Mathematics
 STRAND Number Sense & Operations

Grade 6

Learning Standards as written

Number Sense and Operations 6NSO-C13 Calculate given percentages of quantities, and solve problems involving discounts at sales, interest earned, and tips.

Essential and Prioritized Skill

- ◆ Solve problems involving the calculation of percentages

	Less Complex	Possible Entry Points	More Complex
Computation	<p><u>The student will:</u></p> <ul style="list-style-type: none"> ◆ Use visual representations to order percents ◆ Identify 25%, 50% and 100% using a model ◆ Write, read, or name decimals to tenths (.1, .2, .3) ◆ Write, read, or name percents 	<p><u>The student will:</u></p> <ul style="list-style-type: none"> ◆ Convert one number form to another to solve a problem (e.g., convert a decimal to a percent) ◆ Rename a decimal as a percent by multiplying by 100 and adding the percent sign ◆ Rename a percent as a decimal by dividing by 100 and delete the percent sign 	<p><u>The student will:</u></p> <ul style="list-style-type: none"> ◆ Calculate percentages using a calculator and task analysis to solve a problem ◆ Calculate discount price using a percentage chart

General Education Example

Example: Suppose that the cost for a new piano is \$5000 and that the piano loses 20% of its current value each year.

- After how many years will the piano first be valued at less than \$500? Show or explain how you obtained your answer.*
- What will the value of the piano be after 16 years? Show or explain how you obtained your answer.*

(See also 6.NSO-C.14)

CONTENT: Mathematics

STRAND: Patterns, Relations, and Algebra

Grade 6

Learning Standards as written

Patterns, 6PRA1 Use the properties of equality to solve problems using letter name variables (e.g., $1/4 + x = 7/12$).
 Relations, and Algebra

Essential and Prioritized Skills

- ◆ Solve problems of equality using letter name variables

Less Complex

The student will:

- ◆ Distinguish between variables and numbers in an equation
- ◆ Distinguish between an equation and an expression
- ◆ Recognize inverse (opposite) operations (addition (+) is the inverse of subtraction (-) and vice versa)

Possible Entry Points

The student will:

- ◆ Solve an equation with a letter name variable as the solution (e.g., $4 + 1 = x$)
- ◆ Label a problem as equal or unequal
- ◆ Match two equations that are equal

More Complex

The student will:

- ◆ Solve an equation with a letter name variable in a position other than the solution (e.g., $9 + x = 10$)
- ◆ Use algebra tiles or other manipulatives to represent and solve variable expressions

General Education Example

Example: Ralph gets on his bike at 10 A.M. and rides towards his friend's house 9 miles away. At 10:12 A.M. he has ridden 3 miles. If he keeps going at the same rate, when will he arrive at his friend's house?

- A. 10:21 A.M.
- B. 10:24 A.M.
- C. 10:36 A.M.
- D. 10:48 A.M.

CONTENT: Mathematics

STRAND: Patterns, Relations, and Algebra

Grade 6

Learning Standards as written

Patterns, 6PRA4 Simplify expressions of the first degree by combining like
Relations, and terms, and evaluate using specific values.
Algebra

Essential and Prioritized Skills

- ◆ Simplify and solve equations given x

Less Complex

The student will:

- ◆ Identify variables in an equation
- ◆ Replace variable with a given number

Possible Entry Points

The student will:

- ◆ Match like terms ($4x + x + 7$)
- ◆ Simplify an expression
- ◆ Replace variable with a given number and solve the equation

More Complex

The student will:

- ◆ Simplify an expression and then solve given x
- ◆ Use algebra tiles or other manipulatives to represent and/or solve variable expressions

CONTENT: Mathematics

STRAND: Patterns, Relations, and Algebra

Grade 6

Learning Standards as written
 Patterns, 6PRA9 Produce and interpret graphs that represent the relationship
 Relations, and between two variables (x and y) in everyday situations.
 Algebra

Essential and Prioritized Skills

- ◆ Create and interpret graphs that represent the relationship between variables

Less Complex	Possible Entry Points	More Complex
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The student will:

- ◆ Identify (by pointing, matching, or listing) one or both variables in a table
- ◆ Identify (by pointing, matching, or listing) one or both variables on a graph

The student will:

- ◆ Answer questions about points on a graph
- ◆ Answer questions based on a data table

The student will:

- ◆ Create a table that represents a set of related variables
- ◆ Translate information from a graph into an equation

General Education Examples

Example: Marion wants to rent a bicycle to go out on a lake. The cost is \$2.00 plus \$1.50 for each hour.

a. Make a table showing how much it would cost to rent a bicycle for 1, 2, 3, and 4 hours.

b. Using numbers, symbols, and the variable n , write an expression for how much it would cost to rent the bicycle for n hours.

c. Marion has \$14.00. What is the greatest number of hours for which she can rent the bicycle? Show your work or explain how you found your answer.

CONTENT: Mathematics

STRAND: Measurement

Grade 6

Learning Standards as written

6M3 Develop strategies to find the area and perimeter of complex shapes (e.g., subdividing them into basic shapes such as quadrilaterals, triangles, circles).

Essential and Prioritized Skills

- ◆ Understand how to find the area or perimeter of complex shapes.

Less Complex

The student will:

- ◆ Use two basic shapes to make another basic shape (two triangles to make a square)
- ◆ Categorize shapes as simple or complex
- ◆ Match simple shapes to complex shapes (in the diagram below match circle to circle and rectangle to rectangle)

Possible Entry Points

The student will:

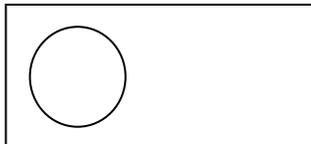
- ◆ Using ruler or manipulatives measure the perimeter of basic shapes
- ◆ Compute the area of basic shapes
- ◆ Demonstrate understanding of perimeter (e.g., by placing one inch tiles around the outside of a desk)

More Complex

The student will:

- ◆ Using manipulatives subdivide complex shapes into basic shapes and calculate area or perimeter
- ◆ Use formulas for area or perimeter to solve real life problems involving complex shapes

Example: Hot tub on a rectangular deck



General Education Example

Example: Show how to find the area of the isosceles trapezoid by decomposing and rearranging it into a rectangle with the same area.



CONTENT: Mathematics

STRAND: Measurement

Grade 6

Learning Standards as written

6M6 Identify, measure, describe, classify, and construct various angles, triangles, and quadrilaterals; measure the interior angles of various polygons.

Essential and Prioritized Skills

◆ Identify, measure, describe, classify, and construct various two-dimensional polygons and measure angles

Less Complex

The student will:

- ◆ Identify triangles and quadrilaterals
- ◆ Sort shapes into polygons vs. non-polygons

Possible Entry Points

The student will:

- ◆ Identify 90, 45, or 180 degree angles
- ◆ Classify shapes as two or three dimensional
- ◆ Make/describe models of the different two-dimensional shapes and name them
- ◆ Measure angles
- ◆ Classify polygons by their characteristics (e.g. number of sides and number of angles)

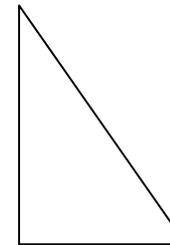
More Complex

The student will:

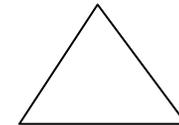
- ◆ Choose a quadrilateral from several different shapes, name it, and measure angles
- ◆ Construct a triangle by tracing a manipulative (30-60-90, 45-45-90, 60-60-60 triangles) and measure the angles using cut-outs (30°, 45°, 60° and 90° angles.)

Sample Table:

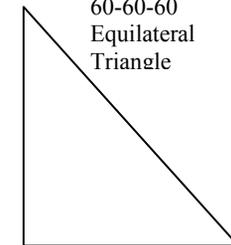
Name of Polygon	Number of Sides	Number of Angles
Triangle	3	3
Quadrilateral	4	4
Pentagon	5	5
Hexagon	6	6
Septagon	7	7
Octagon	8	8
Nonagon	9	9
Decagon	10	10



30-60-90
Right Triangle



60-60-60
Equilateral
Triangle



45-45-90
Right Triangle

CONTENT: Mathematics

STRAND: Measurement

Grade 6		
Learning Standards as written	Essential and Prioritized Skills	
Measurement 6M8 Know and use the formulas for the volumes and surface areas of cubes and rectangular prisms, given the lengths of their sides.	♦ Understand and use formulas to find volume or surface area	
Less Complex	Possible Entry Points	More Complex
<p><u>The student will:</u></p> <ul style="list-style-type: none"> ♦ Distinguish between a 2-dimensional and 3-dimensional shapes ♦ Identify 3-dimensional shapes 	<p><u>The student will:</u></p> <ul style="list-style-type: none"> ♦ Define surface area ♦ Define volume 	<p><u>The student will:</u></p> <p>Given a diagram:</p> <ul style="list-style-type: none"> ♦ Calculate surface area and volume ♦ Use task analysis to calculate surface area ♦ Use task analysis to calculate volume ♦ Calculate the volume and/or surface area using task analysis and given values <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Volume = length x width x height</p> <p>$V = l \times w \times h$</p> <p>$V = \square \times \square \times \square$</p> <p>e.g. $l = 2; w = 3; h = 4$</p> <p>$V = 2 \times 3 \times 4$</p> <p>$V = \underline{24}$</p> </div>

General Education Example

Example: Storage boxes are cube shaped and measure 4 inches on an edge. How many of these storage boxes are needed for 300 small cubes, 2 inches on an edge?

(See also 6.NSO-E.18)