UPPER ELEMENTARY CURRICULUM

Upper Elementary students are transitioning into adolescence. While children in this age group show striking variance in their physical development, they are actually quite similar to one another. They are adamant about their desire for independence, but they require organizational and emotional guidance.

The Upper Elementary students travel to a 3-day outdoor education program in the fall, and they go on a week-long excursion to New York City, Washington, D.C., or Cape Cod in the spring.

The Upper Elementary language curriculum is built around writing and reading workshops. Students discover their expressive voices as they become practiced in the skills of expository writing and writing conventions. Our teachers and librarian work together to mentor each child's independent reading and to select books for dynamic discussion groups.

The Upper Elementary math curriculum offers guided explorations with manipulative material that help students build a solid foundation in whole, fraction and decimal computation, as well as plane and solid geometry. Advanced work is complemented by collaborative problem solving activities that challenge students' logic and intuition.

Science studies in Upper Elementary offer a unique blend of conceptual overview and in-depth exploration. They revolve around rotating global themes. The “Fire” focus includes units such as Solar Power, Photosynthesis, and Volcanism. The “Water” theme might include units like Waterwheels, Circulatory Systems, and The Earth’s Water Cycles. “Earth and Air” themes include units such as Wind Power, Respiratory Systems, and The Work of Wind.

Upper elementary history studies include an exploration of the cultural evolution of humans, as well as studies of various civilizations and a survey of American history from prehistoric times through the colonial period.
UPPER ELEMENTARY CURRICULUM

Language

As preadolescents, upper elementary children are ambivalent about themselves, about their parents, and about their world, both global and immediate. They hide their uncertainty behind strongly voiced opinions, private journal entries, an immersion in reading, or a focused study of an area of particular interest to them. Communicating becomes pressing as the peer culture increases in importance; making themselves understood, and getting to know others, are high priorities.

Cognitively, nine to twelve-year-olds become capable of complex thoughts as they move into abstract reasoning. They can weigh options, examine contradictory evidence, tolerate differences of opinion, and make connections between areas of learning and between learning and personal experience. They love to work in groups and also need to work privately and individually.

The Upper Elementary Language Curriculum builds on these developmental changes by balancing rigorous skill development with constant opportunity for self-expression. Sentence analysis, literature circle discussions, spelling and grammar exercises, daily reading and writing workshops, experience with different writing genres, and public speaking requirements are components of the curriculum.

Expressive and Receptive Language

Comprehension and Collaboration

1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on various topics, texts, and issues, building on others’ ideas and expressing their own clearly.
   a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.
   b. Follow agreed-upon rules for discussions, and carry out roles as assigned.
   c. set specific goals and deadlines,
   d. Pose and respond to specific questions to clarify or follow up, and make comments that contribute to the topic, text, or issue under discussion.
   e. Review the key ideas expressed, explain their own ideas in light of the discussion, and demonstrate understanding of multiple perspectives through reflection and paraphrasing.

Activity Example: In Writer’s Workshop, children listen to, ask questions about, and comment on others’ writing in ways that help them move the writing forward.
Activity Example: In a lesson on electricity, a student asks the group whether they think water is a conductor or an insulator, then devises an experiment to test the hypothesis, engaging others in the process.

Activity Example: During a Spanish lesson on The Day of the Dead, a student asks a Latina classmate if she celebrates this holiday at home, and she listens with interest to the description of a family tradition.

Activity Example: A student who wants to appeal a school rule asks the Head of School for a Community meeting and helps facilitate a group discussion, a resolution, and a vote.

Activity Example: In an all school meeting, Upper Elementary students lead small group discussions of a school rule, “You can’t say ‘You can’t play’”.

2. Paraphrase and summarize text read aloud, information presented in various formats, and points made by a speaker. Explain how these contribute to a topic, text, or issue under study.

Activity Example: During Thanksgiving Week, students participate in a “Hunger Banquet” simulation created by Oxfam. Students are randomly assigned to a low, middle and high income group. Various statistics about global standards of wealth are presented, followed by a meal that encapsulates the status of these different groups. In addition to a facilitated class discussion, students respond through art and written language, incorporating what they learned through their experiences.

Activity Example: During 6th grade history, students are visited by King George, who passionately makes the case for taxing the original thirteen colonies. Students are then given candy and various possessions (pencils, binders, sneakers, etc.) are “taxed” by the King. Afterwards, students summarize King George’s position and share how they feel.

Presentation

3. Report on a topic or text, tell a story or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speaking clearly at an understandable pace.

Activity Example: In Writer’s Workshop, students write personal narratives where they recall a personal experience by “zooming in on the details” and “writing a lot about a little.” Students share these narratives aloud during a subsequent author share.

Activity Example: In a Literature Circle discussion on the book Lilly’s Crossing, a fifth grade student summarizes that week’s reading in his own words to his group members.

4. Present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speaking clearly at an understandable pace.

Activity Example: Sixth graders have learned about the Seal of the State of Massachusetts as part of their study of the original colonies. They prepare arguments and debate the role of the Native American in the Seal, considering the intent of the original design as well as current cultural sensitivity.

Activity Example: In sixth grade history, students research different perspectives on whether Columbus Day should be renamed as Indigenous People’s Day. They then hold a debate, presenting arguments and counterarguments.
5. Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.

   **Activity Example:** Following a lesson on early human artifacts at the Harvard Museum of Natural History, fourth graders use their notes and classroom resources to give oral presentations about ancient human relatives.

   **Activity Example:** A small group of fifth graders collaborates to present a report about the ways that the Mesopotamians met one of their Fundamental Human Needs.

   **Activity Example:** At a science Exploratorium culminating a unit of study on the chemistry of fire, a student stands at his Fire Safety "booth" describing the phases of a house fire, various methods used to extinguish a fire, and how to prevent fires at home.

6. Delineate a speaker’s argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.

   **Activity Example:** In sixth grade history, students research different perspectives on whether Columbus Day should be renamed as Indigenous People’s Day. They then hold a debate, presenting arguments and counterarguments.

7. Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.

   **Activity Example:** Sixth grade students each prepare a PowerPoint presentation to share what they learned during their year-long Senior Project research project.

   **Activity Example:** Students in the Optics science group decide to study the parts of the eye. They Powerpoint presentation and a clay model, and write a summary of what they want to say to their audience who visit their booth during our annual Science Fair.

8. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

   **Activity example:** Our eldest students compose detailed “Senior Project” reports on a topic of their choice. They distill the report into a fifteen minute oral presentation given before the school's combined child and adult communities. The speakers must hold the interest and attention of both audiences.

   **Activity Example:** A child gives another student a lesson on a new computer program, explaining how to use it, leading the peer through an application, and then watching as the peer does it alone.

**Grammar**

9. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

   a. Use relative pronouns (who, whose, whom, which, that) and relative adverbs (where, when, why).

   b. Ensure that pronouns are in the proper case (subjective, objective, possessive).
c. Use intensive pronouns (e.g., myself, ourselves).

d. Recognize and correct inappropriate shifts in pronoun number and person.

e. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).

f. Form and use the progressive and the perfect verb tenses.

g. Use verb tense to convey various times, sequences, states, and conditions.

h. Recognize and correct inappropriate shifts in verb tense.

i. Use modal auxiliaries (e.g., can, may, must) to convey various conditions.

j. Order adjectives within sentences according to conventional patterns (e.g., a small red bag rather than a red small bag).

k. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.

l. Correctly use frequently confused words (e.g., to, too, two; there, their).

m. Explain the function of conjunctions, prepositions, and interjections.

n. Use correlative conjunctions (e.g., either/or, neither/nor).

o. Form and use prepositional phrases.

p. Recognize variations from standard English in their own and others’ writing and speaking, and identify and use strategies to improve expression in conventional language.

Activity Example: Students refer to a series of colored charts to review pronoun number and person, with a gold circle representing the 1st person, a silver circle representing the 2nd person, and a bronze circle representing the 3rd person. These charts indicate the relative importance of the pronouns from the perspective of the narrator or “the one who speaks.”

Activity Example: Students learn to conjugate verbs in a variety of tenses and moods using the Big Red Verb Box. They lay out a series of cards in an organized fashion arranged by pronoun number, person, and tense. As a follow up, students are then encouraged to identify different types of verbs in literature or their own writing.

Activity example: A couple of students are collaborating to diagram different types of sentences, including uses of prepositional phrases to describe actions and objects. They refer to reminders and examples in their diagramming workbook.

Activity Example: Students correspond with a mentor on literature they are reading. Before turning in the final copy of their letter they are asked to call in the COPS, peer edit and have a teacher check it.

Conventions
10. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
   
   a. Use correct capitalization.
   
   b. Use commas and quotation marks to mark direct speech and quotations from a text.
   
   c. Use a comma before a coordinating conjunction in a compound sentence.
   
   d. Use punctuation to separate items in a series.
   
   e. Use a comma to separate an introductory element from the rest of the sentence.
   
   f. Use a comma to set off the words yes and no (e.g., Yes, thank you), to set off a tag question from the rest of the sentence (e.g., It’s true, isn’t it?), and to indicate direct address (e.g., Is that you, Steve?).
   
   g. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.
   
   h. Use underlining, quotation marks, or italics to indicate titles of works.
   
   i. Spell correctly, consulting references as needed.

   Activity example: A fifth grade student receives a direct lesson on the trait of Conventions. He or she uses a rubric to assess a friend’s personal narrative, giving it a score of 1-6, based off the rubric of Conventions. For example, a score of 6 includes the criteria: “thoroughly edited--conventions enhance meaning, voice.” A score of 3 includes the criteria: “noticeable, distracting errors get in way of message” and “erratic editing--many things missed.”

   Activity example: A sixth year student “calls in the COPS” - Capitalization, Organization, Punctuation, Spelling - to help her fourth grade mentee re-write a letter to an LMS faculty member.

   Activity example: A fourth grade student has a one-on-one writing conference with a teacher about the use of quotation marks in dialogue.

11. Use knowledge of language and its conventions when writing, speaking, reading, or listening.

   a. Vary sentence patterns for meaning, reader/listener interest, and style.
   
   b. Maintain consistency in style and tone.

   Activity Example: In Writing Workshop, with the help of peer and teacher editors, a student keeps his own Editing Checklist and independently checks his writing against it.

   Activity Example: A child keeps her own personal spelling list and checks words against it in preparing for publishing.

   Activity Example: The class studies voice through persuasive essays. In small groups, they discuss the perspective the authors used in order to make their case. When writing, they vary their sentence structure to ensure that the audience can follow their transitions and believe in their argument.
Vocabulary

12. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on reading and content, choosing flexibly from a range of strategies.
   a. Use context (e.g., definitions; examples; cause/effect relationships; restatements in text; the overall meaning of a sentence or paragraph; a word’s position or function in a sentence) as a clue to the meaning of a word or phrase.
   b. Use common, age-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., telegraph, photograph, autograph; audience, auditory, audible).
   c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases, including parts of speech.
   d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

   Activity Example: A child uses a dictionary as she reads. She uses the dictionary to find the etymology of a new word in her spelling list.

   Activity Example: A child uses vocabulary learned in Spanish to guess at the meaning of a new vocabulary word in English.

   Activity Example: During Writing Workshop, a writer composes a story on a computer, using the on-line thesaurus to explore various ways to describe an action.

13. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
   a. Interpret figures of speech (e.g., similes and metaphors, personification) in context.
   b. Recognize and explain the meaning of common idioms, adages, and proverbs.
   c. Use the relationship between particular words (e.g., synonyms, antonyms, homographs, cause/effect, part/whole, item/category) to better understand each of the words.
   d. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., stingy, scrimp, economical, unwasteful, thrifty).

   Activity Example: During Reader’s Workshop, a student writes about her understanding of “euphoria,” referring to a book she has read as she connects the story to feelings she has experienced in her own life.
Activity Example: A student receives a Writer’s Workshop lesson on similes. She then uses several similes of her own to provide description in the narrative she is composing.

**Literature**

**Key Ideas and Details**

14. Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

   Activity Example: History students compare the similarities of chimpanzees and gorillas with humans. Using texts and cards to support their argument, they make a case that we are most closely related to one or the other.

   Activity Example: Seniors (6th graders) use books, magazines and the internet to collect information on a topic of their choice. They record the information on note cards for use when they write papers and create presentations.

   Activity Example: During an independent SRA reading work, students read a series of non-fiction passages and distinguish between statements that are true, false or inferred.

   Activity Example: During Literature Circle discussion of the book "Out of My Mind," about a student with Cerebral Palsy, students compare their interpretation of the opening paragraph's first person narrative with the identical narrative as the last paragraph of the book. They compare the way they inferred meaning before reading the book with how they infer meaning after reading the book.

15. Determine a theme or central idea of a text, including how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.

   Activity Example: When writing a letter to their Reading Response correspondent, students address the main theme of the book as they compose a summary.

   Activity Example: After completing several guided studies of great civilizations, students research the fundamental needs of a civilization of their choice, seeking to learn the key resources used by the people. After highlighting and taking notes from resource books, students write a summary of their findings.

16. Describe how a particular story’s or drama’s plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution. Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text (e.g., through examples or anecdotes).

   Activity Example: In a literature circle, students read fictional texts. Participants have various roles in developing discussion. The “character captains” track the development of a character and the “travel tracer” explores the various events and regions experienced.

   Activity Example: During a history lesson on prehistoric Americans, a teacher tells a dramatic story of the migration of nomadic hunters across the Bering Sea land bridge. Students use a graphic organizer to organize the series of events described, and they then retell the story in their own words.
Craft and Structure

17. Determine the meaning of words and phrases as they are used in a text, including figurative and connotative and technical meanings; analyze the impact of a specific word choice on meaning and tone.

**Activity Example:** Two students meet for a peer conference, during which one gives the other feedback and suggestions on a draft of a personal narrative. Using a rubric to assess word choice, the critic suggests evoking stronger emotion by replacing the word “said” with “yelled” or “exclaimed.”

**Activity Example:** In a literature circle, students read fictional texts. Participants have various roles in developing discussion. The “word wizard” has looked up unfamiliar words in the text of the novel, and she shares the definitions she found. She adds the interesting new vocabulary to the class word wall.

18. Analyze how a particular sentence, paragraph, chapter, scene, section, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or explication of ideas.

**Activity Example:** For a history assignment, a student is critiquing a peer’s compare-and-contrast essay. The work describes similarities and differences between the everyday life of colonists and those of Native Americans. The critic recommends that a sentence be reordered as an introductory sentence, instead of the closing sentence of the paragraph.

**Activity Example:** In a literature circle discussing Out of My Mind, by Sharon Draper, a group of students compares the italicized section at the beginning of the book with the same font type at the end of the book. Realizing that this font signifies the voice of the main character, they discuss the changes that have taken place.

19. Determine an author’s point of view. Explain how the point of view of the author, narrator or speaker is conveyed in the text.

**Activity Example:** Students read two opinion pieces on whether or not Columbus Day should be a holiday. Students then each write their own persuasive essay, giving reasons to support their own point of view.

**Activity Example:** During a Literature Circle discussion on Wonder, students realize that the story is told from multiple points of view. Students take turns expressing their favorite character’s point of view and explaining the role that character plays in the plot of the story.

Integration of Knowledge and Ideas

20. Compare and contrast the experience of reading a story, drama, or poem to listening to or viewing an audio, video, or live version of the text, including contrasting what they “see” and “hear” when reading the text to what they perceive when they listen or watch.

**Activity Example:** In a Literature Circle, students read a novel and discuss the key vocabulary, important shifts in setting and character, highlights of the story and the point of view of the author. They then watch a film adaptation of the book, and they compare the author’s and the movie producer’s portrayal of the story.
Activity Example: After learning about the International Children’s Peace Prize, students read about the origin of the prize. They also read biographies of past recipients. Finally, they choose a recipient and watch an autobiographical video of his or her journey from adversity to making a positive impact in the world. Afterward, they discuss aspects of the video that surprised them or that confirmed what they had learned.

21. Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories) in terms of their approaches to similar themes and topics.

Activity Example: In a Literature Circle, students read Iqbal, a fictional work about a boy fighting against child slavery in Pakistan. They also read recent news articles and biographical information about Iqbal, the actual person.

22. Analyze various informational accounts of a subject told in different mediums (e.g., a person’s life story in both print and multimedia), determining which details are emphasized in each account.

Activity Example: In the 5th grade study of Ancient Mesopotamia, students read various printed texts that explain and refer to the cradle of civilization. Students also view a documentary called The Garden of Eden from the Time collection, which includes footage about early archeologists’ discoveries of evidence of various cities and stories from the time and region. Students discuss what aspects of the stories may be fact and which aspects of the stories are lore.

Activity Example: A book group reads Tuck Everlasting, and they meet weekly to discuss the characters’ life stories. The group then watches the movie Tuck Everlasting and discusses which plot components were emphasized in each medium.

23. Delineate and evaluate the argument and specific claims in an informational text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.

Activity Example: During a presentation of a persuasive essay on whether or not Columbus Day should be a holiday, a student gives reasons that support her point of view. She includes specific examples cited from various resources, as well as her own opinion. The student argues from a point of view that she herself doesn’t hold, yet she takes on this role as a practice in understanding different perspectives.

24. Analyze seminal U.S. documents of historical and literary significance (e.g., Washington’s Farewell Address, the Gettysburg Address, Roosevelt’s Four Freedoms speech, King’s “Letter from Birmingham Jail”), including how they address related themes and concepts.

Activity Example: In preparation for a weeklong trip to Washington, D.C., students translate the U.S. Constitution’s Bill of Rights and other amendments into “kid language.” They then present the meaning of their amendment to the class.

Range of Reading and Level of Text Complexity
25. Read and comprehend literature at an appropriate grade level, including stories, dramas, and poems, with scaffolding as needed with more challenging literature.

**Activity Example**: As part of Reader’s Workshop, students’ reading level is identified using the Developmental Reading Assessment. Students then choose leveled books for independent reading.

**Activity Example**: For their Senior Project, 6th grade students choose a topic to research over the course of the school year. They select books that they can understand from local libraries and consult with their teachers and families when needed.

26. Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

**Activity Example**: While learning about the Revolutionary War, students create a map of key battle sites, discuss the historical fiction book, *My Brother Sam is Dead*, and participate in a “Liberty Ride” trolley tour of Lexington and Concord.

**Activity Example**: In 5th year History, students learn about Ancient Chinese dynasties and the legacies of each dynasty. Students use information about these time spans of dynastic periods to create a timeline, making observations about the brevity or span of each.

27. Trace and evaluate the argument and specific claims in an informational text, distinguishing claims that are supported by reasons and evidence from claims that are not.

**Activity Example**: As part of a unit on persuasive writing, students read political pamphlets arguing for and against drilling in the Arctic National Wildlife Refuge. They then create their own “Zines” based on their personal perspectives.

28. Compare and contrast one author’s presentation of events with that of another (e.g., a memoir written by and a biography on the same person).

**Activity Example**: 6th year students read a historical account of Paul Revere’s famous ride and compare it with Henry Wadsworth Longfellow’s poem, “The Midnight Ride of Paul Revere.”

**Writing**

**Text Types and Purposes**

29. Write arguments to support claims with clear reasons and relevant evidence.

   a. Introduce claim(s) and organize the reasons and evidence clearly.

   b. Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text.

   c. Use words, phrases, and clauses to clarify the relationships among claim(s) and reasons.
d. Establish and maintain a formal style.

e. Provide a concluding statement or section that follows from the argument presented.

**Activity Example:** In Writer’s Workshop, 4th, 5th and 6th grade students choose a topic of interest for a persuasive essay. In lessons, students “deconstruct” sample persuasive essays, identifying the structure of the essay using a graphic organizer. They then develop their own opinion, researching relevant facts and information and using a graphic organizer to organize their ideas into an introduction, three or more supporting paragraphs and a conclusion. Finally, students revise and peer-edit the essay based on criteria for voice, use of convincing transitional phrases and a strong concluding statement.

30. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.

b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.

c. Use appropriate transitions to clarify the relationships among ideas and concepts.

d. Use precise language and domain-specific vocabulary to inform about or explain the topic.

e. Establish and maintain a formal style.

f. Provide a concluding statement or section that follows from the information or explanation presented.

**Activity Example:** A teacher reminds a student of a lesson he has received on formal writing style. He edits the sixth grader’s Senior Project paper by giving suggestions and corrections, including the use of the third person perspective rather than the first person perspective.

**Activity Example:** In fifth grade history, a student researches the Greek civilization, collecting sources and gathering information on cultural activities, legacy, etc. She writes a formal research paper that includes headings and relevant information. Later, she gives a presentation to her class of younger and older peers, and she includes graphics to reinforce her points.

31. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.
a. Engage and orient the reader by establishing a context and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically.

b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters.

c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another.

d. Use precise words and phrases, relevant descriptive details, and sensory language to convey experiences and events.

e. Provide a conclusion that follows from the narrated experiences or events.

Activity Example: During the spring term of Writer’s Workshop, students receive a series of lessons on brainstorming, planning a story, and developing characters. They also create watercolor pages to serve as backgrounds, and they match events of their story to the papers. They complete the narrative, edit for detail and word choice, and publish the collage story.

Production and Distribution of Writing

32. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

Activity Example: In a lesson on poetry, students learn to write a Narrative Pyramid based on a chosen character in the literature. An elder peer edits the poem using a rubric on Word Choice and Voice in order to help strengthen the vocabulary for the intended audience.

33. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 6 on page 53.)

Activity Example: Students in 4th, 5th and 6th grade correspond with teachers about literature. Before turning in a letter to their mentor, they self- and peer-edit. The mentor helps identify areas of growth and coaches the writer on a specific trait (Ideas, word choice, voice, conventions and sentence fluency).

34. Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.

Activity Example: As a follow-up to completing Literature Circle books, students use Google Drive to co-write, in groups of two to six, a script highlighting key moments and characters from the book. Students submit changes and new ideas to each other, editing and revising as they go.

Research to Build and Present Knowledge
35. Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.

Activity Example: While studying U.S. History, 6th year students use encyclopedias, books from the school library, and online sources to research how the early colonists met their Fundamental Needs. They write a five-paragraph biographical essay on famous people from the Revolutionary War period, and they create a PowerPoint on pre-Revolutionary War acts passed by King George and the British Parliament. As part of each of these presentations, the other students ask clarifying questions and fill out rubrics to offer feedback to each other.

Activity Example: As part of the work cycle, students pursue “independent studies.” This centers around a topic of interest to the student (e.g. the life cycle of a star, the Dominican Republic or horseback riding) that may represent formal curriculum being studied, or may simply be a personal passion. Students complete these mini-research projects on their own timeline and present their findings to the class.

36. Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.

Activity Example: Students in 4th, 5th and 6th grade research a topic for the annual Science Expo. After choosing a topic, students use a checklist to identify two or three key sources, both print and digital, that have information pertinent to their topic. Students highlight key information, take notes, and put the content into their own words. When content must be quoted directly, source information is cited in a bibliography.

37. Draw evidence from literary or informational texts to support analysis, reflection, and research.

a. Apply grade 6 Reading standards to literature (e.g., “Compare and contrast texts in different forms or genres [e.g., stories and poems; historical novels and fantasy stories] in terms of their approaches to similar themes and topics”).

b. Apply grade 6 Reading standards to literary nonfiction (e.g., “Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not”).

Activity Example: As part of our two-week residency on drama, students read storybook versions of the plays they will be performing, taking note of differences among the settings, plots and characters.

Activity Example: Connected to their study of persuasive writing, students access online sources and read printed articles expressing the “pros and cons” of an issue. In small groups, they deconstruct the various arguments and debate the validity of the logic used.

Range of Writing

38. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
Activity Example: Students receive bi-weekly lessons on the craft of writing using the 6 Traits (ideas, word choice, voice, organization, conventions and sentence fluency) that span the genres of personal narrative, poetry, persuasive essay, and fiction. After each lesson, students complete a range of follow up assignments, including brief twenty minute brainstorming sessions, as well as rough drafts of essays that may require a full week to complete. When students have completed their follow up assignments, they free write independently. Final pieces are presented in a variety of ways, including an Author’s Share and published, bound pieces that are fully illustrated.
UPPER ELEMENTARY CURRICULUM
Math

Upper Elementary children, increasingly capable of abstract thought, become gradually less dependent on materials as they broaden and deepen their working knowledge of hierarchies, numerical operations, and geometry. They extend and apply acquired skills, exploring preliminary concepts of algebra. As their universe expands, they eagerly observe mathematical properties and functions in the world around them and apply new concepts to studies in other areas, such as Science, History and Geography.

Learning Objectives and Activity Examples include:

1. Students will construct a concept of numbers to include decimal fractions to the millionths, improper fractions and mixed numbers, squares and square roots, cubes, and irrational numbers.
   - **Activity example:** A student uses color coded beads and discs on a felt-coated "decimal board to deconstruct a green unit bead into ten blue "tenths" discs; then one blue disc into ten pink "hundredths" disc; then one pink disc into ten light green "thousandths" disc; ... to millionths.
   - **Activity example:** A student uses circles and fractional sectors to exchange improper fractions for mixed numbers.
   - **Activity example:** A student uses hierarchically color-coded pegs and a pegboard to build a symbolic \( \frac{45}{5} \). The student calculates the value of each component rectangle of the binomial, totaling the value of the square.
   - **Activity example:** A student uses golden bead squares, bead bars and beads to form the quantity 625 into a square of 25 on a side.
   - **Activity example:** A student attempts to form the number 5 into a square, notices that 1 bead remains and realizes that the exact way to represent the quantity is with the use of a radical sign.
   - **Activity example:** A student uses color-coded cubes and prisms to form the quantity 39,304 into a cube of 34 on an edge.

2. Students will construct a concept of numeration symbols and mathematical notation to include
   - Identifying and reading decimal fraction numerals to millionths
   - Using a “radical” symbol to indicate the root of a number,
   - Comparing whole and fraction numbers using equal, unequal, greater-than, and less-than symbols
   - Using the associative and distributive properties, with coefficients and parentheses, to form binomials and polynomials
   - Using positive and negative numbers to represent values
   - Understanding that a numeral is an arbitrarily chosen symbol that represents some number
   - **Activity example:** A student manipulates color coded numeral cards, showing his understanding of the principle of invariance by removing zeros from the multiplier and adding them to the multiplicand.
   - **Activity example:** A teacher shows a group of students that the “root” of a square is its side, abbreviating “root” to “r”, then stretching out the “r” to form the radical sign.
Activity example: A student uses a table of squares to estimate the square roots of a list of numbers. In each case, s/he records the roots that are bigger and smaller than the examples, using < and > signs.

Activity example: A student records the component rectangles she has made in a binomial multiplication problem. Noticing that two of the rectangles are identical (one rotated) she records \(2(40 + 6)\), associating the parts of the binomial, and "un-distributing" the doubling.

Activity example: A student explores combinations of positive and negative numbers by using direction to represent the sign of the number, and paces to represent the quantity. In this way he steps forward or backward, facing forward or backward to explore the relations and values.

Activity example: A group of students invent and name single-digit symbols to represent quantities \((9+1)\) and \((9+2)\) in a base twelve system.

3. Students will construct a concept of number theory to include
   • Finding multiples of a number
   • Identifying factors and prime factors of a number and finding the greatest common factor.
   • Finding multiples of a number and finding the lowest common multiples of 2 or more numbers.
   • Representing repeating and non-repeating decimal fractions.

   Activity example: A group of students uses a multiples chart to find patterns in the multiples of numbers.

   Activity example: Students complete “Multiples Table C,” identifying all of the prime and composite numbers from 1 to 100.

   Activity example: Students create factor trees and Venn diagrams, multiplying the intersection of prime factors to find the LCF and the union of prime factors to find the GCF.

   Activity example: A student places color-coded discs on a yellow "decimal board," exchanging for successively smaller hierarchies as she searches for an even distribution. Finally, noting that the pattern of discs on the board is repeating, she records the repeating pattern as part of her answer.

4. Students will construct a concept of place value by
   • Using expanded notation for whole and decimal fraction numbers.
   • Using exponential notation to shorten expanded notation of large numbers.
   • Identifying hierarchy of the product of two hierarchies.

   Activity example: A student prepares to do a 3-digit multiplication problem on a bead frame. He first analyzes his multiplicand into component hierarchies, recording each on its color-coded line on the prepared form.

   Activity example: A student uses a "hierarchical checkerboard" as a guide as she performs a mental multiplication, finding all of the combinations of the multiplicand and the multiplier that contribute to each hierarchy in turn of the product.

   Activity example: Two groups of students are simultaneously counting a set of objects. One group is counting in base 10, while the other group counts in base 5. They recognize that when they have reached the highest digit in their system, they must "carry" to the next hierarchy, filling empty places with zeros.

5. Students use the language of mathematics to express mathematical ideas precisely.

   Activity Example: Students are asked to articulate the processes represented by equations on a homework assignment.
6. Students will perform four basic operations to include

- Understanding the concept of group division with 2 & 3 digit divisors; calculating quotients of division problems with 2 & 3 digit divisors, including special cases involving zeros.
- Understanding the importance of place value in the process of multiplying by 2 and 3 digit multipliers; calculating products of multiplication problems with 2 and 3 digit multipliers.
- Mastering memorization of addition, subtraction, multiplication and division facts.
- Adding, subtracting, multiplying and dividing like and unlike fractions, including finding least common denominators.
- Adding, subtracting, multiplying and dividing decimal fractions.
- Adding, subtracting, multiplying and dividing whole numbers in various bases.
- Understanding the inverse relationship of multiplication and division.
- Calculating and recording/illustrating: the passage from one square to another square, the square of a polynomial, the square root of a polynomial, the passage from one cube to another cube, the cube of binomials and trinomials, the cube root of binomials and trinomials.

**Activity Example:** Students work with two and three-dimensional models to identify geometric terms (e.g., base, height, apothem, circumference, hypotenuse) and use them to derive formulas to calculate areas and volumes.

Activity example: A student uses hierarchically color-coded "test tubes and boards." She is grouping the beads of the dividend on the divisor boards, using a trial and error method to find the quotient.

Activity example: A student using a large bead frame adds a "magic, red zero" onto the end of each part of his expanded multiplicand so that he can multiply each number by a single digit multiplier.

Activity example: A student uses flash cards, mnemonics, on-line drill programs and timed skill tests to drill and monitor their progress in the memorization of basic facts. When she can complete a test of 100 facts in 6 minutes with 94% accuracy, she will have "mastered" the facts.

Activity example: After a lesson in which a teacher reviewed the concepts involved in dividing by a fractional divisor using metal fraction insets and wooden fraction skittles, a student completes pages in a Key to Fractions workbook to practice abstract calculations.

Activity example: A student is calculating the area of a rhombus with a long diagonal of 15.7 and a short diagonal of 5.23. She must multiply the decimal numbers and halve the product in order to find her answer.

Activity example: A student has made five groups of 4 hundreds beads, 3 tens beads and 7 units beads on hierarchical divisor boards. In order to record the number of beads he has placed on the boards, he multiplies 4 x 5, 3 x 5, and 7 x 5.

Activity example: A student draws a blue "5" square on a piece of graph paper. She extends the square in two directions, adding two 5 x 1 rectangles. She completes the (5+1) square by adding a red "1" square. She goes on to record: 5² + 2(5x1) + 1² = 6²

Activity example: A pair of students is working together on a pegboard with hierarchically colored pegs. On the horizontal and vertical frames, they place the following numerals and symbols: "400," "4," "50," and "3." They then use the pegs to build a colored square that represents the combinations of hierarchies. Finally, they record each step of the layout, totaling the product.

Activity example: A student counts out quantities of hierarchically colored pegs to represent a number. She sequentially builds squares and rectangles until she has researched, confirmed and recorded the square root of the number.
Activity example: Two students take a blue "five" cube. They map a prism which is \((5^2 \times 1)\) to each of three faces of the cube. Using red centimeter cubes, they build three \((1^2 \times 5)\) prisms, which they map to the edges of the other prisms. They complete the \((5+1)\) cube by adding a red "1" cube. They goes on to record: \(5^3 + 3(5^2 \times 1) + 3(1^2 \times 5) + 1^3 = 6^3\)

Activity example: Using color-coded cubing materials, supplemented by naturally colored centimeter cubes, a student constructs a cube with a length of \((5+4+3)\) on each dimension. As he places the three \((5^2 \times 4)\) prisms their places, the student records their description \((5^2 \times 4)\). After the cube has been built, and each piece described, the student will do the calculations and total the value of the cube. ... Following repetitions of this activity, the student will analyze an algebraically color-coded trinomial cube, assigning letters to the lengths that represent the variables of the cube.

Activity example: Using a hierarchically color-coded trinomial cube, a student calculates the cube root of a number. She analyzes the hierarchies of the number, and matches the combinations with prisms in order to research the values of the edges of the prisms. Each step is recorded and color-coded.

Activity example: A group of students is removing 5 beads from each of the test tubes in the division materials. Another student is taping paper over some of the holes in the divisor boards. They are adapting the materials so that they can perform group division in base 5.

7. Students will commit to memory basic math facts in four operations so that that component of calculations is automatic.

Activity example: A student uses flash cards, mnemonics, on-line drill programs and timed skill tests to drill and monitor their progress in the memorization of basic facts. When she can complete a test of 100 facts in 6 minutes with 94% accuracy, she will have "mastered" the facts.

Activity Example: After working with the operations with positive and negative integers, students recall the rules to solve problems on an in-class quiz.

8. Students will master concepts of data collection and organization including

- Designing, collecting and representing data using line plots, bar graphs and line graphs
- Comparing representation methods and evaluating data to choose the best method for each of various analyses
- Understanding and applying the basic concepts of probability

Activity Example: In a geography study, a student researches the populations and geography areas of the ten largest cities in the United States. She uses a spreadsheet program to input her data, calculate population densities and create a bar chart of the results.

Activity Example: A student uses a line graph as a visual representation to chart mold growth in a science experiment.

Activity Example: Two students experiment with pennies, spinners and color candies to explore and develop an initial understanding of probability and statistics.

9. Students will explore a variety of strategies for problem solving, seeking the methods that work best for them. These will include:

- locating key words
- applying a formula
- trying a simpler case of the problem
- making a sketch or a model
- creating a table, chart or list
- guessing and checking
• eliminating unreasonable options
• look for a pattern

Activity Example: A teacher reviews with a group of students the formulas that they have derived for calculating areas. She gives each student a piece of grid paper for use with the homework assignment, giving explicit instructions on how to sequence the problem, apply the formula and calculate the answer in the space given.

Activity Example: A student uses the square root derivation process to calculate a square root without the use of manipulatives. When he arrives at an answer he asks himself if the answer is reasonable and if it makes sense.

Activity Example: Sixth grade students are introduced to different ways to study for a test including note cards, review sheets, and notebook organization.

Activity Example: Working in groups of 2 to 4, students use the on-line program at www.lemonadestand.com to adjust variables in price and recipe to maximize profits at their virtual lemonade stand.

10. Students will master concepts of measurement to include
• Measuring and calculating the perimeter of plane figures.
• Calculating the circumference and the area of a circle.
• Deriving formulas for the calculation of surface areas and volumes of solid figures.
• Calculating surface areas and volumes of solid figures.

Activity example: A student paces the distances along the boundaries of the recess field in order to determine the perimeter of the field, the distance run in a lap.

Activity example: A student measures the dimensions of the classroom windows so as to calculate the area of glass in the room.

Activity example: A pair of students rolls a wooden circle along a straight line to mark the length of its circumference. They then place the circle on the line to count the number of diameters that it would take to make a line as long as the circumference.

Activity example: Two students are using a small scoop to transfer white sand into a hollow metal mold of a pyramid. They empty the sand into a mold of a prism that has the same height and base as the pyramid. In this way they determine that the pyramid occupies one-third the space of the prism.

Activity example: A group of students has brought an assortment of objects from home. They create a display of their boxes, cans, jars, etc. They then begin to measure the dimensions of the objects in order to calculate their surface areas and volumes.

11. Students will master concepts of Geometry to include
• Identifying properties and nomenclature of plane figures.
• Identifying properties and nomenclature of types of lines.
• Identifying positions of lines on a plane.
• Identifying properties and nomenclature of angles.
• Identifying relationships between two angles on a plane, including adjacent angles and angles formed by intersecting lines.
• Measuring angles using various protractors.
• Understand concept of closed plane figures: including closed-curved figures and polygons; regular and irregular polygons; circles.
• Identifying properties and nomenclature of triangles, including the sum of the angles, the names of types of triangles, the lines of concurrence.
• Exploring equivalence of plane figures to rectangles.
• Derive formulas for calculation of perimeters and areas of plane figures.
• Deriving formulas for the calculation of the circumference and the area of a circle.
• Exploring, learning and applying Pythagorean theorem.
• Learning methods of coordinate geometry, and applying them to calculations of distance.
• Exploring equivalence of solid shapes to rectangular prisms.
• Deriving formulas for calculation of surface areas and volumes of solid shapes.

Activity example: A teacher uses sticks and fasteners from the geometry stick box to form two angles. He moves the angles together so that a side of one is superimposed upon a side of the other. The redundant side is removed so that the two angles are now made of three sticks. The teacher introduces the term, "adjacent."

Activity example: A student places wooden shapes from the geometry cabinet into the metal "Montessori protractor." After lining up one side with the white "zero line," she reads the measure of the angle along the adjacent side of the triangle.

Activity example: Three students use the box of geometry sticks to build convex and concave polygons.

Activity example: On a homework sheet, a student reviews the nomenclature of triangles, classifying various triangles by their angles ("acute," "obtuse," and "right") and by their sides ("equilateral," "isosceles," and "scalene").

Activity example: A student uses a compass and a ruler to bisect all of the angles of a triangle. Using the point of intersection as the center, the student inscribes a circle within the triangle.

Activity example: A student manipulates the loose pieces from a disassembled trapezoid. She explores until she finds a way to fit the pieces together to form a rectangle within a rectangle frame.

Activity example: Two students disassemble a decagon that has been cut into tenths triangles. They line up all of the triangles along the edge of a table so that the sides are consecutive and form the perimeter of the decagon. The shape, equivalent to the decagon, resembles a "bottom jaw." A second decagon is disassembled and the spaces between the "teeth" are filled in so that a parallelogram is created. The parallelogram is transformed into an equivalent rectangle, which is made of 2 decagons. The students identify the "base-by-height" description of the rectangle, using the names of the lines from the decagon. Finally, they reverse the process to define the area of the decagon: "Half the area of a rectangle which is as long as the perimeter of the decagon, and as high as the apothem of the decagon."

Activity example: Two students sit together at a computer, using an on-line program to investigate rotative, reflective and symmetrical properties of polygons. They confirm their answers using an online interactive computer program called The Transmographer (http://www.shodor.org/interactivate/activities/Transmographer)

Activity example: A student removes metal, 1 cm. tiles which have been used to construct squares on the three sides of a 3-4-5 right triangle. She uses the 9 yellow squares and the 16 blue squares to completely fill the vacated square on the hypotenuse.

Activity example: On a homework sheet, a student plots two points on a graph, connecting them to form an oblique line segment. Drawing horizontal and vertical line segments, he makes a right triangle. Using the Pythagorean theorem, he calculates the length of the oblique line segment.
**Activity example:** A pair of students builds a hexagonal based right prism, like the single piece next to it, using component pieces. They then rearrange the pieces to form an equivalent, rectangular based right prism. They go on to label the length and width of the new rectangular base, as well as the height of the prism, using terms from the original hexagonal based prism.
UPPER ELEMENTARY CURRICULUM
History and Geography

By the Upper Elementary years, most children have acquired a basic historical understanding connecting the effects of the natural world on the people who inhabit it, and the beginnings of critical thinking to identify, question, explore, and conclude. UE students trace the story of the evolution of humans, searching for their fossil relatives. They compare and contrast world civilizations, and they begin the study of American history.

Learning Standards and Activity Examples include:

Fossil Hominid Relatives

1. Students learn the taxonomic classification of the human being so that the history of the species can be viewed in context with other species.

   Activity example: Students identify significant homologies that characterize taxonomic groups. They read evidence cards, and they place pictures of a gorilla, a chimpanzee and a human on a large cladogram to show that they have concluded that they are more closely related to a chimp than to a gorilla or to any other primates.

2. Students appreciate the range of expertise required to carry out an archeological dig, learning to distinguish between factual evidence and interpretation.

   Activity example: Students visit a simulated archeological dig, and they take on roles as paleoanthropologist, photographer, draftsman, palynologist, preparator, etc. Each team examines the evidence that they have gathered and presents their interpretations of the lifestyle of the "ancient" people.

3. Students understand how modern humans are related to fossil relatives. Identify significant cultural distinctions for each of the major groups of fossil hominid relatives.

   Activity example: After completing individual research for a collaborative time line of the Holocene epoch, students write letters to their hominid ancestors, thanking each group for the significant characteristics that they originated.

Overview of Historic Civilizations

4. Students learn the chronological order of historical civilizations.

   Activity example: Students use several timelines of ancient civilizations simultaneously. They examine each of these closely to determine their chronological relationships to one another.

5. Students gain an historical understanding of the significance of certain events in the story of a civilization, and to speculate upon how the story may have been different had the events occurred differently.

   Activity example: As a student works on individual research about a civilization, she seeks information to help her tell the story of why the civilization declined.

6. Students learn about past ideas as they were thought, and past events as they were lived, by people of the time.
Activity example: Students practice cuneiform writing on clay tablets during their study of Ancient Sumer and they make simulated artifacts.

7. Students describe and explain major advances, discoveries, and inventions made by historic civilizations in natural science, mathematics, and technology.

   Activity example: A group of students uses wedges, rollers and an inclined plane to move a very heavy "Egyptian pyramid stone" across the classroom floor. Another pair of students from the unit is composing a hieroglyphic message, while a third pair creates a shadouf to lift heavy buckets of water.

8. Students identify and explain the locations and features of places and systems associated with historic civilizations, including political boundaries; cities and commercial centers; and routes of trade and invasion. Learn how geography has influenced the modes of transportation, economies, political systems, and population distribution and migration of historic civilizations.

   Activity example: A student maps the locations of the world's first known farming cultures. She compares the locations to determine the similarities in the conditions found in these disparate areas.

Introductions to American History

9. Students learn the chronological order of certain historical events in U.S. History

   Activity example: As part of the preparation for their trip to Washington, D.C., students research biographies of individual presidents of the United States. Each student contributes their research to a timeline constructed by the class.

10. Students gain in an historical understanding of the significance of certain events in the story of the United States, and to speculate upon how the story may have been different had the events occurred differently.

   Activity example: Students learn about the treatment by Pilgrims of the Native American tribes living on Cape Cod when they arrived. These effects will be further explored when the students visit the Pequot Museum.

11. Students learn about past ideas as they were thought, and past events as they were lived, by people of earlier times.

   Activity example: Students visit the Old South Meeting House in Boston. The assume various roles as Patriots and Loyalists, and they debate the pros and cons of the tea tax.

12. Students describe and explain major advances, discoveries, and inventions in natural science, mathematics, and technology that have significantly influenced the story of U.S. History.

   Activity example: Students create waterwheels and they investigate the role that they played in the industrial development of the Boston area. They travel to Lowell to visit the mills at Lowell National Historic Park and the Tsongas Industrial History Center.

13. Students identify and explain the locations and features of places and systems associated with U.S. History, including political boundaries; cities and commercial centers; and routes of trade and invasion. They learn how geography has influenced the modes of transportation, economies, political systems, and population distribution and migration of the United States.

   Activity example: In U.S. History, a 6th grade girl studies the Proclamation Line of 1763, looking at the effect the political and geographical boundary had on the colonization of The New World. She creates
two maps, one showing the population distribution before the Proclamation Line of 1763 and one showing the change. Following this work, the entire group participates in a discussion representing the many perspectives.
UPPER ELEMENTARY CURRICULUM

Science

By the Upper Elementary years, most children have acquired a basic understanding of the scientific method, an understanding of scientific classification, an ability to connect the effects of the natural world on the people who inhabit it, and a confidence in themselves as critical thinkers who identify, question, explore, and conclude. They have realized that perception is not always reality and that scientific issues always bear further study. As they begin to be able to think abstractly, they become increasingly able to manipulate concepts and order the invisible phenomena of their world. Students in the Upper Elementary Program study the Sciences as part of a broadly focused exploration. Comprehensive, thematic studies of “Water,” “Fire,” and “Earth / Air” comprise the three-year, rotating core of students’ studies in life science, physical science, and earth / space science. The thematic approach encourages students to make connections across the sciences; it generates profound curiosity; and it allows them to design investigative projects that express their interests and their styles of learning.

Learning Standards and Activity Examples include:

EARTH AND SPACE SCIENCES
Interactions and Cycles in the Earth Systems.

1) Students will learn the names and origins of land and water formations of the earth.
   
   Activity example: While working independently, students create a map of physical features of a geographic region of the earth based on a variety of resources.

2) Students will learn the dynamics that cause the geographical conditions found on the planet earth.
   
   Activity example: Students research and draw maps of fault lines, then superimpose the locations of famous volcanoes upon the map. This is part of their study of tectonic plates and the evolving shapes of continents.

3) Children will acquire concepts related to the fundamental natures of Air, Wind, and Water, and the impact of their interaction on seasons, currents, and erosion.
   
   Activity Example: While studying the Work of Air, children conduct experiments to observe heating and cooling matter and are able to explain why the ocean is cooler than the land in summer and warmer than the land in winter.
   
   Activity Example: When studying the Work of Air, students conduct experiments to observe heat rising. They make connections between heat rising in a lab and heat rising on the earth’s surface.

4) Students will learn about the fragile state of various ecosystems, the threats to their survival and strategies for protecting them.
   
   Activity example: A student creates a model of an estuary. She has researched and written a report on the role of estuaries in preserving Earth’s biodiversity, and she is collecting signatures for a petition she is circulating in support of the Conservation Trust, an organization seeking to protect wetlands.
Activity example: Students spend time in the fields adjoining the school to observe the surrounding wetlands. After recording their observations for several weeks, they select one species for further research. They present their work with a life-size model of wetlands along with a report of the survival challenges facing that species.

5) Students will demonstrate an understanding of the internal and external structure of the planet earth.

Activity example: Students create models of a cross-section of the planet Earth, showing irregular concentric spheres.

6) Students will explore and illustrate an understanding that heat flow and movement of material within the earth moves the continents, causes earthquakes and volcanic eruptions, and creates mountain and ocean basins.

Activity example: A group students watches a video of the eruptions of Kilowea and other volcanoes in Hawaii, viewing a description of the formation of the Pacific islands.

7) Students will evaluate conditions under which sedimentary, igneous, and metamorphic rocks form.

Activity example: Students explore the collection of rocks that represent the "Big Three" types of rocks. They compare the rock samples to the ones that are mounted on a classification chart.

8) Students will identify ways in which soil is formed by the weathering of rock and the decomposition of dead plants and animal debris.

Activity example: Students study the sources and composition of soil in order to understand and identify the components that must be included in a hydroponics nutrient solution.

9) Students will give evidence that water in the Earth system exists naturally in all three states and water continually circulates through the earth’s crust, oceans and air, e.g. water cycle.

Activity example: Students study the Charles River watershed, from source to mouth. They build models, hike parts of the river’s course and draw maps in order to understand the cycle of water flow in the Charles.

10) Students demonstrate an understanding that, like all planets and stars, the Earth is essentially spherical in shape.

Activity example: In geography, students deconstruct and reconstruct a sphere with paper, clay and aluminum foil to explore the spherical shape of the earth and other planets.

Activity Example: Students discuss the link between the Earth’s tilt and its seasons.

11) Students present evidence that Earth’s oceans are a reservoir of nutrients, minerals, dissolved gases and life forms; are the major source of water vapor for the atmosphere; and, as a store of heat transported by ocean currents, greatly affect Earth’s climate.

Activity example: Students use photographs of the Earth taken from space to explore the biology, physics and chemistry of Earth’s oceans to gain appreciation of the crucial role they play in the survival of life on our planet.

Activity example: Students compare species that live at the top levels of the ocean and species that are able to live at the bottom of the ocean thanks to heat and chemicals produced by hydrothermal vents.
12) Students observe and describe evidence that local climate changes over periods of years or decades, while global climate changes much more slowly.

   **Activity example:** Students create weather journals. They track local weather for the entire period of the unit. They use the Internet to explore global climates for the same period of time.

13) Students examine and demonstrate evidence that weather can be studied in terms of properties of the atmosphere such as pressure, temperature, humidity, wind speed and direction, precipitation, and amount and type of clouds.

   **Activity example:** A group of students creates a weather lab to predict and monitor the changes of weather patterns. They keep journals and make regular reports as to their predictions.

   **Activity Example:** Students monitor the changes of weather patterns. They keep journals and make regular reports as to their predictions.

14) Students explain that clouds reflect much of the sunlight intercepted by Earth, while at the same time returning to Earth’s surface a large fraction of the far infrared energy emitted from the surface.

   **Activity example:** Students create charts of the electromagnetic spectrum showing which types of rays penetrate the Earth’s atmosphere.

15) Students examine and demonstrate evidence that the atmosphere and the oceans have a limited capacity to recycle materials naturally.

   **Activity Example:** A student in the “Weather” unit creates a project to simulate the greenhouse effect.

   **Activity example:** A group of students visits a nearby waste management plant as part of the study of recycling and trash disposal.

16) Students explore and explain that rain or snow falls and moves by gravity from higher to lower areas both on the surface and on the ground and that the natural flow region is called the watershed.

   **Activity example:** Students study the Charles River watershed, from source to mouth. They build models, hike parts of the rivershed and draw maps in order to understand the cycle of water flow in the Charles.

   **Activity Example:** Students investigate the changes in the force of their wheels as they manipulate the height of the water source.

17) Students investigate and illustrate ways in which human activities, such as the reducing the amount of forest cover, increasing the amount and variety of chemicals released into the atmosphere, and intensive farming, have changed the Earth’s land, oceans, and atmosphere.

   **Activity example:** Students research and report on the political, economic and biological issues related to equitable distribution of Earth’s resources. They visit the Rainforest exhibit at the Museum of Science, and they become activists in the campaign to save rainforests.

**Earth’s History**

18) Students examine evidence and illustrate that the movement of the continents has had significant effects on the distribution of living things.
Activity example: After reviewing the Montessori Time Line of Life, students assemble a floor size puzzle that begins with the continents as one in Pangea and moves through the stages until today’s configuration of continents.

19) Students examine and describe ways in which rocks, fossils, ice cores, and tree rings record events of Earth’s history, documenting plate movements, volcanic eruptions, cycles of erosion and deposition, and the evolution of life.

Activity example: In preparation for their trip to Cape Cod, students learn about the geographic make-up of moraines that formed the Cape at the end of the Ice Age.

Earth and Space

20) Students observe and demonstrate that the patterns of stars in the sky stay the same, although they appear to move across the sky nightly, and different stars can be seen in different seasons.

Activity example: Students hear the story of Aristotle’s methods to determine the spherical shape of the earth by watching boats disappear over the horizon and by hearing descriptions of the night stars from sailors who had traveled in the southern hemisphere.

Activity Example: Students research the history of constellations: myths and legends created by ancient cultures.

21) Students explore and explain that telescopes magnify the appearance of some distant objects in the sky, including the Moon and the planets.

Activity example: Two students create models of a reflector telescope and a refractor telescope. Utilizing the optics information that they have gained from a visit from a physicist, they position the lenses and mirrors so that they can demonstrate the principles to their classmates.

22) Students observe and illustrate that planets change their positions against the background of stars.

Activity example: Students go out on a night walk at an Outdoor Education Center. A teacher points out two nearby points of light. One, Mars, is a nearby planet, reflecting sunlight. The other, Antares, is a red supergiant. Strangely, they appear similar. Because of Mars’ orbit, the two will not be so close again for about 25 years.

23) Students recognize and describe that the Solar System contains the central Sun, the known planets and their moons, and many asteroids, meteors, and comets that orbit the sun.

Activity example: Students pace off distances to create a scale model of our solar system. In order for the planets and the distances to share the same scale, the small planets are represented by tiny (still too big) beads, the sun is a 3-inch ball, and Pluto is nearly a half-mile walk from the Sun!

LIFE SCIENCES

Characteristics of Organisms

24) Students identify the cell as the basic unit of life and the smallest unit that can reproduce itself.

Activity example: A group of students listens to the imaginary tale of a great civilization built upon a great river. After spinning a tale of interdependency, loyalty and service, the teacher reveals that the civilization is a metaphor for the human body; that the self-less citizens are the cells within the body.
Activity example: Students use projected images of various cells to understand the concept. Afterwards, they use edible material to build a simulation model.

25) Students explore and describe an understanding that plants, animals, fungi and various types of microorganisms are major categories of living organisms, that each category includes many species, and that the categories are subject to change.

Activity example: At the beginning of a unit on microorganisms, the study is put into context with an overview of Five Kingdoms of Life. The students explore five branches of biology taxonomy. They go one to focus their study on the branch of animal life, and further limit themselves to comparing and contrasting the anatomy and lifestyles of marine animals.

26) Students observe and explain that in single cells there are common features that all cells have as well as differences that determine their function. Plant and animal cells are compared and contrasted.

Activity example: Students build replicas of both plant and animal cells then compare and contrast vocabulary and function of the two.

Activity example: Students study the anatomy of a generalized animal cell. They compare and contrast it with a plant cell. Then they reproduce sketches of cells from various types of tissues, noting that cells differ according to their function.

27) Students investigate and illustrate evidence that cell replication results not only in the multiplication of individual cells, but also in the growth and repair of multicellular organisms.

Activity example: Students unit study the anatomy of a generalized animal cell. They compare and contrast it with a plant cell. Then they reproduce sketches of cells from various types of tissues, noting that cells differ according to their function.

28) Students present data to illustrate that all organisms, whether single or multi-cellular, exhibit the same life processes, including growth, reproduction and the exchange of materials and energy with their environments.

Activity example: Students identify the "vital functions" that must be performed by any living organism. They then compare and contrast the methods employed by different marine organisms.

29) Students describe ways that cells can differ in multi-cellular organisms assuming different appearances and carrying out specialized functions.

Activity example: During a unit on the skeletal system, students study the anatomy of bones and determine specialized functions of different bone cells.

Activity example: Students study the anatomy of a generalized animal cell. They reproduce sketches of cells from various types of tissues, noting that cells differ according to their function.

30) Students investigate and explain that complex, multi-cellular organisms are interacting systems of cells, tissues, and organs that fulfill life processes through mechanical, electrical, and chemical means, including procuring or manufacturing food, and breathing and respiration.

Activity example: Students dissect a cow femur one layer at a time, all the while experiencing the hierarchical construction of cells that build tissues that build bones, which build organisms.

Diversity and Adaptations of Organisms
31) Students explain situations in which short-term changes in available food, moisture, or temperature of an ecosystem may result in a change in the number of organisms in a population or in the average size of individual organisms or in the behavior of the organisms in a population. Students also explore ways in which long term changes may result in the elimination of a population or the introduction of a new population.

**Activity example:** A group of students performs a simulation game in which they take on the role of an organism inhabiting a wetland. Various influences are introduced to the ecosystem, and each "organism" must identify the impact it experiences.

**Heredity, Reproduction and Development**

32) Students explain the importance of reproduction to the survival of the species. Students compare and contrast sexual and asexual reproduction.

**Activity example:** In a marine biology study, students learn that reproduction is a vital function of all living organisms. A student creates models of sexual reproduction to show how differing genetic information from two parent cells combines and results in unique offspring. The models also show the differing form of male and female gametes.

33) Students investigate and describe processes by which organisms that have two parents receive a full set of genetic instructions by way of the parents' reproduction cells specifying individual traits from each parent, and that offspring exhibit traits from each parent. Illustrate an understanding that sorting and recombining the genetic material of parents during reproduction produce the potential for variation among offspring.

**Activity example:** Students compare the vital functioning of various marine organisms. They examine charts that show simplified, color-coded sex cells that carry genetic information. They explore the advantages of diversification attained through sex.

**Activity example:** Students are comparing the vital functioning of various marine organisms. They examine charts that show simplified color-coded sex cells that carry genetic information. They explore the advantages of diversification attained through sex.

**Ecosystems and Organisms**

34) Students present evidence that species depend on one another. Students also describe ways in which interactions of organisms with each other and non-living parts of their environments result in the flow of energy and matter throughout the system.

**Activity example:** History students develop a timeline of human beings showing that each subsequent species were directly dependent on the learning and development of predecessors.

**Activity example:** Students compare species that live at the top of the ocean and species that are able to live at the bottom of the ocean thanks to heat and chemicals produced by hydrothermal vents.

**Activity example:** Students explore and illustrate how energy is supplied to an organism primarily in the form of sunlight. Students examine evidence that plants convert light energy into stored energy which the plant, in turn, uses to carry out its life processes. Students describe how this serves as the beginning of the food chain for all animals.

**Activity example:** Two students create an experimental project in which they raise plants under controlled conditions, exposing like plants to differing light sources. They attempt to identify the most beneficial among the light sources.
35) Students observe and illustrate the variety of ways in which plants, animals, fungi, and microorganisms interact. They represent how matter is cycled and recycled through these interactions, and energy flows through ecosystems.

   **Activity example:** Students play a game of "Predator-Prey," in which they each take on a role of a member of an ecosystem food chain. Various influences are introduced to simulate the impact on one population of changes in another population.

36) Students classify organisms according to the function they serve in a food chain (any single organism can serve these functions): production of food, consumption of food, or decomposition of organic matter.

   **Activity example:** Students use a Web of Life card game to identify producers, consumers and decomposers.

   **Activity example:** Students maintain a worm bin by gathering leftover organic materials from lunches, then harvest the decomposed material and use it as fertilizer for classroom plants.

**PHYSICAL SCIENCES**

**Properties of Matter**

37) Students identify properties that allow materials to be distinguished from one another and often make them well suited to specific purposes. Students compare and measure different materials in terms of their characteristic properties, such as density, texture, color…

   **Activity example:** Students measure and weigh small objects made of lead, gold, aluminum and steel, and they calculate their volumes and densities.

38) Students identify and classify elements and compounds with similar properties, such as metals, metalloids and non-metals; acids and bases; combustibles and non-combustibles.

   **Activity example:** Students create simplified periodic tables of elements, identifying the metals' portion of the table, the non-metals' portion, and the metalloids'.

39) Students present evidence that chemical change involves the transformation of one or more substances into new substances with different characteristic properties. Students give examples that such changes are usually accompanied by the release of or the absorption of various types of energy, especially radiant energy such as heat or light.

   **Activity example:** Students observe burning candles. After studying atoms, molecular structures, elements and compounds, they again observe the candle, looking for the transformation of the wax fuel into water, carbon soot and energy.

40) Students identify and describe that the mass of a closed system is conserved.

   **Activity example:** In order to observe a non-combustible oxidation, students place a wet nail in a jar with the lid closed. They observe that the nail rusts (oxidizes). The students note the increase in mass of the nail, but they also note that the total mass in the contents of the jar has not increased.

41) Students measure and predict changes in the pressure, temperature, or volume of a gas sample when changes occur in either of the other two properties.

   **Activity example:** Students create a simple steam engine to illustrate that raising the temperature of the water in a closed container increases the pressure, which can be used to do work.
**Particulate Model of Matter**

42) Students describe a particulate model for matter that accounts for the observed properties of substances.

*Activity example:* Students pours marbles into a beaker. Noting that the beaker seems full, but still has space between the particles, she pours small beads into the spaces. Repeating the process, she introduces sand, then water.

*Activity example:* A teacher tells the story of John Dalton's use of the ancient theory of Democritus to propose an atomic model for matter.

43) Students recognize and explain how experimental evidence supports the idea that matter can be viewed as composed of very small particles (such as atoms, molecules and ions), which are in constant motion. Illustrate understanding that particles in solids are close together and not moved about easily; particles in liquids are about as close together and move about more easily; and particles in gases are quite far apart and move about freely.

*Activity example:* A group of students acts out a "Dance of the Elements" as the teacher narrates. They begin attached and still, at absolute zero, and they gradually become more energetic and free as the temperature is increased. The students pass back and forth through phase changes.

44) Students provide evidence that shows how the conservation of mass is consistent with the particulate model that describes changes in substances as a result of the rearrangement of the component particles.

*Activity example:* Students explore the equation for burning hydrocarbons, noting that all of the atoms present at the onset of the reaction are present at the end, although they are in different forms.

**Motions and Changes in Motion**

45) Students demonstrate that all forces have magnitude and direction. Show and describe how forces acting on objects as pushes and pulls can either reinforce or oppose each other. Create situations to model how forces acting in the same direction reinforce each other and forces acting in different directions may detract or cancel each other.

*Activity example:* A student is experimenting with the glider she has designed and built. She modifies the force of her launch, the direction of her throw, and the angle of her flaps in order to obtain the result she seeks.

*Activity example:* Two students are experimenting with the waterwheel that they have designed and built. They introduce a stream of water striking the wheel from the top, and they add a stream which strikes the wheel from the bottom. They note that if both streams are forcing the wheel to turn in the same direction, their impact is additive. If, on the other hand, they force the wheel in opposite directions, they oppose one another.

46) Students describe and represent an object's motion graphically in terms of direction, speed, velocity, and/or position versus time. Also describe these quantities verbally and mathematically.

*Activity example:* A design team performs tests on their waterwheel. They hook up a pulley so that their wheel can lift a cup of nails, and they record the weight of the load, height to which the cup is lifted, and the speed of the lift.
Transformations of Energy

47) Students represent an understanding that energy cannot be created or destroyed, but exists in different, interchangeable forms, such as light, heat, chemical, and mechanical.

**Activity example:** Students note that the chemical energy that existed in their candle was transformed into heat and light as it burned.

**Activity example:** Students lift a bucket of water to the top of a stool to serve as a falling water source to move their waterwheel. They note that they expend energy to do the work of lifting the bucket, that this energy is stored as potential energy in the high water, and that it is transferred to mechanical energy as it falls and turns the water wheel.

48) Students illustrate an understanding that energy comes to the Earth as electromagnetic radiation in a range of wavelengths, such as light, infrared, ultraviolet, microwaves, and radio waves. Students explain ways in which the amount of each type of radiation reaching the surface of the Earth depends on the absorption properties of the atmosphere.

**Activity example:** Students complete a chart identifying electromagnetic waves of various lengths, and study their ability to penetrate the atmosphere, their impact on humans, their commercial uses, the methods used by astronomers to gather their energy, and the information that they give us about space.

49) Students investigate and describe an understanding of visible electromagnetic radiation, which we generally call light, with reference to qualities such as color and brightness. Illustrate understanding that light has direction associated with it, and can be absorbed, scattered, reflected or transmitted by intervening matter. Demonstrate and explain refraction as the process by which light's direction can be changed by passing from one medium to another.

**Activity example:** Students use mirrors, lenses and prisms to bend, break and bounce light rays.

50) Students explain ways that energy can be changed from one form to another. For example, heat and light are involved in physical and chemical changes and at times may be accompanied by sound.

**Activity example:** Students study the mechanics of internal combustion. Knowing that hydrocarbons are burned to create heat, light and exhaust gases, the students notice that the explosions are accompanied by sound energy as well.

51) Students demonstrate principles of electrical circuits.

**Activity example:** Students use batteries, bulbs and instrumentation to measure and analyze electrical energy resistance, current and power. They use electric currents to produce electromagnetic coils of wire, and conversely, use a moving magnet to generate a current in a circuit.

SCIENCE IN PERSONAL AND SOCIAL PERSPECTIVES

52) 1. Students learn how the human body works and about making choices related to safety and healthy living.

**Activity Example:** In school, students discuss the importance of regular exercise and healthy food choices in order to maintain their bodies and improve their overall health.
Activity Example: In “Life Education” students learn about male and female reproductive organs, the functions of these organs, and the effects of puberty on the body.

Activity Example: In “Life Education”, students discuss how drugs and cigarettes affect the human body; they brainstorm and role play to practice making healthy choices.

53) 2. Students learn that natural hazards can change or destroy habitats.

Activity Example: Students investigate tsunamis and design models that replicate their destructive effects.

54) 3. Students come to understand that human activity can accelerate Earth’s natural changes.

Activity Example: In preparation for participation in a political rally called “Step it Up, Congress!” students investigate the relationship between human consumption and climate change. Students raise awareness of this issue by organizing a school committee and writing letters to and meeting with local politicians.

55) 4. Students learn that basic human needs are met by resources in the environment and that humans can take care of their environment to protect these resources.

Activity Example: Students consciously pack lunch and snacks in reusable containers and recycle organic waste in a sustainable classroom worm bin.

Activity Example: Students recycle plastic, aluminum, glass, and paper in classroom receptacles and transport the recyclables to the next stage in the process.

56) 5. Students learn that scientists and engineers work in many different settings, including colleges and universities, business and industries, specific research institutes and government agencies.

Activity Example: On a field trip to a hospital, students watch a live video of a surgery in which dye is inserted into a human heart to locate heart blockage. After the procedure, the surgeon meets with the students and discusses how this research is funded by the National Institutes of Health.

**NATURE AND HISTORY OF SCIENCE**

57) Students come to understand that science and technology have advanced through contributions of many different people in different cultures at different times, and that these advances often involve overcoming various challenges.

Activity Example: In a geography lesson titled “The History of Maps,” students research contributions to cartography made by people of ancient cultures including the Sumerians, Egyptians, and Chinese.

Activity Example: During studies of early civilizations, students investigate and make a presentation to classmates on technological advances and innovative agricultural practices of the Sumerians.

58) Students come to understand that scientific inquiry is a multi-step process that involves identifying questions that can be answered through investigation, designing and conducting investigations, using appropriate tools and methods to collect and analyze data, making predictions, and formulating clear explanations of outcomes and evidence.

Activity Example: Students make predictions then test and compare a plant’s absorption of six different substances including water, dish soap, liquid soap, Kool-Aid, sand, and oil. Over a period of several weeks, students observe the plants, record results using text and illustrations, and discuss their findings.
59) Students come to understand science as a distinctly human endeavor.

**Activity Example:** While studying the history of ancient humans, students learn that the discovery of Lucy, an australopithicine, replaced scientists’ previously held theory that Homo erectus was the first hominid species that stood upright.

**Activity Example:** Students discuss scientists’ opposing opinions regarding the taxonomy of viruses.

**Activity Example:** In a hydroponics unit, students attempt to grow plants in water using various methods, observing and discussing why some approaches are successful and others are not.

60) Students come to understand the importance of individual contributions as well as collaboration in scientific endeavors.

**Activity Example:** Students investigate the physics of water by creating a water park built from simple machines. Students present individual ideas and then work collaboratively to plan, revise and develop a final product. Assessment is based on individual contribution as well as the overall effort and success of the team.
LISTENING COMPREHENSION
1. Can the student understand the main points and some of the detail from a short spoken passage with visual cues?

   Activity Example: Sentences describing what people are wearing
   Activity Example: Sentences describing what they are doing
   Activity Example: An announcement or message from the teacher
   Activity Example: An expression of a familiar character in a video.

READING COMPREHENSION
2. Can the student understand the main points and some of the detail from a short written passage?

   Activity Example: Three or four sentences of information about a friend.
   Activity Example: A description of someone’s school day.
   Activity Example: A description of how someone is feeling.

SPEAKING
3. Can the student take part in a simple conversation and express his/her opinions?

   Activity Example: Discussing favorite foods.
   Activity Example: Describe a picture with a partner (colors, shapes and objects)
   Activity Example: Describe the weather
   Activity Example: Asking for and giving directions.

WRITING
4. Can the student write a short text on a familiar topic, adapting language which he/she has already learned?

   Activity Example: A postcard or simple note or message.
   Activity Example: A three to four sentence description (about = clothes, a person or animal, a place
   Activity Example: A greeting card.

CULTURE
5. Students understand what appropriate gestures and oral expressions for greetings, leave-talking and common classroom interactions such as:

   Activity Example: Addressing an adult formally and their classmates informally.
Activity Example: Accompanying greetings with a kiss on the cheek and un abrazo or a handshake.

6. Students participate in age-appropriate cultural activities such as:

   Activity Example: Games and songs.
   Activity Example: Birthday celebrations and dramatizations appropriate to the Hispanic community.
   Activity Example: Typical foods

VOCABULARY  E=exposure, R=recognition, P=production

- Review of previous year’s vocabulary curriculum.
- Describing oneself in short sentences.
- Occupations.
- Asking for things politely “May I have”.
- Counting to 100.
- Naming selected countries.
- Telling where one comes from.
- Use of questions words “Where, what? who?”.
- Identifying objects by distinguishing this/these/those.
- Giving orders.
- Prepositions of place “under, over, in, etc.”
- Telling time.
- Describing daily activities.
- Hobbies and leisure activities.
- Identifying rooms and floors in a house.
- Saying directions “left, right, straight”
- Expressing fear.
- Comparing people and things.
- Using ordinal numbers.
- Asking/offering help.
- Giving compliments & criticism.

GRAMMAR  E=exposure, R=recognition, P=production

- Gender and number agreement in adjectives.
- Say I have and I am.
- Vowel sounds.
- The alphabet
- Personal pronouns.
- Verb TO BE “Ser”.

MATERIALS

- Muzzy 1 Video
- Muzzy 1 Interactive DVD
- Materials created by the teacher.
- Materials created or found (online, in books, catalogs, etc.) by the teacher.
- Games, books, crafts, etc.
Spanish (Middles)

LISTENING COMPREHENSION
1. Can the student understand the main points and simple opinions (e.g. likes and dislikes) of a longer spoken passage?
   - **Activity Example:** Children talking about their likes and dislikes
   - **Activity Example:** Descriptors of how people are.
   - **Activity Example:** Give and follow simple directions and command.

READING COMPREHENSION
2. Can the student understand the main points and simple opinions (e.g. likes & dislikes) of a longer written text?
   - **Activity Example:** A postcard or letter from a pen pal.
   - **Activity Example:** A description of what is making a person feel ill.
   - **Activity Example:** A part of a story.
   - **Activity Example:** Arrange in sequential order a group of sentences to form a story.

SPEAKING
3. Can the student give a short prepared talk, on a topic of his/her choice, including expressing personal opinions?
   - **Activity Example:** Talk about a familiar subject.
   - **Activity Example:** Describe a picture or tell a part of a story
   - **Activity Example:** Make a presentation to the class.

WRITING
4. Can the student write a short text on a range of familiar topics?
   - **Activity Example:** Four to six sentences describing oneself or a friend.
   - **Activity Example:** Four to six sentences describing a picture.
   - **Activity Example:** A postcard or greeting card.

CULTURE
5. Students understand what appropriate gestures and oral expressions for greetings, leave-talking and common classroom interactions such as:
   - **Activity Example:** Addressing the teacher formally and their classmates informally.
   - **Activity Example:** Accompanying greetings with a kiss on the cheek and un abrazo or a handshake.

6. Students participate in age-appropriate cultural activities such as:
   - **Activity Example:** Games and songs.
   - **Activity Example:** Birthday celebrations and dramatizations appropriate to the Hispanic community.
Activity Example: Sing songs for each celebration, and describing practices.
Activity Example: Typical foods
Activity Example: Gift giving traditions.
Activity Example: Students also listen to music from different Hispanic countries.
Activity Example: Students watch videos that represent the culture and life in other countries.

**VOCABULARY**  E=exposure, R=recognition, P=production

Review of UE lower voc.
Introductions.
Telling time and say expressions like “late and early”.
Expressing possession: “mine, his, ours, etc.”.
Expressing needs.
Clothing items and the expression “I am wearing”
Giving orders.
Asking and saying what one is doing.
Expressions of likes and dislikes.
Prepositions of place.
House nouns.

**GRAMMAR**  E=exposure, R=recognition, P=production

- Personal pronouns.
- Verb TO BE “ser”.
- Verb TO BE “estar”.
- Possessive pronouns.
- Within a context, exposure to:
  - Present tense.
  - Present progressive.
  - Past actions.
  - Future actions.
  - Commands.
  - Question words.
  - Present perfect.

**MATERIALS**

- Muzzy 1I Video
- Muzzy 1I Interactive DVD
- Materials created or found (online, in books, catalogs, etc.) by the teacher.
- Games, books, crafts, etc.
Spanish (Seniors)

LISTENING COMPREHENSION
1. Can the student understand spoken passages referring to present and past or future events?
   
   Activity Example: Someone giving details of what he or she did during the holiday or the weekend.
   Activity Example: A telephone conversation arranging to meet someone.
   Activity Example: A conversation in which people talk about what they are going to do at the weekend.

READING COMPREHENSION
2. Can the student understand longer texts and distinguish present and past or future events?
   
   Activity Example: A short story
   Activity Example: A description of a room in a hotel.
   Activity Example: An address and the directions of how to get to a place.

SPEAKING
3. Can the student give a short prepared talk, on a topic of his/her choice, expressing opinions and answering simple questions about it?
   
   Activity Example: Talking about favorite places to vacation at.
   Activity Example: Describe a restaurant and the type of food that it has.
   Activity Example: Asking and answering questions about a personal interest like a hobby, sport or a familiar movie.

WRITING
4. Can the student write a simple text, e.g. a letter, giving and seeking information?
   
   Activity Example: About holidays.
   Activity Example: Hobbies.
   Activity Example: Places of interest in a city.
   Activity Example: Hotel accommodations.

CULTURE
5. Students read about typical celebration on Hispanic countries and make comparisons with the ones they celebrate. Some of these events are:
   
   - Día de la independencia
   - Inti Raymi “festival of the sun”.
   - Cinco de Mayo
   - New Years eve and day
   - Christmas
   - La fallas
   - Día de Simón Bolívar
   - Holy week
   - October 12
   - The day of the dead
   - Festival de Málaga
   - Festival de San Fermin.
Activity Example: Students also listen to music from different Hispanic countries.

**VOCABULARY** E=exposure, R=recognition, P=production
- Personal introductions
- Simple social situations (I don’t understand)
- Telling where you live
- Ordering at a café
- Give and ask for basic directions
- Learn to greet and meet
- Order food at a restaurant
- Shopping at the market for a present
- Telling the time and date
- Learn to buy travel tickets
- Learn to book a room and check in a hotel
- Shop for food and basic items
- Learn to order a meal
- Express likes and dislikes
- The months of the year
- The days of the week
- Shop for clothes and shoes
- Hire a car
- House rooms
- Body parts
- The weather

**GRAMMAR** E=exposure, R=recognition, P=production
- Subject and number agreement for adjectives
- Subject pronouns
- Formal and informal “you”
- Numbers 16-99
- Verb “To be”
- Ser vs. estar (exposure only)
- Demonstrative pronouns and adjectives
- Possessive pronouns
- Present tense simple ar – er – ir- ending verbs
- Express likes and dislikes
- Expressions of “tener”
- Question words
- Reflexive verbs.
- Within a context, exposure to:
  - Present progressive.
  - Past actions.
  - Future actions.
  - Commands.
  - Question words.
  - Present perfect.
  - Reflexive verbs
MATERIALS
From BBC
Languages
“Mi Vida Loca”
A real drama story with 22 episodes. Also, materials created by the teacher
UPPER ELEMENTARY CURRICULUM
Anti-Bias

LMS aims to nurture in each student the construction of a knowledgeable, confident identity as an individual and as a member of multiple cultural groups (such as gender, race, ethnicity, or class). We enable children to have comfortable, empathetic interactions with people from diverse backgrounds. We also foster each child’s ability to recognize bias and injustice, and cultivate each child’s ability to stand up, individually and with others, against bias or injustice.

Learning Objectives and Activity Examples Include: (The four objectives listed below are adapted from the goals proposed by “Start Seeking Diversity,” Redleaf Press)

1. Nurture the construction of a knowledgeable, confident identity as an individual and as a member of multiple cultural groups (such as gender, race, ethnicity, or class).

   a. We create conditions (prepare environments) so that all children are able to like who they are without needing to feel superior to anyone else.

   b. We challenge “internalized superiority” and “internalized oppression”?

   c. We help children of non-dominant cultures develop abilities to operate in both their home culture and the dominant culture.

   d. We help children develop the ability to negotiate and problem solve when issues arise from difference between home cultures and the dominant culture

• To display images of American diversity…

   Activity Example: Students from an UE advisor group post a “welcome” sign written in many different languages.

   Activity Example: The UE class learns the “The Peace Song,” with lyrics that include the word “peace” in sixteen different languages. They follow this by creating posters with “peace” written in sixteen different languages.

   Activity Example: The UE classroom displays poster images including: Women Who Dared I & II, The Peace Poster, images of Native Americans, a photo of Martin Luther King, Jr., and JFK posters.

• To read literature that reflects the above diversity…

   Activity Example: The UE classroom library offers a diverse selection of books for independent reading.

   Activity Example: UE teachers keep diversity in mind when they choose literature for lit circle (Bud Not Buddy, addresses poverty and racism through the character of a young black orphan in Michigan. Esperanza Rising deals with classism and racism through the eyes of a Mexican farm worker during The Great Depression), and they include literary analysis questions that address issues of bias.

• To include diversity in our learning materials, assignments…
Activity Example: In the opening days of the school year, Upper Elementary students complete Learning Style Inventories to identify their individual tendencies and to celebrate the class diversity.

Activity Example: The UE class celebrates diversity during the Thanksgiving season by gathering and tasting a large variety of breads or grains, of fruits from around the world.

Activity Example: As UE students prepare for their week-long trip to New York City, they learn about the immigration experiences of people from many different cultures.

• To welcome celebrations and observances of special events of diverse groups…
  Activity Example: A parent who grew up in Mexico visits the UE class to share experiences and offer a celebration of Dia de los Muertos.

• To welcome for sharing artifacts and behaviors of non-dominant cultures…
  Activity Example: A CH teacher who practices Islam visits the UE class to discuss her practice and beliefs.
  Activity Example: Spanish classes explore the geographical, historical, economic and social class similarities and differences among nations of North America, Central America, South America and the Caribbean region.

• To be cautious about unwittingly reinforcing the assumption that all of our students observe macrocultural events…
  Activity Example: The UE community is careful to be inclusive during the winter holiday season. When they exchange gifts and appreciation poems, they call the event the Secret Snowflake exchange.

• To be careful about assuming that all of our students have access to money or resources for shared experiences…
  Activity Example: The UE program raises money for travels by selling pizza weekly. Purchases are subsidized for students who otherwise could not afford to participate.
  Activity Example: UE teachers are careful to moderate vacation discussions to avoid inadvertently drawing attention to exclusive travel experiences and the like.
  Activity Example: UE teachers do not assume that all students have easy access to a computer with Internet connectivity. Assignments should be “typed or neatly handwritten.”
  Activity Example: When the UE community travels, teachers limit spending money and avoid visits to gift shops.

• To challenge stereotypes…
  Activity Example: In an American history lesson, students study the WamSutta speech, given by a Wampanoag Indian at the 200th anniversary of Plimoth, gaining a Native American perspective of the historic event.
  Activity Example: Upper Elementary students discuss issues of body image and stereotyping during Life Ed curriculum sessions. A local high school student leader visits to discuss her personal struggles and decisions in this regard.

• To help students operating in different cultures…
Activity Example: A group of elementary children gathers for their regularly scheduled affinity group lunch, where they share commonalities of their Jewish heritage. (Other affinity groups include Hispanic heritage, Asian heritage, African-American heritage, and children with two homes.)

Activity Example: A UE teacher intervenes during a lunchtime conversation when she notices that some students find a friend’s ethnic lunch unappetizing. She reminds them to respect differences.

2. Promote comfortable, empathetic interaction with people from diverse backgrounds.
   a. We foster children’s interest in and empathy with difference.

   Activity Example: In preparation for the celebration of bounty at Thanksgiving, students celebrate foods from around the world. Each student cooks a different kind of dish, which represents his or her cultural background. Children learn to appreciate and respect different cultures and their specific foods.

   b. We counter children’s fear or judgment of difference.

   Activity Example: We invite guests visit the upper elementary classroom to describe their culture of origin. A guest speaker from Bahrain gave a presentation about what it means to be Arab, deepening the students’ understanding of terms and traditions and helping children understand the context for the spring of revolution.

   Activity Example: In Literature Circle, students read *Maniac Magee*, by Jerry Spinelli and discuss issues of fear and judgment of differences.

   c. We help children learn to negotiate day-to-day natural discomfort, tensions, problems or conflicts that can arise from difference.

   Activity Example: When conflicts and tensions related to differences arise in the classroom, the individuals involved, sometimes along with the full community, reflects on the episode and the related issues, all in the context of a non-negotiable expectation that we embrace and respect differences. These discussions range from the hurtfulness of name calling to that of stereotyping.

   d. We engender in children recognition of commonalities that all people share.

   Activity Example: The upper elementary history curriculum stresses the commonalities of all people. We study our root ancestry, and we structure our research around the fundamental human needs that we all share.

3. Foster each child’s ability to recognize bias and injustice.
   a. We help children develop the knowledge and analytical skills to identify unfair and untrue images (stereotypes) directed at one’s own or another’s identity.

   Activity Example: Students examine and explore topics of bias and injustice through literature circle. A group reading *Esperanza Rising*, by Pam Muñoz Ryan discusses the bias that exists in California towards migrant workers. Another group, reading *Flowers for Algernon*, by Daniel Keyes, discusses stereotypes and unfair treatment of people who are mentally challenged.
Activity Example: In preparation for the celebration of bounty at Thanksgiving, the upper elementary class explores the unjust differences in food availability among socio-economic classes. Using the “Hunger Banquet,” designed by Oxfam International, we orchestrate a role-play whereby students experience these differences. They then reflect and express their feelings.

Activity Example: Upper elementary teachers create curriculum that provides opportunity for exploration of multiple historical perspectives. In sixth grade history, we read experts from “A History of US,” which offers many views on historical events.

Activity Example: We help children develop the knowledge and analytical skills to identify unfair and untrue comments (teasing and name-calling) directed at one’s own or another’s identity...

Activity Example: Upper elementary teachers teach children about the power of words, and how labeling anyone for any reason is not okay. When a student is called “gay” in an offensive manner on the playground, the class comes together to discuss the issue. Discussion topics range from the hurtfulness of name calling to the hurtfulness of relating different words to negative connotations.

Activity Example: When a child criticizes another student’s lunch, calling it “strange,” a teacher facilitates a conversation on differences, relating it to the fundamental needs of all humans.

Activity Example: Upper elementary teachers teach children about the power of words, and how labeling anyone for any reason is not okay. When a student is called “gay” in an offensive manner on the playground, the class comes together to discuss the issue. Discussion topics range from the hurtfulness of name calling to the hurtfulness of relating different words to negative connotations.

Activity Example: Upper elementary teachers create curriculum that provides opportunity for exploration of multiple historical perspectives. In sixth grade history, we read experts from “A History of US,” which offers many views on historical events.

Activity Example: We help children develop the knowledge and analytical skills to identify unfair behaviors (discrimination) directed at one’s own or another’s identity...

Activity Example: In preparation for our trip to Maine, students receive a lesson on stereotyping. They examine their own preconceived notions about Native Americans, and they explore the discrimination that many Native Americans have experienced since the coming of Europeans.

Activity Example: In preparation for our trip to NYC, orchestrate a simulation of immigrant processing at Ellis Island. Children experience some of the discrimination and unjust behavior, and are given the opportunity to reflect on this.

Activity Example: In a morning advisor group meeting, students discuss the discrimination towards people with special needs brought up by their read aloud book, Al Capone Does My Shirts, by Gennifer Choldenko.”

4. Cultivate each child’s ability to stand up, individually and with others, against bias or injustice.

   a. We help every child learn and practice a variety of ways to act in the face of bias expressed by other children and adults.

      Activity Example: A UE teacher observes a group of students invite another to join them in the shade during outdoor lunch. The teacher encourages the act, saying, “It is nice to see you enjoying each other’s company.” During a group project, a UE teacher observes students collaborating and gathering input from all members, encouraging the less vocal peers. She points out the behavior, saying, "Five minds are stronger than one; it is nice to see you seeking out each others’ ideas."

      Activity Example: A UE teacher speaks directly to a student who has excluded another, guiding the student to remember previous experiences with a peace rose or peace table in order to see another’s perspective.
**Activity Example:** In a UE Life Ed class, students role-play a situation where they stand up to a peer/adult who shows bias.

**Activity Example:** UE teachers model a sincere apology and a parroted apology to show the difference in tone and sincerity.

**Activity Example:** UE teachers ask students to look each other in the eye when apologizing. They also ask the person who received the apology if it has felt genuine and honest. If not, the process is repeated.

**Activity Example:** UE students are reading and discussing *100 Dresses*, by Eleanor Estes.

**Activity Example:** LMS elementary children use formal community meetings to raise and correct issues of perceived unfairness in their communities.

**Activity Example:** All LMS children participate in annual discussions of the ways that UNICEF seeks to counter inequitable distribution of goods and resources. They are encouraged to help raise funds during the Trick or Treat for UNICEF campaign.

**Activity Example:** Upper elementary students read a short story called *My Name Is Osama*, and they discuss the life experiences of Arabs in the United States post 9/11.

**Activity Example:** Upper Elementary students read *Maniac Magee* in literature circle and discuss racial intolerance and building bridges between races.

**Activity Example:** Upper Elementary students read *Hope is Here* in Advisor Group and discuss the importance of standing up against injustice.

**Activity Example:** UE teachers introduce and use language that describes the dynamics of troublesome behavior, including “ally,” “bystander,” “bully,” “stereotype,” “hurt,” “courage,” “confidence,” “self-esteem,” “bias,” “prejudice,” “victim,” “target,” “intimidation,” “retribution,” “passive aggressive behavior,” “disguised bullying,” etc.

**Activity Example:** UE teachers regularly declare that all people are inherently good. Students are aware that people can behave poorly, that sometimes students make bad behavior choices. Teachers are careful to follow discussions with reminders that the offender is a valuable, wonderful person.
UPPER ELEMENTARY CURRICULUM

Physical Education

In the Upper Elementary Program, children review and begin to master skills acquired in the Lower Elementary Program. They are also introduced to a wide variety of new skills developmentally appropriate for this age level. Nine to twelve physical education will allow for the refinement of fundamental patterns, mature motor patterns, and selected isolated manipulative skills. Students will begin to be able to use these skills and combinations of skills in the context of actual performance situations. Children will begin to use teacher feedback to improve skills, and work with peers in cooperative settings. They will identify the purposes for and follow activity-specific practices, game and class rules, procedures, and sportsmanship. Students will continue to develop cooperative interpersonal skills to enable completion of a common goal while working with a partner or small group.

Lowers and Middles attach great importance to group membership and often choose participation in physical activity to be with their peers. This interaction allows for the opportunity to demonstrate leadership as well as learning to be a good follower. They continue to be challenged by learning new physical activities. All these skills contribute to the development of productive and responsible young citizens.

Seniors will begin to develop lifetime attitudes regarding physical activity and lifestyles during this time. They will realize that skill development is on-going and progressive, and that activity attitudes are best internalized by continued practice and that they need to incorporate principles of fitness into their daily lives. Acquiring these skills will provide them a foundation for enjoyment, continued social development through physical activity, and access to a physically active lifestyle.

Learning Objectives and Activities Include:

1. Use mature form for basic locomotor, non-locomotor, and manipulative skills in various form of physical activity.
   
   **Activity Example:** Children will demonstrate running, hopping, galloping, sliding, leaping, and skipping while participating in an individual/partner/group activity.

   **Activity Example:** Children will demonstrate balancing, dodging, swinging, rolling, landing, and stopping while participating in an individual/partner/group activity.

   **Activity Example:** Children will demonstrate throwing, catching, kicking, trapping, dribbling, striking, volleying, and bouncing while participating in an individual/partner/group activity.

   - Participate in modified/lead-up games using locomotor, non-locomotor, and manipulative skills
   - Participates in tumbling and basic gymnastics
   - Practice skills in high-organized games
   - Participate in team building activities

2. Participate in small group activities requiring knowledge and application of fundamental game concepts.
Activity Example: Children apply sport specific skills in modified game situations.

Activity Example: A child demonstrates the ability to adjust to unpredictable situations in activities/games.

Activity Example: Children participate in activities with various numbers of participants and types of implements and equipment.

3. Work cooperatively and productively with a partner and/or group to accomplish a set goal in both cooperative and competitive activities.

Activity Example: Children participate in a group activity in which each member must contribute to the completion of a set task or result.

Activity Example: Children participate in a competitive activity, demonstrating fair play, teamwork, sportsmanship, and self-control.

Activity Example: A child are able to explain how an activity can be both cooperative and competitive.

Activity Example: A child are able to work independently and on-task for longer periods of time.

• Practice individual skills with few teacher reminders
• Working in a small group, stay focused and on-task for the time given
• Participate in team building activities
• Participate in team activities
• Develop/practice socialization skills through peer interaction in cooperative games
UPPER ELEMENTARY CURRICULUM

Music

The Upper Elementary Music program has as its aims to train each child’s ear in tonal recognition, and each child’s voice in rendering simple conjunct melodies unaided by accompaniment. The program builds cumulatively on the group singing experience of the Children's House Music, and the note-reading literacy and elementary instrument training of the LE Music Program. Basic music theory is introduced in the form of scales, triads and harmony. Elementary training is also given in Guitar and String bass.

Learning Objectives and Activity Examples Include:

1. To expand the individual’s capacity for listening, expressing and communicating with sound.
   - Activity Example: (Articulation, Verbal and Vocal) Students practice diction and enunciation in songs, chants and raps, while observing rhyme, alliteration and other euphonies.
   - Activity Example: (Ensembles) Students practice and perform in ensembles of varying sizes and composition using keyboard, guitar, bass, xylophones, drums or percussion.
   - Activity Example: (Improvisation) Students practice and perform improvisations for one and two instruments.
   - Activity Example: (Composition) Students compose melodies and counterpoints according to the assignment provided by the instructor.
   - Activity Example: (Instrument construction) Students use simple hand tools to build string or wind instruments for their own use.

2. Objective: To explore society, nature and culture through music
   - Activity Example: (History and Music) Students observe and discuss historical narratives presented in some of our songs.
   - Activity Example: (Religion and music) Students discuss music connected to religious or spiritual traditions that may be celebrated by students at the school.
   - Activity Example: (Style) Students discuss composers, genres, regional styles and topical issues in the music we encounter.
   - Activity Example: (Family and Music) Students discuss and appreciate the musical influences of their families.
   - Activity Example: (Song purposes) Students identify or compose a song for a specific purpose.
   - Activity Example: (Music Languages) Students fluently pronounce and intone using Solfege and drum syllables. In various lessons they learn the cultural origins of these languages, and are also exposed to vocal and percussion languages from elsewhere.
   - Activity Example: (Koto, Chin and Erhu) Students explore, compose and practice music for any of several instruments from world traditions that appear in our classroom.

3. To train the Ear and Voice
   - Activity Example: (Song Circle) Students sing in unison and two parts from songbooks or notation.
Activity Example: (Solfege Singing) Students practice a weekly routine of complex melodic sequences at three different speeds. The patterns are eventually transposed onto new tones to practice new modes.

Activity Example: (Melodic Dictation) Students transcribe brief melodies by ear, and offer questions to check their work or enlighten their classmates.

Activity Example: (Interval Recognition and Classification) Students associate intervals with song-beginnings to recognize intervals by ear. They learn to classify intervals by dissonance/consonance, major/minor and perfection.

4. To develop and refine time skills: pulse, tempo, meter and rhythm.

Activity Example: (Hand Drum Vocabulary) Students play and recite complex sequences and routines using hand drums and a simple vocabulary of syllables. The drum is often replaced with a baton to observe the variations over the basic pulse.

Activity Example: (metric patterns) Students render metric patterns according to traditional and original models with drum language, conducting baton and percussion.

Activity Example: (Routines and drum compositions) Students create and compose original drum routines for unison or several parts.

Activity Example: (Time keeping and Conducting) Students conduct in patterns of 2, 3, 4, and 6 during our song circles, drum circles and solfege singing.

Activity Example: (Meter and syncopation) Students take turns playing syncopated riffs over a unison ostinato.

5. To introduce basic technique for musical instruments

Activity Example: (Manual training) Students practice posture and hand positions in lessons for Marimba, Keyboard and guitar.

Activity Example: (Tuning, Maintaining and Constructing instruments) Students observe the construction of the instruments they use, and learn to tune and maintain them.

Activity Example: (Geography problems on instruments) Students “find” on their instruments various tones, intervals or triads provided by the instructor.

Activity Example: (Accompaniment) Students render melodic and harmonic accompaniment for the song circle.

Activity Example: (Instrumental Sequences, Routines and Disciplines) Students transfer solfege routines to the Marimba, Keyboard or Guitar.

6. To practice music literacy. (3 Clefs, staff, ledger lines, Pitch names in Numbers, Alphabet and Solfege syllables, Time signature, Bars, double bars and repeat signs, Note durations, rests, Dotted values and Triples; Dynamic symbols, slurs, and phrase markings)

Activity Example: (Read, sing, or follow music from page or book) Students follow a score as they listen, or they sing or play from music notation.

Activity Example: (Analyze phrase structure) Students discover melody contours and structural emphasis using singing, listening, and observation of music notation.

Activity Example: (Edit incomplete scores) Students investigate missing rests, barlines and other notation anomalies in incomplete scores provided by the instructor.
Activity Example: (Compose, transcribe, or transpose melodies) Students use instruments and notation to compose melodies or transpose them to new keys.

Activity Example: (Sight-reading) Students read or sing tones from the staff using solfege syllables, when called upon by the instructor.

7. To explore basic Music Theory: Scales, Modes, and Key signature and harmony.

Activity Example: (Calculate Intervals) Students create basic equations that add and subtract intervals of various numbers of half-steps.

Activity Example: (Recognizing Triads) Students identify major, minor, diminished and augmented triads by ear when called upon by the instructor.

Activity Example: (Build Triads) Students build four types of triads on various tones of the staff.

Activity Example: (Finding Intervals) Students discover intervals on instruments and challenge one another to identify them.

Activity Example: (Triad Inversions) Students volunteer to identify by ear triads in root position, first, or second inversion, or are asked to invert triads they discover on instruments.

Activity Example: (Circle of Fifths) Students copy and draw the Circle of Fifths in a lesson that names all the keys and accidentals, and introduces the relative minor and enharmonic equivalence.
UPPER ELEMENTARY CURRICULUM

Practical Life

In the upper elementary years, children’s interest in others and in their world both broadens and deepens. As they begin to develop the ability to think abstractly, they expand their capacity for reflective thought. Although often self-absorbed and fiercely independent, they also extend their peer group, look for non-parent adult role models, and develop a sense of responsibility and power as the oldest members of the student community. Their feeling of connection to a broader world community develops. Practical life activities at this level are intimately interwoven with basic skill work: in planning a meal for the class, children must accurately compute both amounts and costs.

Learning objectives and related activities include:

1) Children will care for themselves and their learning, building their sense of responsibility.

   Activity example: A ten year-old girl, after a conversation with her advisor, decides to stay for Work-and-Help on Tuesday afternoon in order to meet her weekly goals.

   Activity example: A 5th grade girl manages her clothing in her suitcase and is able to easily pack at the end of a five day trip.

   Other such activities include:
   - Working effectively with a teacher as advisor and with the advisor group
   - Goal setting and use of the weekly planner to achieve goals
   - Self-assessing progress and performance in science, reading and writing
   - Participating in parent-teacher-student conferences
   - Generating of ideas for long-term projects and senior projects
   - Conceptualizing, researching, planning, and executing independent study
   - Looking after others as well as self on field trips
   - Using public transportation
   - Moving independently around the school
   - Takes responsibilities for dressing appropriately for the weather

2) Children will responsibly care for their belongings.

   Activity example: A fourth grade boy brings his epi-pen to the recess field and remembers to bring it down at the end of recess

   Other such activities include:
   - Remembering medication times, special commitments, and individual responsibilities
   - Maintaining own cubby, locker and files
   - Managing money, belongings, self on overnight field trips

3) Children will take responsibility for the care of their environment.

   Activity example: A 5th grade girl oversees the greenhouse and works with a small committee of other students to take care of the plants.

   Other such activities include:
   - Setting up lunch groups; cleaning up after lunch groups
   - Classroom clean up, set up, moving and maintenance; care of plants and animals
• Maintenance jobs in the classroom

4) Children will take responsibility for the care of their class community.

Activity example: A student writes an agenda item on a community meeting clipboard. On Friday afternoon, a sixth grader will facilitate a class-wide meeting to resolve that issue and others.

Other such activities include:
• Performing various classroom maintenance jobs
• Looking after others as well as self on field trips
• Mediating and resolving conflicts using techniques learned in Life Ed.
• Using adults as resources for social as well as academic issues and concerns
• Facilitating and communicating in a community forum.

5) Children will take responsibility for the care of their school community, realizing their increased influence in the school community and exercising it responsibly.

Activity example: A fifth grade boy notices that the hallways are overcrowded following recess. He brings the issue to a community meeting, to other classrooms’ meetings, and eventually to the Head of School. Ultimately, the problem is resolved when all the groups consent to a solution.

Other such activities include:
• Touring prospective families for Admissions
• Caring for preschool class “buddy”
• Accompanying younger siblings or bus mates to early morning childcare
• Providing on-site evening child care for during school events
• Reading and listening to early readers in preschool classrooms
• Taking pizza orders, collecting money, and delivering
• Participating as leaders as well as contributors to community meetings
• Planning and executing all school fundraisers for their class trip: Ice Cream Social, Pancake Breakfast
• Planning and participating in the Quest, a moving up ceremony for third to fourth graders
• Participation in school-wide jobs, like recycling, carrying messages, etc.

6) Children will express social and global responsibility.

Activity example: A group of students collects the UNICEF boxes that have been filled by students throughout the school, emptying the boxes and preparing the money for sending to NY.

Other such activities include:
• Singing at Brookhaven, a home for seniors
• UNICEF
• Conducting themselves in public spaces
• World hunger banquet
• Legislative activism
• Canned food drive to benefit local shelter
UPPER ELEMENTARY CURRICULUM

Visual Art

The art program at Lexington Montessori School is based on the premise that all children are natural artists and have an artistic voice. By modeling respect for the child and providing developmentally appropriate art activities, children in the 9-12 program are encouraged to experiment with self-expression, to explore new materials, tools and techniques and to build upon previously developed skills. Children learn to think creatively, to use their “right brains,” and to take risks with ideas and materials. Mistakes become opportunities to try something different.

In the Upper Elementary level, students come to art for one hour per week and learn more advanced elements of drawing (e.g. perspective, value, and composition), painting, and form (making three-dimensional structures, clay people, sculpture). Increasingly, each student’s individual voice emerges and students reflect on their own progress through writing self-assessments. We have discussions in art class that involve critical thinking skills about their own and other artists’ work.

In Upper Elementary Art, students build on specific skills begun in the Lower Elementary program. Silent Drawing Notebooks continue to be an important part of our curriculum as students develop and refine observational and fine-motor skills. We continue to offer a broad spectrum of projects, both two- and three-dimensional: color mixing and painting, printmaking, ceramics, sculpture made from recyclable materials, self-portraiture, collage and mixed media, and more. Students are introduced to the slab roller for handbuilding ceramics, a printing press for printmaking, and a range of tools and techniques to enhance their artistic experiences.

In addition to work in the art room, children create art in their classrooms. Students illustrate their writing, make models for the study of earth science, design scenery and props for plays, and other activities related to classroom curricula. The art teacher and classroom teachers often collaborate on special projects. The art teacher is a resource for the classroom teachers and often helps supply materials and techniques for classroom art activities.

Children learn about art and artists through participating in the Visual Thinking Strategies curriculum presented by the art teacher throughout the year. This art appreciation curriculum helps children use critical thinking and observational skills while interacting with works of art to deepen their visual literacy.

Exhibiting artwork throughout the school allows us to celebrate each child’s creativity and work. The annual LMS Art Show takes place during the month of May and each child in the school is represented. Mural making and other community art projects further enhance our visual arts curricula.
Learning Objectives and Activity Examples may include:

1. Students will explore a variety of methods, materials, and techniques in both two- and three-dimensions.

   Activity Example: Drawing - Students explore a range of drawing tools, practice one and two-point perspective drawings, and create form through crosshatching and use of value (shading).

   Activity Example: Painting - Students create a color wheel and experiment with advanced color mixing, gray scales, complementary colors, and different paints.

   Activity Example: Clay - Students learn more advanced techniques for hand-building with clay, including use of the slab roller. Slabs may be used to build mirrors, boxes, shoes, birdhouses, etc.

2. Students will experiment with elements and principles of design using color, line, texture, shape and form, pattern and symmetry, and space and composition.

   Activity Example: Students study both one- and two-point perspective based on techniques developed by the Renaissance artists and then create a fantasy drawing.

   Activity Example: Students tear paste papers to collage a self-portrait and then, using permanent marker, draw a line composition on top of the papers.

3. Students will create art from direct observation.

   Activity Example: Students examine items on the Silent Drawing Tray (which changes monthly) and draw directly from observation in their Silent Drawing Notebooks. Examples of monthly themes include plastic and real food, art room tools and materials, household utensils, superheroes and dolls, natural and found materials.

   Activity Example: Using mirrors, students examine their faces and draw pastel self-portraits annually.

   Activity Example: Students select a piece of popcorn from a tray, make a detailed drawing, and then return their popcorn to the tray to find their piece among the hundred on the tray.

   Activity Example: Students take turns modeling, or use figurines to observe positions of the body. They then create a montage of figures in different positions using different drawing materials.

4. Students will brainstorm and use imaginative thinking throughout the artistic process.

   Activity Example: Students make self-portrait shoes and “If I were a bird” birdhouses out of clay.

   Activity Example: Students collaboratively create PEACE PLANETS to celebrate Martin Luther King, Jr.’s birthday.

   Activity Example: After viewing special boxes from Africa (ornate coffins from Ghana), students brainstorm ideas for their own special box to represent “themselves”, and build their box using different clay techniques.

5. Students will express ideas, emotions, and beliefs through their art.

   Activity Example: Using clay and mixed media, students make individualized place settings (in the spirit of Judy Chicago), including thematic cutlery and tableware.

   Activity Example: Students create self-portraits on big paper using different materials (tempera paints, collage, mixed media).
Activity Example: After learning principles of composition, students illustrate words, ideas, and emotions using cut paper.

6. Students will apply analytical and critical thinking to respond to works of art.

Activity Example: Students engage in Visual Thinking Strategies and respond to works of art. “What do you notice?” “What makes you say that?” and “What more do you see?”

Activity Example: Students analyze images of ancient India and then design motifs illustrating aspects of daily life. They carve these motifs into erasers and stamp the borders of their accordion-fold books.

7. Students will investigate the cultural and historical contexts of the arts.

Activity Example: While learning about color theory, students look at how artists use their ideas of color to develop the Pointillist and Impressionist styles. Then students incorporate these ideas in their paintings.

8. Students will connect the arts with other classroom curricula.

Activity Example: Students study form based on the Montessori geometric solids (ovoid, cylinder, sphere, and cone), and use their observations in their 3D work.

Activity Example: After students are given lessons in the art room on watercolor, printmaking (stamp making), and metal embossing, they incorporate these techniques to make an accordion fold book in which to present their history work.

Activity Example: In conjunction with math lessons in the classroom, students may create artwork incorporating “Patterns in Nature” or “Tessellations”.

9. Students will participate in the community’s cultural and artistic life.

Activity Example: Students use art during the annual Residency program to produce scenery and props for the production, create a group sculpture or mural, or explore individual artwork tied to the Residency theme.

Activity Example: All students participate in the annual LMS Art Show. Students also make individual block prints and add them to the publicity posters.