

Use a model of the communication process to analyze the components of a communication event and to critique the communication's effectiveness in achieving its intended goals.	None		Teachers will supplement the curriculum to include opportunities for students to use a model of the communication process to analyze the components of a communication event and to critique the communication's effectiveness in achieving its intended goals.
Analyze the ways in which the internal and contextual variables of a speech support or confound its meaning or purpose.			
<ul style="list-style-type: none"> Analyze the internal variables that affect a communication event, such as the speaker's and listener's background knowledge, experiences, culture, opinions, values, beliefs, emotional states, and familiarity with the language, and critique the communication in light of intended goals. 	Full	Embedded throughout, for example: ENG202A 1.1-1.12 ENG202A 2.1-2.12 ENG202A 4.1-4.11 ENG202B 1.1-1.14 ENG202B 2.1-2.13 ENG202B 4.1-4.11	
Participate productively in self-directed work teams for a particular purpose (for example, to interpret literature, write or critique a proposal, solve a problem or make a			
N/A	N/A	N/A	
Demonstrate proficiency in producing a variety of compositions.			
<ul style="list-style-type: none"> Demonstrate mastery in the creation of expository and process essays that (1) introduce the situation, provide necessary background knowledge, and clearly state the thesis or purpose; (2) follow an organizational pattern particular to type; (3) offer evidence for the validity of the descriptions or proposed solutions including direct quotes, indirect quotes, and paraphrases from supporting material when necessary; and (4) make effective use of factual descriptions, concrete images, shifting perspectives and vantage points, and sensory detail. 	Full	ENG202A 2.1-2.12 ENG202A 10.1-10.2 ENG202B 2.1-2.13 ENG202B 4.1-4.11 ENG202B 7.1-7.13 ENG202B 9.1-9.13	
Plan writing by taking notes, writing informal outlines, and researching.			
<ul style="list-style-type: none"> Use a variety of pre-writing strategies to guide the generation of content by activating prior knowledge such as brainstorming, ideamapping, free-writing, outlining, keeping a journal, asking journalist's questions—who, what, when, where, why, and how. 	Full	ENG202A 2.1-2.12 ENG202A 10.1-10.2 ENG202B 2.1-2.13 ENG202B 4.1-4.11 ENG202B 7.1-7.13 ENG202B 9.1-9.13	
<ul style="list-style-type: none"> Select major ideas and develop them with relevant reasons, supporting examples and details. 	Full	ENG202A 2.1-2.12 ENG202A 10.1-10.2 ENG202B 2.1-2.13 ENG202B 4.1-4.11 ENG202B 7.1-7.13 ENG202B 9.1-9.13	
Select and use formal or informal literary or technical language appropriate for the purpose, audience, and context of the communication.			
<ul style="list-style-type: none"> Use vivid descriptive language to create sensory images in the mind of the audience. 	Full	ENG202A 2.1-2.12 ENG202A 10.1-10.2 ENG202B 2.1-2.13 ENG202B 4.1-4.11	
<ul style="list-style-type: none"> Use language to stimulate the emotions of the reader. 	Full	ENG202A 2.1-2.12 ENG202A 10.1-10.2 ENG202B 2.1-2.13 ENG202B 4.1-4.11	
Organize ideas in writing with a thesis statement in the introduction, well-constructed paragraphs, a conclusion, and transition sentences that connect paragraphs into a			
<ul style="list-style-type: none"> Organize and deliver an argument by (1) wording the claim clearly; (2) specifying convincing reasons to support the claim, and (3) adopting a stance and appropriate tone toward the issue. 	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	

Strand C: Writing	<ul style="list-style-type: none"> • Select and use appropriate structures and organizational patterns such as problem-solution, compare-contrast, cause-effect to (1) select content; (2) represent ideas; (3) make connections; (4) generate new insights; and (5) develop an organizational structure. 	Full	ENG202A 2.1-2.12 ENG202A 10.1-10.2 ENG202B 2.1-2.13 ENG202B 4.1-4.11 ENG202B 7.1-7.13 ENG202B 9.1-9.13	
	<ul style="list-style-type: none"> • Construct focused paragraphs with topic sentences leading toward a logical conclusion. 	Full	ENG202A 2.1-2.12 ENG202A 10.1-10.2 ENG202B 2.1-2.13 ENG202B 4.1-4.11 ENG202B 7.1-7.13 ENG202B 9.1-9.13	
	<ul style="list-style-type: none"> • Provide supporting evidence from texts and other outside sources such as direct quotations, paraphrasing, and examples. 	Full	ENG202A 2.1-2.12 ENG202A 10.1-10.2 ENG202B 2.1-2.13 ENG202B 4.1-4.11 ENG202B 7.1-7.13 ENG202B 9.1-9.13	
	<ul style="list-style-type: none"> • Draw a reasonable conclusion connected to the topic sentence and supporting evidence. 	Full	ENG202A 2.1-2.12 ENG202A 10.1-10.2 ENG202B 2.1-2.13 ENG202B 4.1-4.11 ENG202B 7.1-7.13 ENG202B 9.1-9.13	
	Drawing on readers' comments on working drafts, revise documents to develop or support ideas more clearly, address potential objections, ensure effective transitions			
	<ul style="list-style-type: none"> • Use a rubric, outline, or organizational map to check the development of the draft to see if paragraph focus is clear, transitions are apparent, and organizational patterns are clear and well-signaled. 	Full	ENG202A 8.2 ENG202A 10.2 ENG202A 10.4	
	<ul style="list-style-type: none"> • Analyze whether claims and opinions are supported by evidence in the form of reasons, examples, or facts. 	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
	<ul style="list-style-type: none"> • Analyze whether counter arguments are anticipated and addressed. 	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
	<ul style="list-style-type: none"> • Delete material that disturbs the flow and development of a paragraph. 	Full	ENG202A 2.1-2.12 ENG202A 10.1-10.2 ENG202B 2.1-2.13 ENG202B 4.1-4.11 ENG202B 7.1-7.13 ENG202B 9.1-9.13	
	<ul style="list-style-type: none"> • Analyze overall effectiveness of one's own writing. 	Full	ENG202A 8.2 ENG202A 10.2 ENG202A 10.4	
	<ul style="list-style-type: none"> • Analyze and revise one's own work and the work of others for consistency of facts and ideas and development of argument or plot. 	Full	ENG202A 8.2 ENG202A 10.2 ENG202A 10.4	
	Edit one's own work for grammar, style, and tone appropriate to audience, purpose and context.			
	<ul style="list-style-type: none"> • Correct errors in spelling, grammatical conventions, format, and structure. 	Full	ENG202A 8.2 ENG202A 10.2 ENG202A 10.4	
	<ul style="list-style-type: none"> • Evaluate for audience, purpose, and readability (word choice, vocabulary, sentence construction for example). 	Full	ENG202A 2.1-2.12 ENG202A 10.1-10.2 ENG202B 2.1-2.13 ENG202B 4.1-4.11 ENG202B 7.1-7.13 ENG202B 9.1-9.13	

<ul style="list-style-type: none"> Consult resources like handbooks, style manuals, spell check, dictionaries, thesauri, and style sheets to correct errors. 	Full	ENG202A 2.1-2.12 ENG202A 10.1-10.2 ENG202B 2.1-2.13 ENG202B 4.1-4.11 ENG202B 7.1-7.13 ENG202B 9.1-9.13	
Cite sources properly when paraphrasing or summarizing information, quoting, or using graphics.			
<ul style="list-style-type: none"> Beginning in 9th grade, use appropriate publication manuals to cite source materials and to prepare bibliographies, lists of works cited, and quoted passages: textbook appendices, MLA Handbook for Writers of Research Papers, The Chicago Manual of Style, the Publication Manual of the American Psychological Association, and The Associated Press Stylebook. 	Full	ENG202B 7.11 ENG202B 9.8	
Present written material using basic software programs such as Word, Excel, and PowerPoint so that graphics can be incorporated to present information and ideas best			
<ul style="list-style-type: none"> Select production elements based on an analysis of one's purpose and the available media production resources. 	Full	ENG202A 2.12 ENG202A 5.13 ENG202B 2.13 ENG202B 9.13 ENG202B 10.7	
<ul style="list-style-type: none"> Incorporate into the final draft of written reports graphic materials appropriate for the particular communication such as graphs, charts, tables, maps, and photographs. 	None		Teachers will supplement the curriculum to include opportunities for students to incorporate into the final draft of written reports graphic materials appropriate for the particular communication such as graphs, charts, tables, maps, and photographs.
Produce effective work-related texts such as business letters, resumes, biographies, job applications, work procedures, work orders, and briefs.			
<ul style="list-style-type: none"> Address audience needs and state purpose and context in an efficient manner. 	Full	ENG202B 10.1-10.7	
<ul style="list-style-type: none"> Demonstrate proficiency in accessing and sending information electronically. 	None		Teachers will supplement the curriculum to include opportunities for students to demonstrate proficiency in accessing and sending information electronically.
<ul style="list-style-type: none"> Follow conventions of work-place writing with business letter and memo formats. 	Full	ENG202B 10.1-10.7	
<ul style="list-style-type: none"> Make use of appropriate writing strategies, such as creating a visual hierarchy, using white space and graphics as appropriate, and providing smooth transitions between sections or steps of the text. 	Full	ENG202B 10.1-10.7	
<ul style="list-style-type: none"> Include relevant information and exclude extraneous information. 	Full	ENG202B 10.1-10.7	
<ul style="list-style-type: none"> Anticipate problems, mistakes, and misunderstandings that might arise for the reader. 	Full	ENG202B 10.1-10.7	
<ul style="list-style-type: none"> Include necessary dates and other essential identifying information. 	Full	ENG202B 10.1-10.7	
Define and narrow a problem or research topic.			
<ul style="list-style-type: none"> Form and refine a question for investigation based on a topic prompted by a text or texts. 	Full	ENG202B 7.1-7.13 ENG202B 9.1-9.13	
Gather relevant information for a research topic from a variety of print and electronic sources, as well as from direct observation, interviews, or surveys.			
<ul style="list-style-type: none"> Preview reading selections to determine whether a text contains relevant information. 	Full	ENG202B 7.1-7.13 ENG202B 9.1-9.13	
<ul style="list-style-type: none"> Use multiple resources to gather information for evaluating particular problems and exploring solutions. 	Full	ENG202B 7.1-7.13 ENG202B 9.1-9.13	
<ul style="list-style-type: none"> Use credible news sources for researching topics. 	Full	ENG202B 7.1-7.13 ENG202B 9.1-9.13	
Make distinctions about the credibility, reliability, consistency, strengths and limitations of various resources, including information gathered from websites.			
<ul style="list-style-type: none"> Read critically and independently from different sources to draw conclusions. 	Full	ENG202B 7.1-7.13 ENG202B 9.1-9.13	
Report research findings in an effective manner appropriate to a designated audience.			

Strand D: Research	• Identify audience to whom researched findings might be meaningful.	Full	ENG202B 7.1-7.13 ENG202B 9.1-9.13	
	• Develop written or oral presentations of appropriate length that effectively report one's research findings.	Full	ENG202B 7.1-7.13 ENG202B 9.1-9.13	
	Write an extended research essay of medium length.			
	• Use primary and secondary sources to develop a researched topic.	Full	ENG202B 7.1-7.13 ENG202B 9.1-9.13	
	• Use evidence in support of a clear thesis statement and related claims.	Full	ENG202B 7.1-7.13 ENG202B 9.1-9.13	
	• Write a researched essay that examines a focused topic (1-5 pages).	Full	ENG202B 7.1-7.13 ENG202B 9.1-9.13	
	• Paraphrase and summarize with accuracy the range of arguments and evidence supporting or refuting the thesis, as appropriate.	Full	ENG202B 7.1-7.13 ENG202B 9.1-9.13	
	• Cite sources correctly and document quotations, paraphrases, and other information, employing an accepted academic manuscript style such as MLA or APA.	Full	ENG202B 7.1-7.13 ENG202B 9.1-9.13	
Strand E: Logic	• Employ various modes as appropriate: cause and effect, comparison/contrast, process analysis.	Full	ENG202B 7.1-7.13 ENG202B 9.1-9.13	
	Distinguish among facts and opinions, evidence and inference.			
	• Critically interpret and evaluate experiences, literature, language, and ideas by distinguishing fact from fiction and recognizing personal bias.	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
	• Describe the structure of a multi-faceted argument with a stated main claim and conclusion.	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
	Identify false premises in an argument.			
	• Critique an argument by evaluating the connections between claims and supporting evidence.	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
	Describe the structure of a given argument; identify its claims and evidence; and evaluate connections among evidence, inferences, and claims.			
	• Analyze elements of deductive and inductive arguments.	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
	• Explain the different ways premises support conclusions in deductive and inductive arguments.	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
	• Create responses to arguments that evaluate problems and offer solutions or alternative recommendations.	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
	Evaluate the range and quality of evidence used to support or oppose an argument.			
	• Identify, evaluate, and analyze a variety of primary and secondary sources of information such as student-generated data, interviews with experts, observations, surveys, appropriate Internet sources, professional journals, periodicals, documentaries, research bibliographies, electronic databases, and books in order to prepare for all sides of an argument.	Partial	ENG202A 8.1-8.9 ENG202A 10.3-10.4	Teachers will supplement the curriculum to include opportunities for students to identify, evaluate, and analyze a variety of primary and secondary sources of information such as student-generated data, interviews with experts, observations, surveys, appropriate Internet sources, professional journals, periodicals, documentaries, research bibliographies, electronic databases, and books in order to prepare for all sides of an argument.
	• Demonstrate an awareness of possible questions, concerns, or counter-arguments to an informed opinion.	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
	Recognize common logical fallacies such as the appeal to pity (argumentum ad misericordiam), the personal attack (argumentum ad hominem), the appeal to general opinion (argumentum ad populum) and the false dilemma (assuming only two options when there are more available); and understand why these fallacies do not prove the point being argued.			
	• Persuade others regarding a particular issue by finding and interpreting information effectively.	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
	Analyze written and oral communication for false assumptions, errors, loaded terms, caricature, sarcasm, leading questions, and faulty reasoning.			

<ul style="list-style-type: none"> Analyze written or oral communications for false assumptions, errors, loaded terms, caricature, sarcasm, leading questions, and faulty reasoning. 	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
Understand the distinction between a deductive argument in which, if all the premises are true and the argument's form is valid, the conclusion is inescapably true; and an inductive argument, in which the conclusion provides the best or most probable explanation of the truth of the premise, but is not necessarily true.			
<ul style="list-style-type: none"> Select the appropriate type of argument (deductive or inductive) to produce an informed opinion. 	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
Analyze two or more texts addressing the same topic to determine how authors reach similar or different conclusions.			
<ul style="list-style-type: none"> Analyze and evaluate the various relationships among evidence, inference, and claims in argumentative texts. 	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
<ul style="list-style-type: none"> Analyze how argumentative texts relate to their social, cultural, and historical contexts. 	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
Construct oral and written arguments that demonstrate clear and knowledgeable judgment by:			
<ul style="list-style-type: none"> Create responses that evaluate problems and offer solutions by clearly articulating a position through a thesis statement and by anticipating counterarguments. 	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
<ul style="list-style-type: none"> Develop arguments to support informed opinions by stating a progression of ideas; selecting appropriate style, tone and use of language for a particular effect; and describing and analyzing persona, social, historical, or cultural influences. 	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
<ul style="list-style-type: none"> Use a variety of strategies to guide generation of content by activating prior knowledge, self-questioning, and selection and development of major ideas. 	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
<ul style="list-style-type: none"> Support informed opinions by providing relevant and convincing reasons, using types of evidence, language, and organizational structure. 	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
<ul style="list-style-type: none"> Anticipate an audience's questions and expectations and determine need for additional research. 	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
<ul style="list-style-type: none"> Use signposts and transitions to highlight important ideas and signal clear connections among ideas. 	Full	ENG202A 8.1-8.9 ENG202A 10.3-10.4	
Follow instructions in informational or technical texts to perform specific tasks, answer questions, or solve problems.			
<ul style="list-style-type: none"> Read a wide variety of informational and technical texts and selections to inform an audience. 	Full	ENG202B 1.1-1.14 ENG202B 7.1-7.13 ENG202B 9.1-9.13 ENG202B 10.1-10.7	
<ul style="list-style-type: none"> Read critically and independently in order to follow instructions, perform specific tasks, answer questions, and solve problems. 	Full	ENG202B 1.1-1.14 ENG202B 7.1-7.13 ENG202B 9.1-9.13 ENG202B 10.1-10.7	
Identify the main ideas of informational text and determine the essential elements that elaborate them.			
<ul style="list-style-type: none"> Read informational and technical texts critically and independently. 	Full	ENG202B 1.1-1.14 ENG202B 7.1-7.13 ENG202B 9.1-9.13 ENG202B 10.1-10.7	
<ul style="list-style-type: none"> Analyze the validity of source information. 	Full	ENG202B 7.1-7.13 ENG202B 9.1-9.13	
Summarize informational and technical texts and explain the visual components that support them.			
<ul style="list-style-type: none"> Develop concise, well-organized mental, oral, and written summaries of texts. 	Full	ENG202B 1.1-1.14 ENG202B 7.1-7.13 ENG202B 9.1-9.13 ENG202B 10.1-10.7	
<ul style="list-style-type: none"> Identify the validity of supporting visual components in informational resources. 	Partial	ENG202B 7.4	Teachers will supplement the curriculum to include opportunities for students to identify the validity of supporting visual components in informational resources.
Distinguish between a summary and a critique.			

Strand F: Informational Text	<ul style="list-style-type: none"> Identify clear, reasonable criteria in order to analyze the appropriateness of a summary or critique. 	Partial	ENG202A 8.2 ENG202A 10.2 ENG202A 10.4	Teachers will supplement the curriculum to include opportunities for students to identify clear, reasonable criteria in order to analyze the appropriateness of a summary or critique.
	Interpret and use information in maps, charts, graphs, timelines, tables, and diagrams.			
	<ul style="list-style-type: none"> Accurately interpret information presented in a technical format that is, charts, diagrams, tables. 	None		Teachers will supplement the curriculum to include opportunities for students to accurately interpret information presented in a technical format that is, charts, diagrams, tables.
	Identify interrelationships between and among ideas and concepts within a text, such as cause and effect relationships.			
	<ul style="list-style-type: none"> Analyze and explain organizational patterns within the text, (chronological, compare-contrast, problem-solution, cause-effect). 	Full	ENG202B 1.1-1.14 ENG202B 7.1-7.13 ENG202B 9.1-9.13 ENG202B 10.1-10.7	
	<ul style="list-style-type: none"> Organize and relate multiple levels of ideas in informational and technical texts. 	Full	ENG202B 1.1-1.14 ENG202B 7.1-7.13 ENG202B 9.1-9.13 ENG202B 10.1-10.7	
	Synthesize information from multiple informational and technical sources or texts.			
	<ul style="list-style-type: none"> Identify and select appropriate informational text using an array of advanced technologies such as web resources, interactive media, software, e-mail, and networks. 	Full	ENG202B 7.4	
	Draw conclusions based on evidence from informational and technical texts or sources.			
	<ul style="list-style-type: none"> Read critically and independently to draw conclusions from technical texts. 	Full	ENG202B 1.1-1.14 ENG202B 7.1-7.13 ENG202B 9.1-9.13 ENG202B 10.1-10.7	
	<ul style="list-style-type: none"> Identify critical questions that lead to understanding of informational sources. 	Full	ENG202B 1.1-1.14 ENG202B 7.1-7.13 ENG202B 9.1-9.13 ENG202B 10.1-10.7	
	Analyze the ways in which a text's organizational structure supports or confounds its meaning or purpose.			
	<ul style="list-style-type: none"> Identify hierarchic structures in informational texts and relationships between the concepts and details in those structures. 	Full	ENG202B 1.1-1.14 ENG202B 7.1-7.13 ENG202B 9.1-9.13 ENG202B 10.1-10.7	
	Recognize the use or abuse of ambiguity, contradiction, incongruities, overstatement, and understatement in texts and explain their effect on the reader.			
	<ul style="list-style-type: none"> Identify and analyze the use of ambiguity, contradiction, incongruity, overstatement, and understatement. 	Full	ENG202B 1.1-1.14 ENG202B 7.1-7.13 ENG202B 9.1-9.13 ENG202B 10.1-10.7	
	Evaluate informational and technical texts for their clarity, simplicity and coherence and for the appropriateness of their graphic and visual appeal.			
	<ul style="list-style-type: none"> Evaluate the relevance and effectiveness of graphical representations to information presented orally 	None		Teachers will supplement the curriculum to include evaluating the relevance and effectiveness of graphical representations to information presented orally
	Evaluate the aural, visual, and written images and other special effects used in television, radio, film, and the Internet for their ability to inform, persuade, and entertain.			
	<ul style="list-style-type: none"> Recognize how visual and sound techniques and design such as special effects, camera angles, and music convey or influence messages in various media. 	None		Teachers will supplement the curriculum to include opportunities for students to recognize how visual and sound techniques and design such as special effects, camera angles, and music convey or influence messages in various media.
	Evaluate the effectiveness of a particular medium such as verbal, visual, photographic, television, and the Internet in achieving a particular purpose.			

Strand G: Media	<ul style="list-style-type: none"> Recognize how perceptions of fact and opinion are affected by the use of fallacies, false dilemmas, propaganda, emotional appeals, and by presentation in different media (print, image, multimedia). 	Partial	ENG202B 7.4	Teachers will supplement the curriculum to include opportunities for students to recognize how perceptions of fact and opinion are affected by the use of fallacies, false dilemmas, propaganda, emotional appeals, and by presentation in different media (print, image, multimedia).
	Create coherent media productions using effective images, text, graphics, music, and/or sound effects to present a distinctive point of view on a topic whether through powerpoint presentations or videos.			
	<ul style="list-style-type: none"> Use an array of technology and media - web resources, interactive media, software, storyboards, PowerPoint, videos - to complete one task or a variety of tasks. 	Partial	ENG202B 7.4	Teachers will supplement the curriculum to include opportunities for students to use an array of technology and media - web resources, interactive media, software, storyboards, PowerPoint, videos - to complete one task or a variety of tasks.
	Demonstrate knowledge of foundational literary works.			
	<ul style="list-style-type: none"> Demonstrate basic knowledge of the following: <ol style="list-style-type: none"> 18th , 19th , and 20th century foundational works of American literature. Hispanic & Native American oral and written literatures multi-cultural and cross-cultural literary works. 	Full	Embedded throughout, for example: ENG202A 1.1-1.12 ENG202A 2.1-2.12 ENG202A 4.1-4.11 ENG202B 1.1-1.14 ENG202B 2.1-2.13 ENG202B 4.1-4.11	
	Analyze foundational U.S. documents and indigenous cultural narratives for their historical and literary significance.			
	<ul style="list-style-type: none"> Analyze the cultural, historical, and literary features of foundational U.S. documents. 	Full	ENG202A 1.3 ENG202A 4.1 ENG202A 4.7 ENG202A 7.6 ENG202A 9.10 ENG202B 1.5 ENG202B 4.9 ENG202B 8.6	
	<ul style="list-style-type: none"> Analyze the cultural, historical, and literary features of cultural narratives from around the world and within the United States. 	Full	ENG202A 1.3 ENG202A 4.1 ENG202A 4.7 ENG202A 7.6 ENG202A 9.10 ENG202B 1.5 ENG202B 4.9 ENG202B 8.6	
	Interpret significant literary elements across all forms of literature; use understanding of genre characteristics to allow deeper and subtler interpretations of texts.			
	<ul style="list-style-type: none"> Recognize ambiguities, contradictions, and ironies in literary works. 	Full	ENG202A 9.1-9.11	
	<ul style="list-style-type: none"> Explore a range of works that relate to a single issue or theme. Identify differences and similarities among the works and formulate a thesis explaining the interrelationships. 	Partial	ENG202B 7.1-7.13 ENG202B 9.1-9.13	Teachers will supplement the curriculum to include opportunities for students to explore a range of works that relate to a single issue or theme. Identify differences and similarities among the works and formulate a thesis explaining the interrelationships.

Shtrand H: Literature	<ul style="list-style-type: none"> Analyze ways in which writers use sounds, including euphony and cacophony, and sensory images to evoke motion and facilitate understanding. 	None		Teachers will supplement the curriculum to include opportunities for students to analyze ways in which writers use sounds, including euphony and cacophony, and sensory images to evoke motion and facilitate understanding.
	<ul style="list-style-type: none"> Analyze ways in which writers use figurative language, especially hyperbole, personification, metaphor, and simile. 	Full	ENG202A 8.1 ENG202A 8.5 ENG202B 4.1-4.11	
	Analyze setting, plot, theme, characterization, and narration in literary prose, particularly classic and contemporary short stories and novels.			
	<ul style="list-style-type: none"> Identify symbol, allegory, analogy, and extended metaphor in literary works. 	Full	ENG202B 1.11 ENG202B 1.13-1.14 ENG202B 4.1 ENG202B 4.4	
	<ul style="list-style-type: none"> Using appropriate terminology, analyze various forms of characterization (antagonist/ protagonist, hero/heroine, tragic hero, archetype, stock character, flat character/round character, static character/dynamic character, foil). 	Full	Embedded throughout, for example: ENG202A 1.1-1.12 ENG202A 2.1-2.12 ENG202A 4.1-4.11 ENG202B 1.1-1.14 ENG202B 2.1-2.13 ENG202B 4.1-4.11	
	<ul style="list-style-type: none"> In various prose forms, analyze elements of plot (setting, exposition, conflict, rising action, climax, denouement). Analyze the effects of flashback, foreshadowing, and subplot. 	Full	Embedded throughout, for example: ENG202A 1.1-1.12 ENG202A 2.1-2.12 ENG202A 4.1-4.11 ENG202B 1.1-1.14 ENG202B 2.1-2.13 ENG202B 4.1-4.11	
	<ul style="list-style-type: none"> Identify the characteristics of common genre fiction, such as science fiction, fantasy, magical realism, mystery/suspense, Western, horror, romance, Gothic literature, and Manga. 	Full	Embedded throughout, for example: ENG202A 1.1-1.12 ENG202A 2.1-2.12 ENG202A 4.1-4.11 ENG202B 1.1-1.14 ENG202B 2.1-2.13 ENG202B 4.1-4.11	
	Demonstrate knowledge of the common elements of poetry: metrics, rhyme scheme, rhythm, alliteration, and other conventions.			
	<ul style="list-style-type: none"> Analyze elements of poetry including: <ol style="list-style-type: none"> style: end-stopped line or enjambment meter and rhythm: blank verse, free verse sound devices: internal rhyme, slant rhyme, alliteration, onomatopoeia poetic forms: sonnet, ballad, ode, dramatic poem poetic structures: ballads, concrete poems, acrostic poems poetic device: hyperbole, understatement theme: analyzing how the speaker, situation, and poetic structure correspond to the poet's purpose. 	Full	ENG202B 4.1-4.11	
	Identify how elements of dramatic literature articulate a playwright's vision.			
	<ul style="list-style-type: none"> Identify examples of the following acting conventions in dramatic literature: dramatic monologue, soliloquy, and aside. 	Full	ENG202A 4.1-4.11	
	<ul style="list-style-type: none"> Analyze characterization and plot in drama by interpreting the use of stage directions, divisions between and length of scenes and acts, dialogue between characters, internal and external conflicts, and characters used as foils. 	Full	ENG202A 4.1-4.11	

<ul style="list-style-type: none"> Identify the intended audience of the playwright (the play's social, political, and/or historical context), and identify elements of the dramatic production designed to reach the intended audience. 	Full	ENG202A 4.1-4.11	
Analyze works of literature for what they suggest about the time period and social or cultural context in which they were written.			
<ul style="list-style-type: none"> Analyze how theme in literature is related to the historical and social/cultural issues of the time period in which it is written. 	Full	ENG202A 1.3 ENG202A 4.1 ENG202A 4.7 ENG202A 7.6 ENG202A 9.10 ENG202B 1.5 ENG202B 4.9 ENG202B 8.6	

New Mexico Grade 11 English Literacy Standards - ADP Compared to K ¹² ENG302: American Literature				
Strand	Benchmarks and Performance Standards	Coverage	Course, unit, lesson	Comments
Strand A: Reading	Know how to use comprehension strategies for unfamiliar vocabulary.			
	<ul style="list-style-type: none"> Analyze the context of sentences and larger sections of text to clarify the meaning of unknown or ambiguous words, detect nuances, make inferences, and differentiate among possible meanings of words. 	Full	ENG302A 4.1 ENG302A 4.2 ENG302B 3.1 ENG302B 3.2 ENG302B 6.1 ENG302B 6.2	
	Know how to comprehend the message or meaning of a text.			
	<ul style="list-style-type: none"> Recognize the use of literary devices. 	Full	Embedded throughout, for example: ENG302A 1.1-1.13 ENG302A 3.1-3.12 ENG302B 1.1-1.11 ENG302B 5.1-5.12	
	Know how to infer, analyze, and synthesize.			
	<ul style="list-style-type: none"> Make reasonable inferences from implied ideas. That is, to predict outcomes, derive reasonable generalizations, differentiate fact from opinion, and differentiate literal from figurative meanings. 	Full	ENG302A 6.4 ENG302A 7.1 ENG302A 7.2 ENG302B 3.1 ENG302B 3.2 ENG302B 6.1 ENG302B 6.2	
	<ul style="list-style-type: none"> Recognize how history and culture influence text. 	Full	ENG302A 1.1-1.11 ENG302B 5.5-5.9	
	<ul style="list-style-type: none"> Recognize the presence of stereotypes. Recognize the types of claims made in a text. (factual, value judgment for example.) 	Full	ENG302A 6.1-6.11	
	Know how to use meta-cognitive strategies.			
	<ul style="list-style-type: none"> Evaluate texts by determining the value to oneself. 	Full	ENG302A 1.2 ENG302A 3.10 ENG302B 1.6 ENG302B 5.6	
Strand AA: language	Demonstrate control of Standard English through the correct understanding and use of syntax.			
	<ul style="list-style-type: none"> Synthesize knowledge of sentence patterns to identify patterns within clauses of complex sentences. 	Full	ENG302B 3.3	
	<ul style="list-style-type: none"> Master knowledge of subordinating elements such as relative pronouns and conjunctive adverbs to express complex ideas in writing. 	Full	ENG302B 3.3	
	<ul style="list-style-type: none"> Eliminate faulty subordination from one's writing. 	Full	ENG302B 3.3	
	Demonstrate control of Standard English through the correct understanding and use of grammar and usage.			
	<ul style="list-style-type: none"> Master the use of gerunds as nouns. Master infinitives as nouns, adjectives, and adverbs. 	Full	ENG302B 3.3	
	<ul style="list-style-type: none"> Use active and passive voice correctly. 	Full	ENG302B 3.3	
	<ul style="list-style-type: none"> Avoid missing or incorrect relative and indefinite pronouns. 	Full	ENG302B 3.3	
	Demonstrate control of Standard English through the correct understanding and use of punctuation, capitalization, and spelling			
	<ul style="list-style-type: none"> Correctly use semicolons and colons, italics (or underlining) and quotation marks with titles, hyphens, and dashes. 	Full	Embedded throughout, for example: ENG302A 2.12 ENG302A 6.11 ENG302B 4.19 ENG302B 8.7	

Strand B: Communication	Give spoken instructions to perform specific tasks, to answer questions, or to solve problems.			
	N/A	N/A	N/A	
	Make oral presentations that exhibit a logical structure appropriate to the audience, context, and purpose; group related ideas and maintain a consistent focus; include smooth transitions; support judgments with sound evidence and well-chosen details; make skillful use of rhetorical devices; provide a coherent conclusion; employ proper eye contact, speaking rate, volume, enunciation, inflection, and gestures to communicate ideas effectively.			
	• Evaluate and adapt strategies for developing credibility such as demonstrating knowledge, appearing confident, and speaking truthfully.	Full	ENG302A 7.1-7.10	
	• Create logical messages using appropriate reasoning patterns, supporting ideas with evidence, avoiding fallacies, and making emotional appeals, to fear and affection for example.	Full	ENG302A 6.4 ENG302A 7.1-7.10	
	• Monitor audience feedback in real time and make inferences about audience engagement, understanding, and agreement; and adjust delivery and content to achieve purposes and goals. Subsequently reflect on the presentation and feedback to determine effectiveness and what changes to make in future presentations.	None		
	Select precise vocabulary to appeal to an intended audience.			
	• Strategically employ figurative language such as metaphor, irony, personification, hyperbole, symbolism, wordplay, puns to achieve specific effects.	Full	ENG302A 2.1-2.12 ENG302B 1.1-1.11	
	Follow spoken instructions to perform specific tasks, to answer questions, or to solve problems.			
	N/A			
	Summarize and paraphrase information presented orally by others.			
	N/A			
	Identify the thesis of a speech and determine the essential elements that elaborate it.			
	• Use a variety of strategies to enhance comprehension of literal and implied information and recall of complex messages.	Full	ENG302A 7.1-7.10	
	• Make evaluations by focusing attention on the speaker's argument and purposes; mentally anticipating direction and significance of arguments; attending to the entirety of the message before forming conclusive judgments; taking notes when appropriate; reviewing standards of evidence and reasoning; and asking oneself questions about the speaker's implicit and explicit messages, relating speaker's message to personal beliefs, values, and experiences. Determine personal significance of speaker's message.	Full	ENG302A 7.1-7.10	
	Analyze the ways in which the internal and contextual variables of a speech support or confound its meaning or purpose.			
	N/A	N/A	N/A	
	Participate productively in self-directed work teams for a particular purpose (for example, to interpret literature, write or critique a proposal, solve a problem or make a decision) including posing relevant questions; listening with civility to the ideas of others; extracting essential information from others' input; building on the ideas of others and contributing relevant information and ideas in group discussion; consulting texts as a source of ideas; gaining the floor in a respectful way; defining individuals' roles and responsibilities and setting clear goals; acknowledging the ideas and contributions of individuals in the group; understanding the purpose of the team project and the ground rules for decision-making; maintaining independence of judgment, offering dissent courteously, ensuring a hearing for the range of positions on an issue and avoiding premature consensus; tolerating ambiguity and a lack of consensus; and selecting leaders or spokespersons when necessary.			
	• Analyze internal variables such as prior knowledge, experiences, interests, opinions, values, beliefs, needs, feelings, and personal emotional state to plan, participate in, reflect on, evaluate, and modify group discussion processes to achieve group goals.	Full	Embedded throughout, for example: ENG302A 1.2 ENG302A 3.10 ENG302B 1.6 ENG302B 5.6	

<ul style="list-style-type: none"> Elicit feedback and analyze others' internal variables that affect the discussion, including the others' knowledge, experiences, culture, interests, values, beliefs, needs, and emotional state, to make ongoing communication choices that enhance group effectiveness. Use this feedback and analysis to frame and adapt messages, build group cohesion, and achieve group goals. 	Full	Embedded throughout, for example: ENG302A 1.2 ENG302A 3.10 ENG302B 1.6 ENG302B 5.6	
<ul style="list-style-type: none"> Analyze contextual variables, such as the type of group, its purposes and goals, progress toward those goals, roles and relationships within the group, group norms and discussion conventions, previous communication, and setting. Monitor and adjust use of discussion strategies such as agenda setting, responding to questions, building consensus, checking for understanding, and encouraging participation to achieve group goals. 	Full	Embedded throughout, for example: ENG302A 1.2 ENG302A 3.10 ENG302B 1.6 ENG302B 5.6	
<ul style="list-style-type: none"> Analyze and refine personal and group purposes and goals. That is, clarify ideas, change group members' opinions, build relationships and adapt strategies for developing credibility such as demonstrating knowledge, appearing confident, speaking truthfully, and creating logical messages. Use appropriate reasoning patterns, support ideas with evidence, avoid fallacies, and make emotional appeals. Critique effectiveness in achieving intended goals. 	Full	Embedded throughout, for example: ENG302A 1.2 ENG302A 3.10 ENG302B 1.6 ENG302B 5.6	
<ul style="list-style-type: none"> Use a variety of response strategies to clarify, elaborate, and synthesize explicit and implicit meanings of messages. For example, integrate new learning with prior knowledge; ask questions to guide and clarify inferences, understanding, and interpretations; ask the speaker to extend or elaborate his or her meaning integrating new learning with prior knowledge; paraphrase meaning back to the speaker; and predict ways in which speaker's content may be used. 	Full	Embedded throughout, for example: ENG302A 1.2 ENG302A 3.10 ENG302B 1.6 ENG302B 5.6	
<ul style="list-style-type: none"> Evaluate personal effectiveness in self-directed work teams and make corrections as necessary depending on the purpose of the collaborative activity. 	Full	Embedded throughout, for example: ENG302A 1.2 ENG302A 3.10 ENG302B 1.6 ENG302B 5.6	
Demonstrate proficiency in producing a variety of compositions.			
<ul style="list-style-type: none"> Demonstrate mastery in the creation of critical response essays to fiction and nonfiction that (1) engage the reader by establishing a context; (2) demonstrate a strong grasp of the main idea of the text; (3) make a meaningful personal connection to the text; (4) make a clear critical judgment about the text; (5) support key ideas and judgments through accurate and detailed references to the text and to other credible sources; and (6) demonstrate awareness of how the author of the text uses rhetorical strategies. 	Full	ENG302A 2.1-2.12 ENG302A 6.1-6.11 ENG302B 3.3 ENG302B 3.4 ENG302B 4.1-4.19	
<ul style="list-style-type: none"> Demonstrate mastery in the creation of persuasive essays that (1) engage the reader by establishing a context and a point of view, (2) structure ideas and arguments in a sustained and logical fashion, (3) clarify and defend positions with precise and relevant evidence, including facts, expert opinions, quotations, illustrations, commonly accepted beliefs, and logical reasoning, (4) use specific rhetorical devices to back up assertions, and (5) anticipate and address the reader's concerns and counterclaims. 	Full	ENG302A 6.1-6.11	
Plan writing by taking notes, writing informal outlines, and researching.			
<ul style="list-style-type: none"> Identify, evaluate, and analyze a variety of primary and secondary sources of information for credibility and usefulness. 	Full	ENG302A 6.1-6.11 ENG302B 4.1-4.19	
<ul style="list-style-type: none"> Analyze strengths and weaknesses in one's research findings such as coherence, validity or gaps, misinformation, and fallacies. 	Full	ENG302A 6.1-6.11 ENG302B 4.1-4.19	

Strand C: Writing	• Anticipate and address varying interpretations of one's findings.	Full	ENG302A 6.1-6.11 ENG302B 4.1-4.19	
	Select and use formal or informal literary or technical language appropriate for the purpose, audience, and context of the communication.			
	• Make informed and sophisticated decisions about audiences appropriate to the writing task.	Full	ENG302A 2.1-2.12 ENG302A 6.1-6.11 ENG302B 4.1-4.19 ENG302B 8.1-8.7	
	• Use language persuasively in addressing a particular issue.	Full	ENG302A 6.1-6.11	
	• Use grammatical, metaphorical, or rhetorical devices to inform or persuade others.	Full	ENG302A 6.1-6.11	
	Organize ideas in writing with a thesis statement in the introduction, well-constructed paragraphs, a conclusion, and transition sentences that connect paragraphs into a coherent whole.			
	• Organize and compose complex arguments.	Full	ENG302A 6.1-6.11	
	• Select and use appropriate structures and organizational patterns (such as problem-solution, compare-contrast, cause-effect) to (1) select content, (2) represent ideas, (3) make connections, (4) generate new insights, and (5) develop an organizational structure.	Full	ENG302A 2.1-2.12 ENG302A 6.1-6.11 ENG302B 4.1-4.19 ENG302B 8.1-8.7	
	• Develop multi-paragraph compositions that use complex organizational patterns, including a well-developed thesis statement with supporting paragraphs, appropriate transitions, and a logical ending that does not merely repeat the thesis.	Full	ENG302A 2.1-2.12 ENG302A 6.1-6.11 ENG302B 4.1-4.19 ENG302B 8.1-8.7	
	Drawing on readers' comments on working drafts, revise documents to develop or support ideas more clearly, address potential objections, ensure effective transitions between paragraphs, and correct errors in logic.			
	• Analyze whether opinion or use of sources displays bias.	Full	ENG302A 6.1-6.11 ENG302B 7.1-7.10	
	• Analyze whether the conclusion is appropriate, persuasive, and compelling.	Full	ENG302A 6.1-6.11 ENG302B 7.1-7.10	
	• Identify areas requiring further investigation and research.	Full	ENG302B 4.1-4.19	
	Edit one's own work for grammar, style, and tone appropriate to audience, purpose and context.			
	• Use a variety of strategies - reading draft aloud, seeking feedback from a reviewer, and reading the draft from the audience's perspective - to evaluate diction, figurative language, tone, sentence length and complexity, active and passive voice, and use of verbals.	Full	ENG302A 2.1-2.12 ENG302A 6.1-6.11 ENG302B 4.1-4.19 ENG302B 8.1-8.7	
	• Edit work for consistency of tone and voice, clarity and conciseness.	Full	ENG302A 2.10-2.12 ENG302A 6.10-6.11 ENG302B 4.17-4.19 ENG302B 8.6 ENG302B 8.7	
	Cite sources properly when paraphrasing or summarizing information, quoting, or using graphics.			
	• Beginning in 9th grade, use appropriate publication manuals to cite source materials and to prepare bibliographies, lists of works cited, and quoted passages: textbook appendices, MLA Handbook for Writers of Research Papers, The Chicago Manual of Style, the Publication Manual of the American Psychological Association, and The Associated Press Stylebook.	Full	ENG302B 4.1-4.19	
	Present written material using basic software programs such as Word, Excel, and PowerPoint so that graphics can be incorporated to present information and ideas best understood visually (charts, ratios, and tables).			
	• Select production elements based on an analysis of one's purpose and the available media production resources.	None		
	• Incorporate into the final draft of written reports graphic materials appropriate for the particular communication such as graphs, charts, tables, maps, and photographs.	Full	ENG302 6.1-6.11 ENG302B 4.1-4.19	

	Produce effective work-related texts such as business letters, resumes, biographies, job applications, work procedures, work orders, and briefs.			
	• Address audience needs and state purpose and context in an efficient manner.	Full	ENG302A 2.1-2.12 ENG302A 6.1-6.11 ENG302B 4.1-4.19 ENG302B 8.1-8.7	
	• Demonstrate proficiency in accessing and sending information electronically.	Full	ENG302B 4.1-4.19	
	• Follow conventions of work-place writing with business letter and memo formats.	None		
	• Make use of appropriate writing strategies, such as creating a visual hierarchy, using white space and graphics as appropriate, and providing smooth transitions between sections or steps of the text.	Full	ENG302A 4.4-4.5 ENG302A 6.3 ENG302B 4.7	
	• Include relevant information and exclude extraneous information.	Full	ENG302B 4.1-4.19	
	• Anticipate problems, mistakes, and misunderstandings that might arise for the reader.	Full	ENG302A 6.1-6.11 ENG302B 4.1-4.19	
	• Include necessary dates and other essential identifying information.	Full	ENG302B 4.1-4.19	
	Define and narrow a problem or research topic.			
	• Form and refine a question for investigation based on American literary, historical, or cultural movements.	Full	ENG302B 2.1-2.13 ENG302B 5.1-5.12	
	Gather relevant information for a research topic from a variety of print and electronic sources, as well as from direct observation, interviews, or surveys.			
	• Use creative or critical research strategies such as field studies, oral histories, interviews, and experiments.	Partial	ENG302B 4.1-4.19	Teacher will supplement the curriculum to include opportunities for students to use creative or critical research strategies such as field studies, oral histories, interviews, and experiments.
	• Use a variety of techniques for researching topics, including cross-referencing while gathering information.	Full	ENG302B 4.1-4.19	
	• Synthesize a variety of types of visual information including pictures and symbols.	Partial	ENG302B 4.1-4.19	Teacher will supplement the curriculum to include opportunities for students to synthesize a variety of types of visual information including pictures and symbols.
Strand D: Research	Make distinctions about the credibility, reliability, consistency, strengths and limitations of various resources, including information gathered from websites.			
	• Make extensive use of primary sources when researching a topic and make in-depth analyses of the validity and reliability of primary source information.	Full	ENG302B 4.1-4.19	
	Report research findings in an effective manner appropriate to a designated audience.			
	• Identify audience to whom researched findings might be meaningful.	Full	ENG302B 4.1-4.19	
	• Develop written or oral presentations of appropriate length that effectively report one's research findings.	Full	ENG302B 4.1-4.19	
	Write an extended research essay of medium length.			
	• Synthesize information from multiple research studies to draw conclusions that go beyond those found in any one of the individual studies.	Full	ENG302B 4.1-4.19	
	• Write a comprehensive research paper (6-10 pages).	Full	ENG302B 4.1-4.19	
	• Examine complex issues by sharing and evaluating personal response, researching and summarizing data, and developing a framework in which to discuss the issue prior to writing the final draft.	Full	ENG302B 4.1-4.19	
	Distinguish among facts and opinions, evidence and inference.			
	• Evaluate the ideas of others by identifying clear, reasonable criteria for evaluation and applying those criteria using reasoning.	Full	ENG302A 6.1-6.11 ENG302B 4.1-4.19	
	• Analyze similarities and differences in false statements and the role they play in specific types of persuasive arguments.	Full	ENG302A 6.1-6.11 ENG302B 4.1-4.19	
	Identify false premises in an argument.			

Strand E: Logic	• Identify and evaluate logical fallacies and propaganda devices in written and oral communication products.	Full	ENG302A 6.4	
	Describe the structure of a given argument; identify its claims and evidence; and evaluate connections among evidence, inferences, and claims.			
	• Identify and analyze personal, social, historical, or cultural influences, contexts, or biases.	Full	ENG302A 6.1-6.11	
	• Identify and analyze rhetorical strategies that support proposals.	Full	ENG302A 6.1-6.11	
	• Evaluate connections between claims, supporting evidence, and the development of an argument.	Full	ENG302A 6.1-6.11	
	• Evaluate evidence for timeliness, relevance, and believability.	Full	ENG302A 6.1-6.11	
	Evaluate the range and quality of evidence used to support or oppose an argument.			
	• Create a rubric to evaluate the quality and effectiveness of evidence used in oral or written arguments.	Full	ENG302A 6.1-6.11	
	• Analyze multiple perspectives on issues and independently use a systematic method for tracking sources.	Full	ENG302A 6.1-6.11	
	• Use a variety of strategies - reading the draft aloud, seeking feedback from a reviewer, capturing and evaluating the organization of the draft in an outline or organization map, and reading the draft from the perspective of the intended	Full	ENG302A 6.1-6.11	
	Recognize common logical fallacies such as the appeal to pity (argumentum ad misericordiam), the personal attack (argumentum ad hominem), the appeal to general opinion (argumentum ad populum) and the false dilemma (assuming only two options when there are more available); and understand why these fallacies do not prove the point being argued.			
	• Recognize how the type of information used (fact, opinion) can affect perception (fallacies, false dilemmas, emotional responses).	Full	ENG302A 6.4	
	• Recognize how the medium of the presentation (print, visual) can affect perception.	Full	ENG302A 6.4	
	• Identify complex logical fallacies and propaganda devices.	Full	ENG302A 6.4	
	Analyze written and oral communication for false assumptions, errors, loaded terms, caricature, sarcasm, leading questions, and faulty reasoning.			
	• Distinguish and evaluate ways a writer or speaker may be trying to influence an intended audience by using false assumptions, errors, loaded terms, caricature, sarcasm, leading questions, and faulty reasoning.	Full	ENG302A 6.1-6.11 ENG302A 7.1 ENG302A 7.2	
	• Evaluate connections among claims, supporting evidence, and the development of an argument.	Full	ENG302A 6.1-6.11 ENG302A 7.1 ENG302A 7.2	
	• Predict consequences of a speaker's arguments, conclusions, and proposals.	Full	ENG302A 6.1-6.11 ENG302A 7.1 ENG302A 7.2	
	Understand the distinction between a deductive argument in which, if all the premises are true and the argument's form is valid, the conclusion is inescapably true; and an inductive argument, in which the conclusion provides the best or most probable explanation of the truth of the premise, but is not necessarily true.			
	• Use argument to interpret researched information, and to establish and defend a point of view.	Full	ENG302A 6.1-6.11	
	• Address concerns of the opposition within an argument, using logical strategies (deduction, inductive reasoning, syllogisms, analogies).	Full	ENG302A 6.1-6.11	

Strand F: informational Text	Analyze two or more texts addressing the same topic to determine how authors reach similar or different conclusions.			
	• Evaluate and critique the coherence, validity, and relevance of ideas, evidence, and arguments.	Full	ENG302A 6.1-6.11 ENG302A 7.1 ENG302A 7.2	
	• Evaluate texts that present opposing viewpoints to determine effective use of primary and secondary evidence, anecdotal or personal experience, and testimonial.	Full	ENG302A 6.1-6.11 ENG302A 7.1 ENG302A 7.2	
	• Develop thematic connections and synthesize ideas.	Full	ENG302A 6.1-6.11 ENG302A 7.1-7.10	
	Construct oral and written arguments that demonstrate clear and knowledgeable judgment by: • structuring ideas in a sustained and logical fashion; • using a range of strategies to elaborate and persuade including anecdotes, case studies, analogies, and illustrations; • clarifying and defending positions with precise and relevant evidence including facts, expert opinions, expressions of commonly accepted beliefs, and logical reasoning; • anticipating and addressing a reader's concerns and counterclaims; and • providing clear and effective conclusions.			
	• Anticipate and counter arguments through the use of a variety of methods such as examples and details, commonly accepted beliefs, expert opinions, quotations and citations, cause and effect, and compare and contrast reasoning.	Full	ENG302A 6.1-6.11 ENG302A 7.1-7.10	
	Follow instructions in informational or technical texts to perform specific tasks, answer questions, or solve problems.			
	• Synthesize ideas and concepts from informational sources to generate new understanding or to increase one's knowledge base of a given subject.	None		Teachers will supplement the curriculum to include opportunities for students to synthesize ideas and concepts from informational sources to generate new understanding or to increase one's knowledge base of a given subject.
	• Apply technical information in order to follow multi-step instructions, perform complex tasks, or solve problems.	None		Teachers will supplement the curriculum to include opportunities for students to apply technical information in order to follow multi-step instructions, perform complex tasks, or solve problems.
	Identify the main ideas of informational text and determine the essential elements that elaborate them.			
	• Develop informed opinions by evaluating coherence and relevance of ideas, evidence and arguments.	Full	ENG302A 6.1-6.11	
	Summarize informational and technical texts and explain the visual components that support them.			
	• Delineate complex relationships among ideas.	None		Teachers will supplement the curriculum to include opportunities for students to delineate complex relationships among ideas.
	• Describe the advantages and disadvantages of alternative methods of presenting information.	None		Teachers will supplement the curriculum to include opportunities for students to describe the advantages and disadvantages of alternative methods of presenting information.
	Distinguish between a summary and a critique.			
	• Identify clear, reasonable criteria in order to analyze the appropriateness of a summary or critique.	Full	ENG302A 6.1-6.11	
	Interpret and use information in maps, charts, graphs, timelines, tables, and diagrams.			
	• Evaluate relevance of graphic information to information presented textually.	Full	ENG302B 4.1-4.19	
	Identify interrelationships between and among ideas and concepts within a text, such as cause and effect relationships.			

	<ul style="list-style-type: none"> Understand implied or subtly stated cause-effect relationships in simple to complex informational and technical texts. 	Partial	ENG302A 6.1-6.11	Teacher will supplement the curriculum to include opportunities for students to use understand implied or subtly stated cause-effect relationships in simple to complex technical texts.
	Synthesize information from multiple informational and technical sources or texts.			
	<ul style="list-style-type: none"> Make connections across sources to develop new insights and determine need for further research. 	Full	ENG302A 6.1-6.11 ENG302B 4.1-4.19	
	Draw conclusions based on evidence from informational and technical texts or sources.			
	<ul style="list-style-type: none"> Evaluate credibility and quality of sources. 	Full	ENG302A 6.1-6.11 ENG302B 4.1-4.19	
	<ul style="list-style-type: none"> Differentiate between credible evidence and logical fallacies. 	Full	ENG302A 6.4	
	Analyze the ways in which a text's organizational structure supports or confounds its meaning or purpose.			
	<ul style="list-style-type: none"> Pose questions prompted by informational/technical text by prioritizing and organizing information resulting in a complete and reasonable explanation. 	Full	ENG302A 6.1-6.11 ENG302B 4.1-4.19	
	Recognize the use or abuse of ambiguity, contradiction, incongruities, overstatement, and understatement in texts and explain their effect on the reader.			
	<ul style="list-style-type: none"> Use critical analysis to explain how and why a writer of an informational selection used ambiguity, contradiction, incongruities, overstatement, and understatement in order to influence the reader. 	Full	ENG302A 6.1-6.11 ENG302B 4.1-4.19	
Strand G: Media	Evaluate informational and technical texts for their clarity, simplicity and coherence and for the appropriateness of their graphic and visual appeal.			
	<ul style="list-style-type: none"> Evaluate content, format, structure, and visual appeal used in informational/technical print, non-print and oral presentations. 	None		Teacher will supplement the curriculum to include opportunities for students to evaluate content, format, structure, and visual appeal used in informational/technical print, non-print and oral presentations.
	Evaluate the aural, visual, and written images and other special effects used in television, radio, film, and the Internet for their ability to inform, persuade, and entertain.			
	<ul style="list-style-type: none"> Identify conventional and unconventional uses of production elements such as layout, pictures and typeface in newspapers, magazines and print advertisements; camera shots, lighting, editing, dialog, setting, and sound in television; sound, dialog, and programming in radio; layout, navigation, and dynamic and interactive elements on the Web. 	None		Teacher will supplement the curriculum to include opportunities for students to identify conventional and unconventional uses of production elements such as layout, pictures and typeface in newspapers, magazines and print advertisements; camera shots, lighting, editing, dialog, setting, and sound in television; sound, dialog, and programming in radio; layout, navigation, and dynamic and interactive elements on the Web.
	<ul style="list-style-type: none"> Evaluate the effectiveness of conventional and unconventional uses of production elements to achieve special effects. 	None		Teacher will supplement the curriculum to include opportunities for students to evaluate the effectiveness of conventional and unconventional uses of production elements to achieve special effects.
	<ul style="list-style-type: none"> Describe how production elements - camera shots, montage, camera movements, sound, lighting, editing, casting, and acting - establish narrative in media productions. 	None		Teacher will supplement the curriculum to include opportunities for students to describe how production elements - camera shots, montage, camera movements, sound, lighting, editing, casting, and acting - establish narrative in media productions.
Strand G: Media	<ul style="list-style-type: none"> Establish criteria to evaluate how well elements of media productions inform, persuade, or entertain. 	None		Teacher will supplement the curriculum to include opportunities for students to establish criteria to evaluate how well elements of media productions inform, persuade, or entertain.
	Evaluate the effectiveness of a particular medium such as verbal, visual, photographic, television, and the Internet in achieving a particular purpose.			

	<ul style="list-style-type: none"> Evaluate how effectively communication goals, aesthetic goals, and usability goals (such as ease of access to the communication, ease of navigation of Internet sites, diction and layout as they affect accessibility for audiences) for the media communication have been achieved. 	None		Teacher will supplement the curriculum to include opportunities for students to evaluate how effectively communication goals, aesthetic goals, and usability goals (such as ease of access to the communication, ease of navigation of Internet sites, diction and layout as they affect accessibility for audiences) for the media communication have been achieved.
	Create coherent media productions using effective images, text, graphics, music, and/or sound effects to present a distinctive point of view on a topic whether through powerpoint presentations or videos.			
	<ul style="list-style-type: none"> Select credible sources and present multiple points of view, when appropriate, within a media production. 	None		Teacher will supplement the curriculum to include opportunities for students to select credible sources and present multiple points of view, when appropriate, within a media production.
Shtrand H: Literature	Demonstrate knowledge of foundational literary works.			
	<ul style="list-style-type: none"> Interpret the significance of literary works and movements as indicators of evolving societal perspectives, including 20th and pre-20th century foundational works of American literature, Hispanic and Native American literary works, and multicultural and crosscultural literary works. 	Full	Embedded throughout, for example: ENG302A 1.1-1.13 ENG302A 3.1-3.12 ENG302B 1.1-1.11 ENG302B 5.1-5.12	
	Analyze foundational U.S. documents and indigenous cultural narratives for their historical and literary significance.			
	<ul style="list-style-type: none"> Interpret the cultural, historical, and literary significance of indigenous narratives and foundational U.S. documents on U.S. culture throughout our nation's history. 	Partial	Embedded throughout, for example: ENG302A 1.1-1.13 ENG302A 3.1-3.12 ENG302B 1.1-1.11 ENG302B 5.1-5.12	Teacher will supplement the curriculum to include opportunities for students to interpret the cultural, historical, and literary significance of indigenous narratives and foundational U.S. documents on U.S. culture throughout our nation's history.
	Interpret significant literary elements across all forms of literature; use understanding of genre characteristics to allow deeper and subtler interpretations of texts.			
	<ul style="list-style-type: none"> Recognize and explain culturally specific customs, traditions, and symbols in literary works. 	Partial	ENG302A 1.1-1.11 ENG302A 3.1-3.12 ENG302B 2.1-2.13 ENG302B 5.5-5.9	Teacher will supplement the curriculum to include opportunities for students to recognize and explain culturally specific customs, traditions, and symbols in literary works.
	<ul style="list-style-type: none"> Analyze ways in which writers use lingual patterns such as repetition, dialect, slang, and formality, in dialog and narration. 	Full	ENG302A 1.1-1.11 ENG302A 3.1-3.12 ENG302B 2.1-2.13 ENG302B 5.5-5.9	
	<ul style="list-style-type: none"> Analyze ways in which writers play with language, including the use of pun, euphemism, oxymoron, verbal irony, hyperbole, and understatement. 	Partial	ENG302A 1.1-1.11 ENG302A 3.1-3.12 ENG302B 2.1-2.13 ENG302B 5.5-5.9	Teacher will supplement the curriculum to include opportunities for students to analyze ways in which writers play with language, including the use of pun, euphemism, oxymoron, verbal irony, hyperbole, and understatement.
	<ul style="list-style-type: none"> Analyze ways in which writers manipulate ideas using dramatic irony, situationa irony, and paradox. 	Full	ENG302A 1.1-1.11 ENG302A 3.1-3.12 ENG302B 2.1-2.13 ENG302B 5.5-5.9	
	<ul style="list-style-type: none"> Explain the ways in which writers utilize narrative forms and features such as chronological narratives, framed narratives, episodic (picaresque) plots, character or situation driven plots, and multiple narrators. 	Full	ENG302A 1.1-1.11 ENG302A 3.1-3.12 ENG302B 2.1-2.13 ENG302B 5.5-5.9	
	Analyze setting, plot, theme, characterization, and narration in literary prose, particularly classic and contemporary short stories and novels.			

<ul style="list-style-type: none"> Identify the characteristics of common nonfiction forms such as memoir, essay, biography, autobiography, documentary, and history. Analyze the overall style of prose works (including narration, imagery, diction, dialogue, plot, and characterization). 	Full	Embedded throughout, for example: ENG302A 1.1-1.13 ENG302A 2.1-2.12 ENG302B 3.1-3.12 ENG302B 5.1-5.12	
Demonstrate knowledge of the common elements of poetry: metrics, rhyme scheme, rhythm, alliteration, and other conventions.			
<ul style="list-style-type: none"> Analyze elements of poetry including: <ol style="list-style-type: none"> style: humor, symbolism, use of figurative or literal language meter and rhythm: basic forms of meter such as iambic pentameter sound devices: assonance, consonance, euphony, cacophony poetic forms: epic poems (heroic couplets), sestina poetic structures: the use of formal section breaks or unconventional capitalization and punctuation poetic device: extended metaphor, allusion, allegory 	Full	ENG302B 1.1-1.11 ENG302B 2.1-2.13 ENG302B 5.1-5.12	
Identify how elements of dramatic literature articulate a playwright's vision.			
<ul style="list-style-type: none"> Analyze the relationship among set/setting, costume, lighting (and other production elements) and the theme or intended meaning of a particular drama. 	Full	ENG302B 7.1-7.13	
<ul style="list-style-type: none"> Identify elements of comedy and comic form in drama (including farce, situational comedy, high and low comedy, absurdism/surrealism, and slapstick). 	Partial	ENG302B 7.1-7.13	Teacher will supplement the curriculum to include opportunities for students to identify elements of comedy and comic form in drama.
<ul style="list-style-type: none"> Evaluate a live performance (or a live recording) of drama for its correspondence with the playwright's vision. 	Partial	ENG302B 7.1-7.13	Teacher will supplement the curriculum to include opportunities for students to evaluate a live performance (or a live recording) of drama for its correspondence with the playwright's vision.
<ul style="list-style-type: none"> Evaluate a live performance (or a live recording) of drama for its effectiveness at conveying a particular theme through directorial decisions. 	Partial	ENG302B 7.1-7.13	Teacher will supplement the curriculum to include opportunities for students to evaluate a live performance (or a live recording) of drama for its effectiveness at conveying a particular theme through directorial decisions.
Analyze works of literature for what they suggest about the time period and social or cultural context in which they were written.			
<ul style="list-style-type: none"> Analyze how a particular piece of literature has changed societal and cultural attitudes. 	Full	ENG302B 1.1-1.11 ENG302B 2.1-2.13 ENG302B 5.1-5.12	

<p align="center">New Mexico Math Grade Level Expectations 9-12 Compared to K¹² MTH122 Algebra I, MTH302 Algebra II (Scope and Sequence), MTH203 Geometry, and MTH403 Precalculus/Trigonometry</p>				
Strand/Topic	NM Math Grade Level Expectations	Coverage	Course, unit, lesson	Comments
	9-12 Benchmark.A.1: Represent and analyze mathematical situations and structures using algebraic symbols.			
	9-12.A.1.1 Use the special symbols of mathematics correctly and precisely.	Full	Embedded throughout, for example: MTH122A 1.2-1.7 MTH302A 1.3 MTH302A 1.10 MTH302A 3.3 MTH302A 4.1-4.3 MTH302A 7.2 MTH302A 7.3 MTH302B 1.3 MTH302B 2.2 MTH302B 3.8 MTH302B 4.2 MTH302B 5.1 MTH403A 1.2 MTH403A 1.5 MTH403A 2.4 MTH403A 4.1	
	9-12.A.1.2 Classify and use equivalent representations of natural, whole, integer, rational, irrational numbers and complex numbers, and choose which type of number is appropriate in a given context.	Full	MTH122A 6.1-6.10 MTH122B 2.1-2.8 MTH302A 1.3 MTH302A 1.4 MTH302A 6.1 MTH302A 7.3 MTH302A 7.6 MTH302A 7.7 MTH302B 2.2 MTH302B 2.3 MTH302B 4.1 MTH403A 4.1 MTH403B 6.3	
	9-12.A.1.3 Determine the relative position on the number line and the relative magnitude of integers, decimals, rationals, irrationals, and numbers in scientific notation.	Full	MTH122B 2.1 MTH122B 2.2 MTH122B 2.8 MTH122A 2.1 MTH122A 2.3 MTH302A 1.2 MTH302A 1.4 MTH302A 4.1	
	9-12.A.1.4 Explain that the distance between two numbers on the number line is the absolute value of their difference.	Full	MTH122A 2.9 MTH302A 1.2 MTH302A 1.4	

9-12.A.1.5 Use a variety of computational methods, recognize when an estimate or approximation is more appropriate than an exact answer, and understand the limits on precision of approximations.	Full	Embedded throughout, for example: MTH122A 3.1-3.6 MTH122A 6.1-6.10 MTH122B 2.2-2.4 MTH203A 5.5 MTH203A 5.6 MTH403A 2.5 MTH403B 1.1	
9-12.A.1.6 Simplify numerical expressions using the order of operations, including integer exponents.	Full	MTH122A 1.2 MTH122A 2.3 MTH122B 2.7 MTH302A 1.6 MTH302A 1.7 MTH302A 5.1 MTH302A 6.1 MTH302B 2.1	
9-12.A.1.7 Translate verbal statements into algebraic expressions or equations.	Full	MTH122A 1.5-1.7 MTH122A 6.10 MTH302A 1.7 MTH302A 1.9 MTH302B 2.5 MTH302B 2.12 MTH403A 1.3 MTH403A 1.6 MTH403A 4.2 MTH403A 4.6	
9-12.A.1.8 Solve formulas for specified variables.	Full	MTH203A 5.1-5.11 MTH302A 1.11 MTH403A 4.6 MTH403B 6.5	
9-12.A.1.9 Solve quadratic equations in one variable.	Full	MTH122B 5.3 MTH122B 5.6 MTH122B 5.7 MTH302A 5.5 MTH302A 7.1 MTH302A 8.6-8.8 MTH302B 1.2 MTH403A 2.4 MTH403A 2.5 MTH403A 3.3	
9-12.A.1.10 Solve radical equations involving one radical.	Full	MTH122B 2.14 MTH122B 2.13 MTH302A 7.5	

9-12.A.1.11 Describe the properties of rational exponents and apply these properties to simplify algebraic expressions.	Full	MTH122B 2.11 MTH122B 2.9 MTH122B 6.1 MTH302A 7.3 MTH302B 2.3 MTH403A 4.1	
9-12.A.1.12 Explain and use equivalent representations for algebraic expressions (e.g., simplify using the distributive property).	Full	MTH122B 6.1 MTH122A 2.7 MTH122A 2.4 MTH302A 1.7	
9-12.A.1.13 Simplify rational expressions by factoring and reducing to lowest terms.	Full	MTH122B 6.1-6.6 MTH302A 6.2-6.4 MTH302A 6.6 MTH302A 6.7 MTH403A 3.5	
9-12.A.1.14 Evaluate polynomial, rational, radical, and absolute value expressions for one or more variables.	Full	MTH122B 2.11 MTH122B 5.1-5.4 MTH122A 1.9 MTH122A 5.4 MTH302A 1.10 MTH302A 3.9 MTH302B 1.6 MTH302B 3.1 MTH403A 1.1 MTH403A 1.2 MTH403A 3.1 MTH403A 3.4 MTH403A 3.5	
9-12.A.1.15 Compare and order polynomial expressions by degree.	Full	MTH122B 3.1-3.8 MTH302A 5.2 MTH403A 3.1	
9-12.A.1.16 Factor polynomials of various types (e.g., difference of squares, perfect square trinomials, sum and difference of cubes).	Full	MTH122B 4.7-4.11 MTH302A 5.5 MTH302A 6.2-6.4 MTH302A 6.6 MTH302A 6.7 MTH302A 8.6 MTH302B 1.2 MTH302B 1.7 MTH302B 1.10 MTH403A 2.4 MTH403A 3.2 MTH403A 3.5	

Algebra, Functions, and Graphs	9-12.A.1.17 Solve linear equations and inequalities in one variable including those involving the absolute value of a linear function.	Full	MTH122A 4.1-4.11 MTH122A 5.1-5.5 MTH302A 1.9 MTH302A 1.10 MTH302A 2.6 MTH302A 4.2 MTH302A 4.3 MTH302A 4.6 MTH403A 1.2 MTH403A 1.3 MTH403A 1.5 MTH403A 1.6	
	9-12.A.1.18 Use the four basic operations (+, -, ×, ÷) with linear, polynomial, and rational expressions in contextual situations.	Full	MTH122A 5.5 MTH122A 6.10 MTH122B 3.2 MTH122B 3.4-3.7 MTH122B 4.2 MTH122B 4.6 MTH122B 6.2-6.6 MTH302A 3.9 MTH302A 5.2 MTH302A 5.3 MTH302A 6.2-6.4 MTH302B 1.3 MTH302B 1.4 MTH403A 1.6	
	9-12.A.1.19 Use the four basic operations (+, -, ×, ÷) in contextual situations with numbers in scientific notation, and express the results with the appropriate number of significant figures.	None		Teachers will supplement the curriculum to include opportunities for students to use the four basic operations (+, -, ×, ÷) in contextual situations with numbers in scientific notation, and expressing the results with the appropriate number of significant figures.
	9-12 Benchmark A.2: Understand patterns, relations, functions, and graphs.			
	9-12.A.2.1 Distinguish between the concept of a relation and a function.	Full	MTH122B 1.2 MTH122B 1.3 MTH302A 3.2 MTH403A 1.1 MTH403A 1.2	
	9-12.A.2.2 Determine whether a relation defined by a graph, a set of ordered pairs, a table of values, an equation, or a rule is a function.	Full	MTH122B 1.2 MTH122B 1.3 MTH302A 3.2 MTH302A 5.7 MTH403A 1.1 MTH403A 1.2 MTH403A 4.2	

9-12.A.2.3 Translate among tabular, symbolic, and graphical representations of functions and relations.	Full	MTH122B 1.2-1.13 MTH302A 3.2 MTH302A 3.5 MTH302A 3.7 MTH302A 5.7 MTH302A 6.8 MTH302A 8.2 MTH302A 8.3 MTH302B 1.9 MTH302B 2.4 MTH302B 2.11 MTH403A 1.1-1.3 MTH403A 1.5 MTH403A 1.6 MTH403A 2.1-2.3 MTH403A 3.1 MTH403A 3.5 MTH403A 4.1 MTH403A 4.2	
9-12.A.2.4 Construct a linear function that represents a given graph.	Full	MTH122B 1.4 MTH302A 2.6 MTH403A 1.3 MTH403A 1.5	
9-12.A.2.5 Explain and use function notation in both abstract and contextual situations and evaluate a function at a specific point in its domain.	Full	MTH122B 1.4-1.6 MTH302A 3.3 MTH302A 3.5 MTH302A 3.7 MTH302A 5.2 MTH302A 5.7 MTH302A 6.8 MTH302A 6.9 MTH302A 8.1 MTH302A 8.2 MTH302B 2.3-2.5 MTH403A 1.1-1.3 MTH403A 1.5 MTH403A 2.2-2.5 MTH403A 3.1 MTH403A 3.5 MTH403A 4.1 MTH403A 4.2	
9-12.A.2.6 Graph a linear equation and demonstrate that it has a constant rate of change.	Full	MTH122 7.12 MTH302A 2.2 MTH302A 2.3 MTH403A 1.3	
9-12.A.2.7 Graph a linear inequality in two variables.	Full	MTH122A 5.1 MTH302A 4.7 MTH403A 1.5 MTH403A 1.6	

9-12.A.2.8 Graph a quadratic function and understand the relationship between its real zeros and the x-intercepts of its graph.	Full	MTH122B 5.10 MTH302A 8.2 MTH302A 8.3 MTH302A 8.6 MTH302B 7.8 MTH403A 2.1-2.4	
9-12.A.2.9 Graph exponential functions and identify their key characteristics as related to contextual situations.	Full	MTH302B 2.4 MTH302B 2.5 MTH403A 4.2	
9-12.A.2.10 Identify and describe symmetries of graphs.	Full	MTH122B 5.10 MTH302A 8.1-8.3 MTH302B 7.8 MTH403A 2.1-2.3 MTH403A 3.1 MTH403A 3.4	
9-12.A.2.11 Use the quadratic formula and factoring techniques to determine whether the graph of a quadratic function will intersect the x-axis in zero, one, or two points (include quadratic functions that represent real phenomena).	Full	MTH122B 5.10 MTH302A 8.6-8.8 MTH403A 2.4 MTH403A 2.5	
9-12.A.2.12 Explain the meaning of the real and complex roots of quadratic functions in contextual situations.	Full	MTH122B 5.11 MTH122B 5.12 MTH302A 8.8 MTH403A 2.5	
9-12.A.2.13 Read information and draw conclusions from graphs, and identify properties of a graph that provide useful information about the original problem.	Full	MTH122B 5.10 MTH122A 7.10 MTH122A 7.12 MTH302A 3.4 MTH302A 5.7 MTH302A 6.8 MTH302A 6.9 MTH302A 8.1-8.3 MTH302A 8.6 MTH302B 1.2 MTH302B 1.9 MTH302B 2.4 MTH302B 2.11 MTH302B 7.8 MTH403A 1.5 MTH403A 1.6 MTH403A 2.2 MTH403A 2.3 MTH403A 2.5 MTH403A 3.1 MTH403A 3.4 MTH403A 3.5 MTH403A 4.2	
9-12.A.2.14 Understand the relationship between the coefficients of a linear equation and the slope and x- and y- intercepts of its graphs.	Full	MTH122A 7.3-7.10 MTH302A 2.2 MTH302A 2.3 MTH403A 1.3 MTH403A 1.5	
9-12.A.2.15 Evaluate estimated rate of change in a contextual situations.	Full	MTH403A 4.2 MTH403A 4.6	
9-12 Benchmark A.3: Use mathematical models to represent and understand quantitative relationships.			

9-12.A.3.1 Model real-world phenomena using linear equations and linear inequalities interpret resulting solutions, and use estimation to detect errors.	Full	MTH122A 7.12 MTH122A 4.4 MTH302A 1.9 MTH302A 1.11 MTH302A 2.6 MTH302A 4.7 MTH302A 4.8 MTH403A 1.3 MTH403A 1.5 MTH403A 1.6	
9-12.A.3.2 Model real-world phenomena using quadratic equations, interpret resulting solutions, and use estimation to detect errors.	Full	MTH122B 5.11 MTH122B 5.12 MTH302A 8.8 MTH403A 2.5	
9-12.A.3.3 Model real-world phenomena using exponential equations, interpret resulting solutions, and use estimation to detect errors.	Full	MTH302B 2.5 MTH403A 4.2	
9-12.A.3.4 Solve systems of linear equations in two variables algebraically and graphically	Full	MTH122A 8.1-8.6 MTH302A 2.8 MTH302B 6.1 MTH302B 6.8 MTH403A 1.6	
9-12.A.3.5 Solve applications involving systems of two equations in two variables.	Full	MTH122A 8.5 MTH302A 2.9	
9-12.A.3.6 Write an equation of the line that passes through two given points.	Full	MTH122A 7.3 MTH302A 2.4 MTH403A 1.5	
9-12.A.3.7 Verify that a point lies on a line, given an equation of the line, and be able to derive linear equations given a point and a slope.	Full	MTH122A 7.8 MTH302A 2.4 MTH403A 1.3 MTH403A 1.5	
9-12.A.3.8 Determine whether the graphs of two given linear equations are parallel, perpendicular, coincide or none of these.	Full	MTH122A 7.9 MTH302A 2.4 MTH403A 1.3 MTH403A 1.6	
9-12 Benchmark G.1: Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.			
9-12.G.1.1 Understand that numerical values associated with measurements of physical quantities must be assigned units of measurement or dimensions; apply such units correctly in expressions, equations and problem solutions that involve measurements; and convert a measurement using one unit of measurement to another unit of measurement.	Partial	MTH203A 1.4-1.7 MTH203A 5.1-5.6 MTH403B 1.2	Teachers will supplement the curriculum to include opportunities for students to understand that numerical values associated with measurements of physical quantities must be assigned units of measurement or dimensions; apply such units correctly in expressions, equations and problem solutions that involve measurements; and convert a measurement using one unit of measurement to another unit of measurement.
9-12.G.1.2 Find the area and perimeter of a geometric figure composed of a combination of two or more rectangles, triangles, and/or semicircles with just edges in common.	Full	MTH203A 5.2	
9-12.G.1.3 Draw three-dimensional objects and calculate the surface areas and volumes of these figures (e.g. prisms, cylinders, pyramids, cones, spheres) as well as figures constructed from unions of prisms with faces in common, given the formulas for these figures.	Full	MTH203B 2.1-2.13 MTH203B 1.2 MTH203B 1.3	

Geometry and Trigonometry	9-12.G.1.4 Identify the hypothesis and conclusion in examples of conditional statements.	Full	MTH203A 2.3	
	9-12.G.1.5 Use definitions in making logical arguments.	Full	MTH203A 2.8 MTH203A 2.9 MTH203A 2.13	
	9-12.G.1.6 Use counterexamples to show that an assertion is false and recognize that a single counterexample is sufficient to refute a universal statement.	Full	MTH203A 2.7	
	9-12.G.1.7 Explain the difference between inductive and deductive reasoning and provide examples of each.	Full	MTH203A 2.12-2.14	
	9-12.G.1.8 Explain why, for inductive reasoning, showing a statement is true for a finite number of examples does not show it is true for all cases unless the cases verified are all possible cases.	Full	MTH203A 2.12-2.14	
	9-12.G.1.9 Write geometric proofs, including proofs by contradiction, and perform and explain basic geometric constructions related to: theorems involving the properties of parallel and perpendicular lines, circles, and polygons; theorems involving complementary, supplementary, and congruent angles; theorems involving congruence and similarity; and the Pythagorean theorem.	Full	MTH203A 2.13 MTH203A 2.14 MTH203A 3.6 MTH203A 5.8 MTH203A 4.2 MTH203A 4.7 MTH203A 4.8	
	9-12.G.1.10 Recognize that there are geometries, other than Euclidean geometry, in which the parallel postulate is not true.	Full	MTH203B 6.7	
	9-12 Benchmark G.2: Specify locations and describe spatial relationships using coordinate geometry and other representational systems.			
	9-12.G.2.1 Identify the origin, coordinate axes, and four quadrants on the Cartesian coordinate plane, and draw and label them correctly.	Full	MTH203A 1.15 MTH302A 2.1	
	9-12.G.2.2 Determine the midpoint and distance between two points within a coordinate system and relate these ideas to geometric figures in the plane (e.g., find the center of a circle given the two points of a diameter of the circle).	Full	MTH203A 3.17 MTH203B 4.12-4.14	
	9-12.G.2.3 Use basic geometric ideas (e.g., the Pythagorean theorem, area and perimeter) in the context of the Cartesian coordinate plane (e.g., calculate the perimeter of a rectangle with integer coordinates and with sides parallel to the coordinate axes, and of a rectangle with sides not parallel).	Full	MTH203A 5.11	
	9-12 Benchmark G.3: Apply transformations and use symmetry to analyze mathematical situations.			
	9-12.G.3.1 Use rigid motions (compositions of reflections, translations and rotations) to determine whether two geometric figures are congruent in a coordinate plane.	Full	MTH203A 1.16	
	9-12.G.3.2 Sketch a planar figure that is the result of given transformations (i.e., translation, reflection, rotation, and/or dilation).	Full	MTH203A 1.13 MTH203A 1.14 MTH302A 8.2 MTH302A 8.3 MTH302B 6.7 MTH403A 2.3 MTH403A 4.1 MTH403A 5.4	
	9-12.G.3.3 Identify similarity in terms of transformations.	Full	MTH203B 3.1 MTH203B 3.2	
	9-12.G.3.4 Determine the effects of transformations on linear and area measurements of the original planar figure.	Full	MTH203B 3.11 MTH203B 3.12	
	9-12 Benchmark G.4: Use visualization, spatial reasoning, and geometric modeling to solve problems.			

Grades 9-12

9-12.G.4.1 Solve contextual problems using congruence and similarity relationships of triangles (e.g., find the height of a pole given the length of its shadow).	Full	MTH203B 3.9 MTH203B 3.10	
9-12.G.4.2 Solve problems involving complementary, supplementary, and congruent angles.	Full	MTH203A 3.5 MTH203A 3.6	
9-12.G.4.3 Know that the effect of a scale factor k on length, area and volume is to multiply each by k , k^2 and k^3 , respectively.	Full	MTH203B 3.11 MTH203B 3.12	
9-12.G.4.4 Solve problems using the Pythagorean theorem.	Full	MTH203A 5.9 MTH203A 5.10 MTH403B 1.1	
9-12.G.4.5 Understand how similarity of right triangles allows the trigonometric functions sine, cosine and tangent to be defined as ratios of sides and be able to use these functions to solve problems.	Full	MTH203B 5.1-5.7 MTH403B 1.1	
9-12.G.4.6 Apply basic trigonometric functions to solve right-triangle problems.	Full	MTH203B 5.1-5.7 MTH403B 1.1	
9-12.G.4.7 Use angle and side relationships in problems with special right triangles (e.g., 30-, 60-, 90-, and 45-, 45-, 90- degree triangles).	Full	MTH203A 5.9 MTH203A 5.10 MTH403B 1.1	
9-12.G.4.8 Describe the intersections of a line and a plane, intersections of lines in the plane and in space, or of two planes in space.	Full	MTH203B 1.4 MTH203B 1.5	
9-12 Benchmark D.1: Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.			
9-12.D.1.1 Explain the differences between various methods of data collection.	Full	MTH302B 5.4	
9-12.D.1.2 Describe the characteristics of a well-designed and well-conducted survey by differentiating between sampling and census, and a biased and unbiased sample.	Full	MTH302B 5.4	
9-12.D.1.3 Describe the characteristics of a well-designed and well-conducted experiment by differentiating between experiments and observational studies, and recognizing the sources of bias in poorly designed experiments.	Partial	MTH302B 5.4	Teachers will supplement the curriculum to include opportunities for students to describe the characteristics of a well-designed and well-conducted experiment by differentiating between experiments and observational studies, and recognizing the sources of bias in poorly designed experiments.
9-12.D.1.4 Explain the role of randomization in well-designed surveys and experiments.	Full	MTH302B 5.4	
9-12 Benchmark D.2: Select and use appropriate statistical methods to analyze data and make predictions.			
9-12.D.2.1 Distinguish measurement data from categorical data, and define the term variable.	Full	MTH302B 5.4-5.6	
9-12.D.2.2 Explain the meaning of univariate and bivariate data.	Full	MTH302B 5.5 MTH302B 5.10	
9-12.D.2.3 Display the distribution of univariate data, describe its shape using appropriate summary statistics, and understand the distinction between a statistic and a parameter.	Full	MTH302B 5.2 MTH302B 5.3 MTH302B 5.5 MTH302B 5.8 MTH302B 5.9	
9-12.D.2.4 Calculate and apply measures of variability (e.g., standard deviation).	Full	MTH302B 5.3	
9-12.D.2.5 Compare distributions of univariate data using back-to-back stem and leaf plots and parallel box and whisker plots.	Full	MTH302B 5.2 MTH302B 5.3	
9-12.D.2.6 Describe the characteristics of a normal distribution.	Full	MTH302B 5.9	
9-12.D.2.7 Compare and draw conclusions between two or more sets of univariate data using basic data analysis techniques and summary statistics.	Full	MTH302B 5.2 MTH302B 5.3 MTH302B 5.5	

Data Analysis and Probability	9-12.D.2.8 Describe the shape of a scatterplot.	Full	MTH302B 5.10	
	9-12.D.2.9 Use linear patterns in data to make predictions.	Full	MTH302A 2.6 MTH403A 1.3	
	9-12.D.2.10 Use technological tools to find the line of best fit.	Partial	MTH302A 2.6	Teachers will supplement the curriculum to include opportunities for students to use technological tools to find the line of best fit.
	9-12.D.2.11 Describe the relationship between two variables and determine its strength with and without technological tools.	Partial	MTH302A 2.6 MTH302B 5.10	Teachers will supplement the curriculum to include opportunities for students to describe the relationship between two variables and determining its strength with technological tools.
	9-12.D.2.12 Explain why correlation does not imply a cause-and-effect relationship.	Full	MTH302B 5.10	
	9-12.D.2.13 Use the results of simulations to explore the variability of sample statistics from a known population and construct sampling distributions.	None		Teachers will supplement the curriculum to include opportunities for students to use the results of simulations to explore the variability of sample statistics from a known population and to construct sampling distributions.
	9-12.D.2.14 Describe how sample statistics, including the law of large numbers, reflect the values of population parameters and use sampling distributions as the basis for informal inference.	None		Teachers will supplement the curriculum to include opportunities for students to describe how sample statistics, including the law of large numbers, reflect the values of population parameters and use sampling distributions as the basis for informal inference.
	9-12.D.2.15 Evaluate published reports that are based on data by examining the design of the study, the appropriateness of the data analysis, and the validity of conclusions.	None		Teachers will supplement the curriculum to include opportunities for students to evaluate published reports that are based on data by examining the design of the study, the appropriateness of the data analysis, and the validity of conclusions.
	9-12 Benchmark D.3: Understand and apply basic concepts of probability.			
	9-12.D.3.1 Explain the concept of a random variable.	Full	MTH302B 5.4	
	9-12.D.3.2 Explain how the relative frequency of a specified outcome of an event can be used to estimate the probability of the outcome.	Full	MTH302B 4.2-4.5 MTH302B 4.11	
	9-12.D.3.3 Use the results of simulations to compute the expected value and probabilities of random variables in simple cases.	Full	MTH302B 4.2 MTH302B 4.5 MTH302B 4.7 MTH302B 4.11	
	9-12.D.3.4 Compute the probability of an event using the complement rule, addition rule for disjoint and joint events, multiplication rule for independent events, and rules for conditional probability.	Full	MTH302B 4.2 MTH302B 4.7-4.10	

<p align="center">New Mexico Science Grade Level Expectations Compared to K¹² SCI112 Earth Science, SCI202 Biology, SCI302 Chemistry, SCI403 Physics (Scope and Sequence)</p>				
Strand/Topic	NM Science Grade Level Expectations	Coverage	Course, unit, lesson	Comments
	A. Understand the properties, underlying structure, and reactions of matter.			
	Properties of Matter			
	1. Classify matter in a variety of ways (e.g., element, compound, mixture; solid, liquid, gas; acidic, basic, neutral).	Full	SCI302A 1.3 SCI302A 1.6 SCI302B 1.2 SCI302B 1.12-1.14 SCI302B 3.1 SCI302B 3.2	
	2. Identify, measure, and use a variety of physical and chemical properties (e.g., electrical conductivity, density, viscosity, chemical reactivity, pH, melting point).	Full	SCI302A 1.13 SCI302A 4.5 SCI302B 1.12-1.14 SCI302B 3.4 SCI302B 4.2 SCI302B 6.1	
	3. Know how to use properties to separate mixtures into pure substances (e.g., distillation, chromatography, solubility).	Full	SCI302A 1.6-1.9 SCI302B 2.2 SCI302B 2.10	
	4. Describe trends in properties (e.g., ionization energy or reactivity as a function of location on the periodic table, boiling point of organic liquids as a function of molecular weight).	Full	SCI302A 3.3 SCI302A 4.2 SCI302B 1.12	
	Structure of Matter			
	5. Understand that matter is made of atoms and that atoms are made of subatomic particles.	Full	SCI302A 2.1 SCI302A 2.2	
	6. Understand atomic structure, including: * most space occupied by electrons * nucleus made of protons and neutrons * isotopes of an element * masses of proton and neutron 2000 times greater than mass of electron * atom held together by proton-electron electrical forces	Full	SCI302A 2.2 SCI302A 2.9	
	7. Explain how electrons determine the properties of substances by: * interactions between atoms through transferring or sharing valence electrons * ionic and covalent bonds * the ability of carbon to form a diverse array of organic structures.	Full	SCI302A 2.2 SCI302A 2.8 SCI302A 2.11 SCI302A 4.4 SCI302A 4.12 SCI302B 7.1	
	8. Make predictions about elements using the periodic table (e.g., number of valence electrons, metallic character, reactivity, conductivity, type of bond between elements).	Full	SCI302A 3.1-3.11 SCI302A 4.4 SCI302A 4.12	
	9. Understand how the type and arrangement of atoms and their bonds determine macroscopic properties (e.g., boiling point, electrical conductivity, hardness of minerals).	Full	Embedded throughout, for example: SCI302A 3.5 SCI302A 4.5 SCI302B 4.1	
	10. Know that states of matter (i.e., solid, liquid, gas) depend on the arrangement of atoms and molecules and on their freedom of motion.	Full	SCI302B 1.2 SCI302B 1.12 SCI302B 1.13	

Physical Science	11. Know that some atomic nuclei can change, including: * spontaneous decay * half-life of isotopes * fission * fusion (e.g., the sun) * alpha, beta, and gamma radiation. * Chemical Reactions	Full	SCI302A 5.4 SCI302A 5.5 SCI302B 8.2 SCI302B 8.6 SCI302B 8.7	
	12. Know that chemical reactions involve the rearrangement of atoms, and that they occur on many timescales (e.g., picoseconds to millennia).	Full	SCI302A 5.1 SCI302A 5.4 SCI302A 5.5	
	13. Understand types of chemical reactions (e.g., synthesis, decomposition, combustion, redox, neutralization) and identify them as exothermic or endothermic.	Full	SCI302A 5.1-5.8 SCI302B 6.1	
	14. Know how to express chemical reactions with balanced equations that show: * conservation of mass * products of common reactions.	Full	SCI302A 5.1 SCI302A 5.2	
	15. Describe how the rate of chemical reactions depends on many factors that include temperature, concentration, and the presence of catalysts.	Full	SCI302B 5.1 SCI302B 5.2	
	B. Understand the transformation and transmission of energy and how energy and matter interact.			
	Energy Transformation and Transfer			
	1. Identify different forms of energy, including kinetic, gravitational (potential), chemical, thermal, nuclear, and electromagnetic.	Full	Embedded throughout, for example: SCI302B 4.1 SCI302B 5.1 SCI302B 8.7 SCI403B 3.1	
	2. Explain how thermal energy (heat) consists of the random motion and vibrations of atoms and molecules and is measured by temperature.	Full	SCI302B 4.1 SCI302B 4.2 SCI403B 4.1	
	3. Understand that energy can change from one form to another (e.g., changes in kinetic and potential energy in a gravitational field, heats of reaction, hydroelectric dams) and know that energy is conserved in these changes.	Full	Embedded throughout, for example: SCI302A 5.1 SCI302B 1.2 SCI302B 4.1 SCI302B 5.1 SCI403B 3.2	
	4. Understand how heat can be transferred by conduction, convection, and radiation, and how heat conduction differs in conductors and insulators.	Partial	SCI302B 4.1-4.8 SCI403B 4.1-4.8 SCI403B 7.1	Teachers will supplement the curriculum to include opportunities for students to clearly understand conduction and convection.
	5. Explain how heat flows in terms of the transfer of vibrational motion of atoms and molecules from hotter to colder regions.	Full	SCI302B 4.2	
	6. Understand that the ability of energy to do something useful (work) tends to decrease (and never increases) as energy is converted from one form to another.	Full	SCI403B 3.2-3.5	
	Interactions of Energy and Matter			
	7. Understand that electromagnetic waves carry energy that can be transferred when they interact with matter.	Full	SCI403B 5.1	
	8. Describe the characteristics of electromagnetic waves (e.g., visible light, radio, microwave, X-ray, ultraviolet, gamma) and other waves (e.g., sound, seismic waves, water waves), including: * origin and potential hazards of various forms of electromagnetic radiation * energy of electromagnetic waves carried in discrete energy packets (photons)	Full	SCI403B 5.1-5.6 SCI403B 6.1-6.9	

9. Know that each kind of atom or molecule can gain or lose energy only in discrete amounts.	Full	SCI302A 2.1 SCI403B 10.1	
10. Explain how wavelengths of electromagnetic radiation can be used to identify atoms, molecules, and the composition of stars.	Full	SCI403B 5.1 SCI403B 10.5	
11. Understand the concept of equilibrium (i.e., thermal, mechanical, and chemical).	Full	SCI302A 1.3 SCI302B 5.7 SCI403A 6.5	
C. Understand the motion of objects and waves, and the forces that cause them.			
Forces			
1. Know that there are four fundamental forces in nature: gravitation, electromagnetism, weak nuclear force, and strong nuclear force.	Full	SCI403A 8.1 SCI403B 9.3 SCI403B 10.4	
2. Know that every object exerts gravitational force on every other object, and how this force depends on the masses of the objects and the distance between them.	Full	SCI403A 8.1	
3. Know that materials containing equal amounts of positive and negative charges are electrically neutral, but that a small excess or deficit of negative charges produces significant electrical forces.	Full	SCI403B 7.2	
4. Understand the relationship between force and pressure, and how the pressure of a volume of gas depends on the temperature and the amount of gas.	Full	SCI302B 1.2	
5. Explain how electric currents cause magnetism and how changing magnetic fields produce electricity (e.g., electric motors, generators).	Full	SCI403B 9.1-9.5	
6. Represent the magnitude and direction of forces by vector diagrams.	Full	SCI403A 4.2 SCI403A 6.1-6.4	
7. Know that when one object exerts a force on a second object, the second object exerts a force of equal magnitude and in the opposite direction on the first object (i.e., Newton 's Third Law).	Full	SCI403A 5.7 SCI403B 1.2	
Motion			
8. Apply Newton 's Laws to describe and analyze the behavior of moving objects, including: * displacement, velocity, and acceleration of a moving object * Newton 's Second Law, $F = ma$ (e.g., momentum and its conservation, the motion of an object falling under gravity, the independence of a falling object's motion on mass)	Full	SCI403A 4.8-4.10 SCI403A 5.3 SCI403A 7.6-7.10 SCI403B 1.2	
9. Describe relative motion using frames of reference.	Full	SCI403A 4.2	
10. Describe wave propagation using amplitude, wavelength, frequency, and speed.	Full	SCI403B 5.2	
11. Explain how the interactions of waves can result in interference, reflection, and refraction.	Full	SCI403B 5.2 SCI403B 6.8	
12. Describe how waves are used for practical purposes (e.g., seismic data, acoustic effects, Doppler effect).	Full	SCI403B 5.2 SCI403B 5.4	
A. Understand how the survival of species depends on biodiversity and on complex interactions, including the cycling of matter and the flow of energy.			

Ecosystems			
1. Know that an ecosystem is complex and may exhibit fluctuations around a steady state or may evolve over time.	Full	SCI202B 4.1 SCI202B 4.9	
2. Describe how organisms cooperate and compete in ecosystems (e.g., producers, decomposers, herbivores, carnivores, omnivores, predator-prey, symbiosis, mutualism).	Partial	SCI202B 4.4	Teachers will supplement the curriculum to include opportunities for students to describe how organisms cooperate and compete in ecosystems, particularly predator-prey relationships and more details on symbiosis and mutualism.
3. Understand and describe how available resources limit the amount of life an ecosystem can support (e.g., energy, water, oxygen, nutrients).	None		Teachers will supplement the curriculum to include opportunities for students to understand how available resources limit the amount of life an ecosystem can support (carrying capacity).
4. Critically analyze how humans modify and change ecosystems (e.g., harvesting, pollution, population growth, technology).	None		Teachers will supplement the curriculum to include opportunities for students to critically analyze how humans modify and change ecosystems.
Energy Flow in the Environment			
5. Explain how matter and energy flow through biological systems (e.g., organisms, communities, ecosystems), and how the total amount of matter and energy is conserved but some energy is always released as heat to the environment.	Full	SCI202A 3.14 SCI202A 3.16 SCI202B 4.4 SCI202B 4.13	
6. Describe how energy flows from the sun through plants to herbivores to carnivores and decomposers.	Full	SCI202B 4.4 SCI202B 4.5	
7. Understand and explain the principles of photosynthesis (i.e., chloroplasts in plants convert light energy, carbon dioxide, and water into chemical energy).	Full	SCI202A 3.16	
Biodiversity			
8. Understand and explain the hierarchical classification scheme (i.e., domain, kingdom, phylum, class, order, family, genus, species), including: * classification of an organism into a category * similarity inferred from molecular structure (DNA) closely matching classification based on anatomical similarities * similarities of organisms reflecting evolutionary relationships.	Full	SCI202B 2.17 SCI202B 2.18	
9. Understand variation within and among species, including: * mutations and genetic drift * factors affecting the survival of an organism * natural selection.	Full	SCI202B 2.4 SCI202B 2.5	
B. Understand the genetic basis for inheritance and the basic concepts of biological evolution.			
Genetics			
1. Know how DNA carries all genetic information in the units of heredity called genes, including: * the structure of DNA (e.g., subunits A, G, C, T) * information-preserving replication of DNA * alteration of genes by inserting, deleting, or substituting parts of DNA.	Full	SCI202B 1.2 SCI202B 1.3 SCI202B 1.7 SCI202B 1.9	
2. Use appropriate vocabulary to describe inheritable traits (i.e., genotype, phenotype).	Full	SCI202A 4.2 SCI202A 4.4	
3. Explain the concepts of segregation, independent assortment, and dominant/recessive alleles.	Full	SCI202A 4.2	
4. Identify traits that can and cannot be inherited.	None		Teachers will supplement the curriculum to include opportunities for students to identify traits that can and cannot be inherited.

Life Science	5. Know how genetic variability results from the recombination and mutation of genes, including: * sorting and recombination of genes in sexual reproduction result in a change in DNA that is passed on to offspring * radiation or chemical substances can cause mutations in cells, resulting in a permanent change in DNA.	Full	SCI202B 2.4	
	6. Understand the principles of sexual and asexual reproduction, including meiosis and mitosis.	Full	SCI202A 3.20 SCI202A 3.21 SCI202A 3.29 SCI202A 3.30	
	7. Know that most cells in the human body contain 23 pairs of chromosomes including one pair that determines sex, and that human females have two X chromosomes and human males have an X and a Y chromosome.	Full	SCI202A 4.6	
	Biological Evolution			
	8. Describe the evidence for the first appearance of life on Earth as one-celled organisms, over 3.5 billion years ago, and for the later appearance of a diversity of multicellular organisms over millions of years.	None		Teachers will supplement the curriculum to include opportunities for students to describe evidence for the first appearance of life on Earth as one-celled organisms, over 3.5 billion years ago, and for the later appearance of a diversity of multicellular organisms over millions of years.
	9. Critically analyze the data and observations supporting the conclusion that the species living on Earth today are related by descent from the ancestral one-celled organisms.	Full	SCI202B 2.7-2.9	
	10. Understand the data, observations, and logic supporting the conclusion that species today evolved from earlier, distinctly different species, originating from the ancestral one-celled organisms.	Full	SCI202B 2.7-2.9	
	11. Understand that evolution is a consequence of many factors, including the ability of organisms to reproduce, genetic variability, the effect of limited resources, and natural selection.	Full	SCI202B 2.2 SCI202B 2.4	
	12. Explain how natural selection favors individuals who are better able to survive, reproduce, and leave offspring.	Full	SCI202B 2.4 SCI202B 2.5	
	13. Analyze how evolution by natural selection and other mechanisms explains many phenomena including the fossil record of ancient life forms and similarities (both physical and molecular) among different species.	Full	SCI202B 2.4 SCI202B 2.5 SCI202B 2.7-2.9	
	C. Understand the characteristics, structures, and functions of cells.			
	Structure and Function			
	1. Know that cells are made of proteins composed of combinations of amino acids.	Full	SCI202A 2.17	
	2. Know that specialized structures inside cells in most organisms carry out different functions, including: * parts of a cell and their functions (e.g., nucleus, chromosomes, plasma, and mitochondria) * storage of genetic material in DNA * similarities and differences between plant and animal cells * prokaryotic and eukaryotic cells.	Full	SCI202A 3.2 SCI202A 3.3 SCI202A 3.5	
	3. Describe the mechanisms for cellular processes (e.g., energy production and storage, transport of molecules, waste disposal, synthesis of new molecules).	Full	SCI202A 3.3	
	4. Know how the cell membrane controls which ions and molecules enter and leave the cell based on membrane permeability and transport (i.e., osmosis, diffusion, active transport, passive transport).	Full	SCI202A 3.7 SCI202A 3.8	

Earth and Space Science	5. Explain how cells differentiate and specialize during the growth of an organism, including: differentiation, regulated through the selected expression of different genes specialized cells, response to stimuli (e.g., nerve cells, sense organs).	Full	SCI202A 3.24 SCI202A 3.26	
	6. Know that DNA directs protein building (e.g., role of RNA).	Full	SCI202B 1.13	
	Biochemical Mechanisms			
	7. Describe how most cell functions involve chemical reactions, including: * promotion or inhibition of biochemical reactions by enzymes * processes of respiration (e.g., energy production, ATP) * communication from cell to cell by secretion of a variety of chemicals (e.g., hormones).	Partial	SCI202A 2.19 SCI202A 2.22	Teachers will supplement the curriculum to include opportunities for students to describe communication from cell to cell by secretion of a variety of chemicals.
	A. Examine the scientific theories of the origin, structure, contents, and evolution of the solar system and the universe, and their interconnections.			
	1. Understand the scale and contents of the universe, including: * range of structures from atoms through astronomical objects to the universe * objects in the universe such as planets, stars, galaxies, and nebulae.	Full	SCI112B 4.21	
	2. Predict changes in the positions and appearances of objects in the sky (e.g., moon, sun) based on knowledge of current positions and patterns of movements (e.g., lunar cycles, seasons).	Full	SCI112B 4.2 SCI112B 4.1	
	3. Understand how knowledge about the universe comes from evidence collected from advanced technology (e.g., telescopes, satellites, images, computer models).	Full	SCI112B 4.23 SCI112B 4.25	
	4. Describe the key observations that led to the acceptance of the Big Bang theory and that the age of the universe is over 10 billion years.	Full	SCI112B 4.26	
	5. Explain how objects in the universe emit different electromagnetic radiation and how this information is used.	Full	SCI112B 4.26	
	6. Describe how stars are powered by nuclear fusion, how luminosity and temperature indicate their age, and how stellar processes create heavier and stable elements that are found throughout the universe.	Full	SCI112B 4.1 SCI112B 4.23	
	7. Examine the role that New Mexico research facilities play in current space exploration (e.g., Very Large Array, Goddard Space Center).	None		Teachers will supplement the curriculum to include opportunities for students to examine the role that New Mexico research facilities play in current space exploration.
	B. Examine the scientific theories of the origin, structure, energy, and evolution of Earth and its atmosphere, and their interconnections.			
	Characteristics and Evolution of Earth			
	1. Describe the characteristics and the evolution of Earth in terms of the geosphere, the hydrosphere, the atmosphere, and the biosphere.	Full	SCI112A 1.3	
	2. Recognize that radiometric data indicate that Earth is at least 4 billion years old and that Earth has changed during that period.	Full	SCI112A 4.1-4.2	
	3. Describe the internal structure of Earth (e.g., core, mantle, crust) and the structure of Earth's plates.	Full	SCI112A 2.1 SCI112A 2.7-2.8	
	4. Understand the changes in Earth's past and the investigative methods used to determine geologic time, including: * rock sequences, relative dating, fossil correlation, and radiometric dating * geologic time scales, historic changes in life forms, and the evidence for absolute ages (e.g., radiometric methods, tree rings, paleomagnetism).	Full	SCI112A 4.1-4.2 SCI112A 4.4-4.5	
	5. Explain plate tectonic theory and understand the evidence that supports it.	Full	SCI112A 2.1 SCI112A 2.3	
	Energy in Earth's System			
	6. Know that Earth's systems are driven by internal (i.e., radioactive decay and gravitational energy) and external (i.e., the sun) sources of energy.	Full	SCI112A 1.6 SCI112B 4.1	

7. Describe convection as the mechanism for moving heat energy from deep within Earth to the surface and discuss how this process results in plate tectonics, including: * geological manifestations (e.g., earthquakes, volcanoes, mountain building) that occur at plate boundaries * impact of plate motions on societies and the environment (e.g., earthquakes, volcanoes).	Full	SCI112A 2.3-2.5 SCI112A 2.10 SCI112A 2.16 SCI112A 2.18	Teachers will supplement the curriculum to include opportunities for students to describe the impact of plate motions on societies and the environment.
8. Describe the patterns and relationships in the circulation of air and water driven by the sun's radiant energy, including: * patterns in weather systems related to the transfer of energy * differences between climate and weather * global climate, global warming, and the greenhouse effect * El Niño, La Niña, and other climatic trends.	Full	Embedded throughout, for example, SCI112B 1.2 SCI112B 1.10 SCI112B 2.1-2.2 SCI112B 2.7-2.8	
Geochemical Cycles			
9. Know that Earth's system contains a fixed amount of natural resources that cycle among land, water, the atmosphere, and living things (e.g., carbon and nitrogen cycles, rock cycle, water cycle, ground water, aquifers).	Full	Embedded throughout, for example, SCI112B 3.1 SCI112B 3.3 SCI112B 3.8 SCI112B 5.7	
10. Describe the composition and structure of Earth's materials, including: * the major rock types (i.e., sedimentary, igneous, metamorphic) and their formation * natural resources (e.g., minerals, petroleum) and their formation.	Full	SCI112A 3.1 SCI112A 3.6 SCI112B 5.1	
11. Explain how layers of the atmosphere (e.g., ozone, ionosphere) change naturally and artificially.	Full	SCI112A 5.1	
12. Explain how the availability of ground water through aquifers can fluctuate based on multiple factors (i.e., rate of use, rate of replenishment, surface changes, and changes in temperature).	Full	SCI112B 5.7	



Kindergarten Language Arts

Course Overview

PHONICS

PhonicsWorks prepares your student to become an independent reader through systematic, multisensory instruction in phonemic awareness and decoding skills, using a kit of magnetized letter tiles and a variety of games and activities. Handwriting Without Tears provides gentle instruction to help your student print letters correctly.

LITERATURE

Plenty of read-aloud literature kindles the imagination while building comprehension and vocabulary. The emphasis is on classic literature—fairy tales, fables, folktales, poems—including many works that embody exemplary virtues, such as “The Frog Prince,” “Beauty and the Beast,” *The Velveteen Rabbit*, and tales by Beatrix Potter.

Course Outline

PHONICS

Phonological Awareness

- Introduction to Basic Phonics
- Sounds for *a, t, s, m, b, f, c, h*, and *j*
- *a, t, s, m, b, f, c, h, j, l, n, p*, and *r*
- *o, d, g, k*, and *v*
- Getting Stronger with Short *a* and Short *o*
- Short *i*
- Getting Stronger with Short *a, i*, and *o*
- Short *u*
- Getting Stronger with Short *a, i, o*, and *u*

Building on the Basics

- Sounds for *y* and Short *e*
- Getting Stronger with Short *a, e, i, o*, and *u*
- Short Vowels
- Getting Stronger with Short Vowel Knowledge
- *sh* and *th*
- Getting Stronger with Vowels and Digraphs
- *wh* and *ch*
- Getting Stronger with Letter Sounds

Adding to the Basics

- *tch* and *ck*
- Getting Stronger with *sh, th, ch, wh, ck*, and *tch*
- Digraphs and Trigraphs
- Getting Stronger with Digraphs and Trigraphs
- Capitalization and Punctuation
- Sounds and Sentences
- *s* and *es*
- Review 2-Letter Sounds and Short Vowels

Applying the Basics

- *ff, ll, ss, zz*, and *-all*
- Compound Words
- Review
- Applying Knowledge

HANDWRITING

- Hold pencil correctly
- Write each uppercase letter correctly on wide-line paper
- Write each lowercase letter correctly on wide-line paper
- Space letters, words, and sentences correctly
- Copy short sentences correctly

LITERATURE AND LANGUAGE SKILLS

Readiness/Poetry/Games

- Listen and respond to poetry and nursery rhymes
- Identify, classify, and categorize colors and shapes
- Recognize community helpers and their jobs
- Sequence events in a story or rhyme
- Recognize and correctly use position words

Read Aloud

- Listen and respond to various types of literature
- Identify favorite books and stories
- Discuss characters, actions, and conflict
- Retell stories in proper sequence using complete sentences and proper grammar
- Ask and respond to questions about the text
- Predict what will happen next in stories
- Relate stories to personal experience
- Create and dictate stories and responses to literature
- Share work with others

Junior Great Books

- Listen attentively for different ideas and details
- Support an opinion with reasoning and evidence, citing specific passages from the text
- Develop habits of analytical thinking: identify problems, use inference, ask pertinent questions, and draw conclusions
- Build vocabulary through exposure to rich literary language
- Understand and appreciate literature through writing, dramatization, and art activities



Lesson Time and Scheduling

Total lessons: 180

Lesson Time: 120 minutes. You might choose to split the lessons into smaller segments and provide breaks for your child as needed. The online lesson tracking system allows you to pick up wherever you left off in any given lesson.

Standard Curriculum Items

Basic Phonics Kit

PhonicsWorks Instructional Video™

PhonicsWorks Readers™, Vol. 1-9

Handwriting Without Tears

Letters and Numbers for Me

Junior Great Books, Dragon Series

Junior Great Books, Sailing Ship Series

The Random House Book of Fairy Tales, adapted by Amy Ehrlich

Rhyme Time, by Tomie dePaola

The Rooster Crows—A Book of American Rhymes and Jingles, by Maud and Miska Petersham

Slate chalkboard

Printed alphabet strips

Wide double-lined paper

Student Phonics Materials—Semesters 1&2 (shipped separately)

Teachers Phonics Materials—Semesters 1&2 (shipped separately)

Additional Curriculum Items

Some lessons require additional resources, including common household items, and books that are readily available online or in your local library:

A Chair for My Mother by Vera Williams (William Morrow, 1984)

A Story, a Story by Gail Haley (Simon & Schuster, 1977)

Blueberries for Sal by Robert McCloskey (1948; Penguin, 1976)

Caps for Sale by Esphyr Slobodkina (1940; HarperTrophy reissue edition, 1987)

Make Way for Ducklings by Robert McCloskey (1941; Penguin reprint ed., 1998)

Mike Mulligan and the Steam Shovel by Virginia Lee Burton (1939; Houghton Mifflin, 1977)

Millions of Cats by Wanda Gág (Paper Star reissue edition, 1996)

The Complete Adventures of Peter Rabbit by Beatrix Potter (Viking reissue edition, 1984), or these separate titles: *The Tale of Peter Rabbit*, *The Tale of Benjamin Bunny*, and *The Tale of the Flopsy Bunnies*

The Ox-Cart Man by Donald Hall (Penguin, 1983)

The Runaway Bunny by Margaret Wise Brown (1942;

HarperCollins, 1977)

The Snowy Day by Ezra Jack Keats (Penguin, 1976)

The Velveteen Rabbit by Margery Williams (William Morrow, 1978)

Tikki Tikki Tembo by Arlene Mosel (Henry Holt, 1989)

Tom Thumb by Richard Jesse Watson (Harcourt Brace, 1993)

NOTE: List subject to change.

First Grade Language Arts



Course Overview

PHONICS

Using magnetized letter tiles and multisensory activities, the advanced PhonicsWorks program builds decoding skills and helps students become confident, independent readers. Handwriting Without Tears focuses on careful practice at a pace that matches your student's development of fine motor skills.

LANGUAGE SKILLS

- **Composition**—Students progress from writing words and sentences to writing a paragraph
- **Grammar, Usage, and Mechanics**—Students learn basic rules of usage, as well as sentence structure and types, parts of speech, punctuation, and capitalization

- **Primary Analogies**—Students develop test-taking and critical thinking skills as they connect words and ideas
- **Public Speaking**—Reciting a poem or reading a literary passage helps students learn to address a group confidently

LITERATURE

Literature lessons focus on classic folktales, fairy tales, fables, and poetry, such as “The Elves and the Shoemaker,” “The Lion and the Mouse,” and “The Tortoise and the Hare.” Read-aloud and guided reading lessons help students apply and extend the skills introduced in Phonics.

Course Outline

PHONICS

Introduction to Advanced Phonics

- Review Letters and Vowel Sounds

- *ck* and *ed*
- *le* and *ph*
- *c*, *g*, and *dge*

Introducing Ending Blends

- Ending Consonant Blends *nd*, *ft*, *lk*, and *ct*
- Ending Consonant Blends *lp* and *lt*
- Ending Consonant Blends *mp* and *sp*
- Ending Consonant Blends *sk*, *st*, *nt*, and *nch*
- Review Ending Blends *sk*, *st*, *nt*, and *nch*

Mastering Long Vowel Sounds

- Long *a*
- Long *i*
- Long *o*
- Long *e*
- Long *u*
- Double *o*
- Long Vowels and Double *o*

Introducing Beginning Blends

- Beginning Blends *bl*, *cl*, *fl*, *gl*, *pl*, and *sl*
- Review Blends *bl*, *cl*, *fl*, *gl*, *pl*, and *sl*
- Blends *br*, *cr*, *dr*, *fr*, *gr*, *pr*, and *tr*
- Digraph Blends *shr* and *thr*
- Blends *sc*, *sp*, *st*, *sw*, *sk*, *sm*, *sn*, and *tw*
- Blends *spr*, *str*, *squ*, *scr*, and *spl*

Mastering Advanced Phonics

- *er*, *ir*, *ur*, and *-ear*
- Short *e* Spelled *ea*
- *oi* and *oy*
- *au* and *aw*
- *ou* and *ow*
- *ow*, as in *grow*

More Advanced Phonics

- Words Ending in *ank*, *ink*, *onk*, and *unk*
- Words Ending in *ang*, *ing*, *ong*, and *ung*
- Blends, Digraphs, and Ending Sounds

LITERATURE AND LANGUAGE SKILLS

Read Aloud

- Listen to and discuss literature read aloud from a variety of genres
- Recall details of a story read aloud
- Sequence events from a story read aloud
- Ask and respond to questions about the text
- Predict what will happen next in stories

Long Vowel Sounds

- Long Vowel Sounds for *a*, *i*, *o*, and *u*
- Long *u*
- Blends and Super *e*

Junior Great Books

- Listen attentively for different ideas and details

Building on Advanced Phonics

- Contractions and Another Sound for *s*
- Two-Syllable Words and the *schwa* Sound

First Grade Language Arts



- Support opinions with reasoning and evidence, citing specific passages from the text
- Build vocabulary through exposure to rich literary language
- Understand and appreciate literature through writing, dramatization, and art activities

Poetry

- Listen to, memorize, and recite poetry from classical and contemporary authors
- Identify words that rhyme
- Make up original rhymes
- Write simple rhyming poems

Grammar/Usage/Mechanics

- Demonstrate knowledge of the mechanics of language in written work
- Identify and use effective sentence construction in speech and writing
- Identify nouns, verbs, and adjectives in sentences

Analogies

- Solve and create analogies
- Make connections and use information and skills to identify relationships

Composition

- Use prewriting strategies
- Compose paragraphs that follow the conventions of mechanics and usage
- Write for a variety of purposes and audiences, for example, friendly letters, invitations, personal narratives, and brief book reports

Shared Reading

- Begin to use decoding strategies with texts beyond decodable readers
- Ask and respond to questions about the text
- Predict what will happen next in stories

Guided Reading

- Discuss literature from a variety of genres
- Discuss main idea, plot, cause and effect, and characters
- Relate stories to personal experience
- Make predictions about what will happen next and why
- Recall and retell a story

HANDWRITING

- Write legibly when printing uppercase and lowercase letters on standard-ruled paper

- Write legibly and with proper spacing when printing words and sentences
- Copy sentences neatly and accurately

Lesson Time and Scheduling

Total lessons: 180

Lesson Time: 120 minutes. You might choose to split the lessons into smaller segments. The online lesson tracking system will allow you to pick up wherever you left off in any given lesson.

Standard Curriculum Items

Printing Teacher's Guide by Jan Z. Olsen

Printed alphabet strips

Wide double-lined paper

Slate chalkboard

PhonicsWorks™ Readers Grade 1, Semester 1

PhonicsWorks™ Readers Grade 1, Semester 2

PhonicsWorks™ Video

Phonics Kit: Advanced Tray

Phonics Kit: Basic Tray

EPS Primary Analogies Book

Junior Great Books, Sun Series Vol. 1-3

Junior Great Books, Pegasus Series Vol. 1-3

Listen My Children: Poems for First Grade (Core Knowledge Foundation)

Classics for Young Readers Vol. 1

Ready...Set...Read! The Beginning Reader's Treasury, compiled by Joanna Cole and Stephanie Calmenson

Weather, a book of poems selected by Lee Bennett Hopkins

My Printing Book

Teachers Phonics Materials – Semesters 1&2 (shipped separately)

Student Phonics Materials – Semesters 1&2 (shipped separately)

Additional Curriculum Materials

Some lessons require additional resources, including common household items, and books that are readily available online or in your local library:

A Picture for Harold's Room by Crockett Johnson (1960; HarperCollins, 1985)

Amelia Bedelia by Peggy Parish (1963; HarperCollins, 1992)

And I Mean It, Stanley by Crosby Bonsall (1974; HarperCollins, 1984)

Bedtime for Frances by Russell Hoban (1960; HarperCollins, 1995)

Danny and the Dinosaur by Syd Hoff (1958; HarperCollins, 1993)

Frog and Toad Are Friends by Arnold Lobel (1970; HarperCollins, 1979)

First Grade Language Arts



Harry and the Lady Next Door by Gene Zion (1960; HarperCollins, 1978)
Little Bear by Else Holmelund Minarik (1957; HarperCollins, 1978)
Mrs. Piggle-Wiggle by Betty MacDonald (1957; HarperCollins, 1976)
No Fighting, No Biting by Else Holmelund Minarik (1958; HarperCollins, 1978)
Owl at Home by Arnold Lobel (1975; HarperCollins, 1982)
Sylvester and the Magic Pebble by William Steig (Simon & Schuster, 1969)
Tales of Amanda Pig by Jean Van Leeuwen (Penguin, 1983)
The First Thanksgiving by Linda Hayward (Random House, 1990)
The Legend of the Bluebonnet by Tomie dePaola (1983; Putnam, 1996)
Who Will Be My Friends? by Syd Hoff (1960; HarperCollins, 1985)
Winnie-the-Pooh by A.A. Milne (1926; Penguin, 1992)

NOTE: List subject to change.

Second Grade Language Arts



Course Overview

LANGUAGE SKILLS

- **Composition**—Students practice writing as a process: prewriting, writing a draft, revising, proofreading, and publishing (sharing finished work with others)
- **Grammar, Usage, and Mechanics**—Students learn basic rules of usage (such as “may” vs. “can,” or “lie” vs. “lay”), synonyms, antonyms, and homonyms, parts of speech, punctuation, and more
- **Vocabulary**—*Wordly Wise* provides practice in word study skills, reading comprehension, and word analysis
- **Primary Analogies**—Students develop test-taking and critical thinking skills as they connect words and ideas
- **Handwriting**—Handwriting Without Tears helps students develop printing skills and, if appropriate,

begin cursive handwriting

- **Public Speaking**—Reciting a poem or reading a literary passage helps students address a group confidently
- **Spelling**—Students learn to understand sound-symbol relationships and patterns

LITERATURE

Guided reading lessons offer new challenges: greater length, more complex content, and new vocabulary. The emphasis is on classic literature that embodies exemplary virtues, including Aesop’s fables, “The Steadfast Tin Soldier,” and “The Pied Piper of Hamelin.” Readings also include nonfiction works, as well as selections from Junior Great Books.

Course Outline

Read Aloud

- Listen to and discuss literature from a variety of genres
- Recall details of a story read aloud
- Sequence events from a story read aloud
- Ask and respond to questions about the text
- Predict what will happen next in stories

Junior Great Books

- Listen attentively for different ideas and details
- Support an opinion with reasoning and evidence, citing specific passages from the text
- Develop habits of analytical thinking: identify problems, use inference, ask pertinent questions, draw conclusions
- Build vocabulary through exposure to rich literary language
- Understand and appreciate literature through writing and dramatization

Poetry

- Listen to, memorize, and recite poetry from classical and contemporary authors
- Identify the use of rhyme, rhythm, and alliteration in poetry
- Write original poems

Grammar/Usage/Mechanics

- Demonstrate knowledge of the mechanics of language in written work
- Identify and use effective sentence construction in speech and writing
- Identify the parts of a sentence and parts of speech

Analogies

- Solve and create analogies
- Make connections and use information and skills to identify relationships

Composition

- Compose paragraphs that follow the conventions of mechanics and usage
- Follow the steps of the writing process: prewrite, write a draft, revise and edit, and publish
- Write for a variety of purposes and audiences, for example, friendly letters, invitations, personal narratives, riddles, thank-you notes, and reports

Guided Reading

- Discuss literature from a variety of genres
- Discuss main idea, plot, cause and effect, setting, and characters
- Relate stories to personal experience
- Make predictions about stories and characters
- Compare two books by the same author

Vocabulary

- Identify the meanings of words in context
- Recognize relationships between groups of words
- Apply the meanings of words and write them in sentences

Spelling and Word Study

- Recognize word patterns
- Identify and use affixes
- Write sentences and paragraphs from dictation

Second Grade Language Arts



Handwriting

- Legibly write uppercase and lowercase letters on standard-ruled paper
- Legibly write and properly space words and sentences
- Copy sentences neatly and accurately

Reading Comprehension

- Recall main idea and details
- Sequence events
- Match vocabulary words and their meanings

Lesson Time and Scheduling

Total lessons: 180

Lesson Time: 120 minutes. You might choose to split the lessons into smaller segments. K¹²'s online lesson tracking system allows you to pick up wherever you left off in any given lesson.

Standard Curriculum Items

Dry erase board
Regular double-lined paper
Printing guide
Printed alphabet strips
Surprises, a book of poems selected by Lee Bennett Hopkins
Printing Power Workbook
EPS Primary Analogies Book 2
EPS Reading Comprehension Book A
EPS Wordly Wise 3000 Book A
K¹² Classics for Young Readers, Vol. 2
Listen My Children: Poems for 2nd Graders (Core Knowledge Foundation)

Additional Curriculum Materials

Some lessons require additional resources, including common household items, and books that are readily available online or in your local library:
A Weed Is a Flower by Alike (Aladdin, 1988)
Buddy the First Seeing Eye Dog by Eva Moore (Scholastic, 1996)
Chang's Paper Pony by Eleanor Coerr (HarperCollins, 1993)
Clara and the Bookwagon by Nancy Levinson (HarperCollins, 1988)
Crow Boy by Taro Yashima (Puffin Books, 1983)
George the Drummer Boy by Nathaniel Benchley (HarperCollins, 1987)
Knights of the Round Table ("Bullseye Step into Classics" edition) by Gwen Gross (Random House, 1985)

Long Way to a New Land by Joan Sandin (HarperCollins, 1981)
Peter Pan ("Bullseye Step into Classics" edition) by J.M. Barrie, retold by Cathy East Dubowski (Random House, 1994)
Robin Hood ("Bullseye Step into Classics" edition) by Annie Ingle (Random House, 1993)
Sam, Bangs, and Moonshine by Evaline Ness (Henry Holt, 1966)
Sam the Minuteman by Nathaniel Benchley (HarperCollins, 1987)
The Bears on Hemlock Mountain by Alice Dalgliesh (Simon & Schuster, 1991)
The Josefina Story Quilt by Eleanor Coerr (HarperCollins, 1986)
The Long Way Westward by Joan Sandin (HarperCollins, 1992)
Tye May and the Magic Brush by Molly Garrett Bang (Mulberry Books, 1981)
Wagon Wheels by Barbara Brenner (HarperCollins, 1993)

NOTE: List subject to change.

Third Grade Language Arts



Course Overview

LITERATURE

Students develop literary analysis and comprehension skills. The emphasis is on works that embody exemplary virtues, including Greek and Norse myths, “William Tell,” and episodes from *Black Beauty*. Students read works of nonfiction, as well as four novels (selected from a long list of such classics as *Charlotte’s Web*, *Little House on the Prairie*, and *Henry Huggins*). A test preparation program prepares students for standardized tests.

LANGUAGE SKILLS

- **Composition**—Students practice writing as a process, as they write a narrative, a report, letters, poetry, and more

- **Grammar, Usage, and Mechanics**—Students learn about sentence structure, parts of speech, research skills, and more
- **Vocabulary**—*Wordly Wise* provides practice in word study skills, word analysis, and reading comprehension
- **Primary Analogies**—Students develop test-taking and critical thinking skills as they connect words and ideas
- **Spelling**—Through weekly word lists, students learn relationships between sounds and spellings
- **Handwriting**—Handwriting Without Tears helps students develop their cursive handwriting skills
- **Public Speaking**—Students learn and use techniques for effective oral presentations

Course Outline

LITERATURE

Comprehension Strategies

- Ask questions and support answers by connecting prior knowledge with information found in, and inferred from, the text
- Make connections to personal experiences
- Recall major points in the text and make and modify predictions
- Summarize readings

Comprehension Skills

- Recognize the author’s purpose
- Identify the speaker or narrator in a selection
- Recognize cause and effect
- Compare and contrast across selections and genres
- Draw conclusions
- Make and explain inferences
- Identify problems characters face in stories and identify how they solve them
- Distinguish fact from opinion
- Identify and sequence steps in a process
- Identify the main idea and supporting details
- Recognize story elements: character, setting, plot (conflict and resolution), and theme

Informational Materials

- Use titles, tables of contents, chapter headings, glossaries, and indexes to locate information in text
- Follow simple, multiple-step written instructions (e.g., how to assemble a product or play a board game)
- Locate information in charts, diagrams, maps, captions, illustrations, and photos

Literary Response

- Recognize different genres: biography, drama, fiction, nonfiction, and poetry
- Determine what characters are like by what they say and do, and by how the author or illustrator portrays them

Poetry

- Identify line, stanza, and rhyme
- Identify and use similes
- Identify and analyze how a poet uses language to appeal to the senses, create imagery, and set tone
- Recognize literary techniques such as personification, alliteration, and onomatopoeia

Listening and Speaking Strategies

- Retell, paraphrase, and explain what a speaker has said
- Read prose and poetry aloud with fluency, rhythm, and expression
- Connect and relate prior experiences, insights, and ideas to those of a speaker

Analysis of Oral and Media Communications

- Compare ideas and points of view expressed in broadcast and print media
- Distinguish between the speaker’s opinions and verifiable facts

LANGUAGE SKILLS

Grammar, Usage, and Mechanics

Sentences

- Identify four kinds of sentences: statement, question, command, and exclamation

- Use the appropriate punctuation mark for each kind of sentence
- Identify the subject and predicate of a sentence

Nouns

- Classify a noun as a person, place, or thing
- Identify nouns in a sentence
- Distinguish between common and proper nouns
- Capitalize proper nouns
- Change regular and irregular singular nouns into plural nouns
- Change a singular noun into a singular possessive noun by adding 's

Verbs

- Identify verbs in a sentence
- Identify action verbs
- Classify verbs as being or action
- Identify being verbs
- Identify helping and main verbs in sentences
- Name and identify the four principal parts of verbs: present, present participle, past, and past participle
- Identify principal parts and use the correct forms of irregular verbs
- Use correct forms of *is*, *are*, *was*, and *were*

Adjectives

- Identify adjectives in sentences
- Add adjectives to describe nouns in sentences
- Identify comparative adjectives in sentences
- Identify adjectives that tell exactly how many and adjectives that tell about how many
- Identify the articles *a*, *an*, and *the* in sentences
- Complete sentences using *this* or *that*

Paragraph Skills

- Use action verbs in sentences
- Add interest to writing by using vivid adjectives
- Combine sentences with the same or nearly the same verb
- Combine sentences with the same subject
- Combine short sentences into one longer sentence using a comma with *and* or *but*

Research Skills

- Understand how to use a library catalog
- Understand a dictionary entry
- Apply alphabetizing skills in using dictionary guide words to find an entry
- Identify key words to use in locating information on a subject in an encyclopedia
- Use a thesaurus

Pronouns

- Identify subject pronouns in sentences
- Replace subjects with subject pronouns
- Replace plural nouns with correct plural pronouns
- Replace nouns that come after a verb with *me*, *us*, *him*, *her*, and *them*
- Complete sentences with the correct possessive pronoun (*mine*, *ours*, *yours*, *his*, *hers*, and *theirs*)
- Correctly use *I* or *me*

Adverbs

- Identify adverbs and their uses
- Use *good* and *well* correctly in sentences

Synonyms, Antonyms, and Homophones

- Replace words with synonyms
- Identify antonyms to given words
- Use homophones correctly

Abbreviations and Titles

- Write abbreviations for addresses
- Write abbreviations for units of measure
- Write abbreviations for months of the year and days of the week
- Identify and correctly choose titles for a man or woman
- Apply italics to book titles in a word processed document
- Underline book titles when handwriting
- Use quotation marks around titles of poems

Commas and Quotation Marks

- Use commas correctly in various ways
- Use quotation marks correctly in various ways

Contractions

- Form contractions by combining words and replacing omitted letters with an apostrophe
- Complete sentences with correct homophones

Vocabulary and Word Study

- Understand and apply the definitions of given words
- Write sentences to answer questions on a reading selection that uses the words in context
- Write original sentences that use words correctly in context
- Make connections between words and ideas
- Identify and explain verbal relationships

HANDWRITING

- Hold pencil correctly
- Write lowercase and uppercase cursive letters correctly on standard-ruled paper

- Space letters, words, and sentences properly
- Copy short passages legibly and accurately

LISTENING AND SPEAKING

- Recite a poem from memory, read a composition he or she has written, and read a brief passage from a favorite book
- Learn and use techniques for effective oral presentations
- Maintain purposeful discussion (agree and disagree constructively, state ideas clearly and fully using complete sentences and proper grammar, synthesize and build on the ideas of others, explain and defend ideas)
- Understand and follow oral directions

COMPOSITION

Writing as a Process

- Understand and practice writing as a process (prewriting, drafting, revising, proofreading, publishing)

Paragraph Skills

- Identify topic sentence and details
- Understand paragraph unity and development

Writing Friendly Letters

- Identify the parts of a friendly letter
- Understand the audience and purpose for friendly letters and thank you notes
- Address an envelope

Using Rubrics

- Identify the characteristics of a composition in each point of rubric
- Score sample writings papers using a rubric

Writing a Personal Narrative

- Write a personal narrative in response to a given prompt
- Use the writing process to develop and improve a personal narrative

Descriptive Writing

- Write a descriptive essay in response to a given prompt
- Use the writing process to develop and improve a descriptive essay

Persuasive Writing

- Distinguish fact from opinion
- Understand the need for evidence to support a position
- Write a persuasive essay in response to a given prompt
- Use the writing process to develop and improve a persuasive essay

Steps in a Process

- Explain the steps in a process in response to a given prompt
- Use the writing process to develop and improve an essay that explains steps in a process

Report Writing

- Gather and organize information relevant to a specific topic
- Write a book report
- Use the writing process to develop and improve a report
- Use techniques for effective oral presentations to deliver a report

Story Starters

- Write a story given a *story starter*
- Use the writing process to develop and improve a story

SPELLING

- Words with short vowels
- Words with the suffixes -s and -es
- Words with *ng* and *nk*
- Words with the spellings of long a—*a-consonant-e*, *ai*, *ay*, *a*, *eigh*
- Words with the spellings of long i—*i-consonant-e*, *i*, *igh*, *ie*, *y*
- Words with the spellings of long o—*o-consonant-e*, *o*, *oe*, *ow*, *oa*, *ough*
- Words with the spellings of long e—*ee*, *ea*, *e-consonant-e*, *ie*, *y*
- Words with the spellings of /yu/—*u*, *u-consonant-e*, *ew*, *ue*
- Words with the spellings of /oo/ as in spoon—*oo*, *u-consonant-e*, *u*, *ue*, *ou*
- Words (homographs) with the spellings of /ou/—*ou*, *ow*; spellings of /oi/—*oy*, *oi*
- Words with the spellings of /ur/, including *er*, *ir*, *ur*, *ear*
- Words with y pronounced long e or long i
- Words ending in y with the vowel suffixes -es, -ed, -er, -ing
- Words that drop silent e before adding vowel suffix -ed, -ing, -er
- Words that double their final consonant before adding vowel suffix -ed, -ing, -er, and do not double after cvvc or cvcc
- Words with soft c and g
- Words with *al* pronounced /aw/, and *se* and *ze* pronounced /z/
- Words with triple consonant blends *scr*, *spr*, *spl*, *str*, *squ*
- Words with digraph blends *shr*, *thr*, *nch*; digraph *ph*; trigraphs *dge* and *tch*

Third Grade Language Arts



- Words with the consonant suffixes *-less, -ty, -ment* and the contractions *I'm, he's, she's, it's*
- Words with the consonant suffixes *-ly, -ful, -ness*
- Words with the prefixes *re-, un-, under-, dis-*
- Words with *le* and *eI*
- Words with *r*-controlled vowels
- Words with the spelling *all* and the sound /aw/
- Words with /oo/ sound as in *school* and *book*
- Words with the sounds /ed/, /t/, /d/ for the suffix *-ed*
- Words with the suffix *-ing*
- Words with *wr, kn*; homophones; words ending in *ic*
- Words with *ea* pronounced as long *a*, long *e*, short *e*

Standard Curriculum Items

Whiteboard, 8 ½" x 11"

Classics for Young Readers, Vol. 3A

Classics for Young Readers, Vol. 3B

Civilizations Past to Present: Greece by Kevin Supples

George Washington – Soldier, Hero, President by Justine and Ron Fontes

The Declaration of Independence by Patricia Ryon Quiri

Handwriting Without Tears Teacher's Guide

Cursive Handwriting

Cursive Success

Exercises in English – Student Edition

Primary Analogies, Book 3

Wordly Wise 3000, Book B

Writing in Action, Vol. A

Writing in Action, Vol. B

Test Ready Plus: Reading

Test Ready: Reading Longer Passages

Test Ready Plus: Language Arts

Novels

K¹² offers a selection of 24 novels for grades 3-5. These novels are listed in order of increasing difficulty as measured by the Lexile scale, a system that measures reading difficulty by sentence length and vocabulary (see www.lexile.com). Lexile ratings roughly correspond to grade levels as indicated below.

Approximate Grade Level	Lexile Range
3	500-700
4	650-850
5	750-950

Lexile levels are only one means of assessing whether a work is appropriate for your student. When selecting a novel, keep in mind that the lexile rating does not measure subject matter or themes in the work.

Title and Author

Lexile Level

<i>A Lion to Guard Us</i> , by Clyde Robert Bulla	360
<i>Stone Fox</i> , by John Reynolds Gardiner	550
<i>Sarah, Plain and Tall</i> , by Patricia MacLachlan	560
<i>Henry Huggins</i> , by Beverly Cleary.....	670
<i>Charlotte's Web</i> , by E.B. White	680
<i>Li Lun, Lad of Courage</i> , by Carolyn Treffinger	720
<i>In the Year of the Boar and Jackie Robinson</i> , by Bette Bao Lord	730
<i>Little House on the Prairie</i> , by Laura Ingalls Wilder	760
<i>The Book of Three</i> , by Lloyd Alexander.....	770
<i>Tuck Everlasting</i> , by Natalie Babbitt.....	770
<i>The Sign of the Beaver</i> , by Elizabeth George Speare	770
<i>The Cricket in Times Square</i> , by George Selden.....	780
<i>Mrs. Frisby and the Rats of NIMH</i> , by Robert C. O'Brien ...	790
<i>My Side of the Mountain</i> , by Jean Craighead George.....	810
<i>Call It Courage</i> , by Armstrong Sperry	830
<i>Ramona Quimby, Age 8</i> , by Beverly Cleary.....	860
<i>Pippi Longstocking</i> , by Astrid Lindgren	870
<i>The Hundred Dresses</i> , by Eleanor Estes	870
<i>Shiloh</i> , by Phyllis Reynolds Naylor	890
<i>Caddie Woodlawn</i> , by Carol Ryrie Brink.....	890
<i>The Lion, the Witch, and the Wardrobe</i> , by C.S. Lewis	940
<i>Anne of Green Gables</i> , by Lucy Maud Montgomery	990
<i>The Door in the Wall</i> , by Marguerite de Angeli	990
<i>Ben and Me</i> , by Robert Lawson	1010

NOTE: List subject to change.

Fourth Grade Language Arts



Course Overview

LANGUAGE SKILLS

- **Composition**—Students practice writing as a process (from planning to proofreading), as they write a report, a book review, a persuasive essay, poetry, a news article, and more
- **Grammar, Usage, and Mechanics**—Students learn more about sentence structure, parts of speech, punctuation, capitalization, and usage. They begin sentence analysis and diagramming
- **Vocabulary**—The Vocabulary Workshop program helps enrich students' vocabulary, develop word analysis skills, and prepare for standardized tests
- **Spelling**—Students understand sound-symbol relationships and spelling patterns, and recognize base words and roots in related words

LITERATURE

Students learn to identify and analyze literary elements such as character, plot, theme, and setting. The emphasis is on classic literature, including episodes from *Robinson Crusoe*, *Gulliver's Travels*, and *Pollyanna*; legends of King Arthur; and folktales from many lands. Students read works of nonfiction, as well as four novels (selected from a long list of such classics as *The Cricket in Times Square*, *My Side of the Mountain*, and *Sarah, Plain and Tall*). A test preparation program prepares students for standardized tests.

Course Outline

LITERATURE

Comprehension Strategies

- Ask questions and support answers by connecting prior knowledge with information found in, and inferred from, the text
- Make connections to personal experiences
- Recall major points in the text and make and modify predictions
- Summarize readings

Comprehension Skills

- Recognize the author's purpose
- Identify the speaker or narrator in a selection
- Identify and explain cause and effect in literary selections
- Compare and contrast across selections and genres
- Draw conclusions using evidence from the text
- Make and explain inferences, using evidence from the text
- Identify problems faced by characters in stories, and their solutions
- Distinguish between fact and opinion
- Identify the main idea and supporting details of a paragraph or selection
- Recognize story elements: character, setting, plot (conflict and resolution), theme

Informational Materials

- Use titles, tables of contents, chapter headings, glossaries, and indexes to locate information in text
- Follow multiple-step written instructions (e.g., how to use computer commands)

- Locate information in charts, diagrams, maps, captions, illustrations, and photos

Literary Response

- Recognize different genres: biography, drama, legends, historical fiction, fiction, nonfiction, and poetry
- Describe characters, using examples from the text
- Describe how a character changes over the course of a story
- Compare and contrast tales from different cultures

Poetry

- Identify line, stanza, and rhyme
- Identify and use metaphors and similes
- Identify and analyze how a poet uses language to appeal to the senses, create imagery, and set tone
- Recognize literary techniques such as personification, hyperbole, alliteration, and onomatopoeia

Listening and Speaking Strategies

- Retell, paraphrase, and explain what a speaker has said
- Read prose and poetry aloud with fluency, rhythm, and expression
- Connect and relate prior experiences, insights, and ideas to those of a speaker

LANGUAGE SKILLS

Grammar, Usage, and Mechanics

Sentences

- Identify and form four kinds of sentences: declarative, interrogative, imperative, and exclamatory

- Use the appropriate end punctuation mark for each kind of sentence
- Identify the subject and predicate of a sentence
- Identify compound subjects and predicates
- Identify direct objects
- Analyze and diagram simple sentences

Punctuation and Capitalization

- Use periods after initials and some abbreviations
- Use postal abbreviations for states, without a period
- Use commas in direct address
- Use commas with *yes* or *no*
- Use commas separating words in a series
- Use commas in direct quotations
- Use apostrophe to show possession
- Use apostrophes in contractions
- Use quotation marks for direct quotation
- Capitalize first word in a sentence, proper nouns, and names of months, days of the week, and holidays
- Capitalize the first word in a direct quotation
- Capitalize abbreviations of proper nouns, initials, and important words in titles

Nouns

- Identify proper and common nouns
- Identify singular and plural nouns, regular and irregular
- Form singular and plural possessive nouns
- Identify nouns used as subjects and direct objects

Pronouns

- Identify and understand usage of personal pronouns
- Identify and use singular and plural pronouns
- Use pronouns as subjects and direct objects
- Distinguish correct usage of *I* and *me*, and *we* and *us*
- Identify and use possessive pronouns

Adjectives

- Identify adjectives and their functions (describe a noun, tell what kind, tell how many)
- Identify and use possessive adjectives
- Use the correct form of an adjective to compare two nouns, or to compare three or more nouns
- Use comparative forms of *good* and *bad* (*better* and *best*, *worse* and *worst*)
- Identify and use demonstrative adjectives (*this*, *that*, *these*, *those*)
- Identify *a*, *an*, and *the* as articles

Verbs

- Identify verbs in a sentence
- Identify and use action verbs, being verbs, and

linking verbs

- Identify helping and main verbs in sentences
- Identify and use regular and irregular verbs
- Identify and form principal parts of verbs (present, present participle, past, past participle)
- Use correct forms of:
 - *begin, beginning, began, begun*
 - *break, breaking, broke, broken*
 - *choose, choosing, chose, chosen*
 - *do, doing, did, done*
- Identify and use simple tenses: present, past, future
- Identify and form the present progressive tense
- Identify and form the past progressive tense
- Understand that a subject and verb must agree in number (singular or plural)
- Correctly use:
 - *is, am, are, was, were*
 - *do* and *does*
 - *there is* and *there are*

Adverbs

- Identify adverbs and understand their functions (modifies a verb, adjective, or another adverb)
- Identify and use adverbs of time, place, and manner
- Use correct forms of adverbs to make comparisons
- Use correct forms of *good* and *well*; *no*, *not*, and *never*

Letter Writing

- Identify and correctly write the parts of a social (friendly) letter
- Address an envelope

Word Study Skills

- Understand how to locate words in a dictionary and use dictionary entries
- Replace words with synonyms
- Identify antonyms to given words
- Use a thesaurus to find synonyms and antonyms
- Use the following homophones correctly:
 - *to, too, two*
 - *their, there, and they're*

Vocabulary and Word Study

- Understand and apply the definitions of given words
- Write sentences to answer questions on a reading selection that uses the words in context
- Write original sentences that use words correctly in context
- Make connections between words and ideas
- Identify synonyms and antonyms of given words



HANDWRITING

- Hold pencil correctly
- Write lowercase and uppercase cursive letters correctly on standard-ruled paper
- Space letters, words, and sentences properly
- Copy short passages legibly and accurately

LISTENING AND SPEAKING

- Recite a poem from memory, read an original composition, and read aloud a brief passage from a favorite book
- Use techniques for effective oral presentations (e.g., stand straight and tall, keep your hands at your sides, speak with expression in a loud, clear voice, use complete sentences and proper grammar)
- Maintain purposeful discussion (agree and disagree constructively, state ideas clearly and fully using complete sentences and proper grammar, synthesize and build on others' ideas, explain and defend ideas)
- Give precise directions and instructions

COMPOSITION

Writing as a Process

- Understand and practice writing as a process (prewriting, drafting, revising, proofreading, publishing)

Writing Guided Journal Entries

- Distinguish diaries from journals
- Use a journal to list possibilities for topics to write about
- Describe a place or object in a journal entry
- Respond in the journal to a cartoon or other clipping
- Find and record expressions and quotations in the journal
- Identify four kinds of paragraphs: factual, descriptive, persuasive, narrative
- Develop paragraphs with a topic sentence and supporting details that relate to the topic
- Plan and write a short essay based on a journal entry

Writing a Report

- Choose and narrow a topic for a report
- Find sources for a report
- Gather information using library and Internet sources
- Compile a bibliography
- Organize facts into an outline
- Write an effective introduction and conclusion
- Revise the report to improve content, organization, clarity, and word choices
- Proofread and publish the report

Writing a Book Review

- Analyze a sample book review
- Summarize the book to be reviewed
- Gather information about the author
- Evaluate the plot, characters, and setting
- Prepare an outline for the book review
- Write, revise, and proofread the review

Writing to a Prompt

- Examine different kinds of writing prompts to determine what kind of writing to do
- Use the writing process--planning, writing a first draft, revising, and proofreading—to write to a prompt
- Practice writing in response to narrative, expository, persuasive, and descriptive prompts
- Write to a prompt in a simulated test situation

Writing Poetry

- Practice poetic techniques to make any writing more active, imaginative, and vivid
- Identify and use imagery, rhythm, alliteration, onomatopoeia, and refrains
- Write and revise poems in prescribed forms
- Write and revise poems in free verse and in rhyme

Writing a Persuasive Paper

- Distinguish fact from opinion
- Support arguments with facts, experiences, and reasoning
- Anticipate and respond to opposing arguments
- Find and use sources to support opinions
- Write, revise, proofread, and publish a persuasive paper

Writing a News Article

- Identify the who, what, why, where, when and how in a news article
- Distinguish between fact and opinion in news stories and editorials
- Use research and interviews to gather facts for a news article
- Write a lead for a news article
- Use and correctly punctuate quotations
- Plan and organize a news article
- Write, revise, and proofread a news article

Writing a Play (Optional)

- Write dialogue and stage directions
- Turn a story into a play

SPELLING

- Short Vowels, Prefix *re-*, and Base Word *magnet*

- Vowel Suffixes, Prefix *un-*, and Base Word *create*
- Suffixes *-s* and *-es*, Prefix *dis-*, and Base Word *act*
- Ways to Spell Long *a*, Prefix *pre-*, and Base Word *port*
- Less Common Ways to Spell Long *a*, Prefix *sub-*, and Base Word *flex*
- Common Spellings of Long *e*, Prefix *dis-*, and Root *struct*
- Long *e* Spelled *y*, *ey*; *i* Before *e*; Suffix *-en*, and Root *scrib*
- Ways to Spell Long *i*, Prefix *mis-*, and Root *spec*
- Long *o* Spelled *oa*, *ow*, *oe*; Prefix *in-*; and Root *val*
- Long *o* Spelled *o*, *o-e*; Prefix *bi-*; and Root *rupt*
- Ways to Spell Long *u*, Prefix *semi-*, and Root *dict*
- Ways to Spell */oo/*, Prefix *mid-*, and Root *tract*
- Words with r-controlled Vowels, Suffix *-fore*, and Root *fer*
- Ways to Spell */k/*, Prefix *under-*, and Root *vis*
- Words with */kw/* Spelled *qu* and */shul/* Spelled *cial*, Prefix *de-*, and Root *cur*
- Words with the Long *e* Sound Spelled *i*, Suffix *-able*, and Root *vent*
- Words with *c* Pronounced */s/*, Suffix *-ly*, and Root *scrip*
- Adding Vowel and Consonant Suffixes, Suffix *-tion*, and Root *cap*
- Adding Vowel Suffixes, Suffix *-ist*, and Root *cred*
- Adding Vowel Suffixes, Suffix *-or*, and Root *sens*
- */f/* Spelled *ph* and */g/* Spelled *gu*, Suffix *-ness*, and Root *aud*
- */oi/* Spelled *oy*, Suffix *-ous*, and Base Word *form*
- */ou/* Spelled *ou* or *ow*, Suffix *-ous*, and Root *pend*
- */us/* Spelled *ice* and *ace*, Suffix *-ous*, and Root *ten*
- Contractions, Suffix *-ship*, and Root *lect*
- Spelling Review 5
- Compound Words, Suffix *-ology*, and Root *vita*
- Homophones, Suffix *-ive*, and Root *cent*
- Homophones, Suffix *-ment*, and Root *circ*
- Homophones, Suffix *-ful*, and Root *divi*
- Homophones, Suffix *-ic*, and Root *imag*

Standard Curriculum Items

8 ½" x 11" Whiteboard
Classics for Young Readers, Vol. 4A
Classics for Young Readers, Vol. 4B
Writing in Action, Vol. C
Writing in Action, Vol. 4D
Exercises in English, Level D
Vocabulary Workshop
Test Ready Plus: Language Arts, Book 4
Test Ready Plus: Reading, Book 4
Robinson Crusoe by Daniel Defoe—K¹² edition, retold for young readers

Amelia Earhart: Adventures in the Sky by Francene Sabin
Feathers, Flippers, and Fur
If You Lived in the Days of the Knights by Ann McGovern
Nature's Way
Pollyanna by Eleanor Porter —K¹² edition, abridged for young readers

Novels

K¹² offers a selection of 24 novels for grades 3-5. These novels are listed in order of increasing difficulty as measured by the Lexile scale, a system that measures reading difficulty by sentence length and vocabulary (see www.lexile.com). Lexile ratings roughly correspond to grade levels as indicated below.

Approximate Grade Level	Lexile Range
3	500-700
4	650-850
5	750-950

Lexile levels are only one means of assessing whether a work is appropriate for your student. When selecting a novel, keep in mind that the lexile rating does not measure subject matter or themes in the work.

Title and Author	Lexile Level
<i>A Lion to Guard Us</i> , by Clyde Robert Bulla	360
<i>Stone Fox</i> , by John Reynolds Gardiner	550
<i>Sarah, Plain and Tall</i> , by Patricia MacLachlan	560
<i>Henry Huggins</i> , by Beverly Cleary.....	670
<i>Charlotte's Web</i> , by E.B. White	680
<i>From the Mixed-up Files of Mrs. Basil E. Frankweiler</i> , by E.L. Konigsburg.....	700
<i>Li Lun, Lad of Courage</i> , by Carolyn Treffinger	720
<i>In the Year of the Boar and Jackie Robinson</i> , by Bette Bao Lord	730
<i>A Wrinkle in Time</i> , by Madeleine L'Engle.....	740
<i>The Martian Chronicles</i> , by Ray Bradbury	740
<i>The Outsiders</i> , by S.E. Hinton	750
<i>The Bronze Bow</i> , by Elizabeth George Speare	760
<i>Little House on the Prairie</i> , by Laura Ingalls Wilder.....	760
<i>The Book of Three</i> , by Lloyd Alexander.....	770
<i>Tuck Everlasting</i> , by Natalie Babbitt.....	770
<i>The Sign of the Beaver</i> , by Elizabeth George Speare	770
<i>Walk Two Moons</i> , by Sharon Creech	770
<i>War Comes to Willie Freeman</i> , by Christopher and Lincoln Collier.....	770
<i>The Cricket in Times Square</i> , by George Selden.....	780
<i>Mrs. Frisby and the Rats of NIMH</i> , by Robert C. O'Brien ...	790
<i>My Side of the Mountain</i> , by Jean Craighead George.....	810
<i>Call It Courage</i> , by Armstrong Sperry	830

Fourth Grade Language Arts



<i>Johnny Tremain</i> , by Esther Forbes.....	840
<i>Ramona Quimby, Age 8</i> , by Beverly Cleary.....	860
<i>The Fellowship of the Ring</i> , by J.R.R. Tolkein.....	860
<i>The Cay</i> , by Theodore Taylor	860
<i>Pippi Longstocking</i> , by Astrid Lindgren	870
<i>The Hundred Dresses</i> , by Eleanor Estes	870
<i>Dragonwings</i> , by Laurence Yep.....	870
<i>Jacob Have I Loved</i> , by Katherine Paterson	880
<i>Shiloh</i> , by Phyllis Reynolds Naylor	890
<i>Caddie Woodlawn</i> , by Carol Ryrie Brink.....	890
<i>Old Yeller</i> , by Fred Gipson.....	910
<i>Roll of Thunder, Hear My Cry</i> , by Mildred D. Taylor.....	920
<i>The Dark Is Rising</i> , by Susan Cooper	920
<i>The Lion, the Witch, and the Wardrobe</i> , by C.S. Lewis	940
<i>Bud, Not Buddy</i> , by Christopher Paul Curtis.....	950
<i>White Fang</i> , by Jack London.....	970
<i>Anne of Green Gables</i> , by Lucy Maud Montgomery	990
<i>The Door in the Wall</i> , by Marguerite de Angeli	990
<i>Island of the Blue Dolphins</i> , by Scott O'Dell.....	1000
<i>Ben and Me</i> , by Robert Lawson	1010
<i>20,000 Leagues Under the Sea</i> , by Jules Verne	1030
<i>Hound of the Baskervilles</i> , by Arthur Conan Doyle	1090
<i>Across Five Aprils</i> , by Irene Hunt	1100
<i>Catherine, Called Birdy</i> , by Karen Cushman	1170
<i>War of the Worlds</i> , by H.G. Wells	1170
<i>Swiss Family Robinson</i> , by Johann Wyss	1260
<i>The Incredible Journey</i> , by Sheila Burnford.....	1320

NOTE: List subject to change.

Fifth Grade Language Arts



Course Overview

LANGUAGE SKILLS

- **Composition**—Students practice writing, from planning to proofreading, as they write a memoir, an editorial, a research paper, a business letter, and more
- **Grammar, Usage, and Mechanics**—Students learn about parts of speech, punctuation, and research skills. They continue sentence analysis and diagramming
- **Vocabulary**—The Vocabulary Workshop helps students enrich their vocabulary, develop word analysis skills, and prepare for standardized tests
- **Spelling**—Students learn sound-symbol relationships and spelling patterns, identify affixes and how they affect the meaning of words, and recognize base words and roots in related words

LITERATURE

Students analyze, compare, and creatively respond to a variety of works. The emphasis is on classic works, including tales of Robin Hood and St. George; selections from *Don Quixote* and Shakespeare's *The Tempest* and *A Midsummer Night's Dream*; "Rip Van Winkle" and "The Legend of Sleepy Hollow"; and Sherlock Holmes mysteries. Students read works of nonfiction, as well as four novels (selected from a long list of such classics as *Pippi Longstocking*, *Call It Courage*, and *The Lion, the Witch, and the Wardrobe*).

Course Outline

LANGUAGE SKILLS

Grammar, Usage, and Mechanics

Sentences

- Identify and form four kinds of sentences: declarative, interrogative, imperative, and exclamatory
- Rewrite sentences to change their kind (for example, interrogative to declarative) and use the appropriate end punctuation mark for each kind of sentence
- Identify the subject and predicate of a sentence
- Distinguish complete subjects and predicates from simple subjects and predicates
- Distinguish between complete sentences and fragments
- Identify subject complements and direct objects
- Analyze and diagram sentences

Punctuation and Capitalization

- Use periods to end most abbreviations and after initials
- Form abbreviations for units of measure and two-letter postal abbreviations for states without periods
- Use commas to separate words in a series
- Use commas with *yes* and *no*, and in direct address
- Use commas in dates and in geographic place names (e.g., between the name of a city and state)
- Use commas and quotation marks to set off direct quotations in sentences
- Use commas before *and*, *but*, and *or* in compound sentences
- Use quotation marks, underlining, or italics as appropriate for titles of stories, poems, books, movies, plays, and works of art

- Review capitalization rules (e.g., capitalize the first word of a sentence, proper nouns and adjectives, names, important words in titles, etc.)

Nouns

- Identify proper and common nouns
- Identify singular and plural nouns, regular and irregular
- Form singular and plural possessive nouns
- Identify nouns used as subjects, subject complements, and direct objects

Pronouns

- Identify and understand usage of personal pronouns
- Identify and use singular and plural pronouns
- Complete sentences with pronouns as subject complements and direct objects
- Complete sentences with pronouns as objects of prepositions
- Use the personal pronouns *me*, *us*, *him*, *her*, and *them* as subject complements or direct objects
- Identify the person of a pronoun: first, second, or third person
- Identify the gender of a pronoun: masculine, feminine, or neuter
- Distinguish subject pronouns *I*, *you*, *he*, *she*, *it*, *we*, and *they* from object pronouns *me*, *you*, *him*, *her*, *it*, *us*, and *them*
- Identify and form possessive pronouns
- Identify and use reflexive and intensive pronouns

Adjectives

- Identify adjectives and their functions

- Form proper adjectives from proper nouns (e.g., *Swedish* from *Sweden*)
- Identify definite and indefinite articles
- Identify and use the correct forms of demonstrative adjectives
- Identify and use possessive adjectives
- Form positive, comparative, and superlative adjectives

Verbs

- Identify and use action verbs, being verbs, linking verbs, and auxiliary verbs
- Write questions and negative statements using main and helping verbs
- Identify and form principal parts of verbs (present, present participle, past, past participle)
- Identify and use regular and irregular verbs
- Identify and use simple tenses: present, past, future
- Identify and form the present and past progressive tense
- Identify transitive verbs and direct objects in sentences
- Identify intransitive verbs and distinguish from transitive verbs
- Use singular verbs with singular subjects, and plural verbs with plural subjects
- Form and correctly use principal parts of *break*, *see*, *go*, *choose*, and *take*
- Correctly use:
 - *is*, *am*, *are*, *was*, *were*
 - *do* and *does*
 - *there is* and *there are*
- Correctly use forms of:
 - *let* and *leave*
 - *teach* and *learn*
 - *lie* and *lay*
 - *sit* and *set*

Adverbs

- Identify and use adverbs of time, place, and manner
- Form comparative and superlative adverbs
- Identify adverbs as positive, comparative, or superlative
- Use *good* and *well*; *their* and *there*; *real* and *very*; *to*, *too*, and *two*; and *no*, *not*, and *never* correctly in sentences

Prepositions, Conjunctions, and Interjections

- Identify prepositions and prepositional phrases in sentences
- Select the correct preposition to complete a sentence
- Correctly use *between* and *among*, and *from* and *off*
- Identify prepositional phrases as adjectival or adverbial
- Identify objects of prepositions

- Identify and use conjunctions
- Use conjunctions to connect two sentences
- Use appropriate interjections to introduce sentences

Vocabulary and Word Study

- Understand and apply the definitions of given words
- Write sentences to answer questions on a reading selection that uses the words in context
- Write original sentences that use words correctly in context
- Make connections between words and ideas
- Identify synonyms and antonyms of given words

LISTENING AND SPEAKING

- Recite a poem from memory, read an original composition, and read a brief passage from a favorite book
- Use techniques for effective oral presentations (e.g., stand straight and tall, keep your hands at your sides, speak with expression in a loud, clear voice, use complete sentences and proper grammar)
- Maintain purposeful discussion (agree and disagree constructively, state ideas clearly and fully using complete sentences and proper grammar, synthesize and build on others' ideas, explain and defend ideas)

COMPOSITION

Writing as a Process

- Understand and practice writing as a process (prewriting, drafting, revising, proofreading, publishing)

Writing a Memoir (A Personal Recollection)

- Understand the elements of the memoir: plot, characters, setting, and theme
- Plan and organize events to be related in the memoir
- Distinguish between first person and third person point of view
- Use imagery and simile to describe a place or scene
- Write realistic dialogue
- Write, revise, and proofread a memoir

Writing a Research Paper

- Choose and narrow a topic for a research paper
- Find sources for a research paper
- Gather information using library and Internet sources
- Prepare bibliography cards
- Paraphrase sources and understand how to avoid plagiarism
- Write a thesis statement
- Prepare a formal outline for the research paper

- Compile a bibliography
- Write an effective introduction and conclusion
- Develop paragraphs with a topic sentence and supporting details that relate to the topic
- Revise the research paper to improve content, organization, clarity, and word choices, and proofread to correct errors

Writing to a Prompt

- Identify four types of prompts: narrative, expository, persuasive, and descriptive
- Decide what type of writing a prompt requires
- Identify elements of a paragraph: topic sentence, body (supporting details), and closing sentence
- Plan the beginning, middle, and end of a response to a prompt
- Practice writing in response to writing prompts under timed conditions

Writing an Editorial

- Analyze an editorial
- Distinguish fact from opinion
- Locate facts and other information to support opinions in an editorial
- Anticipate and respond to opposing arguments
- Revise with special attention to controlling tone and eliminating unnecessary attacks, unsupported judgments, and overstatements

Writing a Speech

- Identify different purposes for a speech (e.g., to inform, persuade, or entertain)
- Write a thesis statement for an informative speech
- Use the writing process to write a speech
- Deliver the speech to an audience

Writing Business Letters

- Identify the parts of a business letter
- Understand the audience and purpose of the business letter
- Write and revise a business letter of complaint or a request for information

Writing a Compare-and-Contrast Essay

- Analyze an essay written to compare and contrast
- Use graphic organizers to plan topics to compare and contrast
- Prepare an outline for a compare-and-contrast essay
- Write, revise, and proofread a compare-and-contrast essay

Writing a Character Sketch

- Gather information through observation or recall for a character sketch
- Write dialogue to include in a character sketch
- Use specific details and examples to illustrate the subject's characteristics
- Write, revise, and proofread a character sketch

Writing a Short Story (Optional)

- Analyze a short story
- Describe the setting for a story
- Select and describe characters for a story
- Plan a conflict and the plot of a story
- Write, revise, and proofread a short story

Writing a Book Review (Optional)

- Summarize the book to be reviewed
- Gather information about the author
- Evaluate the plot, characters, and setting
- Prepare an outline for the book review
- Write, revise, and proofread the review

LITERATURE

Comprehension Strategies

- Ask questions and support answers by connecting prior knowledge with information found in, and inferred from, the text
- Make connections to personal experiences
- Recall major points in the text and make and modify predictions
- Summarize readings

Comprehension Skills

- Recognize the author's purpose
- Identify the speaker or narrator in a selection
- Identify and explain cause and effect in literary selections
- Compare and contrast across selections and genres
- Make inferences and draw conclusions about characters, supported by evidence from the text
- Identify the main problem or conflict of the plot and how it is resolved
- Distinguish between fact and opinion
- Identify and sequence steps in a process
- Identify the main idea and supporting details of a paragraph or selection
- Recognize story elements: character, setting, plot (conflict and resolution), theme

Informational Materials

- Use titles, tables of contents, chapter headings, glossaries, and indexes to locate information in text
- Follow multiple-step written instructions (e.g., how to assemble a product or play a board game)
- Locate information in charts, diagrams, maps, captions, illustrations, and photos

Literary Response

- Recognize different genres: biography, drama, fiction, nonfiction, and poetry
- Determine what characters are like by what they say and do, and how the author or illustrator portrays them

Poetry

- Identify line, stanza, and rhyme
- Identify and use similes
- Identify and analyze how a poet uses language to appeal to the senses, create imagery, and set tone
- Recognize literary techniques such as personification, alliteration, and onomatopoeia

Listening and Speaking Strategies

- Retell, paraphrase, and explain what a speaker has said
- Read prose and poetry aloud with fluency, rhythm, and expression
- Connect and relate prior experiences, insights, and ideas to those of a speaker

Analysis of Oral and Media Communications

- Compare ideas and points of view expressed in broadcast and print media
- Distinguish between the speaker's opinions and verifiable facts

SPELLING

- Words with Two Vowels Together, Each Having Its Own Sound; Prefix *uni-*; and Base Word *grace*
- Words with /k/ Sound Spelled *ch*, Prefix *quad-*, and Base Word *scholar*
- The Schwa Sound Spelled *a* at the Beginning and End of Words, Prefix *oct-*, Base Word *deficit*
- Words with the Endings *tion* and *sion*, Prefix *kilo-*, Root *gradu*
- Word Relationships, Prefix *milli-*, and Root *prehend*
- Words with /j/ Spelled *dge*, Soft *c* and *g*, Prefix *a-*, and Root *tox*
- Word Relationships, Prefix *super-*, and Root *tech*
- Abbreviations, Prefix *para-*, and Root *cour*
- Contractions, Prefix *multi-*, and Root *meter*
- Words with /shun/ Spelled *tion* and *sion*, Prefix *a-*, and Root *thermo*

- Words with /sh/ Spelled *ch*, /k/ Spelled *que*, /s/ Spelled *sc*, Prefix *out-*, and Base Word *operate*
- Word Relationships, Prefix *over-*, and Root *brev*
- Words Often Confused in Spelling, Prefix *-ir*, and Root *bell*
- Difficult Plurals, Prefix *im-*, and Root *just*
- Adding the /shun/ Ending Spelled *tion* and *sion*, Prefix *il-*, and Root *ini*
- Words with *tion* and *sion*, Suffix *-eer*, and Root *liber*
- Words with *tion* and *sion*, Suffix *-ess*, and Root *cline*
- Adding Vowel Suffixes, Suffix *-ical*, and Root *cert*
- Adding Suffixes, Suffix *-ism*, and Root *grat*
- Adding Vowel Suffixes, Suffix *-ify*, and Root *domus*
- Abbreviations, Suffix *-or*, and Root *mand*
- Word Relationships, Suffix *-ary*, and Root *ques*
- Compound Words, Suffix *-ant*, and Root *min*
- Words with *tion*, Suffix *-worthy*, and Root *flam*
- Endings *tion* and *sion*, Suffix *-ward*, and Root *nov*
- Words Often Confused in Spelling, Suffix *-some*, and Root *mob*
- Words within Words, Suffix *-like*, and Root *term*
- Words with Two Pronunciations and Two Meanings, Suffix *-ish*, and Base Word *present*
- Compound Words, Suffix *-ern*, and Root *turb*
- Endings *tion* and *sion*, Suffix *-dom*, and Root *vict*

Standard Curriculum Items

Dry eraser

8 ½" x 11" whiteboard

Dry erase marker

Classics for Young Readers, Vol. 5A

American Lives & Legends

Exercises in English, Millennium Ed.

Vocabulary Workshop

Test Ready Language Arts, Book 5

Test Ready Reading Longer Passages, Book 5

Paddle to the Sea by Holling Clancy Holling

American Tall Tales by Adrien Stoutenburg

Bard of Avon: The Story of William Shakespeare by Diane Stanley and Peter Vennema

Curious Creatures

Classics for Young Readers, Vol. 5B

Writing in Action, Vol. 5E

Writing in Action, Vol. 5F

I Didn't Know That!

Don Quixote—K¹² edition, retold for young readers

Novels

K¹² offers a selection of 25 novels for grades 3-5. These novels are listed in order of increasing difficulty as measured by the Lexile scale, a system that measures reading difficulty by sentence length and vocabulary (see

Fifth Grade Language Arts



www.lexile.com). Lexile ratings roughly correspond to grade levels as indicated below.

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<i>Tuck Everlasting</i> , by Natalie Babbitt.....	770
<i>The Sign of the Beaver</i> , by Elizabeth George Speare	770
<i>Walk Two Moons</i> , by Sharon Creech	770
<i>War Comes to Willie Freeman</i> , by Christopher and Lincoln Collier	770
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<i>Ramona Quimby, Age 8</i> , by Beverly Cleary.....	860
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<i>The Cay</i> , by Theodore Taylor	860
<i>Pippi Longstocking</i> , by Astrid Lindgren	870
<i>The Hundred Dresses</i> , by Eleanor Estes	870
<i>Dragonwings</i> , by Laurence Yep.....	870
<i>Jacob Have I Loved</i> , by Katherine Paterson	880
<i>Shiloh</i> , by Phyllis Reynolds Naylor	890
<i>Caddie Woodlawn</i> , by Carol Ryrie Brink.....	890
<i>Old Yeller</i> , by Fred Gipson.....	910
<i>Roll of Thunder, Hear My Cry</i> , by Mildred D. Taylor.....	920
<i>The Dark Is Rising</i> , by Susan Cooper	920

<i>The Lion, the Witch, and the Wardrobe</i> , by C.S. Lewis	940
<i>Bud, Not Buddy</i> , by Christopher Paul Curtis.....	950
<i>White Fang</i> , by Jack London.....	970
<i>Anne of Green Gables</i> , by Lucy Maud Montgomery	990
<i>The Door in the Wall</i> , by Marguerite de Angeli	990
<i>Island of the Blue Dolphins</i> , by Scott O'Dell.....	1000
<i>Ben and Me</i> , by Robert Lawson	1010
<i>20,000 Leagues Under the Sea</i> , by Jules Verne	1030
<i>Hound of the Baskervilles</i> , by Arthur Conan Doyle	1090
<i>Across Five Aprils</i> , by Irene Hunt	1100
<i>Catherine, Called Birdy</i> , by Karen Cushman	1170
<i>War of the Worlds</i> , by H.G. Wells	1170
<i>Swiss Family Robinson</i> , by Johann Wyss	1260
<i>The Incredible Journey</i> , by Sheila Burnford.....	1320

NOTE: List subject to change.

Additional Materials

Students choose four novels from the following list to read over the course of the school year (NOTE: These commonly available books are not supplied by K¹²):

A Lion to Guard Us
Stone Fox
Sarah, Plain and Tall
Henry Huggins
Charlotte's Web
Anastasia Krupnik
Li Lun, Lad of Courage
In the Year of the Boar and Jackie Robinson
Little House on the Prairie
The Book of Three
Tuck Everlasting
The Sign of the Beaver
The Cricket in Times Square
Mrs. Frisby and the Rats of NIMH
My Side of the Mountain
Call it Courage
Ramona Quimby, Age 8
Pippi Longstocking
The Hundred Dresses
Shiloh
Caddie Woodlawn
The Lion, the Witch and the Wardrobe
Anne of Green Gables
The Door in the Wall
Ben and Me

NOTE: List subject to change.

Course Outline

INTERMEDIATE LITERATURE A

Intermediate Literature A sharpens reading comprehension skills, engages readers in literary analysis, and offers a variety of literature to suit diverse tastes. Through a varied selection of classic stories, plays, and poems, many of which highlight exemplary virtues, students develop skills of close reading and literary analysis while considering important human issues and challenging ideas. They come to appreciate the writer's craft as they consider the feelings, thoughts, and ideas of characters, and make connections between literature and life. Students also learn to read for information in nonfiction texts.

Literary Analysis and Appreciation

- Identify defining characteristics of a variety of literary forms and genres
- Understand elements of plot development
- Identify cause-and-effect relationships
- Identify conflict and resolution
- Understand elements of character development
- Identify character traits and motivations
- Recognize stereotypes
- Describe characters based on speech, action, and interactions with others
- Make inferences and draw conclusions
- Recognize effect of setting and culture on a literary work
- Compare and contrast works from different time periods
- Identify and interpret specific literary techniques
- Understand and interpret point of view
- Understand use of language to convey mood
- Understand use of dialect
- Interpret symbolism
- Recognize and analyze use of irony
- Recognize and explain poetic devices
- Identify and discuss theme
- Compare and contrast literary selections and characters

Reading Comprehension/Reading Process

- Establish and adjust purpose for reading
- Predict outcomes
- Articulate an opinion and support it with evidence
- Skim for facts, and take notes
- Recognize author's purpose and devices used to accomplish it
- Use reading skills and strategies to understand a variety of informational texts
- Differentiate between fact and opinion in informational texts
- Recognize author's attitude
- Analyze appropriateness of text for purpose

READINGS INCLUDE:

Lessons Learned: Not What You Get, But What You Give

- "The Stone," by Lloyd Alexander
- "The Three Brass Pennies," a Chinese legend retold by Augusta Huiell Seaman
- "The Magic Prison"
- "Kaddo's Wall," a West African folktale retold by Harold Courlander
- "The Story of Baba Abdalla," from the Arabian Nights

Animals and Their People

- "Zlateh the Goat," by Isaac Bashevis Singer
- "Black Snake," by Patricia Hubbell
- "A Narrow Fellow in the Grass," by Emily Dickinson
- "How a Cat Played Robinson Crusoe," by Charles G.D. Roberts
- "Ode to Mi Gato," by Gary Soto
- "The Open Door," by Elizabeth Coatsworth
- "The Cat and the Moon," by William Butler Yeats
- "Stray," by Cynthia Rylant
- "Lone Dog," by Irene R. McLeod
- "Vern," by Gwendolyn Brooks
- "The Dog of Pompeii," by Louis Untermeyer

Nonfiction Selections

- "Are Dogs Dumb?"
- "The Days the Gulls Went Crazy"
- "Close Encounters of the Bear Kind"

Myths of Greece and Rome

- "Perseus and the Quest for Medusa's Head"
- "Atalanta, the Fleet-Footed Huntress"
- "Theseus and the Minotaur"
- "Jason and the Golden Fleece"
- "Damon and Pythias"
- "Baucis and Philemon"
- "Orpheus and Eurydice"

Required Novel (choice of one)

- *The Secret Garden*, by Frances Hodgson Burnett
- *The Adventures of Tom Sawyer*, by Mark Twain

Life Stories: Creative Lives

- "The Child of Urbino," a story about Raphael, by Louise de la Ramée
- "Beethoven's Moonlight Sonata"
- "Mary Cassatt: Artist and Trailblazer," by Vanessa Wright

- “Young Pablo Casals,” by Mara Rockliff
- “Marian Anderson Sings,” by Mara Rockliff

Favorites from Famous Books: *The Jungle Book*, by Rudyard Kipling

- “Mowgli’s Brothers”
- “Tiger! Tiger!”
- “The Tyger,” by William Blake

A Matter of Justice

- “The Wisdom of Solomon”
- “A Just Judge,” by Leo Tolstoy
- “Ooka and the Honest Thief,” a Japanese folktale retold by I.G. Edmonds
- “Mohandas Gandhi: Truth in Action,” by Vanessa Wright
- “Equal Justice Under Law: Thurgood Marshall,” by Mara Rockliff

Shakespeare

- *Twelfth Night* (in the Shakespeare for Young People adaptation)

Bible Characters and Stories

- “Moses: The Long Journey Through the Wilderness”
- “The Fiery Furnace”
- “The Parable of the Good Samaritan”

Stories of Our Time

- “Thank You, M’am,” by Langston Hughes
- “The Circuit,” by Francisco Jiménez
- “The Bracelet,” by Yoshiko Uchida
- “The Strangers That Came to Town,” by Ambrose Flack

Poetry: “To Everything There Is a Season”

- “Waiting,” by Harry Behn
- “Something Told the Wild Geese,” by Rachel Field
- Haiku (selections) translated by Harry Behn
- “Check,” by James Stephens
- “The Pasture,” by Robert Frost
- “A Wintry Sonnet,” by Christina Rossetti
- “The Morns Are Meeker Than They Were,” by Emily Dickinson
- “The Storm,” by Walter De La Mare
- “Swift Things Are Beautiful,” by Elizabeth Coatsworth
- “I Wandered Lonely As a Cloud,” by William Wordsworth
- “Until I Saw the Sea,” by Lillian Moore
- “To everything there is a season” from the Book of Ecclesiastes

Stuff and Nonsense

- Selections from *Alice’s Adventures in Wonderland*, by Lewis Carroll
- “The Walrus and the Carpenter,” by Lewis Carroll
- Limericks by Edward Lear
- Poems by Ogden Nash

NOVELS

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These novels are listed in order of increasing difficulty as measured by the Lexile scale, a system that measures reading difficulty by sentence length and vocabulary (see www.lexile.com). Lexile ratings roughly correspond to grade levels as indicated below.

Approximate Grade Level	Lexile Range
5	750-950
6	850-1050
7	950-1075
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9	1050-1150
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Lexile levels are only one means of assessing whether a work is appropriate for your student. When selecting a novel, keep in mind that the Lexile rating does not measure subject matter or themes in the work.

Title and Author

Lexile Level

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<i>The Martian Chronicles</i> , by Ray Bradbury.....	740
<i>The Outsiders</i> , by S.E. Hinton	750
<i>The Bronze Bow</i> , by Elizabeth George Speare	760
<i>Walk Two Moons</i> , by Sharon Creech.....	770
<i>War Comes to Willie Freeman</i> , by Christopher and Lincoln Collier	770
<i>The Sign of the Beaver</i> , by Elizabeth George Speare	770
<i>The Book of Three</i> , by Lloyd Alexander	770
<i>Tuck Everlasting</i> , by Natalie Babbitt	770
<i>My Side of the Mountain</i> , by Jean Craighead George....	810
<i>Johnny Tremain</i> , by Esther Forbes	840
<i>The Fellowship of the Ring</i> , by J.R.R. Tolkien	860
<i>The Cay</i> , by Theodore Taylor	860
<i>Dragonwings</i> , by Laurence Yep	870
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INTERMEDIATE LANGUAGE SKILLS A

Intermediate Language Skills A offers a systematic approach to the development of written and oral communication skills, and is designed to give students the essential building blocks for expressing their own ideas in standard (or formal) English.

COMPOSITION

After an opening focus on paragraph writing, students write a variety of compositions in genres they will encounter throughout their academic careers, including: compare-and-contrast, persuasive, how-to, and research essays. In writing each essay, students go through a process of planning, organizing, and revising, and they learn to examine their own writing with a critical eye, paying attention to ideas, organization, structure, style, and correctness. Throughout the course, students write in response to prompts similar to those they will encounter on standardized tests.

Introduction to Paragraph

- Parts of a Paragraph
- Paragraph Decisions
- Paragraph Conventions
- Writing a Paragraph
- Revising a Paragraph

Personal Narrative

- What Is a Personal Narrative?
- Prewriting: Investigating Ideas for a Personal Narrative
- Prewriting: Using Language That Shows
- Drafting: Writing a Personal Narrative
- Revising, Proofreading, Publishing

Compare and Contrast Essay

- What Is a Compare and Contrast Essay?

- Prewriting: Planning a Compare and Contrast Essay
- Drafting: Writing a Compare and Contrast Essay
- Revising: Revising a Compare and Contrast Essay
- Proofreading and Publishing

Persuasive Essay

- What Is a Persuasive Essay?
- Prewriting: Logical Thinking
- Prewriting: Fact vs. Opinion
- Prewriting: Structure of a Persuasive Essay
- Prewriting: Planning a Persuasive Essay
- Prewriting: Organizing a Persuasive Essay
- Drafting: Writing a Persuasive Essay
- Revising a Persuasive Essay
- Proofreading and Publishing a Persuasive Essay

Research Report

- What Is a Research Report?
- Covering the Basics
- Prewriting: Finding Information
- Prewriting: Finding More Information
- Prewriting: Taking Notes
- Prewriting: Organizing the Information
- Drafting
- Revising
- Bibliography
- Proofreading
- Publishing

How-To Essay

- What Is a How-to Essay?
- Prewriting: Planning a How-to Essay
- Drafting: Writing a How-to Essay
- Revising and Proofreading
- Publishing

Advertisements

- What Are Advertisements?
- Planning an Advertisement
- Creating an Advertisement
- Planning a Presentation
- Practicing Your Presentation
- Delivering a Presentation

Book Review

- What Is a Book Review?
- Prewriting: Planning a Book Review
- Prewriting: Summarizing
- Drafting: Writing a Book Review
- Revising, Proofreading, and Publishing

GRAMMAR, USAGE, AND MECHANICS

The Grammar, Usage, and Mechanics program offers practice in sentence analysis, sentence structure, and proper punctuation. Students learn to diagram sentences in order to understand how words, phrases, and clauses function in relation to each other. Frequent exercises and regular practice help students absorb the rules so they can confidently apply them in their own writing. *The Barrett Kendall Language Handbook* provides exercises and a ready resource for grammar rules and conventions.

The Sentence

- Positions of Subjects
- Sentence Fragments
- Ways to Correct Sentence Fragments
- Sentence Diagramming and Review

Nouns and Pronouns

- Common and Proper Nouns
- Pronoun Antecedents
- Personal Pronouns
- Reflexive Pronouns
- Indefinite Pronouns
- Demonstrative Pronouns
- Sentence Diagramming and Review

Verbs and Complements

- Action Verbs
- Helping Verbs
- Direct Objects
- Indirect Objects
- Transitive and Intransitive Verbs
- Linking Verbs
- Predicate Nominatives
- Sentence Diagramming and Review

Adjectives and Adverbs

- Adjectives
- Articles
- Proper Adjectives
- Predicate Adjectives
- Adverbs
- Adverbs that Describe Verbs
- Adverbs that Modify Adjectives and Other Adverbs
- Sentence Diagramming and Review

Other Parts of Speech

- Prepositions
- Prepositional Phrases
- Preposition or Adverb?
- Conjunctions and Interjections
- Sentence Diagramming and Review

Phrases

- Adjective Phrases
- Prepositional Phrases
- Adjective Phrases
- Misplaced Adjective Phrases
- Adverb Phrases
- Appositives and Appositive Phrases
- Sentence Diagramming and Review

Sentence Structure

- Simple Sentences
- Compound Sentences
- Run-on Sentences
- Sentence Diagramming and Review
- Diagramming Compound Sentences

Using Verbs

- Regular and Irregular Verbs
- Principal Parts of Verbs
- Problem Verbs
- Verb Tenses
- Tense Shifts
- Progressive Verb Forms

Using Pronouns

- Kinds of Pronouns
- Subject Pronouns
- Pronouns Used as Subjects
- Pronouns Used as Predicate Nominatives
- Pronouns Used as Direct Objects
- Pronouns Used as Indirect Objects
- Pronouns Used as Objects of Prepositions
- Possessive Pronouns
- Possessive Pronoun or Contraction?
- Pronoun Problem: Who or Whom?
- Pronouns and Their Antecedents
- Indefinite Pronouns as Antecedents

Subject and Verb Agreement

- Number
- The Number of Nouns and Pronouns
- The Number of Verbs
- Singular and Plural Subjects
- Common Agreement Problems
- Verb Phrases
- Doesn't or Don't
- Prepositional Phrases after Subjects
- Subjects after Verbs
- Compound Subjects
- Agreement Problems with Pronouns
- You and I as Subjects
- Indefinite Pronouns

Using Adjectives and Adverbs

- Comparison of Adjectives and Adverbs
- Regular Comparisons
- Irregular Comparisons
- Problems with Modifiers
- Double Comparisons
- Double Negatives
- Good or Well?

Capital Letters

- First Words and the Pronoun I
- Sentences
- Lines of Poetry
- Parts of Letters
- Outlines
- The Pronoun I
- Proper Nouns
- Proper Adjectives
- Titles
- Names of People
- Direct Address
- Written Works and Other Works of Art

End Marks and Commas

- End Marks
- Other Uses of Period
- Commas that Separate
- Items in a Series
- Compound Sentences
- Introductory Words and Phrases
- Direct Address
- Appositives
- Commonly Used Commas

Italics and Quotation Marks

- Titles with Italics
- Titles with Quotation Marks
- Quotation Marks with Direct Quotations
- Capital Letters with Direct Quotations
- Commas with Direct Quotations
- End Marks with Direct Quotations
- Writing Dialogue

Other Punctuation

- Apostrophes to Show Possession
- Possessive Forms of Singular Nouns
- Possessive Forms of Plural Nouns
- Possessive Forms of Pronouns
- Contractions
- Apostrophes with Contractions
- Contraction or Possessive Pronoun?
- Apostrophes with Certain Plurals

- Semicolons
- Colons
- Hyphens with Divided Words
- Other Uses of the Hyphen

VOCABULARY

The Vocabulary from Classical Roots program builds knowledge of Greek and Latin words that form the roots of many English words, especially the polysyllabic terms that sometimes cause students to stumble. Throughout this program, students will define and use words with Greek and Latin roots, and use word origins and derivations to determine the meaning of new words, as they increase their own vocabularies and develop valuable test-taking skills.

Numbers

- Greek root *monos*
- Latin roots *unus, duo, duplex, bi*
- Greek root *tri*
- Latin roots *tres, quartus, quatuor, decem, centum*

All or Nothing

- Greek roots *pan, holos*
- Latin roots *omnis; totus; claudo, claudere, clausi, clausum*
- Latin roots *incipio, incipere, incepti, inceptum; nihil; nego, negare, negavi, negatum; vanus, vacuus; aperio, aperire, aperui, apertum*

More or Less

- Greek root *micros*
- Latin roots *minuo, minuere, minui, minutum; minus; tenuo, tenuare, tenuavi, tenuatum tenuis; satis; impleo, implere, implevi, impletum; plenus*
- Greek roots *macros, megas, poly*
- Latin roots *copia, magnus*

Before and After

- Latin roots *ante, pre*
- Latin roots *primus, post*

Creativity

- Greek root *aoide*
- Latin roots *ars, artis, canto, cantare, cantavi, catatum; pingo, pingere, pinxi, pictum*
- Latin roots *cresco, crescere, crevi, cretum; facio, facere, feci, factum, texo, texere, texui, textum*

Travel

- Greek root *hodos*
- Latin roots *trans, eo, ire, ivi, itum, erro, errare, erravi, erratum*

- Greek root *tele*
- Latin roots *iter, itineris, venio, venire, veni, ventum, via*

Sports

- Latin roots *celer, curro, currere, cucurri, cursum, cursor, cursoris, glomus, jacio, jacere, jeci, jactum*
- Latin roots *salio, salire, salui, saltum, valeo, valere, valui, valitum, volvo, volvere, volvi, volutum*

Animals

- Latin roots *apis, asinus, avis, bos, bovis; canis, caper, capra, equus*
- Greek roots *leon, zoion, zoa*
- Latin roots *felis, leo, leonis, piscis, porcus, serpens, serpentis, simia, ursula*

Course Outline

INTERMEDIATE LITERATURE B

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Literary Analysis and Appreciation

- Identify defining characteristics of a variety of literary forms and genres
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- Understand elements of character development
- Identify character traits and motivations
- Recognize stereotypes
- Describe characters based on speech, action, and interactions with others
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- Recognize effect of setting and culture on a literary work
- Compare and contrast works from different time periods
- Identify and interpret specific literary techniques
- Understand and interpret point of view
- Understand use of language to convey mood
- Understand use of dialect
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Reading Comprehension/Reading Process

- Establish and adjust purpose for reading
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- Recognize author's purpose and devices used to accomplish it
- Use reading skills and strategies to understand a variety of informational texts
- Differentiate between fact and opinion in informational texts
- Recognize author's attitude
- Analyze appropriateness of text for purpose

READINGS INCLUDE:

The Heart's Deep Core

- "Chura and Marwe," a West African folktale retold by Humphrey Harman
- "The Tiger's Whisker," a Korean folktale retold by Harold Courlander
- "Stopping by Woods on a Snowy Evening," by Robert Frost
- "The Story of Scarface," a Blackfoot Indian legend
- "Sympathy," by Paul Lawrence Dunbar
- "The Happy Prince," by Oscar Wilde
- "Psalm of Life" by Henry Wadsworth Longfellow

Bible Characters and Stories

- "Belshazzar's Feast"
- "How Queen Esther Saved Her People"
- "The Story of Jonah"

Narrative Poems

- "Casabianca," by Felicia Hemans
- "The Inchcape Rock," by Robert Southey
- "The Listeners," by Walter de la Mare
- "Casey at the Bat," by Ernest Lawrence Thayer
- "The Cremation of Sam McGee," by Robert Service
- "The Highwayman," by Alfred Noyes

Required Novel (choice of one)

- *Treasure Island*, by Robert Louis Stevenson
- *The Hobbit*, by J.R.R. Tolkien

Stories of Scientists

- "Michael Faraday's World," by Nancy Veglahn
- "Marie Curie and the Discovery of Radioactivity," by Mara Rockcliff
- "Nikola Tesla, Inventor," by Shawn Lake
- "Healing a Wounded Heart: Daniel Hale Williams," by William Orem
- "Enrico Fermi: The 'Italian Navigator,'" by Dorothy Haas

Irony

- "Charles," by Shirley Jackson
- "The Gift of the Magi," by O. Henry
- "The Necklace," by Guy de Maupassant
- "The Necklace," retold as a play

Favorites from Famous Books:

A Christmas Carol

- *A Christmas Carol*, by Charles Dickens (abridged)
- "The Boy of the London Streets," by R.S. Holland

Life Stories (Autobiographical Writings)

- Selection from *Homesick*, by Jean Fritz
- Selection from *When I Was Puerto Rican*, by Esmerelda Santiago
- “The Night the Bed Fell,” by James Thurber

What’s Important?

- “President Cleveland, Where Are You?,” by Robert Cormier
- “Raymond’s Run,” by Toni Cade Bambara
- “I Have Ten Legs,” by Anna Swir
- “Boy Flying,” by Leslie Norris
- “The Bat-Poet,” by Randall Jarrell
- “The White Umbrella,” by Gish Jen
- “The Courage That My Mother Had,” by Edna St. Vincent Millay
- “My Father Is a Simple Man,” by Luis Omar Salinas

The Language of Poetry

- “Nothing Gold Can Stay,” by Robert Frost
- “A Poison Tree,” by William Blake
- “Beauty,” by E Yeh Shure
- “Barter,” by Sara Teasdale
- “All the World’s a Stage” (from *As You Like It*), by William Shakespeare
- “There Is No Frigate Like a Book,” by Emily Dickinson
- “The Wind Began to Rock the Grass,” by Emily Dickinson
- “I’ll Tell You How the Sun Rose,” by Emily Dickinson
- “Harlem [2,]” by Langston Hughes
- “Hold Fast Your Dreams,” by Louise Driscoll
- “Life (is a leaf of paper white),” by James Russell Lowell

Advice and Instruction

- “The Fish I Didn’t Catch,” by John Greenleaf Whittier
- “Work,” by John Ruskin
- “Honest Work”
- “For Want of a Horseshoe Nail”
- “Argument,” by Joseph Addison
- “If,” by Rudyard Kipling
- “Can’t,” by Edgar Guest
- “Letter to His Son,” by Robert E. Lee
- “Mother to Son,” by Langston Hughes
- “Perseverance,” by Johann Wolfgang von Goethe
- “Rebecca,” by Hilaire Belloc
- “The Story of Augustus,” by Heinrich Hoffmann
- “Sarah Cynthia Sylvia Stout,” by Shel Silverstein

Stories from Homer’s Epics

- Selections from the *Iliad*
- Selections from the *Odyssey*

Nonfiction

- *City: A Story of Roman Planning and Construction*, by David Macaulay

Shakespeare

- *Julius Caesar* (Shakespeare for Young People adaptation)

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<i>White Fang</i> , by Jack London.....	970
<i>Anne of Green Gables</i> , by Lucy Maud Montgomery	990
<i>The Door in the Wall</i> , by Marguerite de Angeli	990
<i>Island of the Blue Dolphins</i> , by Scott O'Dell	1000
<i>Ben and Me</i> , by Robert Lawson.....	1010
<i>20,000 Leagues Under the Sea</i> , by Jules Verne	1030
<i>Hound of the Baskervilles</i> , by Arthur Conan Doyle	1090
<i>Across Five Aprils</i> , by Irene Hunt.....	1100
<i>Catherine, Called Birdy</i> , by Karen Cushman	1170
<i>War of the Worlds</i> , by H.G. Wells.....	1170
<i>Swiss Family Robinson</i> , by Johann Wyss	1260
<i>The Incredible Journey</i> , by Sheila Burnford	1320

INTERMEDIATE LANGUAGE SKILLS B

Intermediate Language Skills B offers a systematic approach to the development of written and oral communication skills, designed to give students the essential building blocks for expressing their own ideas in standard (or formal) English.

COMPOSITION

This course builds on the skills introduced in Intermediate Composition A. In this writing program, students continue to practice writing essays in various genres. They analyze the conventional five-paragraph essay structure, and then move on to learn the form and structure of a variety of essays they will encounter in their academic careers including: essays of definition, cause-and-effect essays, and research papers. In writing each essay, students go through a process of planning, organizing, and revising, and they learn to examine their own writing with a critical eye, paying attention to ideas, organization, structure, style, and correctness. Throughout the course, students write in response to prompts similar to those they will encounter on standardized tests.

Introduction to the Essay

- Parts of an Essay
- Essay Decisions
- Essay Conventions
- Writing an Essay

Autobiographical Incident

- What Is an Autobiographical Incident?
- Prewriting: Planning to Write About an Autobiographical Incident
- Drafting: Writing About an Autobiographical Incident
- Revising, Proofreading, Publishing

Definition Essay

- What Is a Definition Essay?
- Prewriting: Planning a Definition Essay
- Drafting: Writing a Definition Essay
- Revising: Revising a Definition Essay
- Proofreading and Publishing

Letter to the Editor

- What Is a Letter to the Editor?
- Prewriting: Logical Thinking
- Prewriting: Choosing a Topic
- Prewriting: Gathering Information
- Prewriting: Planning the Letter
- Drafting
- Revising a Letter to the Editor
- Proofreading and Publishing a Letter to the Editor

Research Report

- What Is a Research Report?
- Covering the Basics
- Prewriting: Finding Information
- Prewriting: Finding More Information
- Prewriting: Taking Notes
- Prewriting: Organizing the Information
- Drafting
- Revising
- Bibliography
- Proofreading
- Publishing

Propaganda

- What Is Propaganda?
- Prewriting: Logical Fallacies and Emotional Appeals
- Prewriting: Planning an Article
- Drafting: Writing an Article
- Revising, Proofreading, and Publishing

Cause-and-Effect Essay

- What Is a Cause-and-Effect Essay?
- Prewriting: Different Kinds of Cause-and-Effect Relationships
- Prewriting: Planning a Cause-and-Effect Essay
- Drafting: Writing a Cause-and-Effect Essay
- Revising and Proofreading
- Publishing: Planning a Presentation
- Publishing: Practicing a Presentation
- Publishing: Delivering a Presentation

Fictional Narrative

- What Is a Fictional Narrative?
- Prewriting: Parts of a Story

- Prewriting: Character Development
- Prewriting: Planning a Fictional Narrative
- Drafting
- Revising
- Proofreading and Publishing

GRAMMAR, USAGE, AND MECHANICS

The Grammar, Usage, and Mechanics program addresses many grammatical topics, with reinforcement activities in sentence analysis, sentence structure, and proper punctuation. Students analyze syntax and diagram sentences in order to understand how words, phrases, and clauses function in relation to each other. Frequent exercises and regular practice help students absorb the rules so they can confidently apply them in their own writing.

Parts of Speech Review

- Prepositions
- Prepositional Phrases
- Preposition or Adverb?
- Conjunctions and Interjections

Kinds of Complements

- Direct Objects
- Indirect Objects
- Predicate Nominatives
- Predicate Adjectives
- Sentence Diagramming and Review

Phrases

- Adjective Phrases
- Prepositional Phrases
- Misplaced Adjective Phrases
- Adverb Phrases

Verbals and Verbal Phrases

- Participles
- Participle or Verb?
- Participial Phrases
- Misplaced Participial Phrases
- Infinitives
- Infinitive Phrases
- Sentence Diagramming

Clauses

- Independent and Subordinate Clauses
- Adverb Clauses
- Adjective Clauses
- Adverb and Adjective Clauses
- Simple and Compound Sentences
- Compound Sentence or Compound Verb

- Complex Sentences
- Sentence Diagramming and Review

Sentence Fragments and Run-Ons

- Fragments
- Other Sentence Errors

Using Verbs

- Regular and Irregular Verbs
- Principal Parts of Verbs
- Six Problem Verbs
- Verb Tenses
- Uses of Tenses
- Conjugation of a Verb
- Tense Shifts

Using Pronouns

- Pronouns in the Nominative Case
- Pronouns in the Objective Case
- Pronouns in the Possessive Case
- Pronoun Problems and Pronoun Antecedents
- Pronoun Problem: Who or Whom?
- Pronouns and Their Antecedents

Subject and Verb Agreement

- Agreement of Subjects and Verbs
- Common Agreement Problems
- Agreement Problems with Pronouns

Using Adjectives and Adverbs

- Comparison of Adjectives and Adverbs
- Problems with Modifiers

Capital Letters

- Rules of Capital Letters
- More Proper Nouns
- Other Uses of Capital Letters

End Marks and Commas

- End Marks and the Period
- Commas that Separate
- More Uses of the Comma
- More Commas that Enclose

Italics and Quotation Marks

- Uses of Italics and Quotation Marks
- Direct Quotations
- Other Uses of Quotation Marks

Other Punctuation

- Apostrophes
- Possessive Forms of Pronouns
- Other Uses of the Apostrophe
- Semicolons
- Colons
- Hyphens to Divide Words
- Other Uses of Hyphens

VOCABULARY

The Vocabulary from Classical Roots program builds knowledge of Greek and Latin words that form the roots of many English words, especially the polysyllabic terms that sometimes cause students to stumble. Throughout this program, students will define and use words with Greek and Latin roots, and use word origins and derivations to determine the meaning of new words, as they increase their own vocabularies and develop valuable test-taking skills.

Motion

- Latin roots *per, fero, ferre, tuli latum; tendo, tendere, tetendi, tensum*
- Latin roots *sub, torqueo, torquere, torsi, tortum; verso, versare, versavi, versatum*

Position

- Latin roots *ex, pono, ponere, posui, positum*
- Latin roots *extra, medius, sequor, sequi, secutum*

Joining

- Latin roots *cum, teneo, tenere, tenui, tentum*
- Latin roots *apo, apere, epi, aptum; jungo, jungere, junxi, junctum; stringo, stringere, strinxi, strictum*

Separation

- Latin roots *ab, cerno, cernere, crevi, cretum; frango, frangere, fregi, fractum*
- Greek roots *luein, lutos*
- Latin roots *super, caedo, caedere, cecidi, caesum; solvo, solvere, solvi, solutum*

Sight

- Latin roots *re, ostendo, ostendere, ostendi, ostensum; video, videre, vidi, visum*
- Latin roots *specto, spectare, spectavi, spectatum; vigilo, vigilare, vigilavi, vigilatum*

The Other Senses

- Latin roots *ad, oleo, olere, olui; sono, sonare, sonui, sonitum; voco, vocare, vocavi, vocatum*
- Latin roots *sentio, sentire, sensi, sensum; tango, tangere, tetigi, tactum*

Emotions

- Latin roots *pro, jocus, suavis, festus*
- Greek root *zelos*
- Latin roots *doleo, dolere, dolui, dolitum, ira, volo, velle, volui*

The Shape of Things

- Greek root *kuklos*
- Latin roots *circum, orbis, orbita, figura*
- Greek root *iedos*
- Latin roots *tingo, fingere, finxi, fictum; rota, rotundus, cavea*

Literary Analysis and Composition



Course Overview

Literary Analysis and Composition is a course designed for students at the end of the middle grades and the beginning of high school (grades 8-9). Throughout this course, students will engage in literary analysis of short stories, poetry, drama, novels, and nonfiction. The course

focuses on the interpretation of literary works and the development of oral and written communication skills in standard (formal) English. The program is organized in four strands: Literature, Composition; Grammar, Usage and Mechanics (GUM); and Vocabulary.

Course Outline

Literature

Designed to encourage the appreciation of classic literature, this strand exposes students to both canonical works and less familiar texts and offers a variety of literature to suit diverse tastes. Whether they are reading poetry, drama, autobiography, short stories, or novels, students will be guided through close readings so that they can analyze the formal features of literary texts. Lessons also provide rich background and information to encourage contextual exploration. In this literature program, students read “what’s between the lines” to interpret literature and they go beyond the book to discover how the culture in which a work of literature was created contributes to the themes and ideas it conveys. Students will consider how the struggles, subjects, and ideas they find within these works are relevant to everyday living.

Readings include:

- “A Cub Pilot” from *Life on the Mississippi* by Mark Twain
- Selections from “Barrio Boy” by Ernest Galarza
- “No Gumption” by Russell Baker
- Selections from *I Know Why the Caged Bird Sings* by Maya Angelou

Poetry: Stories in Verse

- “Lochinvar” by Sir Walter Scott
- “The Raven” by Edgar Allan Poe
- “Annabel Lee” by Edgar Allan Poe
- “The Song of the Wandering Aengus” by William Butler Yeats
- “The Wreck of the Hesperus” by Henry Wadsworth Longfellow
- “The Creation” by James Weldon Johnson

Short Stories

- “The Glass of Milk” by Manuel Rojas
- “To Build a Fire” by Jack London
- “The Secret Life of Walter Mitty” by James Thurber
- “The Piece of String” by Guy de Maupassant
- “The Tell-Tale Heart” by Edgar Allan Poe
- “The Lottery” by Shirley Jackson
- “The Lady or the Tiger” by Frank Stockton

Poetry: To Everything There Is a Season

- “Spring and Fall” by Gerard Manley Hopkins
- “In Just” by E.E. Cummings
- “July” by Susan H. Sweet
- “To Autumn” by John Keats
- “The Snowstorm” by Ralph Waldo Emerson
- “The Snow” by Emily Dickinson

The Bible as Literature

- Selections from Genesis: The Creation and the Fall; Cain and Abel
- Selected Psalms
- Parables: The Great Sheep, The Last Supper, The Prodigal Son
- Faith, Hope, and Charity

Poetry: Voices and Viewpoints

- “All” (Chinese poem) by Bei Dao
- “Also All” (an answer to “All”) by Shu Ting
- “Rainy Day” by Henry Wadsworth Longfellow
- “Invictus” by W. E. Henley
- “We Real Cool” by Gwendolyn Brooks
- “The Negro Speaks Rivers” by Langston Hughes
- “Mending Wall” by Robert Frost
- Sonnets 18 and 29 by William Shakespeare

Poetry of Ideas

- “I Dwell in Possibility” by Emily Dickinson
- “Will There Really Be a Morning” by Emily Dickinson
- “Ozymandias” by Percy Bysshe Shelley
- “Do Not Go Gentle Into That Good Night” by Dylan Thomas
- “The Charge of the Light Brigade” by Alfred Lord Tennyson
- “The Battle of Blenheim” by Robert Southey

Drama

- *Antigone* by Sophocles
- *Romeo and Juliet* by William Shakespeare

Literary Analysis and Composition



Autobiography (choose 1)

- *Anne Frank: The Diary of a Young Girl*
- *The Narrative of the Life of Frederick Douglass*

Novels (choose 2 during the year)

- *Animal Farm* by George Orwell
- *Jane Eyre* by Charlotte Bronte
- *Lord of the Flies* by William Golding
- *A Separate Peace* by John Knowles
- *A Tale of Two Cities* by Charles Dickens
- *To Kill a Mockingbird* by Harper Lee
- *The Yearling* by Marjorie Kinnan Rawlings

Partial List of Skills Taught:

- Describe characters based on speech, actions, or interactions with others
- Demonstrate knowledge of authors, characters, and events of historically or culturally significant works of literature.
- Identify character traits and motivations.
- Identify and interpret allusions.
- Identify conflict and resolution.
- Identify and explain the use of irony.
- Identify and interpret figurative language.
- Identify and interpret imagery.
- Identify and interpret sensory language.
- Identify cause and effect relationships.
- Identify climax.
- Identify elements of a drama.
- Identify elements of a short story.
- Identify theme.
- Identify point of view
- Make inferences and draw conclusions.
- Recognize the effect of setting or culture on a literary work.
- Recognize use of language to convey mood
- Recognize author's attitude or tone.
- Recognize author's purpose and devices used to accomplish it, including author's language, organization, and structure.
- Recognize how point of view affects literature

COMPOSITION

This strand builds on the skills introduced in Intermediate Composition Courses. In this writing program, students continue to practice writing essays in various genres and increasingly focus on model essays from noteworthy authors. Many units use the literature lessons as a springboard and thereby reinforce the connection between reading for meaning and writing to communicate one's own ideas. Students learn the form and structure of a variety of essays

they will encounter in their academic careers including: memoirs (narrative), literary essays, compare and contrast essays, research papers, descriptive writing, and arguments. In writing each essay, students go through a process of planning, organizing, and revising, and they learn to examine their own writing with a critical eye, paying attention to ideas, organization, structure, style, and correctness. Throughout the course, students write in response to prompts similar to those they will encounter on standardized tests.

Memoir

- Analysis of a Memoir: Examining Mark Twain's "A Cub Pilot"
- Planning a Memoir
- Writing a Memoir I
- Writing an Memoir II
- Revising a Memoir
- Proofreading and Publishing a Memoir

Literary Essay: Character

- What Is Literary Essay About Character?
- Planning a Literary Essay About Character
- Focusing and Organizing a Literary Essay About Character
- Writing a Literary Essay About Character
- Revising a Literary Essay About Character
- Proofreading and Publishing a Literary Essay About Character

Argument

- What Is an Argument?
- Recognizing Logical Fallacies and Emotional Appeals
- Choosing a Topic and Gathering Information
- Planning and Organizing the Argument
- Writing an Argument
- Revising an Argument
- Proofreading and Publishing an Argument

Making Us See: Description

- Seeing with the Mind's Eye I: Analysis of Excerpt from Hamlin Garland's *Boy Life on the Prairie*
- Seeing with the Mind's Eye II: Analysis of Excerpt from Henry David Thoreau's *Walden*
- Seeing with the Mind's Eye III: Analysis of an Excerpt from Annie Dillard's *Pilgrim at Tinker Creek*
- Recognizing Descriptive Language
- Planning a Descriptive Essay
- Writing a Descriptive Essay
- Polishing a Descriptive Essay

Research Paper

- What Is a Research Paper?
- Taking Notes I
- Taking Notes II
- Organizing the Information
- Writing a Research Paper I
- Writing a Research Paper II
- Creating a Works Cited Page
- Revising a Research Paper
- Proofreading and Publishing a Research Paper
- Revising
- Bibliography
- Proofreading
- Publishing

Literary Essay: Theme

- What Is a Literary Essay About Theme?
- Planning a Literary Essay About Theme
- Writing a Literary Essay About Theme
- Revising a Literary Essay About Theme
- Proofreading and Publishing a Literary Essay About Theme

Literary Essay: Compare and Contrast

- What Is a Compare and Contrast Essay About Literature?
- Planning a Compare and Contrast Essay About Literature
- Organizing a Compare and Contrast Essay About Literature
- Writing a Compare and Contrast Essay About Literature
- Polishing a Compare and Contrast Essay About Literature

Great Speeches and Oratory

- Reading, Listening to, and Analyzing a Speech I: The Gettysburg Address
- Reading, Listening to, and Analyzing a Speech I: I Have a Dream
- Planning a Speech
- Writing a Speech
- Revising a Speech
- Practicing and Delivering a Speech

GRAMMAR, USAGE, AND MECHANICS

How can a modifier be misplaced or dangling? Is there a positive to appositives? What's a gerund? The Grammar, Usage, and Mechanics (GUM) course addresses these and many other topics, with reinforcement activities in sentence analysis, sentence structure, and proper punctuation. Students analyze syntax and diagram sentences in order to understand how words, phrases, and clauses function in relation to each other. Skills updates, frequent exercises, cumulative reviews, and regular practice help students

absorb the rules so they can confidently apply them in their own writing. *The Barrett Kendall Language Handbook* provides exercises and a ready resource for grammar rules and conventions.

Sentences, Fragments, and Run-Ons

- Sentences
- Fragments
- Run-Ons

Complements

- Direct Objects and Indirect Objects
- Predicate Nominatives and Predicate Adjectives

Phrases

- Prepositional Phrases
- Misplaced Modifiers and Appositives

Verbals and Verbal Phrases

- Participles and Participial Phrases
- Gerund
- Gerund Phrases
- Infinitives and Infinitive Phrases
- Misplaced and Dangling Modifiers

Clauses

- Independent and Subordinate Clauses
- Adverb Clauses
- Adjective Clauses
- Functions of Relative Pronouns
- Noun Clauses
- Sentence Structure

Using Verbs

- Principal Parts of Verbs
- Verb Tense
- Shift in Tense
- Active and Passive Voice

Using Pronouns

- Pronoun Case
- Pronoun Problems
- Pronouns in Comparison
- Indefinite Pronoun Antecedents and Antecedent Problems

Subject and Verb Agreement

- Agreement of Subjects and Verbs
- Common Agreement Problems
- Other Agreement Problems

Using Adjectives and Adverbs

- Comparison of Adjectives and Adverbs

Capital Letters

- Capitalization
- More Capitalization

End Marks and Commas

- End Marks
- Commas That Separate
- Comma That Enclose
- More Commas That Enclose

Italics and Quotation Marks

- Uses of Italics and Quotation Marks
- Direct Quotations
- Other Uses of Quotation Marks

Other Punctuation

- Apostrophes
- Semicolons
- Colons and Hyphens
- Dashes and Parentheses

VOCABULARY

Are you implacable or placid? Are you apathetic or empathic? Though these pairs of words are nearly opposite in their meanings, they are closely related and easily defined by students who know the Latin root, —“*pacere*”—(to please) and the Greek root *pathos* (suffering). K¹²'s Vocabulary program uses the Vocabulary from Classical Roots program (from Educator's Publishing Service) to build knowledge of Greek and Latin words that form the roots of many English words. The purpose of the program is to help students unlock the meanings of words from classical roots, not necessarily to memorize lists of difficult or obscure vocabulary words. These polysyllabic words are those that frequently cause students to stumble and often appear on standardized tests. Throughout this program, students will define and use words with Greek and Latin roots, and use word origins and derivations to determine the meaning of new words, as they increase their own vocabularies and develop valuable test-taking skills.

The Person

- Latin roots *humanas, homo, vir, ego, genos, genus, generis*
- Greek roots *anthropos; gyne, femina, autos, gens, gentis*

Personal Relationships

- Latin roots *matrix, pater, frater, avunculus, familia, uxor, puer, morior, nascor*
- Greek roots *pais, sum, esse, fui, futurum, thanatos*

Feelings

- Latin roots *amo, amicus, odium, pax, cupio, placere, placare*
- Greek roots *philos, phileo, phobos, pathos, miso, dys*

Creature Comforts

- Latin roots *domus, dominus, dormio, somnus, lavare, vestis, coquere, vorare, melis, sal, bibere, potare, ludere*

The Head

- Latin roots *caput, cerebrum, facies, frons, oris, oratum, dens, gurgis*
- Greek roots *odon*

The Body

- Latin roots *caro, collum, corpus, cor, os, dorsum, nervus, sanguis, sedeo*
- Greek roots *derm, gaster*

The Hands

- Latin roots *manus, dextra, digitus, flecto, rapio, plico, prehendo, pes, gradior, ambulo, calcitro, sto, stio, sisto*
- Greek root *podos*

Kindergarten Math



Course Overview

For kindergartners, a key to mathematical understanding is making the link between the concrete and the abstract—between physical models and written symbols. To achieve this understanding, students will:

- Use manipulatives to understand the relationships between numbers and physical quantities

- Apply their understanding of counting to time and money
- Perform simple addition and subtraction using physical objects to model problems
- Identify and complete patterns

Course Outline

Position and Classification

- Identify, sort, and classify objects by attribute
- Identify objects that do not belong to a particular group
- Identify and use appropriate terms for the positions of objects
- Distinguish between circles, squares, and triangles

Comparison and Patterns

- Compare and sort sets of objects by size
- Recognize and extend simple repeating patterns
- Identify pattern rules

Number Readiness and Graphing

- Apply one-to-one correspondence
- Compare two or more sets of objects and identify which set is equal to, more than, or less than the other
- Collect, organize, and record data using tallies and graphs

Numbers 0 to 6

- Recognize the relationship between numbers and quantities by counting, representing, naming, and writing numerals for a number of objects from 0 to 6
- Sequence numbers from 0 to 6
- Identify ordinal positions of first through fifth

Numbers to 12

- Count, name, and write numerals for a number of objects from 0 to 12
- Sequence, compare, and order numbers from 0 to 12
- Identify ordinal positions of first through tenth
- Collect, organize, and record data on a pictograph
- Solve problems using specific strategies

Geometry, Fractions, and Measurement

- Recognize and identify plane and solid figures by attribute
- Sort, classify, and compare plane and solid figures by attribute

- Recognize a whole when it is divided into equal parts
- Recognize equal shares
- Recognize that objects have properties like length, weight, and capacity
- Estimate and measure length using non standard units
- Compare the weight of objects
- Compare the capacity of objects
- Distinguish between hot and cold temperatures

Money and Time

- Identify the value of a penny, a nickel, and a dime
- Count, recognize, write, represent, and name coins to 12 cents
- Order, compare, and trade coins to 12 cents
- Recognize the concept of time and sequence events
- Tell time to the hour

Addition and Subtraction Readiness

- Add by joining groups of objects
- Represent subtraction as a separating action
- Add and subtract numbers to 10

Numbers to 31

- Count, recognize, write, name, order, compare, and represent numbers to 31
- Organize and record data on a bar graph
- Identify the parts of and read a calendar

Moving On in Mathematics

- Identify addition and subtraction patterns
- Skip count by 2, 5, and 10
- Count on and back by 1 and 10

Lesson Time and Scheduling

Total lessons: 180

Lesson Time: 45 minutes. You might choose to split the lessons into smaller segments and take breaks as needed. K12's online lesson tracking system allows you to pick up wherever you left off in any given lesson.

Standard Curriculum Items

Math Textbook, Kindergarten

Math Counting Chips

Multilink Cubes

Game Spinner

Math Pattern Blocks

Math Attribute Blocks

Geometric 3-D Shapes

NOTE: List subject to change.

First Grade Math



Course Overview

First grade Math provides experiences to help students develop a formal understanding of numbers and mathematical concepts. Physical models still play a fundamental role in linking the real world to symbolic expressions. Students will:

- Work with patterns and sequences
- Practice addition and subtraction
- Learn to tell time and count money

- Identify place values to hundreds
- Practice measuring length, capacity, and weight
- Work with geometric shapes
- Become familiar with the concept of symmetry
- Solve problems using logical reasoning, drawings, and models
- Begin to develop intuitions about probability and fractions

Course Outline

Numbers to 12

- Count, read, write, compare, and order whole numbers to 12
- Compare and order ordinals first through tenth
- Identify one more than and one less than a given number
- Count forward and back on a number line
- Solve problems by drawing pictures and finding patterns

- Understand that the order in which the addends are grouped does not affect the sum
- Solve problems by asking questions and choosing the operations

Understanding Addition: Facts to 6

- Show the meaning of addition (joining, putting together, increasing)
- Know the addition facts to 6
- Write addition number sentences
- Understand that numbers can be added in any order
- Identify and extend simple numeric patterns for addition
- Solve problems by using graphs and acting out problem situations

Subtraction Facts to 12

- Learn the subtraction facts to 12
- Develop an understanding of subtraction strategies such as using a number line, and identifying and using subtraction patterns
- Use addition to check subtraction
- Identify addition and subtraction fact families
- Solve problems by drawing pictures and using models

Understanding Subtraction: Facts to 6

- Show the meaning of subtraction (taking away, separating)
- Know the subtraction facts to 6
- Write subtraction number sentences
- Understand addition and subtraction as inverse operations
- Add and subtract with zero
- Identify and extend simple numeric patterns for subtraction
- Solve problems by choosing the operations and writing number sentences

Place Value to 100

- Read, count, write, compare, and order whole numbers to 100
- Understand place value by representing numbers to 100 as tens and ones
- Understand and describe skip counting to 100 by twos, fives, and tens
- Solve problems by using the guess-and-test strategy and logical reasoning

Money and Time

- Learn the value of pennies, nickels, dimes, and quarters
- Sort, count, and find the value of a group of coins
- Show different combinations of coins that equal the same value
- Tell time to the nearest half hour
- Relate time to events
- Determine the duration of elapsed time
- Solve problems using logical reasoning and hidden information

Addition Facts to 12

- Learn the addition facts to 12
- Develop an understanding of addition strategies such as using a number line, addition patterns, and doubles and near doubles
- Add three one-digit numbers

Geometry, Fractions, and Probability

- Identify common plane and solid figures, and describe their attributes
- Recognize line symmetry as equal parts of plane figures

- Recognize congruent figures as those with the same size and shape
- Recognize, name, and write $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{4}$ as part of a whole or part of a set
- Explore the arrangement of objects and understand the likelihood of simple events
- Solve problems using logical reasoning, drawings, and models

Add and Subtract Two-Digit Numbers

- Add and subtract ones and tens
- Add and subtract two-digit whole numbers and money amounts without regrouping
- Estimate two-digit whole numbers to the nearest ten
- Use models to add and subtract two-digit whole numbers with regrouping
- Solve problems by choosing operations and using logical reasoning

Measurement

- Measure an object by identifying a unit of measure and using the appropriate tools
- Measure, compare, and estimate length, capacity, and weight/mass in English and metric units
- Measure perimeter using nonstandard units
- Read a thermometer to find temperature in degrees Fahrenheit
- Solve problems by using maps and logical reasoning

Addition and Subtraction Facts to 18

- Learn addition and subtraction facts to 18
- Identify fact families
- Add and subtract using strategies such as related facts, the order of property, doubles, and making ten
- Solve problems by drawing pictures and knowing when to ignore extra information

Moving On in Math

- Strengthen understanding of numeration, place value, and regrouping concepts and skills
- Identify function rules
- Find missing numbers or unknown operations
- Explore regrouping in addition and subtraction of two-digit numbers
- Add three two-digit numbers
- Understand numbers to 999 as hundreds, tens, and ones
- Solve problems by making tables and using the guess-and-test strategy

Lesson Time and Scheduling

Total lessons: 180

Lesson Time: 60 minutes. You might choose to split the lessons into smaller segments and take breaks as needed. K¹²'s online lesson tracking system allows you to pick up wherever you left off in any given lesson.

Standard Curriculum Items

Math Textbook, Grade 1

Counting Chips

Multilink Cubes

Game Spinner

Base 10 Cubes

Base 10 Rods

Geometric Solids

GeoBoard

NOTE: List subject to change.

Second Grade Math



Course Overview

Second graders develop an understanding of mathematical operations, and use their understanding to solve problems and apply mathematical concepts to the world around them. Students will:

- Work with patterns and sequences
- Add and subtract two-digit numbers using place value blocks

- Solve word problems, including problems involving money and time
- Study measurements of length, weight, and capacity in both metric and standard units
- Begin to learn about fractions, geometry, and probability
- Understand basic multiplication and division concepts

Course Outline

Number and Operation Sense

- Read, write, compare, and order whole numbers to 20
- Compare numbers using the symbols $<$ or $>$
- Recognize addition and subtraction as inverse operations
- Add numbers with sums of 12 or less using related facts and other strategies
- Subtract from 12 or less using related facts and other strategies

Place Value to 100

- Read, count, write, and expand whole numbers to 99
- Compare and order whole numbers to 99
- Identify the place and value of each digit in numbers to 99
- Round numbers to the nearest 10
- Count by ones, twos, threes, fours, fives, and tens
- Identify and extend number patterns
- Organize, display, and interpret data of pictographs and bar graphs

Addition and Subtraction: Facts to 18

- Recognize addition and subtraction as inverse operations
- Add numbers with sums of 18 or less
- Subtract from 18 or less
- Find the sum of three or more addends

Money and Time

- Identify the value of coins and bills
- Find the value of groups of coins and bills
- Tell time to five-minute intervals
- Estimate the duration of an event
- Read and interpret a calendar

Addition and Two-digit Numbers

- Add two and three two-digit whole numbers, regrouping when necessary
- Add amounts of money, regrouping when necessary
- Use the order property to check addition

Subtraction of Two-digit Numbers

- Find the difference of two-digit whole numbers, regrouping when necessary
- Subtract money amount less than a dollar with regrouping
- Use rounding to estimate sums and differences
- Choose the best method of computation: paper and pencil or mental math

Geometry, Fractions, and Probability

- Identify and classify plane figures
- Identify and classify solid figures
- Describe the attributes of plane and solid figures
- Recognize, name, compare, and write fractions to twelfths
- Identify and predict outcomes in probability

Measurement

- Measure, compare, and estimate length, capacity, and weight/mass in English and metric units
- Distinguish between perimeter and area using linear and square units
- Read a thermometer to find temperature in degrees Fahrenheit
- Choose the appropriate unit of measurement or measuring tool

Place Value to 1,000 and Addition

- Read, count, expand, and write whole numbers to 999
- Recognize the place and value of numbers to 999
- Add three-digit whole numbers or money amounts by regrouping twice

Multiplication and Division

- Explore the concept of multiplication as repeated addition
- Explore the concept of division as separating
- Multiply groups of 2, 3, 4, and 5
- Divide by 2, 3, 4, and 5
- Recognize multiplication and division as inverse operations

Place Value to 1,000 and Subtraction

- Order and compare whole numbers to 999
- Find the difference of three-digit numbers, regrouping when necessary
- Find the difference of three-digit money amounts, regrouping when necessary
- Estimate by rounding to the nearest hundred or dollar to find sums or differences

Moving On in Math

- Read, count, and write whole numbers to 9,999
- Find sums and differences of four-digit whole numbers without regrouping
- Use the order of operations to find the value of expressions

Lesson Time and Scheduling

Total lessons: 180

Lesson Time: 60 minutes. You might choose to split the lessons into smaller segments and take breaks as needed. K¹²'s online lesson tracking system allows you to pick up wherever you left off in any given lesson.

Standard Curriculum Items

Math Textbook, Grade 2
Counting Chips
Multilink Cubes
Game Spinner
Base-10 Cubes
Base-10 Rods
Geometric Wooden Solids
GeoBoards

NOTE: List subject to change.

Third Grade Math



Course Overview

Third grade students continue to develop computational skills in addition, subtraction, multiplication, and division, and solve problems involving more complex mathematical concepts. Students will:

- Work with larger numbers and decimals
- Study place value and estimating using rounding
- Develop calculation skills using place value blocks to understand addition, subtraction, and regrouping

- Establish fluency with simple addition, subtraction, division, and multiplication number facts
- Study the basics of probability
- Use graphs and charts to understand how data can be represented visually
- Learn more about the basics of geometry
- Use strategies for solving word problems fractions

Course Outline

Place Value

- Read and write numbers through 999,999 in standard, expanded, and word name forms
- Compare and order numbers through 9,999
- Round whole numbers through 999,999 to the nearest ten, hundred, or thousand
- Skip count by 2, 3, 4, 5, and 10 to 100, and use skip counting to complete number patterns
- Compare money amounts through \$99.99
- Count money amounts with coins and bills through \$99.99 and make change
- Round money amounts through \$99.99 to the nearest dollar

Addition

- Add two-digit numbers with and without regrouping
- Use strategies to add more than two addends: look for tens and doubles, and count on
- Find up to two missing addends
- Estimate sums through 9,999 using rounding to the nearest ten or hundred
- Estimate sums through 9,999 using front-end estimation
- Add money amounts with sums up to and including \$99.99 with and without regrouping
- Estimate sums through \$99.99 to the nearest 10 cents or dollar
- Add three- and four-digit numbers with and without regrouping
- Add numbers with sums through 100 mentally, looking for patterns and breaking apart numbers to find tens

Subtraction

- Subtract two-, three-, and four-digit numbers with and without regrouping
- Estimate differences using rounding to the nearest ten, hundred, or thousand with numbers through 9,999

- Estimate differences using front-end estimation with numbers through 9,999
- Subtract money amounts with differences through \$99.99
- Estimate differences of money using rounding to the nearest ten cents, dollar, or ten dollars with money amounts through \$99.99
- Estimate differences of money using front-end estimation with money amounts through \$99.99

Multiplication Concepts and Facts

- State multiplication facts through 5
- Multiply money amounts with products through 45¢
- Find a missing factor in multiplication facts through 5
- Use the commutative property to solve multiplication facts through 5

Division Concepts and Facts

- Divide one- and two-digit dividends by 1, 2, 3, 4, and 5
- Divide money amounts with dividends through 45¢
- Use the inverse relationship between multiplication and division to solve problems with two-digit dividends and divisors through 5

Statistics and Probability

- Read, interpret, and make tally charts, pictographs, and bar graphs with up to six groups
- Make organized lists and tree diagrams to count arrangements of up to 6 objects
- Predict outcomes based on probability
- Find the probability of a simple event with probabilities expressed as fractions with denominators through eight

Measurement and Time

- Use English and metric units to measure length, weight, and capacity
- Use English and metric units to estimate length, weight, and capacity



- Choose the appropriate customary or metric unit of length, weight, and capacity
- Compare English or metric units of length, weight, and capacity
- Choose the appropriate tool for measuring length, capacity, or weight
- Use a map to estimate and find distances
- Read a thermometer and record temperatures in degrees Fahrenheit and Celsius
- Read and write time to the half hour, quarter hour, and minute
- Solve elapsed time problems
- Read and interpret a calendar

More Multiplication and Division Facts

- State multiplication facts through 9
- Multiply three one-digit factors with products through 81
- Divide one- and two-digit dividends by one-digit divisors
- Identify and write multiplication and division fact families through 9
- Identify and extend number patterns

Geometry

- Identify and compare attributes of plane figures: polygon, triangle, square, rectangle, pentagon, and hexagon
- Identify and compare attributes of space figures: cylinder, sphere, cube, pyramid, cone, and rectangular prism
- Measure and compute perimeter, area, and volume
- Identify congruent and similar figures
- Classify angles: right angle, acute angle, or obtuse angle
- Identify and draw lines, line segments, and rays
- Identify and draw parallel lines and intersecting lines
- Identify slides, flips, and turns and complete patterns using them
- Recognize lines of symmetry in plane figures
- Locate points and name ordered pairs on a coordinate grid

Multiply by One Digit

- Estimate multiplication products through 1,000 by rounding two- and three-digit factors to the nearest ten or hundred
- Estimate multiplication products through 1,000 by using front-end estimation
- Multiply two- and three-digit numbers by one-digit numbers with and without regrouping
- Estimate multiplication products through \$999 by rounding two- and three-digit factors to the nearest ten cents or dollar

- Estimate multiplication products through \$999 using front-end estimation
- Multiply money amounts with products through \$999

Divide by One Digit

- Use multiplication facts to estimate quotients with 2- and 3-digit dividends and 1-digit divisors
- Estimate quotients with 2- and 3-digit dividends and 1-digit divisors by rounding dividends to the nearest ten
- Divide 2-digit dividends by 1-digit divisors with and without remainders
- Estimate money quotients with 3- and 4-digit dividends and 1-digit divisors by rounding dividends to the nearest dollar

Fractions

- Recognize and write fractions through twelfths
- Compare fractions with like and unlike denominators through twelfths, and explain the reasoning
- Recognize and write equivalent fractions through twelfths, and explain the reasoning
- Estimate and write fractional parts of a whole or parts of a set
- Write mixed numbers in standard and word name forms
- Add and subtract fractions with like denominators through twelfths

Decimals

- Recognize and write fractions expressed as tenths and hundredths
- Recognize and write decimals expressed as tenths and hundredths
- Compare and order decimals through hundredths
- Add and subtract decimals and money amounts with and without regrouping
- Identify and use numerical patterns to solve problems

Moving On in Math

- Write numbers through 9,999,999 in standard, expanded, and word name forms
- Add and subtract five-digit numbers with regrouping
- Add money amounts with sums through \$999.99 with regrouping
- Explain divisibility rules for numbers divisible by 2, 5, and 10
- Find missing digits in addition, subtraction, and multiplication problems
- Solve problems using the order of operations
- Choose the correct operation to complete a number sentence
- Find the common factors of two numbers

- Divide two- and three-digit money amounts by a one-digit divisor without remainders
- Multiply money amounts through \$9.99 by a one-digit multiplier

Lesson Time and Scheduling

Total lessons: 160

Lesson Time: 60 minutes. You might choose to split the lessons into smaller segments. K¹²'s online lesson tracking system will allow you to pick up wherever you left off in any given lesson.

Standard Curriculum Items

Math Textbook, Grade 3

Base-10 Blocks

NOTE: List subject to change.

Fourth Grade Math



Course Overview

Fourth grade Math students sharpen their computational and problem-solving skills while applying mathematical concepts to real-world problems. Students will:

- Continue to develop computational skills using larger numbers up to millions
- Estimate sums and differences before finding exact solutions
- Achieve rapid fluency with basic number facts
- Through a proprietary, research-based series of

lessons, develop strategies for solving word problems that progress from simple addition problems to problems with complex data

- Use geometry to determine perimeter, volume, and area in both English and metric units
- Develop research-based intuitive understanding of fractions together with practical computational skills
- Expand understanding of probability and its link to fractions

Course Outline

Place Value

- Thousands
- Millions and Greater Numbers
- Place Value
- Comparing and Ordering Whole Numbers
- Number Sense: Using a Number Line
- Making Change
- Comparing and Ordering Money
- Rounding
- Working with Money

Addition and Subtraction Concepts

- Addition Properties and Addition Strategies
- Subtraction Concepts
- Addition and Subtraction Sentences
- Mental Math
- Estimating Sums and Differences
- Adding and Subtracting Money
- Checking Addition and Subtraction
- Addition and Subtraction Applications

Addition and Subtraction

- Front-End Estimation
- Adding with Regrouping
- Three- and Four-Digit Addition
- Three or More Addends
- Subtracting with Regrouping
- Subtraction: Regrouping Twice
- Three- and Four-Digit Subtraction
- Zeros in Subtraction
- Larger Sums and Differences

Multiplying by One and Two Digits

- Multiplication Properties
- Missing Factors
- Multiplication Models
- Special Factors

- Multiplying by One-Digit Numbers
- Products: Front-End Estimation
- Multiplying with Regrouping
- Multiplying Three-Digit Numbers
- Multiplying Money
- Multiplying Four-Digit Numbers
- Patterns in Multiplication
- Estimating Products
- Multiplying by Two-Digit Numbers
- More Multiplying by Two-Digit Numbers
- Multiplying with Three-Digit Numbers

Dividing by One Digit

- Division Concepts
- Missing Numbers in Division
- Number Patterns
- Estimating in Division
- One-Digit Quotients
- Divisibility
- Two-Digit Quotients
- More Two-Digit Quotients
- Three-Digit Quotients
- More Difficult Quotients
- Zeros in the Quotient
- Larger Numbers in Division
- Dividing Money
- Order of Operations
- Finding Averages

Dividing by Two Digits

- Division Patterns
- Divisors: Multiples of Ten
- Estimating Quotients
- Two-Digit Dividends
- Three-Digit Dividends
- Trial Quotients
- Greater Quotients
- Teens as Divisors



- Four-Digit Dividends
- Zero in the Quotient and Greater Dividends

Measurement

- Measuring with Inches
- Renaming Units of Length
- Computing Customary Units
- Customary Units of Capacity
- Customary Units of Weight
- Measuring and Working with Metric Units
- Metric Units of Capacity
- Metric Units of Mass and Weight
- Temperature
- Time and Elapsed Time

Statistics and Probability

- Graphing Sense
- Making Pictographs and Bar Graphs
- Line Graphs
- Line Graphs II
- Circle Graphs
- Combinations
- Predicting Probability
- Events and Outcomes

Fractions

- Writing Fractions
- Estimating Fractions
- Equivalent Fractions
- Writing Equivalent Fractions
- Factors
- Fractions: Lowest Terms
- Mixed Numbers
- Comparing Fractions
- Ordering Fractions

Fractions: Addition and Subtraction

- Adding: Like Denominators
- Subtracting: Like Denominators
- Improper Fractions
- Estimating with Mixed Numbers
- Add and Subtract Mixed Numbers
- Multiples
- Adding: Unlike Denominators
- Subtracting: Unlike Denominators
- Computing Probability
- Finding Parts of Numbers

Decimals

- Tenths and Hundredths
- Decimals Greater than 1.0

- Decimal Place Value
- Comparing Decimals
- Ordering Decimals
- Rounding Decimals
- Adding Decimals
- Subtracting Decimals
- Estimation with Decimals
- Dividing with Money
- Problem-Solving Strategy: Multistep Problem

Geometry

- Points, Lines, and Line Segments
- Rays and Angles
- Parallel and Perpendicular Lines
- Circles
- Polygons
- Quadrilaterals
- Triangles
- Similar Figures
- Slides, Flips, and Turns
- Coordinate Geometry

Perimeter, Area, and Volume

- Using Perimeter Formulas
- Area
- Using the Area Formulas
- Space Figures
- Polygons
- Spatial Relationships
- Volume

Moving On: Algebra

- Number Sentences
- Finding Missing Numbers
- Functions
- Missing Symbols
- Number Line

Standard Curriculum Items

Math Textbook, Grade 4
Base-10 Blocks

NOTE: List subject to change.

Fifth Grade Math



Course Overview

Fifth grade Math students explore complex mathematical operations and apply concepts to real-world problems.

Students will:

- Understand and practice basic arithmetic operations: addition, subtraction, multiplication, and division
- Reinforce basic number fact fluency
- Understand and use Roman numerals
- Expand understanding of and facility with basic arithmetic operations applied to fractions
- Explore and connect the concepts of ratio, proportion,

and percent to fractions

- Through a proprietary, research-based series of lessons, develop abilities to analyze and solve word problems involving basic arithmetic operations and various number systems (fractions, decimals, ratios, percents)
- Relate English and metric units of measure to length, capacity, weight, and temperature
- Expand understanding of statistics, probability, and graphical representations of data

Course Outline

Operations

- Expanded Form
- Thousandths
- Addition Properties/Subtraction Rules
- Roman Numerals
- Properties of Multiplication
- Zeros in the Multiplicand
- Multiplying Three Digits
- Zeros in the Multiplier
- Multiplication with Money
- Three-Digit Quotients and Larger Quotients
- Zeros in the Quotient
- Short Division
- Estimation: Compatible Numbers
- Two-Digit Divisors
- Dividing Larger Numbers
- Order of Operations

- Renaming Differences: Like Denominators
- Subtracting: Unlike Denominators
- More Subtraction of Fractions
- Subtracting Mixed Numbers
- Subtraction with Renaming
- More Renaming in Subtraction
- Estimate to Compute

Number Theory and Fractions

- Exploring Prime and Composite Numbers
- Factors, Primes, and Composites
- Greatest Common Factor
- Fraction Sense: Closer to 0, $\frac{1}{2}$, 1
- Fractions in Lowest Terms
- Fractions in Higher Terms
- Multiples: LCM and LCD
- Mixed Numbers
- Improper Fractions
- Comparing and Ordering Fractions

Fractions: Multiplication and Division

- Multiplying Fractions
- Multiplying Fractions by Fractions
- Multiplying Fractions and Whole Numbers
- Multiplying Using Cancellation
- Mixed Numbers to Improper Fractions
- Multiplying Fractions and Mixed Numbers
- Multiplying Mixed Numbers
- Division of Fractions
- Reciprocals
- Dividing Whole Numbers by Fractions
- Dividing Fractions by Fractions
- Dividing Fractions by Whole Numbers
- Dividing Mixed Numbers by Fractions
- Dividing Mixed Numbers
- Estimating with Mixed Numbers

Probability and Statistics

- Probability
- Tree Diagrams
- Independent and Dependent Events
- Finding Averages
- Collecting and Organizing Data
- Working with Data
- Line Plots
- Working with Graphs
- Making Line Graphs
- Interpreting Circle Graphs

Fractions: Addition and Subtraction

- Renaming Fraction Sums: Like Denominators
- Adding Fractions: Unlike Denominators
- Adding Three Fractions
- Adding Mixed Numbers
- Renaming Mixed Number Sums

Decimals: Addition and Subtraction

- Decimal Sense
- Decimals and Place Value
- Adding Decimals
- Estimate Decimal Sums
- More Adding Decimals
- Subtracting Decimals
- Estimate Decimal Differences
- More Subtracting Decimals

Decimals: Multiplication and Division

- Multiplying by 10, 100, and 1,000
- Estimating Decimal Products
- Multiplying Decimals by Whole Numbers
- Multiplying Decimals by Decimals
- Zeros in the Product
- Dividing by 10, 100, and 1,000
- Dividing Decimals by Whole Numbers
- Zeros in Division
- Estimating Decimal Quotients
- Estimating Money

Ratio, Proportion, and Percent

- Ratios as Fractions
- Proportions
- Scale and Maps
- Relating Fractions to Percents
- Relating Percents to Decimals
- Finding the Percent of a Number
- Using Percent

Geometry

- Measuring and Drawing Angles
- Identifying Angles
- Polygons
- Congruent Figures
- Triangles
- Quadrilaterals
- Perimeter of a Polygon
- Perimeter of a Rectangle
- Circles
- Estimating Circumference
- Lines of Symmetry
- Transformations

Measurement Topics

- Relating Customary Units of Length
- Relating Customary Units of Capacity
- Relating Customary Units of Weight
- Temperature

- Units of Time
- Time Zones
- Computing Customary Units

Metric Measurement, Area, and Volume

- Metric Measurement
- Renaming Metric Units
- Relating Metric Units of Length
- Relating Metric Units of Capacity
- Relating Metric Units of Mass
- Square Measure
- Areas of Rectangles and Squares
- Areas of Parallelograms and Triangles
- Space Figures
- Cubic Measure
- Volume
- Estimating Volume

Standard Curriculum Items

Math Textbook, Grade 5

Base-10 Blocks

NOTE: List subject to change.

Pre-Algebra A



Course Overview

In the first half of the K¹² Pre-Algebra sequence, students sharpen their computational and problem-solving skills while learning the language of Algebra. Students will:

- Change word phrases and sentences into mathematical expressions and equations
- Solve equations and inequalities
- Continue to develop computational skills using fractions and decimals
- Study circles, polygons, and space figures
- Add, subtract, multiply, and divide positive and negative integers
- Solve problems involving percents, ratios, and proportions
- Draw graphs and compute statistics to communicate about data
- Compute the probability of an event and combined events
- Communicate strategies for solving word problems

Course Outline

Operations with Whole Numbers

- Mathematical Expressions, Part 1
- Mathematical Expressions, Part 2
- Properties of Addition and Multiplication
- Inverse Operations
- The Distributive Property
- Order of Operations
- A Problem-Solving Model
- Problem Solving

Using Variables

- Writing Mathematical Expressions
- Writing Equations
- Writing Inequalities, Part 1
- Writing Inequalities, Part 2
- Solving Equations and Inequalities
- Solving Other Equations and Inequalities
- Problem Solving: Using Mathematical Expressions, Part 1
- Problem Solving: Using Mathematical Expressions, Part 2
- Justifying Statements
- Error Analysis

The Decimal System

- Exponents and Powers of Ten
- The Decimal System
- Comparing Decimals
- Rounding
- Adding and Subtracting Decimals
- Multiplying or Dividing by a Power of Ten
- Multiplying Decimals
- Dividing Decimals
- Problem Solving: Using Estimation

Geometric Figures

- Points, Lines, Planes
- Measuring Segments
- Angles and Angle Measure, Part 1
- Angles and Angle Measure, Part 2
- Triangles
- Polygons
- Circles, Part 1
- Circles, Part 2
- Congruent Figures
- Geometric Constructions

Number Theory

- Finding Factors and Multiples
- Tests for Divisibility
- Square Numbers and Square Roots
- Prime Numbers and Composite Numbers
- Greatest Common Factor
- Least Common Multiple
- Introduction to Sets
- Set Operations

Fractions: Definitions and Relationships

- Fractions
- Equivalent Fractions
- Fractions and Mixed Numbers, Part 1
- Fractions and Mixed Numbers, Part 2
- Comparing Fractions
- Changing Between Fractions and Decimals

Operations with Fractions

- Addition and Subtraction of Fractions, Part 1
- Addition and Subtraction of Fractions, Part 2
- Addition and Subtraction of Mixed Numbers, Part 1



- Addition and Subtraction of Mixed Numbers, Part 2
- Multiplication of Fractions
- Division of Fractions
- Multiplication and Division of Mixed Numbers, Part 1
- Multiplication and Division of Mixed Numbers, Part 2
- Ratios, Part 1
- Ratios, Part 2
- Proportions
- Problem Solving: Using Proportion
- Scale Drawing

Solving Equations

- Equations and Variables
- Equations: Addition and Subtraction
- Equations: Multiplication and Division
- Equations: Decimals and Fractions, Part 1
- Equations: Decimals and Fractions, Part 2
- Combined Operations, Part 1
- Combined Operations, Part 2
- Word Sentences and Equations, Part 1
- Word Sentences and Equations, Part 2
- Translating Problems into Equations, Part 1
- Translating Problems into Equations, Part 2
- Problem Solving, Part 1
- Problem Solving, Part 2

Percent

- Percents and Fractions, Part 1
- Percents and Fractions, Part 2
- Percents and Decimals
- Computing with Percents, Part 1
- Computing with Percents, Part 2
- Percent of Increase or Decrease, Part 1
- Percent of Increase or Decrease, Part 2
- Discount and Markup, Part 1
- Discount and Markup, Part 2
- Commission and Profit
- Simple Interest
- Compound Interest, Part 1
- Compound Interest, Part 2

Areas and Volumes

- Areas of Rectangles and Parallelograms, Part 1
- Areas of Rectangles and Parallelograms, Part 2
- Areas of Triangles and Trapezoids
- Areas of Circles, Part 1
- Areas of Circles, Part 2
- Using Symmetry to Find Areas
- Polyhedrons
- Volumes of Prisms, Part 1
- Volumes of Prisms, Part 1

- Volumes of Cylinders, Part 1
- Volumes of Cylinders, Part 2
- The Mass of an Object
- Surface Area, Part 1
- Surface Area, Part 2

Integers and Graphs

- Negative Numbers
- Adding Integers, Part 1
- Adding Integers, Part 2
- Subtracting Integers, Part 1
- Subtracting Integers, Part 2
- Products with One Negative Factor
- Products with Several Negative Factors
- Quotients of Integers
- Solving Equations
- Graphs of Ordered Pairs
- Graphs of Equations, Part 1
- Graphs of Equations, Part 2
- Introduction to Functions
- Finding a Function Rule

Statistics and Probability

- Picturing Numerical Data
- Pictographs and Circle Graphs
- Mean, Median, and Range
- Frequency Distributions
- Stem-and-Leaf Plots
- Box-and-Whisker Plots
- Histograms and Frequency Polygons, Part 1
- Histograms and Frequency Polygons, Part 2
- Using Graphs and Plots
- Probability of an Event
- Probability and Odds, Part 1
- Probability and Odds, Part 2
- Combined Probabilities, Part 1
- Combined Probabilities, Part 2

Pre-Algebra B



Course Overview

In the second half of the K¹² Pre-Algebra sequence, students continue to build their Algebra skills. Students will:

- Compute basic trigonometric ratios
- Change word phrases and sentences into mathematical expressions and equations
- Add, subtract, multiply, and divide positive and negative rational numbers in decimal and fraction form
- Use several transformations to solve equations and inequalities
- Study points, lines, planes, polygons, and circles
- Solve problems involving percents, ratios, and proportions
- Graph equations, inequalities, and systems of equations
- Calculate areas of plane figures
- Calculate volumes and surface areas of space figures
- Apply the Pythagorean Theorem to solve triangles and compute basic trigonometric ratios
- Calculate statistical measures and expected value
- Compute the probability of overlapping, independent, and dependent events
- Add, subtract, multiply, and divide polynomials and monomials
- Communicate strategies for solving word problems

Course Outline

Introduction to Algebra

- Mathematical Expressions
- Order of Operations
- Equations
- Inequalities
- Inverse Operations, Part 1
- Inverse Operations, Part 2
- Writing Expressions for Word Phrases
- Equations and Inequalities for Word Sentences
- Problem-Solving Strategies

The Decimal System

- Exponents
- The Decimal System
- Rounding
- Basic Properties
- Simplifying Expressions, Part 1
- Simplifying Expressions, Part 2
- Problem-Solving Model

Positive and Negative Numbers

- The Integers
- Decimals on the Number Line
- Adding Positive and Negative Numbers, Part 1
- Adding Positive and Negative Numbers, Part 2
- Subtracting Positive and Negative Numbers, Part 1
- Subtracting Positive and Negative Numbers, Part 2
- Multiplying Positive and Negative Numbers
- Dividing Positive and Negative Numbers, Part 1
- Dividing Positive and Negative Numbers, Part 2
- Negative Integers as Exponents
- Scientific Notation

Rational Numbers

- Positive and Negative Fractions
- Equivalent Fractions, Part 1
- Equivalent Fractions, Part 2
- Least Common Denominators
- Adding and Subtracting Fractions
- Multiplying Fractions
- Dividing Fractions, Part 1
- Dividing Fractions, Part 2
- Fractions and Decimals

Equations and Inequalities

- Properties of Equality
- Equivalent Equations
- Solving Equations with Addition and Subtraction
- Solving Equations with Multiplication and Division
- Using Several Transformations, Part 1
- Using Several Transformations, Part 2
- Equivalent Inequalities
- Solving Inequalities by Several Transformations, Part 1
- Solving Inequalities by Several Transformations, Part 2
- Translating Equations into Problems
- Translating Problems into Equations
- Error Analysis, Part 1
- Error Analysis, Part 2

Geometry

- Points, Lines, and Planes
- Circles
- Angles
- Special Angles
- Parallel Lines
- Triangles
- Special Quadrilaterals

- Polygons and Their Perimeters
- Congruent Polygons

Ratio, Proportion, and Percent

- Ratio and Proportion
- Problem Solving: Using Rates
- Scale Drawings
- Percents, Fractions, and Decimals
- Working with Percents
- Percent of Increase and Decrease
- Commissions, Discounts, Royalties
- Percents and Proportions
- Interest, Part 1
- Interest, Part 2

The Coordinate Plane

- The Coordinate Plane, Part 1
- The Coordinate Plane, Part 2
- Equations in Two Variables, Part 1
- Equations in Two Variables, Part 2
- Graphing Equations in the Coordinate Plane, Part 1
- Graphing Equations in the Coordinate Plane, Part 2
- Graphing a System of Equations, Part 1
- Graphing a System of Equations, Part 2
- Problem Solving, Part 1
- Problem Solving, Part 2
- Graphing Inequalities, Part 1
- Graphing Inequalities, Part 2
- Introduction to Functions
- Function Graphs

Areas and Volumes

- Areas of Rectangles and Triangles, Part 1
- Areas of Rectangles and Triangles, Part 2
- Areas of Quadrilaterals
- Areas of Circles
- Areas of Symmetric Figures
- Volumes of Prisms and Cylinders, Part 1
- Volumes of Prisms and Cylinders, Part 2
- Volumes of Pyramids and Cones, Part 1
- Volumes of Pyramids and Cones, Part 2
- Surface Areas of Prisms and Cylinders
- Volumes and Surface Areas of Spheres
- Mass and Density, Part 1
- Mass and Density, Part 2

Square Roots and Right Triangles

- Square Roots
- Calculating Square Roots
- The Pythagorean Theorem, Part 1
- The Pythagorean Theorem, Part 2

- Similar Triangles
- Special Right Triangles, Part 1
- Special Right Triangles, Part 2
- Trigonometric Ratios, Part 1
- Trigonometric Ratios, Part 2
- Solving Right Triangles, Part 1
- Solving Right Triangles, Part 2

Probability

- Permutations
- Combinations
- The Probability of an Event
- Odds in Favor and Odds Against
- Mutually Exclusive Events
- Overlapping Events
- Independent Events
- Dependent Events
- Estimating Probabilities

Statistics

- Bar Graphs
- Line Graphs
- Statistical Measures
- Frequency Distributions
- Stem-and-Leaf Plots
- Box-and-Whisker Plots
- Histograms and Frequency Polygons
- Expected Value of a Random Variable

Polynomials

- Polynomial Expressions
- Adding and Subtracting Polynomials
- Multiplying and Dividing Monomials
- Multiplying and Dividing a Polynomial by a Monomial
- Multiplying Polynomials, Part 1
- Multiplying Polynomials, Part 2
- Dividing Polynomials

Introduction to Algebra



Course Overview

Algebra I is a one-year course intended for students in grades 8 and 9. The course takes students through developing the tools and concepts that are central to the powerful abstraction and generalization that are made possible with algebra.

- Variables
- Grouping Symbols
- Introduction to Sets

- Equations
- Translating Words into Symbols
- Translating Sentences into Equations
- Translating Problems into Equations
- A Problem-Solving Plan
- Number Lines
- Opposites and Absolute Value

Course Outline

Working with Real Numbers

There are many different kinds of numbers. Negative numbers, positive numbers, integers, fractions, and decimals are just a few of the many groups of numbers. What do these varieties of numbers have in common? They all obey the rules of arithmetic. They can be added, subtracted, multiplied, and divided.

- Basic Assumptions
- Addition on a Number Line
- Rules for Addition
- Subtracting Real Numbers
- The Distributive Property
- Rules for Multiplication
- Problem Solving: Consecutive Integers
- The Reciprocal of a Real Number
- Dividing Real Numbers

Solving Equations and Problems, Part 1

A family tree shows you how people in your family are related to each other. A map can show you how various cities are related to each other. An equation describes how various quantities are related to each other. Once you have an equation, you may find a solution that will help you solve a real-world problem.

- Transforming Equations: Addition and Subtraction, Part 1
- Transforming Equations: Addition and Subtraction, Part 2
- Transforming Equations: Multiplication and Division, Part 1
- Transforming Equations: Multiplication and Division, Part 2
- Using Several Transformations, Part 1
- Using Several Transformations, Part 2

Solving Equations and Problems, Part 2

The Greek mathematician Diophantus is often called “the father of algebra.” His book *Arithmetica* described the solutions to 130 problems. He did not discover all of these solutions himself, but he did collect many solutions that had

been found by Greeks, Egyptians, and Babylonians before him. Some people of long ago obviously enjoyed doing algebra. It also helped them—and can help you—solve many real-world problems.

- Using Equations to Solve Problems, Part 1
- Using Equations to Solve Problems, Part 2
- Equations with the Variable on Both Sides
- Problem Solving: Using Charts
- Cost, Income, and Value Problems
- Proof in Algebra
- Inductive and Deductive Reasoning
- Reasoning: Counterexamples

Polynomials

Just as a train is built from linking railcars together, a polynomial is built by bringing terms together and linking them with plus or minus signs. You can perform basic operations on polynomials in the same way that you add, subtract, multiply, and divide numbers.

- Exponents
- Adding and Subtracting Polynomials, Part 1
- Adding and Subtracting Polynomials, Part 2
- Multiplying Monomials
- Powers of Monomials
- Multiplying Polynomials by Monomials
- Multiplying Polynomials
- Transforming Formulas
- Rate-Time-Distance Problems, Part 1
- Rate-Time-Distance Problems, Part 2
- Area Problems
- Problems Without Solutions

Factoring Polynomials, Part 1

A *polynomial* is an expression that has variables that represent numbers. A number can be factored, so you should be able to factor a polynomial, right? Sometimes you can and sometimes you can't. Finding ways to write a polynomial as a product of factors can be quite useful.

- Factoring Integers

- Dividing Monomials
- Monomial Factors of Polynomials
- Multiplying Binomials Mentally
- Differences of Two Squares
- Squares of Binomials

Factoring Polynomials, Part 2

When can a trinomial be factored? Why would anyone want to factor one in the first place? Once you get the hang of factoring polynomials, you can use factoring to help you solve many problems.

- Factoring Patterns, Part 1
- Factoring Patterns, Part 2
- Factoring Patterns, Part 3
- Factoring by Grouping
- Using Several Methods of Factoring
- Solving Equations by Factoring
- Using Factoring to Solve Problems

Fractions

A fraction always has a number in the numerator and in the denominator. However, those numbers can actually be expressions that represent numbers, which means you can do all sorts of interesting things with fractions. Fractions with variable expressions in the numerator and denominator can help you solve many kinds of problems.

- Simplifying Fractions
- Multiplying Fractions
- Dividing Fractions
- Least Common Denominators
- Adding and Subtracting Fractions
- Mixed Expressions
- Polynomial Long Division
- Hypothesis and Conclusion
- Sometimes, Always, and Never

Applying Fractions, Part 1

What do a scale drawing, a bicycle's gears, and a sale at the local store all have in common? They all present problems that can be solved using equations with fractions.

- Ratios, Part 1
- Ratios, Part 2
- Proportions, Part 1
- Proportions, Part 2
- Equations with Fractional Coefficients
- Dimensional Analysis
- Fractional Equations, Part 1
- Fractional Equations, Part 2

Applying Fractions, Part 2

Math is a useful tool for all kinds of scientists. Scientists must be precise in measuring things. With exponents, you

can describe a very small distance, such as the width of a hair. With exponents, you can also describe very large distances, such as the distance between two planets.

- Percents, Part 1
- Percents, Part 2
- Percent Problems
- Mixture Problems
- Work Problems
- Negative Exponents
- Scientific Notation

Introduction to Functions, Part 1

A solar cell is a little machine that takes in solar energy and puts out electricity. A mathematical function is a machine that takes in a number as an input and produces another number as an output.

- Equations in Two Variables
- Points, Lines, and Their Graphs
- Slope of a Line
- The Slope-Intercept Form of a Linear Equation
- Parallel and Perpendicular Lines
- Determining an Equation of a Line
- The Point-Slope Form of a Linear Equation

Introduction to Functions, Part 2

There are many kinds of functions. Some have graphs that look like lines, while others have graphs that are curvy like a parabola. Functions can take other forms as well. Not every function has a graph that looks like a line or a parabola or even has an equation. The important thing to remember is that if you put any valid input into a function, you will get a single result out of it.

- Functions Defined by Tables and Graphs
- Functions Defined by Equations, Part 1
- Functions Defined by Equations, Part 2
- Linear and Quadratic Functions
- Relations: Domain and Range
- Direct Variation, Part 1
- Direct Variation, Part 2
- Inverse Variation

Systems of Linear Equations

When two people meet, they often shake hands or say "hello" to each other. Once they start talking to each other, they can find out what they have in common. What happens when two lines meet? Do they say anything? Probably not, but whenever two lines meet, you know they have at least one point in common. Finding the point at which they meet can help you solve problems in the real world.

- The Graphing Method
- The Substitution Method
- Solving Problems with Two Variables

- The Addition-or-Subtraction Method, Part 1
- The Addition-or-Subtraction Method, Part 2
- Multiplication with the Addition-or-Subtraction Method
- Wind and Current Problems, Part 1
- Wind and Current Problems, Part 2
- Puzzle Problems, Part 1
- Puzzle Problems, Part 2

Inequalities

Every mathematician knows that 5 is less than 7, but when is $y < x$? An inequality symbol can be used to describe how one number compares to another. It can also indicate a relationship between values.

- Order of Real Numbers
- Solving Inequalities
- Solving Problems Involving Inequalities
- Sets: Union and Intersection
- Solving Combined Inequalities
- Absolute Value in Open Sentences
- Absolute Values of Products in Open Sentences
- Graphing Linear Inequalities
- Systems of Linear Inequalities

Rational and Irrational Numbers

Are rational numbers very levelheaded? Are irrational numbers hard to reason with? Not really, but rational and irrational numbers have things in common and things that make them different.

- Properties of Rational Numbers
- Decimal Forms of Rational Numbers
- Rational Square Roots
- Irrational Square Roots
- Square Roots of Variable Expressions
- The Pythagorean Theorem
- Multiplying, Dividing, and Simplifying Radicals
- Adding and Subtracting Radicals
- Indirect Reasoning

Quadratic Functions

Solving equations can help you find answers to many kinds of problems in your daily life. Linear equations usually have one solution, but what about quadratic equations? How can you solve them and what do the solutions look like?

- Quadratic Equations with Perfect Squares
- Completing the Square
- The Quadratic Formula
- Graphs of Quadratic Equations: The Discriminant
- Methods of Solution
- Solving Problems Involving Quadratic Equations

Probability and Statistics

Statistics is the study of collecting, analyzing, interpreting, and presenting data. Since data are everywhere, statistics is a very important field of mathematics. Similarly, probability is the study of how likely events are. Statistics can help you understand probability and probability can help you understand data.

- Sample Spaces and Events
- Probability, Part 1
- Probability, Part 2
- Calculating Statistics
- Frequency Distributions
- Statistical Graphs
- Sampling, Part 1
- Sampling, Part 2

Geometry

Since Geometry is all about special figures and relationships, many people think that Algebra has little to do with it. This couldn't be further from the truth. Algebra and Geometry are topics that are intertwined since the language of Algebra can describe geometrical relationships and geometrical objects can illustrate algebraic relationships.

- Points, Lines, and Angles
- Pairs of Angles
- Triangles, Part 1
- Triangles, Part 2
- Similar Triangles
- Area
- Volume
- Scale

Kindergarten Science



Course Overview

Kindergarten students begin to develop observation skills as they learn about the five senses, the earth's composition, and the basic needs of plants and animals. Students will explore topics such as:

- **My Body**—the five senses; major organs and systems
- **Plants and Animals**—needs and habitats; conservationist Jane Goodall
- **Measurement**—size, height, length, weight, capacity, and temperature

- **Matter**—solid, liquid, and gas
- **The Seasonal Cycle**—changing weather in the seasons
- **Our Earth**—geographical features; taking care of the earth; environmentalist Rachel Carson
- **Motion**—pushes and pulls; magnets
- **Astronomy**—the earth, sun, moon, and stars; exploring space; astronauts Neil Armstrong and Sally Ride

Course Outline

Observing My World

- Recognize that a scientist observes, and that all people, whether they are scientists or not, are born with senses to observe the world
- Name the five senses and the sensing organs associated with each
- Observe and describe the properties of common objects using your five senses and the appropriate sensory descriptors, such as loud, soft, high, low, sweet, sour, smooth, and rough
- Compare and sort common objects by one physical attribute, such as size, shape, or color

My Body

- Identify and compare external features of the human body
- Name some things that all people have in common and some things that are different
- Explain that your skeleton holds you up and give you shape
- Demonstrate how muscles move your joints and limbs
- Explain that the heart pumps blood throughout the entire body
- Explain that the brain controls the body and allows you to think and remember

Introduction to Living Things

- Recognize that all things fall into one of two categories: living and nonliving
- Identify characteristics of living things and know that all living things need food, water, and air to survive
- Classify living things as plants and animals
- Identify similarities and differences between plants and animals
- Explain that plants use sunlight to make food and that animals eat plants or other animals
- Explain that shelter is a place where animals make their homes

Plants

- Identify common plant structures, such as seeds, roots, stems, leaves, flowers, and fruit
- Find plant structures on a variety of plants
- Distinguish between deciduous and evergreen trees
- Sort and classify seeds according to size, texture, and color
- Recognize that plants grow from seeds and that seeds develop in the fruit
- Examine common edible plants and identify their structures

Animals

- Identify animals according to their body coverings
- Identify how animals move and what body parts help them move
- Recognize that some animals eat plants, others eat animals, and some may eat both plants and animals
- Identify how animals get their food

Where Animals Live

- Identify ways that animals use trees for food and shelter
- Identify plants and animals that live in and around ponds
- Identify animals that use caves for safety and shelter
- Recognize that nocturnal animals are active mostly at night
- Recognize that diurnal animals are active mostly during the day
- Examine how nocturnal animals use their senses at night

Make the Measurement

- Order objects by weight, capacity, height, length, and temperature
- Measure length using nonstandard units
- Make a pictograph to compare the measurements of several objects in nonstandard units
- Experiment with a thermometer to see how high and low temperatures affect it

What's the Matter?

- Identify all matter as solid, liquid, or gas
- Describe the properties of solids, liquids, and gases
- Investigate sinking and floating properties of solids and liquids
- Describe physical changes of matter such as melting and freezing

What's the Weather?

- Identify a range of weather conditions and the appropriate clothing to wear for each
- Record and graph weather patterns
- Demonstrate how the sun warms the earth and how water goes into the air
- Learn that wind is moving air, and that it can move objects
- Know that clouds are moved by wind, are made of water, and have many different shapes and sizes
- Explain that rain is water that falls from clouds
- State that rainbows sometimes appear after a rain
- Describe four types of severe weather: drought, flood, hurricane, and tornado

Seasons

- State that weather gets cooler in the fall, is coldest in the winter, becomes warmer in the spring, and is warmest in the summer
- Identify the changes that happen to deciduous trees in the fall, winter, spring, and summer
- Explain that some animals gather and store food during the fall
- Describe different strategies animals use to make it through cold winters (for example, hibernating, storing food, actively searching for food and shelter, and migrating)
- Recognize that many animals become more active and have babies in the spring
- Recognize that the seasons continually cycle from one to the next

Planet Earth

- Recognize that the earth is your home and that its shape is a sphere
- Explain that land is made of rocks and soil and that rocks are found all over the earth—even under bodies of water
- Identify mountains, hills, valleys, plains, and islands as land shapes

Taking Care of Our Earth

- Identify resources you use in everyday life (water, trees, and energy)

- Explain how you can conserve these resources (for example, by turning off the water faucet, recycling paper, and turning out the lights)
- Identify sources of land and water pollution
- State that Rachel Carson was a conservationist who studied how all of nature is connected

Farming

- Describe the major components of farms such as crops, livestock, the farmer, farm buildings, farm machinery, and farmland
- Explain the daily duties on four types of farms: poultry farms, dairy farms, wheat farms, and cotton farms
- Identify some differences between raising livestock and growing crops
- Identify key steps in the movement of food products from the farm to your home

Make It Move

- Recognize that *motion* is a change in position
- Describe the motion that results from a push or a pull
- Examine both the pushing and pulling properties of magnets
- Identify some uses for magnets in everyday situations

Astronomy

- Describe the size of the sun compared with that of Earth
- Identify the Big Dipper and Little Dipper
- Describe land features on the surface of the moon
- Recognize some important firsts in space exploration, such as the first man to walk on the moon and the first American woman in space

Lesson Time and Scheduling

Total lessons: 72. If you teach Science twice a week, you can comfortably complete the program within a typical school year.

Lesson Time: 45 minutes. You might choose to split the lessons into smaller segments and take a break between investigations. The K¹² online lesson tracking system allows you to pick up wherever you left off in any given lesson.

Standard Curriculum Items

Plastic pipette
Children's safety goggles
Thermometer
Alnico bar magnets (2)
Magnifying glass
Mirror



Additional Curriculum Items

Some lessons require additional resources, including common household items and books that are readily available online or in your local library:

Animals in Winter by Henrietta Bancroft & Richard G. Van Gelder

My Five Senses by Alike

The Big Dipper by Franklyn Branley

What's Alive? by Kathleen Weidner Zoehfeld

Where Are the Night Animals? by Mary Ann Fraser

Inflatable globe

Mirror

NOTE: List subject to change.

First Grade Science



Course Overview

Students learn to perform experiments and record observations, and understand how scientists see the natural world. They germinate seeds to observe plant growth, and make a weathervane. Students will explore topics such as:

- **Matter**—states of matter; mixtures and solutions
- **Weather**—cloud formation; the water cycle
- **Animal Classification and Adaptation**—insects; amphibians and reptiles; birds; mammals
- **Habitats**—forests, deserts, rain forests, grasslands,

and more; naturalist John Muir and conservation

- **Oceans**—waves and currents; coasts; coral reefs and kelp forests; oceanographer Jacques Cousteau
- **Plants**—germination, functions of roots, stems, flowers, chlorophyll, and more
- **Human Body**—major systems; Elizabeth Blackwell, the first woman doctor
- **Light**—how light travels; reflections; inventor Thomas Edison

Course Outline

Acting Like a Scientist

- Learn how to use tools and equipment to measure distance in centimeters, mass in grams, volume in milliliters, and temperature in degrees Celsius
- Follow steps in the scientific process
- Compile data in tables, draw graphs, and interpret results

Matterland

- Identify matter as a solid, liquid, or gas
- Explain the properties of each type of matter
- Learn about the relative motion of molecules in each state
- Demonstrate that matter can change states by heating or cooling
- Become familiar with mixtures, solutions, and surface tension

Everyday Weather

- Understand what causes the seasons
- Construct a rain gauge and weather vane to measure weather conditions
- Use equipment to record observations on a weather calendar
- Learn about cloud formation, cloud type, precipitation, condensation, evaporation, and the water cycle

Animal Classification

- Classify major animal groups according to their identifying characteristics
- Study mammals, birds, reptiles, amphibians, insects, and fish

Adaptations

- Discover how animals use their characteristics to thrive in their environment
- Learn how to infer what animals eat from the shapes of their teeth
- Study animal defense and behavior

Habitats

- Learn to recognize plants and animals common to a variety of habitats
- Study food chains
- Learn about endangered plants and animals
- Read about John Muir's tireless work to preserve the wilderness

Oceans and Undersea Life

- Discover the diversity and dangers of the oceans
- Explore tide pools and the depths
- Find out how waves and currents move
- Read about the life and major accomplishments of Jacques Cousteau

Light Up Your Life

- Explore how light behaves
- Investigate how light reflects off different surfaces
- Demonstrate how light travels in straight lines
- Classify objects according to how much light the objects transmit
- Learn about Thomas Edison's life and his major achievements

The Human Body

- Become familiar with the major systems of the human body
- Learn about Elizabeth Blackwell's determination to become the first woman to earn a medical degree

Our Green World

- Study the functions of roots, stems, leaves, flowers, fruits, and seeds
- Examine fibrous and tap roots
- Observe stems transporting water from roots to leaves
- Dissect and germinate seeds
- Match fruits to seeds
- Learn that flowers turn into fruit

- Learn that chlorophyll is the substance that allows plants to manufacture food

Lesson Time and Scheduling

Total lessons: 72. If you teach Science twice a week, you can comfortably complete the program within a typical school year.

Lesson Time: 60 minutes. You might choose to split the lessons into smaller segments and take a break between investigations. The K¹² online lesson tracking system allows you to pick up wherever you left off in any given lesson.

Standard Curriculum Items

Green bean seeds
Grass seeds
Directional compass
Graduated cylinder
Thermometer
Plastic pipette
Safety goggles
Magnifier
Bar magnet
Mirrors
Feathers
Plastic 1 cm cubes
Bucket balance
Iron fillings

Additional Curriculum Items

Some lessons require additional resources, including common household items, and books that are readily available online or in your local library:

Styrofoam balls
Silver Mylar non-tear film
Inflatable globe
An Octopus Is Amazing by Patricia Lauber
Down Comes the Rain by Franklyn Branley
Flash, Crash, Rumble, and Roll by Franklyn Branley
What Color Is Camouflage? by Carolyn Otto
What Is the World Made Of? All About Solids, Liquids, and Gases by Kathleen Weidner Zoehfeld

NOTE: List subject to change.

Second Grade Science



Course Overview

Students perform experiments to develop skills of observation and analysis, and learn how scientists understand the world. They demonstrate how pulleys lift heavy objects, make a temporary magnet and test its strength, and analyze the parts of a flower. Students will explore topics such as:

- **Force**—motion and simple machines; physicist Isaac Newton
- **Magnetism**—magnetic poles and fields; how a compass works

- **Sound**—how sounds are made; inventor Alexander Graham Bell
- **Human Body**—cells; the digestive system
- **Geology**—layers of the earth; kinds of rocks; weathering; geologist Florence Bascom
- **Life Cycles**—plants and animals

Course Outline

Metrics and Measurements

- Measure length, mass, weight, temperature, and liquid volume using a metric ruler, a balance, a spring scale, a thermometer, and a graduated cylinder, and then express those measurements in standard metric units of centimeters, grams, newtons, degrees Celsius, and milliliters
- Distinguish the difference between mass and weight
- Recognize some common equivalencies within the metric system such as 1,000 milliliters in 1 liter, 100 centimeters in 1 meter, and 1,000 grams in 1 kilogram
- Identify the boiling and freezing points of water and the average body temperature in degrees Celsius and compare them with points on the Fahrenheit scale
- Use the scientific method to ask questions, make hypotheses, collect data, analyze results, and formulate conclusions

Forces and Motion

- Demonstrate that a *force* is a push or a pull that can make an object move; an object changes position when moved; and the size of the change is related to the *strength*, or the amount of force, of the push or pull
- Determine that moving heavy objects requires more force than moving light objects
- Observe how the force of friction affects the movement of objects, know that friction works in the direction opposite the motion to slow down or stop sliding objects, and know that friction occurs whenever two types of matter move against each other
- Identify gravity as the force that causes all things to fall toward the Earth
- Observe that gravity makes objects fall at the same rate
- Observe that when an object falls, the force of friction pushes the object upward as the force of gravity pulls it downward; all objects experience friction when they fall; and shapes with large surfaces are most affected by friction

Simple Machines

- Explain how machines make work easier
- Explain that wheels help reduce friction by allowing surfaces to roll instead of slide
- Categorize common objects such as a lever, inclined plane, wedge, wheel and axle, pulley, and screw
- Demonstrate how force is transferred between a wheel and an axle
- Use moveable and fixed pulleys to lift loads
- Demonstrate that it takes less force to pull a load up an inclined plane than it does to lift the load to the same height, but the load must travel a longer distance

Magnetism

- Observe that you can use magnets to make some objects move without touching them
- State that magnets have two poles (north and south) and that similar poles repel each other and opposite poles attract each other
- Observe that magnets are strongest at the poles, and compare relative strengths of magnets
- Construct a temporary magnet and observe its magnetic properties
- Recognize that the earth is a large magnet, with magnetic poles and fields
- Observe that the north-seeking pole of a bar magnet points to the north
- Recognize that the true north (the geographic North Pole) and the magnetic north pole are close to, but not exactly at, the same location
- Construct and use a compass to locate directions

Sounds Around Us

- Describe the sounds that a variety of objects make
- Identify the sources of natural and man-made sounds
- Explain how sound vibrations and sound waves travel
- Differentiate between pitch and volume

- Explain how pitch and volume change on a stringed instrument
- Explain the nature of vocal cords
- Tell about the life and accomplishments of Alexander Graham Bell

The Human Body

- Explain that all living things are made of cells
- Identify the three main parts of an animal cell as the cell membrane, cytoplasm, and nucleus
- Identify cells and their functions
- Recognize that the digestive system breaks down the food you eat to provide your body with energy to live and grow
- Describe the process of digestion and the functions of the mouth, esophagus, stomach, small intestine, and large intestine
- Identify the functions of the parts of the excretory system
- Identify proper nutrient requirements using a food pyramid

Rock Hounds

- Name the three layers of the earth (crust, mantle, and core) and describe their characteristics
- Recognize that rocks are made of minerals, and that minerals form in certain shapes called crystals
- Use Moh's Scale of Hardness to test and identify minerals
- Identify *igneous rock* as cooled lava from a volcanic eruption
- Explain that *sedimentary rock* forms over a long period of time from layers of sediment
- State that *metamorphic rock* is sedimentary or igneous rock that has been changed by heat and pressure
- Demonstrate that a *fossil* is a plant, an animal, or an imprint of a plant or animal that has turned to stone
- Recognize that fossils give us information about plants and animals that lived long ago

Weathering, Erosion, and Soil

- State that *soil* is a mixture of minerals, humus, air, and water
- Identify *humus* as part of soil that is composed of things that were once living
- Recognize that clay, silt, and sand are names for different sizes of mineral particles
- Explain that soils vary in texture, color, and ability to hold water
- Describe *weathering* as the process by which rocks break down into smaller pieces

- Describe *erosion* as the carrying away of soil and weathered rock
- Recognize that plant roots help reduce erosion by trapping soil
- Evaluate soils by observing, measuring, and graphing the height of bean plants grown in different soils

Circle of Life, Plants

- Explain that the series of changes through which a living thing passes during its lifetime is called its life cycle
- Put the various stages in the life cycle of a plant into proper order
- Recognize that plants can grow from parts other than seeds, such as bulbs, tubers, and runners
- Identify various parts of a flower, including sepals, petals, stamens, and pistil
- Recognize that the force of gravity causes roots to grow downward
- Demonstrate that plants grow toward light
- Give examples of how seeds are dispersed (for example, hitchhiking, blowing in the wind, gravity, and being eaten by animals)

Circle of Life, Animals

- Put into proper order the stages of life cycles of insects, fish, frogs, reptiles, birds, and mammals (including humans)
- State that the changes insects and frogs go through during their lives is called metamorphosis
- Recognize that as adults, both plants and animals reproduce to make more of their kind
- Tell how plant and animal life cycles differ (for example, plants grow from seeds, while animals hatch from eggs or are born live)

Lesson Time and Scheduling

Total lessons: 72. If you teach Science twice a week, you can comfortably complete the program within a typical school year.

Lesson Time: 60 minutes. You might choose to split the lessons into smaller segments and take a break between investigations. The K¹² online lesson tracking system allows you to pick up wherever you left off in any given lesson.

Standard Curriculum Items

Green bean seeds
Grass seeds
Directional compass
Graduated cylinder
Rock samples



Thermometer
Plastic pipette
Safety goggles
Magnifying glass
Plastic 1 cm cubes
Bucket balance
Iron filings
Bar magnets
Latch magnets
Ring magnets
U-shaped magnets
Spring scale
Aluminum single pulley

Additional Curriculum Items

Some lessons require additional resources, including common household items and books that are readily available online or in your local library:

Fossils Tell of Long Ago by Alike

Let's Go Rock Collecting by Roma Gans

What Happens to a Hamburger? by Paul Showers

What Makes a Magnet? by Franklyn Branley

Why Frogs Are Wet by Judy Hawes

NOTE: List subject to change.