The Colorado Student Assessment Program Alternate (CSAPA)
Reading Assessment Framework

Standard 1: Students read and understand a variety of materials
Expanded Benchmark: 1.0 Recognize and Make Meaning of Text
(Students understand that text has meaning and use a variety of strategies to recognize and make meaning of unfamiliar text)

Critical Concept	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Demonstrate understanding of symbolic representation					**Understands** meaning of environmental print	**Understands** meaning of environmental print		
	Differentiates a letter from pictures/symbol/ objects	**Differentiates** a letter from pictures/symbol/ objects	**Differentiates** a letter from pictures/symbol/ objects	**Differentiates** a letter from pictures/symbol/ objects	**Differentiates** a letter from pictures/symbol/ objects	**Differentiates** a letter from pictures/symbol/ objects	**Differentiates** a letter from pictures/symbol/ objects	**Differentiates** a letter from pictures/symbol/ objects
	Knows the capital letters	**Knows** the capital letters	**Knows** the lowercase and capital letters					
	Reads a word	**Reads** a word	**Reads** a simple sentence or word	**Reads** a simple sentence or word	**Reads** a simple sentence		**Reads** a simple sentence	**Reads** a simple sentence
						Adds prefixes and suffixes to create a new word from a familiar word	**Adds** prefixes and suffixes to create a new word from a familiar word	**Uses** knowledge of root word to decipher unfamiliar word **Chooses** suffix to create a new word from a familiar word

Standard 1: Students read and understand a variety of materials
Expanded Benchmark: 1.0 Recognize and Make Meaning of Text
(Students understand that text has meaning and use a variety of strategies to recognize and make meaning of unfamiliar text)

Critical Concept	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Demonstrate understanding of beginning principles of phonics	**Identifies** the letter that makes a given sound	**Identifies** the letter that makes a given sound	**Identifies** the letter that makes a given sound	**Identifies** the letter that makes a given sound	**Identifies** the letter that makes a given sound	**Identifies** the letter that makes a given sound	**Identifies** the letter that makes a given sound	**Identifies** the letter that makes a given sound
	Identifies a word by the beginning sound or ending sound	**Identifies** a word by the beginning sound	**Identifies** the sound in the middle of a word **Identifies** a word by the ending sound	**Identifies** words by beginning or ending sounds	**Identifies** a word by the beginning sound **Identifies** a word by distinguishing between the ending consonant blend sounds	**Identifies** a word by distinguishing between the beginning and ending consonant blend sounds	**Identifies** a word by distinguishing between the beginning and ending consonant blend sounds	**Identifies** a word by distinguishing between the beginning and ending consonant blend sounds
	Understands that similar letter patterns make similar sounds	**Understands** slightly more complex letter patterns	**Understands** more complex letter patterns	**Understands** that complex letter patterns represent specific sounds	**Understands** vowel sounds are made up of more than one letter pattern	**Understands** that letters combine in words to create sounds	**Understands** that words are made up of letter patterns that represent sounds	**Understands** that some letter patterns represent the same sounds even though they are very different

Standard 1: Students read and understand a variety of materials
Expanded Benchmark: 1.0 Recognize and Make Meaning of Text
(Students understand that text has meaning and use a variety of strategies to recognize and make meaning of unfamiliar text)

Critical Concept	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Use a variety of strategies to make meaning of text				**Uses** context to determine unknown words in a sentence	**Uses** context to determine unknown words in a sentence	**Uses** context to determine unknown words in a sentence	**Uses** context to determine the meaning of unknown words in a sentence	**Uses** context to determine the meaning of unknown words in a sentence
	Recognizes use of a familiar classroom object					**Communicates** meaning of familiar words		**Communicates** meaning by choosing correct order of events in a story
	Reads simple high frequency words	**Reads** simple high frequency words	**Reads** simple high frequency words	**Reads** simple high frequency words	**Reads** high frequency words	**Reads** high frequency words	**Reads** high frequency words	**Reads** high frequency words
		Understands source used to find the meaning of an unfamiliar word	**Understands** source used to find the meaning of an unfamiliar word	**Understands** resources to find necessary information		**Understands** source used to find the meaning of an unfamiliar word		
	Uses bold print, titles to comprehend text							
	Identifies prepositional sentence	**Identifies** prepositional sentence	**Identifies** prepositional sentence	**Identifies** prepositional sentence	**Identifies** prepositional sentence			
		Understands figurative language	**Understands** figurative language					**Identifies** meaning of sentence that has figurative language
					Understands the meaning of a message in quotes		**Understands** the meaning of a message in quotes	**Understands** the meaning of a message in quotes

Standard 1: Students read and understand a variety of materials
Expanded Benchmark: 2.0 Comprehend Reading Passage / Selection
(Students use a variety of comprehension strategies before, during, and after reading)

Critical Concept	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Make connections to reading passage				**Identifies** object in picture that relates to the reading passage				
	Makes a prediction about an event in an informational article	**Makes** a prediction about an event in a story	**Makes** a prediction about an event in a story **Makes** inferences about events in a story **Draws** conclusions about what will happen next in a given series of events	**Makes** a prediction about the use of an object presented as text **Makes** an inference about a character's action	**Makes** a prediction about an event discussed in an informational article **Makes** an inference to explain why something happens	**Makes** a prediction about an action in a story **Makes** an inference about a character in a story **Draws** a conclusion after reading an informational article	**Makes** a prediction directly related to an informational article **Makes** an inference about a character's action **Draws** a conclusion after reading an informational article	**Makes** a series of predictions related to a story
	Identifies a picture that matches a word in the sentence **Identifies** a picture that matches a sentence	**Identifies** a picture that matches a sentence **Identifies** a descriptive word that relates to a sentence	**Identifies** a labeled picture that matches a more complex sentence	**Uses** pictures to relate information about a story **Uses** vocabulary to substitute for a word in sentence	**Uses** pictures to relate information about a story	**Uses** pictures and/or vocabulary to relate information about a story	**Uses** vocabulary and pictures to relate information about a story	**Uses** vocabulary to relate information about a story

Standard 1: Students read and understand a variety of materials
Expanded Benchmark: 2.0 Comprehend Reading Passage/Selection
(Students use a variety of comprehension strategies before, during, and after reading)

Critical Concept	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Identify elements of literature (character, plot, setting)	**Understands** who is telling a story			**Understands** where a story happens			**Understands** why a character feels a certain way	**Understands** a character's reason for action
		Identifies main character		**Identifies** main character				**Identifies** main character
			Communicates details about main character		**Communicates** details about main character	**Communicates** details about main character		
			Relates an event in a story	**Relates** an event in a story				
	Relates ending sequence of events in a story	**Relates** ending sequence of events in a story	**Chooses** ending sequence of events in a story		**Relates** sequence of events in a story		**Relates** sequence of events in a story	
			Identifies the solution to a problem in a story		**Identifies** the problem in a story	**Identifies** the solution to a problem in a story	**Identifies** the solution to a problem in a story	
	Identifies the setting of a story	**Identifies** the setting of a story				**Identifies** the setting of a story		**Identifies** the setting of a story
		Identifies cause and effect			**Identifies** cause and effect			
	Identifies main idea of the story	**Identifies** main idea of the story	**Identifies** supporting details related to the story	**Identifies** character elements **Identifies** main idea of the story		**Identifies** main idea of the story	**Identifies** the main idea of the story	**Identifies** character elements **Identifies** the main idea of the story

Standard 4: Students apply thinking skills to their reading, writing, speaking, listening, and viewing
Expanded Benchmark: 3.0 Interact with a variety of texts
(Students understand a variety of text, including literary, informational, and functional texts. Students read for a variety of purposes)

Critical Concept	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Demonstrate knowledge that various texts have different purposes	**Understands** use of variety of texts	**Understands** use of variety of texts	**Understands** use of variety of texts	**Uses** a variety of texts for finding relevant information	**Uses** a variety of texts for finding relevant information	**Uses** a variety of texts for finding relevant information	**Identifies** resources to find more information about a topic	**Identifies** resources to find more information about a topic
			Identifies purpose in a variety of literary genre			**Identifies** purpose in a variety of literary genre		
		Identifies the difference between fiction and non-fiction	**Identifies** the difference between fiction and non-fiction				**Identifies** the difference between fiction and non-fiction	**Identifies** the difference between fiction and non-fiction
	Distinguishes between fact and opinion			**Distinguishes** between fact and opinion	**Distinguishes** between fact and opinion	**Distinguishes** between fact and opinion	**Identifies** between fact and opinion	**Identifies** between fact and opinion
		Identifies author's purpose for writing	**Identifies** author's purpose for writing	**Identifies** author's purpose for writing	**Identifies** author's purpose for writing	**Identifies** author's purpose for writing		
	Identifies author's point of view or feelings about a person or event	**Identifies** author's point of view or feelings about a person or event		**Identifies** author's point of view or feelings about a person or event	**Identifies** author's point of view or feelings about a person or event	**Identifies** author's point of view or feelings about a person or event	**Identifies** author's point of view or feelings about a person or event	**Identifies** author's point of view or feelings about a person or event

Standard 4: Students apply thinking skills to their reading, writing, speaking, listening and viewing
Expanded Benchmark: 3.0 Interact with a variety of texts
(Students understand a variety of text, including literary, informational and functional texts. Students read for a variety of purposes)

Critical Concept	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Identifies a variety of resources **Relates** and sorts information (details) about a specific topic or purpose of a reading passage	**Identifies** a variety of resources	**Identifies** a variety of resources	**Identifies** a variety of resources		**Identifies** a variety of resources		**Identifies** a variety of resources	
	Relates and sorts information (details) about a specific topic or purpose of a reading passage	**Relates** and sorts information (details) about a specific topic or purpose of a reading passage	**Relates** and sorts information (details) about a specific topic or purpose of a reading passage	**Relates** and sorts information (details) about a specific topic or purpose of a reading passage	**Identifies** and sorts information (details) about a specific topic or purpose of a reading passage	**Identifies** and sorts information (details) about a specific topic or purpose of a reading passage	**Identifies** and sorts information (details) about a specific topic or purpose of a reading passage	
					Uses directions given to complete a simple statement based on context	**Understands** order of directions as given	**Understands** order of directions as given	
							Asks appropriate question to clarify directions	
		Recognizes similarities between different sources of information	**Recognizes** similarities between different sources of information		**Recognizes** similarities between different sources of information	**Recognizes** similarities between different sources of information	**Understands** similarities between different sources of information	

The Colorado Student Assessment Program Alternate (CSAPA)
Writing Assessment Framework

Standard 2: Students write and speak for a variety of purposes and audiences
Expanded Benchmark: 1.0 Generate topics and develop ideas by creating a document for a variety of purposes and audiences for the purpose of publication

Critical Concept	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Demonstrate an understanding that writing communicates a message					**Writes** to communicate meaning	**Writes** to communicate meaning	**Writes** to communicate meaning	**Writes** to communicate meaning
	Arranges pictures/ symbols to tell story	**Arranges** pictures/ symbols to tell story	**Arranges** pictures/ symbols to tell story	**Chooses** a picture that belongs at the end of a story	**Chooses** a sentence that belongs at the end of a story	**Chooses** a sentence that belongs at the end of a story	**Chooses** a picture that belongs at the end of a story	**Chooses** a picture that belongs at the end of a story
	Knows the correct orientation (right side up, left to right)	**Knows** the correct orientation (right side up, left to right)	**Knows** the correct orientation (right side up, left to right)	**Knows** the correct orientation (right side up, left to right)	**Knows** the correct orientation (right side up, left to right)	**Knows** the correct orientation (right side up, left to right)	**Knows** the correct orientation (right side up, left to right)	**Knows** the correct orientation (right side up, left to right)
	Writes first name	**Writes** first name	**Writes** first name	**Writes** first name	**Writes** first name	**Writes** first name	**Writes** first and last name	**Writes** first and last name
Organize writing to create a draft document	**Organizes** writing so there is a logical sequence	**Organizes** writing so there is a logical sequence	**Organizes** writing so there is a logical sequence	**Organizes** writing so there is a logical sequence	**Organizes** writing so there is a logical sequence	**Organizes** writing so there is an introduction	**Organizes** writing so there is a conclusion	**Organizes** writing so there is an introduction
	Chooses key points to include in writing	**Chooses** key points to include in writing	**Chooses** key points to include in writing	**Chooses** key points to include in writing	**Chooses** key points to include in writing	**Chooses** key points to include in writing	**Chooses** key points to include in writing	**Chooses** key points to include in writing
	Writes a simple sentence or a word	**Writes** a simple sentence or a word	**Writes** a simple sentence	**Writes** a simple sentence	**Writes** a simple sentence	**Writes** a sentence	**Writes** a sentence	**Writes** a complex sentence

Standard 3: Students write and speak using conventional grammar, usage sentence structure, punctuation, capitalization, and spelling
Expanded Benchmark: 2.0 Use appropriate conventions, mechanics, and format to create a readable and legible written product

Critical Concept	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Use systematic conventions to make written product understandable by others	**Spells** by completing a word with a missing letter	**Spells** by completing a word with a missing letter	**Spells** by completing a word with a missing letter	**Identifies** the missing letter from a word	**Identifies** the missing letter from a word	**Identifies** the missing letters from a word	**Identifies** the missing letters from a word	**Identifies** the missing letters from a word
	Identifies correct capitalization	**Identifies** correct capitalization	**Identifies** correct punctuation	**Identifies** correct punctuation	**Identifies** correct punctuation	**Identifies** correct punctuation		**Identifies** correct capitalization and punctuation
	Writes a letter	**Writes** a letter	**Writes** a letter	**Writes** a letter	**Writes** a letter	**Writes** a letter	**Writes** a letter	**Writes** a letter
	Identifies the proper spacing of a sentence **Identifies** standard English usage rules	**Identifies** the correct way to write a number **Identifies** standard English usage rules	**Identifies** the correct way to write a number **Identifies** standard English usage rules	**Identifies** the correct way to write a number **Identifies** standard English usage rules	**Identifies** the correct way to write a number **Identifies** standard English usage rules	**Identifies** the correct way to write a number **Chooses** standard English usage rules	**Understands** text organization	**Understands** text organization
					Selects the resource to use for a report	**Selects** the resource to use for a report		
							Chooses a resource to include in a bibliography	**Chooses** a resource to include in a bibliography

Standard 3: Students write and speak using conventional grammar, usage sentence structure, punctuation, capitalization and spelling
Expanded Benchmark: 2.0 Use appropriate conventions, mechanics and format to create a readable and legible written product

Critical Concept	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Apply elements of writing through appropriate word usage	**Maintains** appropriate tense throughout text	**Maintains** appropriate tense throughout text	**Maintains** appropriate tense throughout text	**Maintains** appropriate tense throughout text	**Maintains** appropriate tense throughout text	**Maintains** appropriate tense throughout text	**Maintains** appropriate tense throughout text	**Maintains** appropriate tense throughout text
	Uses correct modifier to complete a sentence	**Uses** correct modifier to complete a sentence	**Uses** correct modifier to complete a sentence	**Uses** correct modifier to complete a sentence	**Uses** correct modifier to complete a sentence	**Uses** correct modifier to complete a sentence	**Uses** correct modifier to complete a sentence	**Uses** correct modifier to complete a sentence
	Identifies parts of speech (nouns, verbs, etc.)	**Identifies** parts of speech (nouns, verbs, etc.)	**Identifies** parts of speech (nouns, verbs, etc.)	**Identifies** parts of speech (nouns, verbs, etc.)	**Identifies** parts of speech (nouns, verbs, etc.)	**Identifies** parts of speech (nouns, verbs, etc.)	**Identifies** parts of speech (nouns, verbs, etc.)	**Identifies** parts of speech (nouns, verbs, etc.)
	Writes a complete sentence using subject/verb agreement, correct capitalization and correct punctuation	**Writes** a complete sentence using subject/verb agreement, correct capitalization and correct punctuation	**Writes** a complete sentence using subject/verb agreement, correct capitalization and correct punctuation	**Writes** a complete sentence using subject/verb agreement, correct capitalization and correct punctuation	**Writes** a complete sentence using subject/verb agreement, correct capitalization and correct punctuation	**Writes** a complete sentence using subject/verb agreement, correct capitalization and correct punctuation	**Writes** a complete sentence using subject/verb agreement, correct capitalization and correct punctuation	**Writes** a complete sentence using subject/verb agreement, correct capitalization and correct punctuation
	Understands that sentences are made up of nouns and verbs	**Understands** that sentences are made up of nouns and verbs	**Understands** that sentences are made up of nouns and verbs	**Understands** that sentences are made up of nouns and verbs	**Understands** that sentences are made up of nouns and verbs	**Understands** that sentences are made up of nouns and verbs	**Understands** that sentences are made up of nouns and verbs	**Understands** that sentences are made up of nouns and verbs

Standard 3: Students write and speak using conventional grammar, usage sentence structure, punctuation, capitalization and spelling
Expanded Benchmark: 2.0 Use appropriate conventions, mechanics and format to create a readable and legible written product

Critical Concept	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
Edit a written product using legible handwriting/ word processor for publication	**Corrects** an underlined word	**Corrects** an underlined word	**Corrects** an underlined word	**Corrects** an underlined word	**Corrects** an underlined word	**Corrects** an underlined word	**Corrects** an underlined word	**Corrects** an underlined word
	Chooses correct use of upper and lower case letters	**Chooses** correct use of upper and lower case letters	**Chooses** correct use of upper and lower case letters	**Chooses** correct way to write a sentence	**Chooses** correct way to write a sentence	**Chooses** correct way to write a sentence	**Chooses** correct way to write a sentence	**Chooses** correct way to write a sentence
	Copies a word neatly on a line	**Copies** a word neatly on a line	**Copies** a word neatly on a line	**Copies** a word neatly on a line				
	Understands that sentences begin with a capital letter	**Understands** that sentences begin with a capital letter	**Understands** that sentences begin with a capital letter	**Understands** that sentences begin with a capital letter	**Understands** that sentences begin with a capital letter	**Understands** that sentences begin with a capital letter	**Chooses** the sentence that has the correct capital letters	**Chooses** the sentence that has the correct capital letters

The Colorado Student Assessment Program Alternate (CSAPA)
Mathematics Assessment Frameworks

NUMBER SENSE
Standard 1: Students develop number sense and use numbers and number relationships in problem-solving situations and communicate the reasoning used in solving these problems.
Critical Concept 1: Counts, represents quantities, reads and writes numbers

Grade 3	Grade 4	Grade 5*	Grade 6	Grade 7	Grade 8*	Grade 9	Grade 10*
Demonstrates the concept of one	Demonstrates the concept of one	Demonstrates the concept of one					
Knows when groups of objects are more or less	Knows when groups of objects are more or less	Knows when groups of objects are more or less					
Estimates an appropriate number for a quantity up to **10**	Estimates an appropriate number for a quantity up to **10**	Estimates an appropriate number for a quantity up to **20**	Estimates an appropriate number for a quantity up to **25**	Estimates an appropriate number for a quantity up to **30**	Estimates an appropriate number for a quantity up to **30**	Estimates an appropriate number for a quantity up to **40**	Estimates an appropriate number for a quantity up to **40**
Counts to 10	Counts to 12	Counts to 20	Counts to 25	Counts to 30	Counts to 35	Counts to 40	Counts to 45
		Counts forward from a given number (up to 20)	Counts forward from a given number (up to 25)	Counts forward from a given number (up to 30)	Counts forward from a given number (up to 35)	Counts forward from a given number (up to 40)	Counts forward from a given number (up to 45)
Recognizes numerals (up to 10)	Recognizes numerals (up to 12)	Recognizes numerals (up to 20)					
Demonstrates an understanding of a numeral and the quantity it represents (up to 10)	Demonstrates an understanding of a numeral and the quantity it represents (up to 12)	Demonstrates an understanding of a numeral and the quantity it represents (up to 20)					

NUMBER SENSE (continued)
Standard 1: Students develop number sense and use numbers and number relationships in problem-solving situations and communicate the reasoning used in solving these problems.
Critical Concept 1: Counts, represents quantities, reads and writes numbers

Grade 3	Grade 4	Grade 5*	Grade 6	Grade 7	Grade 8*	Grade 9	Grade 10*
Writes/creates a single digit number (from 1-5)	Writes/creates a single digit number (from 6-9)	Writes/creates a two digit number (from 12-20)	Writes/creates a two digit number (from 21-25)	Writes/creates a two digit number (from 26-30)	Writes/creates a three digit number (in the 100s)	Writes/creates a three digit number (in the 200s)	Writes/creates a three digit number (in the 300s)
Understands which number is greater than/less than (up to 10)	Understands which number is greater than/less than (up to 12)	Understands which number is greater than/less than (up to 20)	Understands which number is greater than/less than (up to 25)				
		Demonstrates an understanding of ones and tens place value in numbers up to 20	Demonstrates an understanding of ones and tens place value in numbers up to 25	Demonstrates an understanding of ones and tens place value in numbers up to 30	Demonstrates an understanding of ones and tens place value in numbers up to 35	Demonstrates an understanding of ones and tens place value in numbers up to 40	Demonstrates an understanding of ones and tens place value in numbers up to 45
		Reads a number sentence (adding/subtracting numbers up to 20)	Reads a number sentence (adding/subtracting numbers up to 25)	Reads a number sentence (adding/subtracting numbers up to 30)			
					Produces a number sentence (addition/subtraction only with sets up to 35)	Produces a number sentence (any operator and sets up to 40)	Produces a number sentence (any operator and sets up to 45)
			Demonstrate an understanding of a whole unit	Identifies 1/2	Identifies 1/4	Identifies 1/3	Identifies 3/4
		Skip counts by 2s to 20			Skip counts by 5s to 35		Skip counts by 10s to 40

ALGEBRAIC METHODS

Standard 2: Students use algebraic methods to explore, model, and describe patterns and functions involving numbers, shapes, data, and graphs in problem-solving situations and communicate the reasoning used in solving these problems.

Critical Concept 2: Identifies, describes, and creates patterns to solve problems

Grade 3	Grade 4	Grade 5*	Grade 6	Grade 7	Grade 8*	Grade 9	Grade 10*
Reproduces a repeated event (3 times)	Reproduces a repeated event (3 times)	Reproduces a repeated event (3 times)					
Extend a repeating pattern by one element	Extend a repeating pattern by one element	Extend a repeating pattern by two elements	Extend a repeating pattern by two elements	Extend a repeating pattern by three elements	Extend a repeating pattern by three elements	Extend a repeating pattern by four elements	Extend a repeating pattern by four elements
Finds and supplies 1 missing element in a repeating pattern	Finds and supplies 1 missing element in a repeating pattern	Finds and supplies 1 missing element in a repeating pattern	Finds and supplies 2 missing elements in a repeating pattern	Finds and supplies 2 missing elements in a repeating pattern	Finds and supplies 3 missing elements in a repeating pattern	Finds and supplies 3 missing elements in a repeating pattern	Finds and supplies 3 missing elements in a repeating pattern
Extends a growing geometric pattern by supplying the next element	Extends a growing geometric pattern by supplying the next element	Extends a growing geometric pattern by supplying the next element	Extends a growing geometric pattern by supplying the next element	Extends a growing numeric pattern by supplying the next element	Extends a growing numeric pattern by supplying the next element	Extends a growing numeric pattern by supplying the next element	Extends a growing numeric pattern by supplying the next element
		Finds and supplies a missing element in a growing geometric pattern	Finds and supplies a missing element in a growing geometric pattern	Finds and supplies a missing element in a growing numeric pattern	Finds and supplies a missing element in a growing numeric pattern	Finds and supplies a missing element in a growing numeric pattern	Finds and supplies a missing element in a growing numeric pattern
		Describes a growing geometric pattern	Describes a growing geometric pattern	Describes a growing numeric pattern	Describes a growing numeric pattern	Describes a growing numeric pattern	Describes a growing numeric pattern
				Identifies the relationship between variables	Identifies the relationship between variables	Identifies the relationship between variables	Identifies the relationship between variables
				Given a numerical relationship between two variables, finds the value of one given the other	Given a numerical relationship between two variables, finds the value of one given the other	Given a numerical relationship between two variables, finds the value of one given the other	Given a numerical relationship between two variables, finds the value of one given the other

DATA & PROBABILITY
Standard 3: Students use data collection and analysis, statistics, and probability in problem-solving situations and communicate the reasoning used in solving these problems.
Critical Concept 3: Displays and analyzes data

Grade 3	Grade 4	Grade 5*	Grade 6	Grade 7	Grade 8*	Grade 9	Grade 10*
Displays two categories on a bar graph	Displays three categories on a bar graph	Displays four categories on a bar graph	Displays five categories on a bar graph	Places two data points on a line graph	Places three data points on a line graph	Places four data points on a line graph	Places five data points on a line graph
Determines which category has the most/least	Determines which category has the most/least	Determines which category has the most/least	Determines which category has the most/least				
Interprets data on a graph or table	Interprets data on a graph or table	Interprets data on a graph or table	Interprets data on a graph or table	Interprets data on a graph or table	Interprets data on a graph or table	Interprets data on a graph or table	Interprets data on a graph or table
Uses data to solve a problem	Uses data to solve a problem	Uses data to solve a problem	Uses data to solve a problem	Uses data to solve a problem	Uses data to solve a problem	Uses data to solve a problem	Uses data to solve a problem
					Understands characteristics of a graph	Understands characteristics of a graph	Understands characteristics of a graph
			Predicts an outcome based on available information	Predicts an outcome based on available information from graph	Predicts an outcome based on available information from graph	Predicts an outcome based on available information from graph	Predicts an outcome based on available information from graph
Displays up to 2 data categories on a table	Displays up to 3 data categories on a table	Displays up to 4 data categories on a table	Collects and records information about chance events	Collects and records data (up to 5 categories on a table)	Collects and records data (up to 5 categories on a table)	Collects and records data (up to 5 categories on a table)	Collects and records data (up to 5 categories on a table)

GEOMETRIC CONCEPTS

Standard 4: Students use geometric concepts, properties, and relationships in problem-solving situations and communicate the reasoning used in solving these problems.

Critical Concept 4: Identifies, sorts, and matches geometric shapes

Grade 3	Grade 4	Grade 5*	Grade 6	Grade 7	Grade 8*	Grade 9	Grade 10*
Sorts 2 objects by shape (circle, square, triangle)	Sorts 3 objects by shape (circle, square, triangle)	Sorts 4 objects by size and shape (circle, square, triangle, rectangle, oval, trapezoid)				Identify angles of a triangle (acute, obtuse, right)	Identify angles of a triangle (acute, obtuse, right)
Identifies 2-dimensional shapes (circle, square, triangle)	Identifies 2-dimensional shapes (circle, square, triangle)	Identifies 2-dimensional shapes (rectangle, oval, trapezoid)	Identifies 2-dimensional shapes (rhombus, pentagon, oval)	Identifies 3-dimensional shapes (cube, sphere, cylinder)	Identifies 3-dimensional shapes (cone, pyramid, prism)	Identifies geometric properties of 3-dimensional shapes	Identifies geometric properties of 3-dimensional shapes
Identifies shapes in nontypical display (circle, square, triangle)	Identifies shapes in nontypical display (circle, square, triangle)	Identifies shapes in nontypical display (rectangle, oval, trapezoid)	Identifies shapes in nontypical display (rhombus, pentagon, oval)				
Identifies shapes in environments (circle, square, triangle)	Identifies shapes in environments (circle, square, triangle)	Identifies shapes in environments (rectangle, oval, trapezoid)	Identifies shapes in environments (rhombus, pentagon, oval)				
				Identifies two dimensional shapes in a three dimensional object (cube, cylinder)	Identifies two dimensional shapes in a three dimensional object (cone, pyramid, prism)	Identifies two dimensional shapes in a three dimensional object	Identifies two dimensional shapes in a three dimensional object
Matches 2 shapes to picture (circle, square, triangle)	Matches 3 shapes to picture (circle, square, triangle)	Matches 4 shapes to picture (rectangle, oval, trapezoid)					
Discriminates shapes (circle, square, triangle) by size (bigger, smaller, the same)	Discriminates shapes (circle, square, triangle) by size (bigger, smaller, the same)	Discriminates shapes (rectangle, oval, trapezoid) by size (bigger, smaller, the same)			Determines if two lines are congruent	Determines if two lines are congruent	Determines if two lines are congruent
			Differentiates between lines and curves	Differentiates between lines and curves	Differentiates between lines and curves		
			Places shapes together to make another shape (circle, square, triangle)	Places shapes together to make another shape (circle, square, triangle, rectangle)	Places shapes together to make another shape (circle, square, triangle, rectangle)	Places shapes together to make another shape (circle, square, triangle, rectangle)	Places shapes together to make another shape (cone, pyramid, cylinder, cube, prism)

MEASUREMENT
Standard 5: Students use a variety of tools and techniques to measure, apply the results in problem-solving situations, and communicate the reasoning used in solving these problems.
Critical Concept 5: Applies a variety of measurement skills

Grade 3	Grade 4	Grade 5*	Grade 6	Grade 7	Grade 8*	Grade 9	Grade 10*
Identifies tools associated with measurement (ruler, measuring cup, spoon, thermometer)	Identifies tools associated with measurement (ruler, measuring cup, spoon, thermometer)	Identifies tools associated with measurement (ruler, measuring cup, scale, thermometer)	Identifies tools associated with measurement (ruler, measuring cup, scale, protractor)				
		Demonstrates an understanding of directionality (right, left, up, down)	Demonstrates an understanding of directionality (right, left, up, down)	Demonstrates an understanding of directionality (right, left, up, down)	Demonstrates an understanding of directionality (north, south, east, west)	Demonstrates an understanding of directionality (north, south, east, west)	Demonstrates an understanding of directionality (north, south, east, west)
Estimates length /height in nonstandard units	Estimates length /height in nonstandard units	Estimates length /height in nonstandard units	Estimates length /height in nonstandard units	Estimates length /height in nonstandard units	Estimates area in nonstandard units	Estimates area in nonstandard units	Estimates area in nonstandard units
Manipulates measuring tool	Measures length with a standard tool (exact inches)	Measures length with a standard tool (exact inches)	Measures length with a standard tool (may include 1/2 inches)	Measures length with a standard tool (may include 1/2 inches)	Measures length with a standard tool (may include 1/2 inches)	Measures length with a standard tool (may include 1/2 inches)	Measures length with a standard tool (may include 1/2 inches)
Compares lengths (longer than, shorter than, the same)	Compares lengths (longer than, shorter than, the same)	Compares lengths (longer than, shorter than, the same)	Compares lengths (longer than, shorter than, the same)	Estimates length in inches	Estimates length in inches	Estimates length in feet	Estimates length in feet
Measures an object using nonstandard tools	Measures an object using nonstandard tools	Measures an object using nonstandard tools					
	Uses vocabulary associated with measurement (inch, hour, minute, cup, degree)	Uses vocabulary associated with measurement (inch, hour, minute, cup, degree)	Uses vocabulary associated with measurement (inch, hour, minute, cup, degree)	Uses vocabulary associated with measurement (foot, pound, inch, hour, minute, cup, degree)	Uses vocabulary associated with measurement (foot, pound, inch, hour, minute, cup, degree)	Uses vocabulary associated with measurement (foot, pound, mile, inch, hour, minute, cup, degree)	Uses vocabulary associated with measurement (foot, pound, mile, inch, hour, minute, cup, degree)
				Calculates perimeter	Calculates perimeter	Calculates perimeter	Calculates perimeter
					Calculates area	Calculates area	Calculates area
					Identifies 12 inches equals 1 foot	Converts dimensions from inches to feet	Converts dimensions from inches to feet

PROBLEM SOLVING SKILLS

Standard 6: Students link concepts and procedures as they develop and use computational techniques, including estimation, mental arithmetic, paper-and-pencil, calculators, and computers, in problem-solving situations and communicate the reasoning used in solving these problems.

Critical Concept 6: Uses calculation strategies to compute problems

Grade 3	Grade 4	Grade 5*	Grade 6	Grade 7	Grade 8*	Grade 9	Grade 10*
Understands the concept of none	Understands the concept of none	Understands the concept of none	Understands the concept of none	Adds simple fractions (halves only)	Adds simple fractions (halves and fourths)	Adds simple fractions (halves, thirds, and fourths)	Adds simple fractions (halves, thirds, and fourths)
Demonstrates an understanding of addition by finding an accurate/correct answer (2 sets up to 10 items)	Demonstrates an understanding of addition by finding an accurate/correct answer (2 sets up to 12 items)	Demonstrates an understanding of addition by finding an accurate/correct answer (2 sets up to 20 items)	Demonstrates an understanding of addition by finding an accurate/correct answer (2 sets up to 25 items)	Demonstrates an understanding of addition by finding an accurate/correct answer (2 sets up to 30 items)	Demonstrates an understanding of addition by finding an accurate/correct answer (2 sets up to 35 items)	Demonstrates an understanding of addition by finding an accurate/correct answer (3 sets up to 40 items)	Demonstrates an understanding of addition by finding an accurate/correct answer (3 sets up to 45 items)
Chooses correct operation to solve a problem (addition, subtraction)	Chooses correct operation to solve a problem (addition, subtraction)	Chooses correct operation to solve a problem (addition, subtraction)	Chooses correct operation to solve a problem (addition, subtraction)	Chooses correct operation to solve a problem (addition, subtraction)	Chooses correct operation to solve a problem (addition, subtraction, multiplication)	Chooses correct operation to solve a problem (any operator)	Chooses correct operation to solve a problem (any operator)
Employs strategies to find simple subtraction facts (sets up to 10 items)	Employs strategies to find simple subtraction facts (sets up to 12 items)	Employs strategies to find simple subtraction facts (sets up to 20 items)	Employs strategies to find simple subtraction facts (sets up to 25 items)	Employs strategies to find simple subtraction facts (sets up to 30 items)	Employs strategies to find simple subtraction facts (sets up to 35 items)	Employs strategies to find simple subtraction facts (sets up to 40 items)	Employs strategies to find simple subtraction facts (sets up to 45 items)
					Solves a simple multiplication problem (sets up to 35)	Solves a simple multiplication problem (sets up to 40)	Solves a simple multiplication problem (sets up to 45)
Uses a calculator for whole number calculations (addition/subtraction sets up to 10) NOT ASSESSING	Uses a calculator for whole number calculations (addition/subtraction sets up to 12) NOT ASSESSING	Uses a calculator for whole number calculations (addition/subtraction sets up to 20) NOT ASSESSING	Uses a calculator for whole number calculations (addition/subtraction sets up to 25) NOT ASSESSING	Uses a calculator for whole number calculations (addition/subtraction sets up to 30) NOT ASSESSING	Uses a calculator for whole number calculations (addition/subtraction/ multiplication sets up to 35) NOT ASSESSING	Uses a calculator for whole number calculations (any operator sets up to 40) NOT ASSESSING	Uses a calculator for whole number calculations (any operator sets up to 45) NOT ASSESSING
						Solves simple problems involving division (sets up to 40)	Solves simple problems involving division (sets up to 45)

The Colorado Student Assessment Program Alternate (CSAPA)
Science Assessment Framework

Standard 1: Under the processes of scientific investigation and design, conduct, communicate about and evaluate such investigations
Expanded Benchmark: 1. Make quantitative and qualitative observations

Critical Concept	Grade 5	Grade 8	Grade 10
Use senses		**Demonstrates** an awareness of the environment	**Demonstrates** an ability to investigate the environment
	Identifies different parts of the environment	**Identifies** different environmental conditions	**Indicates** an understanding of differences in environmental conditions based on use of senses
		Observes a partial sequence of events	**Observes** a complete sequence of events
	Recognizes that objects have different properties	**Recognizes** that objects have different properties	**Recognizes** specific properties of an object
Use tools	**Identifies** tools used in scientific investigations	**Identifies** the function of tools used in scientific investigations	**Manipulates** measurement tools
		Selects the appropriate tool to gain information	**Selects** and use tools in a purposeful manner to gain information about an object
	Understands qualitative descriptive terms	**Provides** a qualitative description of the properties of an object	**Provides** a qualitative description of the properties of an object
			Uses a measurement tool to provide a quantitative description of the properties of an object

Standard 1: Under the processes of scientific investigation and design, conduct, communicate about and evaluate such investigations
Expanded Benchmark: 1. Make quantitative and qualitative observations (continued)

Critical Concept	Grade 5	Grade 8	Grade 10
Organize observations	**Matches** observations to pictures, diagrams, or graphs	**Matches** observations to pictures, diagrams, or graphs **Makes** a conclusion from observations	**Uses** observations as data **Records** observations **Makes** a record of observations **Makes** a record of observations over time
	Labels observations	**Labels** observations	**Labels** observations
		Sequences observations in subcategories	**Sequences** observations in subcategories **Organizes** observations to make a prediction
Communicate observations	**Attends** to a task in order to make an observation	**Attends** to a task in order to make an observation	**Attends** to a task in order to make an observation
	Communicates the sequence of scientific events	**Displays** information about observations in a variety of ways	**Provides** descriptive information about the observation **Displays** information about observations in a variety of ways
			Determines most appropriate way to display observations/data
	Matches data to an observation	**Arranges** data to communicate sequence of scientific events **Matches** data to an observation	**Arranges** data to communicate sequence of scientific events

Standard 1: Under the processes of scientific investigation and design, conduct, communicate about and evaluate such investigations
Expanded Benchmark: 2. Ask questions for information based on observations

Critical Concept	Grade 5	Grade 8	Grade 10
Know what a scientific (testable) question is	**Collects** information	**Collects** information	**Collects** information to answer a question
			Differentiates between a testable and non-testable question
	Asks a question about the information	**Poses** a question relative to the information (possibly not testable)	**Poses** a testable question (e.g., what makes ice melt, heat or cold?)
Pose a question around a testable vs. non-testable problem	**Asks** questions to gain information		**Asks** questions to gain information
		Poses additional questions about an investigation	**Poses** informational questions (e.g., who, what, why, where, when, how)
		Identifies resources to gain additional scientific information	**Identifies** resources to gain additional scientific information

Standard 1: Under the processes of scientific investigation and design, conduct, communicate about and evaluate such investigations
Expanded Benchmark: 3. Make predictions related to observations, experiences and patterns

Critical Concept	Grade 5	Grade 8	Grade 10
Make predictions related to observations, experiences and patterns	**Demonstrates** an understanding of cause and effect in scientific events	**Differentiates** between the cause and effect of an event	**Demonstrates** an understanding of cause and effect in scientific events
		Determines if a prediction is valid	**Determines** if the prediction is based upon experience or knowledge
			Distinguishes between a guess and prediction and explain the reasoning
			Asks questions to get more information when needed
		Makes an appropriate prediction based on observation/information	**Makes** an appropriate prediction based on observation/information

Standard 1: Under the processes of scientific investigation and design, conduct, communicate about and evaluate such investigations
Expanded Benchmark: 4. Collect, organize, and analyze data

Critical Concept	Grade 5	Grade 8	Grade 10
Collect, organize, and analyze data	**Indicates** an awareness of collections within the environment	**Indicates** an awareness of collections within the environment	**Indicates** an awareness of collections within the environment
	Identifies objects to add to collections	**Identifies** objects to add to collections	**Identifies** appropriate objects to add to collections
			Identifies ways to collect data (e.g., qualitative and quantitative methods)
	Identifies data to collect for a problem or situations	**Determines** data to collect for a problem or situations	**Determines** appropriate data to collect for a problem or situations
			Uses a symbol to represent information/data
		Gathers data	**Gathers** data
		Knows ways to organize data	**Knows** ways to organize data
	Sorts objects into categories	**Sorts** objects into categories	**Sorts** objects into categories and subcategories (e.g., living vs. nonliving)
			Organizes data to show patterns and trends (e.g., order, sequence)
		Recognizes when patterns in data exist	**Recognizes** when patterns in data exist (e.g., indicate attributes or criteria for organizing data)
			Recognizes when relationships in data exist (e.g., leaves are associated with trees)
		Recognizes that variations in data exist	**Recognizes** that variations in data exist (e.g., differences in the height/eye color of classmates; variation in leaves)
			Explains the patterns and relationships in the data
	Employs safe techniques for investigations	**Employs** safe techniques for investigations	**Employs** safe techniques for investigations

Standard 1: Under the processes of scientific investigation and design, conduct, communicate about and evaluate such investigations
Expanded Benchmark: 5. Communicate results of investigations

Critical Concept	Grade 5	Grade 8	Grade 10
Communicate results of investigations			**Uses** data to construct explanation (graphs, pictures)
		Labels units	**Labels** units
	Identifies different ways of measuring	**Identifies** different ways of measuring	**Identifies** different ways of measuring (descriptive)
	Describes data source for meaning	**Describes** data source for meaning	**Describes** data source for meaning
			Determines if and how findings support or do not support the scientific question/predictions
			Explains how unexpected findings lead to new questions and add to understandings
			Explains how the data supports findings
		Relates results to predictions	**Relates** results to predictions
			Applies results to another situation

Standard 2: Physical Science: Students know and understand common properties, forms and changes in matter and energy
Expanded Benchmark: 1. Demonstrate awareness of physical and chemical properties

Critical Concept	Grade 5	Grade 8	Grade 10
Make qualitative observations about physical properties	**Uses** senses to make observations	**Uses** senses to make observations	**Uses** senses to make observations
	Uses simple descriptors such as color, odor, texture, size, shape, etc. to relate information about properties of living and non-living matter	**Uses** simple descriptors such as color, odor, texture, size, shape, etc. to relate information about properties of living and non-living matter	**Uses** simple descriptors such as color, odor, texture, size, shape, etc. to relate information about properties of living and non-living matter
	Describes temperature using labels such as hot/cold/warm/tepid	**Describes** temperature using labels such as hot/cold/warm/tepid	**Describes** temperature using labels such as hot/cold/warm/tepid
	Describes volume using labels such as more/less/same	**Describes** volume using labels such as more/less/same	**Describes** volume using labels such as more/less/same
	Describes mass using labels such as heavy/light	**Describes** mass using labels such as heavy/light	**Describes** mass using labels such as heavy/light
			Identifies homogenous mixtures from non-homogenous mixtures
			Identifies a mixture as a solution
		Classifies objects based on physical properties (e.g., textures, living vs. non-living, type of object)	**Classifies** objects based on physical properties (e.g., textures, living vs. non-living, type of object)
			Classifies objects based on chemical properties (the ability of something to react)
		Classifies objects based on states of matter	**Classifies** objects based on states of matter
			Provides a justification for how objects were classified into groups

Standard 2: Physical Science: Students know and understand common properties, forms and changes in matter and energy
Expanded Benchmark: 1. Demonstrate awareness of physical and chemical properties

Critical Concept	Grade 5	Grade 8	Grade 10
Make quantitative observations	**Demonstrates** an understanding that counting is saying numbers	**Demonstrates** an understanding that counting is saying numbers	**Demonstrates** an understanding that counting is saying numbers
	Shows a quantity	**Shows** a quantity	**Shows** a quantity
	Applies a number label to a quantity	**Applies** a number label to a quantity	**Applies** a number label to a quantity
		Demonstrates the relationship between a number symbol and quantity	**Demonstrates** the relationship between a number symbol and quantity
	Identifies measurement tools		
	Makes comparisons between different quantities	**Makes** comparisons between different quantities	**Makes** comparisons between different quantities
		Uses appropriate tools for measurement such as a scale, thermometer, measuring cup	**Uses** appropriate tools for measurement such as a scale, thermometer, measuring cup
			Knows that temperature is described by degrees (e.g., Fahrenheit, Celsius)
			Knows that volume is described by volume terms (e.g., teaspoon, tablespoon, cup, liter)
			Knows that there are appropriate units for measuring and describing mass (e.g., pounds and grams)
			Demonstrates conservation of mass, volume
			Chooses appropriate units of measurement

Standard 2: Physical Science: Students know and understand common properties, forms and changes in matter and energy
Expanded Benchmark: 2. Make observations associated with energy

Critical Concept	Grade 5	Grade 8	Grade 10
Make observations associated with energy		**Identifies** the forms of energy	**Identifies** the forms of energy (e.g., heat, light, sound, mechanical, potential/kinetic)
	Identifies non-living objects that need energy to function	**Identifies** non-living objects that need energy to function	**Identifies** non-living objects that need energy to function
		Describes ways in which non-living objects get energy	**Describes** ways in which non-living objects get energy
	Understands that objects can move at different speeds	**Understands** that objects can move at different speeds	**Understands** that objects can move at different speeds
	Describes transformation of forms of energy in terms of motion (e.g., fast, slow)	**Describes** transformation of forms of energy in terms of motion (e.g., fast, slow)	**Describes** transformation of forms of energy in terms of motion (e.g., fast, slow)
	Understands that objects move as a result of force	**Understands** that objects move as a result of force	**Understands** that objects move as a result of force
		Understands that objects can move at different speeds based on the amount of force	**Understands** that objects can move at different speeds based on the amount of force
		Understands that objects can move at different speeds and in different directions based on the amount and type of force	**Understands** that objects can move at different speeds and in different directions based on the amount and type of force
			Understands that a change in force will cause a change in speed and/or direction of the object
			Describes transformation of forms of energy in terms of temperature

Standard 2: Physical Science: Students know and understand common properties, forms and changes in matter and energy
Expanded Benchmark: 3. Understand interactions between matter and energy

Critical Concept	Grade 5	Grade 8	Grade 10
Understand interactions between matter and energy	**Content is above grade level**	**Demonstrates** that energy can be transferred in different ways	**Demonstrates** that energy can be transferred in different ways (e.g., simple electric circuits)
		Knows when heat is introduced, changes in matter take place	**Knows** when heat is introduced, changes in matter take place

Standard 3: Life Science: Students know and understand the characteristics and structures of living things, the processes of life, and how living things interact with each other in the environment
Expanded Benchmark: 1. Understand the characteristics and structures of living things (plant and animals)

Critical Concept	Grade 5	Grade 8	Grade 10
Understand the characteristics and structures of living things (plant and animals)	**Identifies** living matter **Identifies** non-living matter	**Distinguishes** between living vs. non-living matter	**Distinguishes** between living vs. non-living matter
		Describes characteristics of living matter	**Describes** characteristics of living matter
		Describes characteristics of non-living matter	**Describes** characteristics of non-living matter
			Recognizes properties/characteristics of plants
			Recognizes properties/characteristics of animals

Standard 3: Life Science: Students know and understand the characteristics and structures of living things, the processes of life, and how living things interact with each other in the environment
Expanded Benchmark: 2. Demonstrate an understanding of the processes of life

Critical Concept	Grade 5	Grade 8	Grade 10
Demonstrate an understanding of the processes of life	**Identifies** basic needs of living things	**Identifies** basic needs of living things	**Identifies** basic needs of living things
	Identifies the young/adult stages of some common plants and animals	**Identifies** how living organisms attain basic needs	**Identifies** how living organisms attain basic needs
		Recognizes that all living organisms have a life cycle that vary in length	**Recognizes** that all living organisms have a life cycle that vary in length
		Identifies stages of a life cycle	**Identifies** stages of a life cycle
			Recognizes that living things respond to their environment

Standard 3: Life Science: Students know and understand the characteristics and structures of living things, the processes of life, and how living things interact with each other in the environment
Expanded Benchmark: 3. Understand how living things interact with each other and the environment

Critical Concept	Grade 5	Grade 8	Grade 10
Understand how living things interact with each other and the environment		**Recognizes** how organisms are affected by other living and nonliving things in the environment	**Recognizes** how organisms are affected by other living and nonliving things in the environment
	Recognizes that food sources come from the environment	**Recognizes** that food sources come from the environment	**Recognizes** that food sources come from the environment
		Describes the parts of a food chain	**Describes** the parts of a food chain
		Knows the steps of a food chain	**Knows** the steps of a food chain
			Describes the parts of a food web
			Recognizes that the food chain and food web are affected by changes to other living and non-living things in the environment
	Describes how organisms are dependent upon the non-living environment	**Describes** how organisms are dependent upon the non-living environment	**Describes** how organisms are dependent upon each other (living) and non-living environment
	Recognizes that a change in the environment can affect everything living in the environment	**Recognizes** how a change in the environment can affect everything living in the environment	**Recognizes** how a change in the environment can affect everything living in the environment
			Demonstrates an understanding that when an area becomes overpopulated, natural resources become less available
			Demonstrates an understanding that when natural resources in the environment are overused, the environment becomes degraded

Standard 3: Life Science: Students know and understand the characteristics and structures of living things, the processes of life, and how living things interact with each other in the environment
Expanded Benchmark: 4. Understand the human body is a system

Critical Concept	Grade 5	Grade 8	Grade 10
Understand the human body is a system		**Recognizes** that both living and non-living things can be recycled	**Recognizes** that both living and non-living things can be recycled
	Identifies/sequences the main stages in the life cycle of a human	**Describes** the human life cycle, including the concept of aging, sickness, health, change	**Describes** the human life cycle, including the concept of aging, sickness, health, change
	Identifies the observable parts of the body	**Identifies** the observable parts of the body	**Identifies** the observable parts of the body
	Describes the functions of the observable parts of the body	**Describes** the functions of the observable parts of the body	**Describes** the functions of the observable parts of the body
		Identifies the main, internal parts of the body	**Identifies** the main, internal parts of the body
		Describes functions of internal parts of the body	**Describes** functions of internal parts of the body
		Recognizes that certain parts of the body make up a subsystem	**Recognizes** that certain parts of the body make up a subsystem
			Describes the functions of subsystems (digestive, respiration) and how they interrelate
		Identifies how environmental conditions and personal decisions can affect parts of the body	**Understands** how environmental conditions and personal decisions can affect parts of the body (e.g. allergies, smoking, food quality)
		Identifies the stages of human aging/maturation	**Identifies** when a system is not functioning properly
			Recognizes how adaptations (natural and artificial) can support living things when a system does not function properly
			Explains the stages of human aging/maturation (birth, infancy, early childhood, adolescence, adulthood, death)

Standard 4: Earth and Space Science: Students know and understand the processes and interaction of Earth's systems and the structure and dynamics of Earth and other objects in space
Expanded Benchmark: 1. Interact with the weather

Critical Concept	Grade 5	Grade 8	Grade 10
Interact with the weather	**Demonstrates** an awareness of changes in weather/temperature	**Demonstrates** an awareness of changes in weather/temperature	**Demonstrates** an awareness of changes in weather/temperature
	Identifies types of weather	**Identifies** types of weather	**Identifies** types of weather
	Uses simple qualitative labels to indicate weather properties	**Uses** simple qualitative labels to indicate weather properties	**Uses** simple qualitative labels to indicate weather properties
	Identifies materials/clothing/ recreation/transportation appropriate to the weather	**Identifies** materials/clothing/ recreation/transportation appropriate to the weather	**Identifies** materials/clothing/ recreation/transportation appropriate to the weather
	Identifies seasons	**Identifies** seasons	**Labels** seasons
	Identifies types of weather related to a season	**Identifies** types of weather related to a season	**Identifies** types of weather related to a season
			Identifies features and weather patterns associated with catastrophic events
	Distinguishes between catastrophic events	**Distinguishes** between catastrophic events	**Distinguishes** between catastrophic events
	Makes daily qualitative observations about the weather	**Makes** daily qualitative observations about the weather	**Makes** daily qualitative observations about the weather
			Graphs qualitative observations about weather
		Uses a simple tool (e.g., thermometer, weather vane, rain gauge) to make quantitative observations about the weather	**Uses** a simple tool (e.g. thermometer, weather vane, rain gauge) to make quantitative observations about the weather
			Graphs quantitative information about weather
			Uses resources and information to predict subsequent day's weather based on weather patterns

Standard 4: Earth and Space Science: Students know and understand the processes and interaction of Earth's systems and the structure and dynamics of Earth and other objects in space
Expanded Benchmark: 2. Recognize Earth's features

Critical Concept	Grade 5	Grade 8	Grade 10
Recognize Earth's features	**Uses** appropriate qualitative labels to describe properties of Earth's materials (wet, hard, rough, dry, smooth)	**Uses** appropriate qualitative labels to describe properties of Earth's materials (wet, hard, rough, dry, smooth)	**Uses** appropriate qualitative labels to describe properties of Earth's materials (wet, hard, rough, dry, smooth)
	Distinguishes between Earth materials (soil, water, sand, rock)	**Distinguishes** between Earth materials (soil, water, sand, rock)	**Distinguishes** between Earth materials (soil, water, sand, rock)
	Identifies distinctive landforms (water, rivers, lake, beaches, mountains, valleys)	**Identifies** distinctive land forms (water, rivers, lake, beaches, mountains, valleys)	**Identifies** distinctive land forms (water, rivers, lake, beaches, mountains, valleys)
		Recognizes differences in landforms and different surfaces	**Recognizes** differences in rocks
		Matches Earth's materials to landforms (e.g., sand to beaches, rocks to mountains, water to lakes and rivers)	**Matches** Earth's materials to landforms (e.g., sand to beaches, rocks to mountains, water to lakes and rivers)
	Identifies natural events (erosion, floods, blizzards, volcanoes)	**Identifies** natural events (erosion, floods, blizzards, volcanoes)	**Identifies** natural events (erosion, floods, blizzards, volcanoes)
			Recognizes that the surface of the Earth changes by differences processes and/or natural events
			Recognizes that fossils provide evidence of Earth's history

Standard 4: Earth and Space Science: Students know and understand the processes and interaction of Earth's systems and the structure and dynamics of Earth and other objects in space
Expanded Benchmark: 3. Identify fundamental properties and uses of water

Critical Concept	Grade 5	Grade 8	Grade 10
Identify fundamental properties and uses of water	**Identifies** sources of water	**Identifies** sources of water	**Identifies** sources of water
	Identifies the uses of water	**Identifies** the uses of water	**Identifies** the uses of water
		Associates snow, ice, hail, etc. with water	**Associates** snow, ice, hail, etc. with water
			Recognizes states of water (solid, liquid, gas)
	Identifies natural sources of water	**Identifies** natural sources of water	**Identifies** natural sources of water
		Recognizes ways to conserve water	**Recognizes** ways to conserve water
		Recognizes that water flows downward	**Recognizes** that water flows downward
			Recognizes that water has a cycle (e.g., precipitation, evaporation, condensation)

Standard 4: Earth and Space Science: Students know and understand the processes and interaction of Earth's systems and the structure and dynamics of Earth and other objects in space
Expanded Benchmark: 4. Recognize objects in space and interaction with Earth's systems

Critical Concept	Grade 5	Grade 8	Grade 10
Recognize objects in space and interaction with Earth's systems	**Labels** objects in the sky that can be viewed unaided (e.g., birds, sun, moon, stars, clouds, plane)	**Labels** objects in the sky that can be viewed unaided (e.g., birds, sun, moon, stars, clouds, plane)	**Labels** objects in the sky that can be viewed unaided (e.g., birds, sun, moon, stars, clouds, plane)
	Identifies sun, moon, stars	**Identifies** sun, moon, stars	**Identifies** sun, moon, stars
	Associates sun with daylight and stars with twilight/evening	**Associates** sun with daylight and stars with twilight/evening	**Associates** sun with daylight and stars with twilight/evening
		Identifies the sun as a source of heat and light	**Identifies** the sun as a source of heat and light
		Describes the effects of sun's light and heat on living things	**Describes** the effects of sun's light and heat on living things
			Recognizes that earth's rotation causes the sun to appear differently throughout the day (e.g., sunrise, high noon, sunset)
		Recognizes that objects in the sky have patterns of movement (e.g., the sun appears to move across the sky)	**Recognizes** that objects in the sky have patterns of movement (e.g., the sun appears to move across the sky)
	Identifies the moon's appearance using quantitative labels (full moon, half moon, quarter moon)	**Identifies** the moon's appearance using quantitative labels (full moon, half moon, quarter moon)	**Identifies** the moon's appearance using quantitative labels (full moon, half moon, quarter moon)
			Distinguishes between fiction and fact regarding space exploration
			Recognizes how aerospace design impacts space travel (e.g., where you can go on an airplane vs. where you can go on a space shuttle)
			Identifies ways in which basic needs can be met in space

Standard 5: Students know and understand interrelationships among science, technology and human activity and how they can affect the world
Expanded Benchmark: 1. Understand the impact of science and technology

Critical Concept	Grade 5	Grade 8	Grade 10
Understand the impact of science and technology	**Discriminates** between human and natural made objects	**Discriminates** between human and natural made objects	**Discriminates** between human and natural made objects
		Understands that technology is human made	**Understands** that technology is human made
	Recognizes examples of practical technology (e.g., computers, printers, telephone, electronic games, electric wheelchairs)	**Recognizes** examples of practical technology (e.g., computers, printers, telephone, electronic games, electric wheelchairs)	**Recognizes** examples of practical technology (e.g., computers, printers, telephone, electronic games, electric wheelchairs)
			Identifies ways that a problem/need can be solved/met through the use of technology
			Identifies ways in which science and technology are related (e.g., electricity to turn on computer, thermometer to measure temperature)
			Recognizes science provides knowledge base while technology applies that knowledge (e.g., Parts of the human ear pick up sound waves. Hearing aids were developed to assist people who do not hear well.)
			Identifies contributions of science and technology to quality of life (e.g., Devices, such as a wheelchairs, have changed over time)
		Recognizes and identify benefits as well as risks of technological advances (e.g., Cars allow people to travel from one place to another. However, the exhaust from a car causes air pollution.)	**Recognizes** and identify benefits as well as risks of technological advances (e.g., Cars allow people to travel from one place to another. However, the exhaust from a car causes air pollution.)

Standard 5: Students know and understand interrelationships among science, technology, and human activity and how they can affect the world
Expanded Benchmark: 2. Understand that humans affect their world through technology and science

Critical Concept	Grade 5	Grade 8	Grade 10
Understand that humans affect their world through technology and science		**Identifies** careers related to the science/technology fields	**Identifies** careers related to the science/technology fields
	Identifies scientific/technological inventions	**Identifies** scientific/technological inventions	**Identifies** scientific/technological inventions
			Describes how different careers affect the world through science and technology
			Recognizes an invention
			Describes and creates a technological invention that would improve personal quality of life
			Makes and communicates a simple connection among scientific disciplines

Standard 6: Students understand that science involves a particular way of knowing and understanding common connections among scientific disciplines
Expanded Benchmark: 1. Understand how to recognize and control variables in an experiment

Critical Concept	Grade 5	Grade 8	Grade 10
Understand how to recognize and control variables in an experiment	**Content is above grade level**	**Recognizes** when conditions are the same or different for a test or task	**Recognizes** when conditions are the same or different for a test or task
			Identifies what a "fair" test is
		Sequences the steps of a simple experiment	**Sets up** a simple experiment

Standard 6: Students understand that science involves a particular way of knowing and understanding common connections among scientific disciplines
Expanded Benchmark: 2. Know what can be answered scientifically

Critical Concept	Grade 5	Grade 8	Grade 10
Know what can be answered scientifically	**Content is above grade level**		**Identifies** what is science and what is not (opinion vs. evidence)
			Identifies which questions can be answered through an experiment
			Describes how the structure of an object is related to its use or function
		Recognizes that the human body is made up of different systems that work together (e.g., digestive, circulatory, respiratory, nervous)	**Recognizes** that the human body is made up of different systems that work together (e.g., digestive, circulatory, respiratory, nervous)

Standard 6: Students understand that science involves a particular way of knowing and understanding common connections among scientific disciplines
Expanded Benchmark: 3. Use a model to understand scientific phenomena

Critical Concept	Grade 5	Grade 8	Grade 10
Use a model to understand scientific phenomena	**Content is above grade level**		**Understands** that a physical object represents a model
		Identifies a model	**Identifies** a model
			Uses a simple model to explain scientific principles
			Understands that a mathematical equation can represent a model
			Understands that a computer graphic can represent a model