

The Colorado Alternate Assessment (CoAlt) Reading Assessment Frameworks

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: Demonstrate understanding of symbolic representation

Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
				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					
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	Chooses suffix to create a new word from a familiar word
							Uses knowledge of root word to decipher unfamiliar 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: Demonstrate understanding of beginning principals of phonics

Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
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 a word by the ending sound	Identifies words by beginning or ending sounds	Identifies a word by the beginning sound			
		Identifies the sound in the middle of a word		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: Use a variety of strategies to make meaning of text

Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
			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: Make connections to reading passage

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

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: Identify elements of literature (character, plot, setting)

Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
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 main idea of the story		Identifies main idea of the story	Identifies the main idea of the story	Identifies the main idea of the story
			Identifies character elements				Identifies character elements

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: Demonstrate Knowledge that various texts have different purposes

Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
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: Identifies a variety of Resources

Critical Concept: Relates and sorts information (details) about a specific topic or purpose of a reading passage

Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
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 Alternate Assessment (CoAlt)

Writing Assessment Frameworks

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: Demonstrate an understanding that writing communicates a message

Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
				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 and last name	Writes first and last name					

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: Organize writing to create a draft document

Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
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				
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: Use systematic conventions to make written product understandable by others

Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
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 the correct way to write a number	Identifies the correct way to write a number	Identifies the correct way to write a number	Identifies the correct way to write a number	Identifies the correct way to write a number	Understands text organization	Understands text organization
Identifies standard English usage rules	Identifies standard English usage rules	Identifies standard English usage rules	Identifies standard English usage rules	Identifies standard English usage rules	Chooses standard English usage rules		
				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: Edit a written product using legible handwriting/ word processor for publication

Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
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			
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 Alternate Assessment (CoAlt) 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: 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

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: 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: 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			

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: Identifies, describes, and creates patterns to solve problems

Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
				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: 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							
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			
					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: 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 non-typical display (circle, square, triangle)	Identifies shapes in non-typical display (circle, square, triangle)	Identifies shapes in non-typical display (rectangle, oval, trapezoid)	Identifies shapes in non-typical 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 2-dimensional shapes in a 3-dimensional object (cube, cylinder)	Identifies 2-dimensional shapes in a 3-dimensional object (cone, pyramid, prism)	Identifies 2-dimensional shapes in a 3-dimensional object	Identifies 2-dimensional shapes in a 3-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

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: Identifies, sorts, and matches geometric shapes

Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
			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: 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					

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: Applies a variety of measurement skills

Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
	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: 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	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,	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	Employs strategies to find simple subtraction facts (sets up to 12	Employs strategies to find simple subtraction facts (sets up to 20	Employs strategies to find simple subtraction facts (sets up to 25	Employs strategies to find simple subtraction facts (sets up to 30	Employs strategies to find simple subtraction facts (sets up to 35	Employs strategies to find simple subtraction facts (sets up to 40	Employs strategies to find simple subtraction facts (sets up to 45
					Solves a simple multiplication problem (sets up to	Solves a simple multiplication problem (sets up to	Solves a simple multiplication problem (sets up to

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: Uses calculation strategies to compute problems

Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10
<p>Uses a calculator for whole number calculations (addition /subtraction sets up to 10) NOT ASSESSING</p>	<p>Uses a calculator for whole number calculations (addition /subtraction sets up to 12) NOT ASSESSING</p>	<p>Uses a calculator for whole number calculations (addition /subtraction sets up to 20) NOT ASSESSING</p>	<p>Uses a calculator for whole number calculations (addition /subtraction sets up to 25) NOT ASSESSING</p>	<p>Uses a calculator for whole number calculations (addition /subtraction sets up to 30) NOT ASSESSING</p>	<p>Uses a calculator for whole number calculations (addition /subtraction /multiplication sets up to 35) NOT ASSESSING</p>	<p>Uses a calculator for whole number calculations (any operator sets up to 40) NOT ASSESSING</p>	<p>Uses a calculator for whole number calculations (any operator sets up to 45) NOT ASSESSING</p>
						<p>Solves simple problems involving division (sets up to 40)</p>	<p>Solves simple problems involving division (sets up to 45)</p>

The Colorado Alternate Assessment (CoAlt) Science Assessment Frameworks

SCIENTIFIC INVESTIGATION

Science 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: Use Senses

Grade 5	Grade 8	Grade 10
	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

SCIENTIFIC INVESTIGATION

Science 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: Use Tools

Grade 5	Grade 8	Grade 10
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

SCIENTIFIC INVESTIGATION

Science Standard 1: Under the processes of scientific investigation and design, conduct, communicate about and evaluate such investigations

Expanded Benchmark: Make quantitative and qualitative observations

Critical Concepts: Organized Observations

Grade 5	Grade 8	Grade 10
Matches observations to pictures, diagrams, or graphs	Matches observations to pictures, diagrams, or graphs	Uses observations as data
	Makes a conclusion from observations	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

SCIENTIFIC INVESTIGATION

Science Standard 1: Under the processes of scientific investigation and design, conduct, communicate about and evaluate such investigations

Expanded Benchmark: Make quantitative and qualitative observations

Critical Concepts: Communicate Observations

Grade 5	Grade 8	Grade 10
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
	Arranges data to communicate sequence of scientific events	Arranges data to communicate sequence of scientific events
Matches data to an observation	Matches data to an observation	

SCIENTIFIC INVESTIGATION

Science Standard 1: Under the processes of scientific investigation and design, conduct, communicate about and evaluate such investigations

Expanded Benchmark: Ask questions for information based on observations

Critical Concept: Know what a scientific (testable) question is

Grade 5	Grade 8	Grade 10
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?)

SCIENTIFIC INVESTIGATION

Science Standard 1: Under the processes of scientific investigation and design, conduct, communicate about and evaluate such investigations

Expanded Benchmark: Ask questions for information based on observations

Critical Concept: Pose a question around a testable vs. non-testable problem

Grade 5	Grade 8	Grade 10
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

SCIENTIFIC INVESTIGATION

Standard 1: Under the processes of scientific investigation and design, conduct, communicate about and evaluate such investigations

Expanded Benchmark: Make predictions related to observations, experiences and patterns

Critical Concept: Make predictions related to observations, experiences and patterns

Grade 5	Grade 8	Grade 10
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

SCIENTIFIC INVESTIGATION

Standard 1: Under the processes of scientific investigation and design, conduct, communicate about and evaluate such investigations

Expanded Benchmark: Collect, organize, and analyze data

Critical Concept: Collect, organize, and analyze data

Grade 5	Grade 8	Grade 10
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)

SCIENTIFIC INVESTIGATION

Standard 1: Under the processes of scientific investigation and design, conduct, communicate about and evaluate such investigations

Expanded Benchmark: Collect, organize, and analyze data

Critical Concept: Collect, organize, and analyze data

Grade 5	Grade 8	Grade 10
	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

SCIENTIFIC INVESTIGATION

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: Communicate results of investigations

Grade 5	Grade 8	Grade 10
		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

PHYSICAL SCIENCE**Standard 2:** Students know and understand common properties, forms and changes in matter and energy**Expanded Benchmark:** Demonstrate awareness of physical and chemical properties**Critical Concept:** Make qualitative observations about physical properties

Grade 5	Grade 8	Grade 10
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

PHYSICAL SCIENCE**Standard 2:** Students know and understand common properties, forms and changes in matter and energy**Expanded Benchmark:** Demonstrate awareness of physical and chemical properties**Critical Concept:** Make quantitative observations

Grade 5	Grade 8	Grade 10
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

PHYSICAL SCIENCE**Standard 2:** Students know and understand common properties, forms and changes in matter and energy**Expanded Benchmark:** Make observations associated with energy**Critical Concept:** Make observations associated with energy

Grade 5	Grade 8	Grade 10
	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

PHYSICAL SCIENCE**Standard 2:** Students know and understand common properties, forms and changes in matter and energy**Expanded Benchmark:** Understand interactions between matter and energy**Critical Concept:** Understand interactions between matter and energy

Grade 5	Grade 8	Grade 10
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

LIFE SCIENCE

Standard 3: 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: Understand the characteristics and structures of living things (plant and animals)

Critical Concept: Understand the characteristics and structures of living things (plant and animals)

Grade 5	Grade 8	Grade 10
Identifies living matter	Distinguishes between living vs. non-living matter	Distinguishes between living vs. non-living matter
Identifies 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

LIFE SCIENCE

Standard 3: 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: Demonstrate an understanding of the processes of life

Critical Concept: Demonstrate an understanding of the processes of life

Grade 5	Grade 8	Grade 10
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

LIFE SCIENCE

Standard 3: 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: Understand how living things interact with each other and the environment

Critical Concept: Understand how living things interact with each other and the environment

Grade 5	Grade 8	Grade 10
	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

LIFE SCIENCE

Standard 3: 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: Understand the human body is a system

Critical Concept: Understand the human body is a system

Grade 5	Grade 8	Grade 10
	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)

EARTH AND SPACE SCIENCE

Standard 4: 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: Interact with the weather

Critical Concept: Interact with the weather

Grade 5	Grade 8	Grade 10
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

EARTH AND SPACE SCIENCE

Standard 4: 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: Interact with the weather

Critical Concept: Interact with the weather

Grade 5	Grade 8	Grade 10
	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

EARTH AND SPACE SCIENCE

Standard 4: 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: Recognize Earth’s features

Critical Concept: Recognize Earth’s features

Grade 5	Grade 8	Grade 10
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

EARTH AND SPACE SCIENCE

Standard 4: 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: Identify fundamental properties and uses of water

Critical Concept: Identify fundamental properties and uses of water

Grade 5	Grade 8	Grade 10
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)

EARTH AND SPACE SCIENCE

Standard 4: 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: Recognize objects in space and interaction with Earth’s systems

Critical Concept: Recognize objects in space and interaction with Earth’s systems

Grade 5	Grade 8	Grade 10
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

SCIENCE & TECHNOLOGY

Standard 5: Students know and understand interrelationships among science, technology and human activity and how they can affect the world

Expanded Benchmark: Understand the impact of science and technology

Critical Concept: Understand the impact of science and technology

Grade 5	Grade 8	Grade 10
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.)

SCIENCE & TECHNOLOGY

Standard 5: Students know and understand interrelationships among science, technology, and human activity and how they can affect the world

Expanded Benchmark: Understand that humans affect their world through technology and science

Critical Concept: Understand that humans affect their world through technology and science

Grade 5	Grade 8	Grade 10
	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: Understand how to recognize and control variables in an experiment

Critical Concept: Understand how to recognize and control variables in an experiment

Grade 5	Grade 8	Grade 10
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: Know what can be answered scientifically

Critical Concept: Know what can be answered scientifically

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

Standard 6: Students understand that science involves a particular way of knowing and understanding common connections among scientific disciplines

Expanded Benchmark: Use a model to understand scientific phenomena

Critical Concept: Use a model to understand scientific phenomena

Grade 5	Grade 8	Grade 10
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