Journey School – Grade Two Content Standards
From the California State Board of Education Standards and Framework

Grade Two
English-Language Arts Content Standards

California State Standards	Journey School Alignment	Remarks
Reading		
1.0 Word Analysis, Fluency, and Systematic Vocabulary Development Students understand the basic features of reading. They select letter patterns and know how to translate them into spoken language by using phonics, syllabication, and word parts. They apply this knowledge to achieve fluent oral and silent reading.	**1.0 As stated, in addition:** Students read aloud fluently on a daily basis using appropriate intonation and expression which furthers their comprehension.	
Decoding and Word Recognition 1.1 Recognize and use knowledge of spelling patterns (e.g., diphthongs, special vowel spellings) when reading. 1.2 Apply knowledge of basic syllabication rules when reading (e.g., vowel-consonant-vowel = su/ per; vowel-consonant/consonant-vowel = sup/ per). 1.3 Decode two-syllable nonsense words and regular multisyllable words. 1.4 Recognize common abbreviations (e.g., Jan., Sun., Mr., St.). 1.5 Identify and correctly use regular plurals (e.g., -s, -es, -ies) and irregular plurals (e.g., fly/ flies, wife/ wives). 1.6 Read aloud fluently and accurately and with appropriate intonation and expression.	**1.1-1.6 As stated, in addition:** Students become increasingly more fluent both in silent reading and reading aloud. They have a deepened understanding of word parts and syllabication with a greater emphasis on phonics.	
Vocabulary and Concept Development 1.7 Understand and explain common antonyms and synonyms. 1.8 Use knowledge of individual words in unknown compound words to predict their meaning. 1.9 Know the meaning of simple prefixes and suffixes (e.g., over-, un-, -ing, -ly). 1.10 Identify simple multiple-meaning words.	**1.7-1.10 As stated, in addition:** The understanding of antonyms and synonyms come through experiences, games and activities where the students are asked to describe opposite and similar kinds of experiences with different words and realia. This will also lead into an understanding of how some words that sound the same have different meanings. Secondary meanings of the same word is also learned this year e.g., "ski" is both a noun and a verb. The students experience this in stories that the teacher will create as well as in daily practice.	
2.0 Reading Comprehension Students read and understand grade-level-appropriate material. They draw upon a variety of comprehension strategies as needed (e.g., generating and responding to essential questions, making predictions, comparing information from several sources). The selections in Recommended Readings in Literature, Kindergarten Through Grade Eight illustrate the quality and complexity of the materials to be read by students. In addition to their regular school reading, by grade four, students read one-half million words annually, including a good representation of grade-level-appropriate narrative and expository text (e.g., classic and contemporary literature, magazines, newspapers, online information). In grade two, students continue to make progress toward this goal.	**2.0 As stated, in addition:** The various stories students work with involving heroes and fables, allow them to create alternative endings that become subject for drama and written activity and support the development of reading comprehension.	

Structural Features of Informational Materials 2.1 Use titles, tables of contents, and chapter headings to locate information in expository text.	**2.1 As stated, in addition:** Chapters, titles, contents etc. are learned when students are exposed to stories in books they are writing.	
Comprehension and Analysis of Grade-Level-Appropriate Text 2.2 State the purpose in reading (i. e., tell what information is sought). 2.3 Use knowledge of the author's purpose(s) to comprehend informational text. 2.4 Ask clarifying questions about essential textual elements of exposition (e.g., why, what if, how). 2.5 Restate facts and details in the text to clarify and organize ideas. 2.6 Recognize cause-and-effect relationships in a text. 2.7 Interpret information from diagrams, charts, and graphs. 2.8 Follow two-step written instructions.	**2.1-2.8 As stated, in addition:** Further examination of the stories clarify the purpose of the texts. As the students read and write stories of fables, they gain a sense of the purpose. For example, in the story of the "Tortoise and the Hare", which they are told, then write and finally dramatize, each student has the opportunity to be a tortoise and a hare which gives greater meaning and purpose to the story This story is refected upon during knitting.	
3.0. Literary Response and Analysis Students read and respond to a wide variety of significant works of children's literature. They distinguish between the structural features of the text and the literary terms or elements (e.g., theme, plot, setting, characters). The selections in Recommended Readings in Literature, Kindergarten Through Grade Eight illustrate the quality and complexity of the materials to be read by students.	**3.0 As stated, in addition:** The teacher maintains the integrity of the story as a whole and interprets literary response through artistic and dramatic means including written instruction.	
Narrative Analysis of Grade-Level-Appropriate Text 3.1 Compare and contrast plots, settings, and characters presented by different authors. 3.2 Generate alternative endings to plots and identify the reason or reasons for, and the impact of, the alternatives. 3.3 Compare and contrast different versions of the same stories that reflect different cultures. 3.4 Identify the use of rhythm, rhyme, and alliteration in poetry	**3.1-3.4 As stated, in addition:** Student texts include "Aesop's Fables", nature stories, Indian legends and stories of heroes throughout history. On a daily basis, students work with poems and rhythms that help them identify the use of rhyme and alliteration in poetry.	
Writing		
1.0 Writing Strategies Students write clear and coherent sentences and paragraphs that develop a central idea. Their writing shows they consider the audience and purpose. Students progress through the stages of the writing process (e.g., prewriting, drafting, revising, editing successive versions).	**1.0 As stated.** The formal writing process is learned in third grade. There is a focus on group generated summaries as model for second grade writers.	

Organization and Focus 1.1 Group related ideas and maintain a consistent focus. Penmanship 1.2 Create readable documents with legible handwriting. Research 1.3 Understand the purposes of various reference materials (e.g., dictionary, thesaurus, atlas). Evaluation and Revision 1.4 Revise original drafts to improve sequence and provide more descriptive detail.	**1.1-1.4 As stated, in addition:** Students begin the year with printing (both upper and lower case) and finish the year with an introduction to cursive writing. They will create books that are not only legible yet beautiful as well. The hero stories that students hear, lend themselves to the study of maps of different lands. As questions arise, students are introduced to the resources available, including the dictionary, thesaurus and other resources that assist them as they begin the writing and characterization of the stories they learn.	
2.0 Writing Applications (Genres and Their Characteristics) Students write compositions that describe and explain familiar objects, events, and experiences. Student writing demonstrates a command of standard American English and the drafting, research, and organizational strategies outlined in Writing Standard 1.0.	**2.As stated, in addition:** On a daily basis, students write a rough draft of the story they have heard. It is then corrected and revised before the final version is written into the books they create.	
Using the writing strategies of grade two outlined in Writing Standard 1.0, students: 2.1 Write brief narratives based on their experiences: a. Move through a logical sequence of events. b. Describe the setting, characters, objects, and events in detail. 2.2 Write a friendly letter complete with the date, salutation, body, closing, and signature.	**2.1- 2.2 As stated, in addition:** Students write narratives in books they create while being consistent in their artistic description of the settings. Letters are written as they arise in the context of particular holidays and celebrations.For example, a letter to a mother or grandmother is written prior to Mother's Day; thank you notes are written for gifts they have received for a birthday. All letters and activities in writing arise out of a context that makes sense to the practical life of a second grader.	
Written and Oral English Language Conventions		
The standards for written and oral English language conventions have been placed between those for writing and for listening and speaking because these conventions are essential to both sets of skills.		
1.0 Written and Oral English Language Convention Students write and speak with a command of standard English conventions appropriate to this grade level.	**1.0 As stated.**	

Sentence Structure 1.1 Distinguish between complete and incomplete sentences. 1.2 Recognize and use the correct word order in written sentences. **Grammar** 1.3 Identify and correctly use various parts of speech, including nouns and verbs, in writing and speaking. **Punctuation** 1.4 Use commas in the greeting and closure of a letter and with dates and items in a series. 1.5 Use quotation marks correctly. **Capitalization** 1.6 Capitalize all proper nouns, words at the beginning of sentences and greetings, months and days of the week, and titles and initials of people. **Spelling** 1.7 Spell frequently used, irregular words correctly (e.g., was, were, says, said, who, what, why). 1.8 Spell basic short-vowel, long-vowel, r- controlled, and consonant-blend patterns correctly.	**1.1-1.8 As stated, in addition:** Students work with dictation which allows them to recognize correct word order, first hearing it and then through writing and correction, finally producing sentences that were previously incomplete. The parts of speech (nouns and verbs) are acted out and recognized in the context of the stories they learn. Words are written using consistent colors, i.e. blue for nouns, red for verbs, etc. Punctuation is introduced in spoken language and then recognized in written form. Students are shown these conventions in their writing. Capitalization continues from the 1st Grade curriculum as the appropriate and necessary words that require capitalization are addressed. Spelling words arise out of the stories the children hear so that are constantly exposed to new and irregular words. Vocabulary is increased through the correct placement of various interesting words in the story summaries created by the teacher. Word family work is continued to support spelling development.	
Listening and Speaking		
1.0 Listening and Speaking Strategies Students listen critically and respond appropriately to oral communication. They speak in a manner that guides the listener to understand important ideas by using proper phrasing, pitch, and modulation.	**1.0 As stated, in addition:** Students listen to stories each day including nature stories, fables and stories of heroes. Since they hear them daily and recall them the following day, the students are thoroughly immersed in and well adjusted to this process. Given oral presentations of stories up to 20 minutes in length and a 24-hour interval, students recall the main sequence and details of the story. These include legends, fables and nature stories. Students will also create drawings and/or paintings depicting scenes from the stories. Given oral practice and stage directions, students perform plays before an audience. Given tongue twisters and sequencing designed to pronounce specific sounds, students perform the exercises with clarity. Movement and gestures are used to help in these exercises. Students chorally recite the poems with good diction, meter and expression. Selected poems are performed in front of audiences at assemblies.	

Comprehension 1.1 Determine the purpose or purposes of listening (e.g., to obtain information, to solve problems, for enjoyment). 1.2 Ask for clarification and explanation of stories and ideas. 1.3 Paraphrase information that has been shared orally by others. 1.4 Give and follow three-and four-step oral directions.	**1.1-1.4 As stated.**	
Organization and Delivery of Oral Communication 1.5 Organize presentations to maintain a clear focus. 1.6 Speak clearly and at an appropriate pace for the type of communication (e.g., informal discussion, report to class). 1.7 Recount experiences in a logical sequence. 1.8 Retell stories, including characters, setting, and plot. 1.9 Report on a topic with supportive facts and details	**1.5-1.9 As stated, in addition:** Students speak in front of the class on a regular basis recalling stories and all of the characters in order to develop their oral skills. This activity precedes the written account of the stories and is followed by dramatization of these same stories the next day.	
2.0 Speaking Applications (Genres and Their Characteristics) Students deliver brief recitations and oral presentations about familiar experiences or interests that are organized around a coherent thesis statement. Student speaking demonstrates a command of standard American English and the organizational and delivery strategies outlined in Listening and Speaking Standard 1.0.	**2.0 As stated.**	
Using the speaking strategies of grade two outlined in Listening and Speaking Standard 1.0, students: 2.1 Recount experiences or present stories: a. Move through a logical sequence of events. b. Describe story elements (e.g., characters, plot, setting). 2.2 Report on a topic with facts and details, drawing from several sources of information.	**2.1-2.2 As stated, in addition:** Each day students recite poems and tongue twisters that allow them to become familiar with language. They also recount and describe the elements of the stories they have heard. There are many opportunities to relay collections of facts. For example, in the study of animals, for instance cats, the students are invited to recount to the class episodes from the lives of their own pets.	

Journey School – Grade Two Content Standards

From the California State Board of Education Standards and Framework

Grade Two

Mathematics Content Standards

California State Standards	Journey School Alignment	Remarks
By the end of grade two, students understand place value and number relationships in addition and subtraction, and they use simple concepts of multiplication. They measure quantities with appropriate units. They classify shapes and see relationships among them by paying attention to their geometric attributes. They collect and analyze data and verify the answers.		
Number Sense		
1.0 Students understand the relationship between numbers, quantities, and place value in whole numbers up to 1,000: 1.1 Count, read, and write whole numbers to 1,000 and identify the place value for each digit. 1.2 Use words, models, and expanded forms (e.g., 45 = 4 tens + 5) to represent numbers (to 1,000). 1.3 Order and compare whole numbers to 1,000 by using the symbols <, =, >.	**1.0-1.4 As stated, in addition:** Students group and regroup numbers according to place value. They solve problems and record dictation with four place values. Column addition and subtraction is introduced with regrouping from adjacent columns; students write vertical representations of problem. Students recognize numbers in expanded form (e.g., 45 = 4 tens + 5). Statements of equality and ordering are introduced (<, =, >).	
2.0 Students estimate, calculate, and solve problems involving addition and subtraction of two-and three-digit numbers: 2.1 Understand and use the inverse relationship between addition and subtraction (e.g., an opposite number sentence for 8 + 6 = 14 is 14 - 6 = 8) to solve problems and check solutions. 2.2 Find the sum or difference of two whole numbers up to three digits long. 2.3 Use mental arithmetic to find the sum or difference of two two-digit numbers.	**2.0-2.3 As stated, in addition:** Students hear arithmetic operations in the context of story problems. The application of place value, column addition, and subtractions arises in context of thematic stories. For example, students hear stories of a beaver community bundling logs in groups of 10 and then creating a dam with these groups. There is borrowing between groups to create the correct support for the dam. This introduces an affective/moral component into arithmetic, and places the operations in context. Students work mental arithmetic daily. They demonstrate varied strategies for solving mental arithmetic problems including number grouping and re-grouping skills, multiple additions, times tables, etc. Students demonstrate an emerging ability to work vertical addition and subtraction problems containing double-digit figures. Students carry digits in single and double-digit addition. Students write accurate vertical representations of dictated problems in addition, subtraction and multiplication. They copy division problems with proper placement of divisor and dividend digits.	

3.0 Students model and solve simple problems involving multiplication and division: 3.1 Use repeated addition, arrays, and counting by multiples to do multiplication. 3.2 Use repeated subtraction, equal sharing, and forming equal groups with remainders to do division. 3.3 Know the multiplication tables of 2s, 5s, and 10s (to "times 10") and commit them to memory.	**3.0-3.3 As stated, in addition:** In games and practice, students count to 100 both forward and backward by 2s, 3s, 4s, 5s, and 10s; they recite the multiplication tables 1-5 giving the product first (rhythmic memory). Students practice multiplication*tables 1-5* ,then learn and practice multiplication *tables 6-12*, along with their division counterparts. Students bounce balls. create rhythms with numbers, and use movements (stepping and clapping) to help memorize the tables. Division is often practiced with manipulatives, (i.e. students divide beans into equal groups with and without remainders).	
4.0 Students understand that fractions and decimals may refer to parts of a set and parts of a whole: 4.1 Recognize, name, and compare unit fractions from 1/12 to 1/2. 4.2 Recognize fractions of a whole and parts of a group (e.g., one-fourth of a pie, two-thirds of 15 balls). 4.3 Know that when all fractional parts are included, such as four-fourths, the result is equal to the whole and to one.	**4.0-4.3 As stated, in addition:** Students work with fractions in context of nature and animal stories. For example beavers building a dam divide logs among themselves to build the one project.	
5.0 Students model and solve problems by representing, adding, and subtracting amounts of money: 5.1 Solve problems using combinations of coins and bills. 5.2 Know and use the decimal notation and the dollar and cent symbols for money.	**5.0-5.2 As stated, in addition:** Students work money problems in context of nature and hero *stories*. Symbols of dollars and cents are employed. Students practice with "play'" money.	
6.0 Students use estimation strategies in computation and problem solving that involve numbers that use the ones, tens, hundreds, and thousands places: 6.1 Recognize when an estimate is reasonable in measurements (e.g., closest inch).	**6.0-6.1 As stated, in addition:** Through recalling the story problems and rote practice, students begin to develop sequential memory skills. They estimate answers to addition and subtraction problems. They practice mental arithmetic.	
Algebra and Functions		
1.0 Students model, represent, and interpret number relationships to create and solve problems involving addition and subtraction: 1.1 Use the commutative and associative rules to simplify mental calculations and to check results. 1.2 Relate problem situations to number sentences involving addition and subtraction. 1.3 Solve addition and subtraction problems by using data from simple charts, picture graphs, and number sentences.	**1.0-1.3 In part** Students learn "commutative laws" to check accuracy of addition, e.g. 73 + 39 = (70 + 3) + (30 + 7 + 2) = (70 + 30) + (3 + 7) + 2 = 112. Students demonstrate an emerging ability to solve problems using sequential order of operations. Students build simple charts and graphs to represent their sorting of natural objects in science.	

Measurement and Geometry		
1.0 Students understand that measurement is accomplished by identifying a unit of measure, iterating (repeating) that unit, and comparing it to the item to be measured: 1.1 Measure the length of objects by iterating (repeating) a nonstandard or standard unit. 1.2 Use different units to measure the same object and predict whether the measure will be greater or smaller when a different unit is used. 1.3 Measure the length of an object to the nearest inch and/ or centimeter. 1.4 Tell time to the nearest quarter hour and know relationships of time (e.g., minutes in an hour, days in a month, weeks in a year). 1.5 Determine the duration of intervals of time in hours (e.g., 11:00 a.m. to 4:00 p.m.).	**1.0-1.5 As stated, in addition:** Measurements are introduced both when students handle objects in science, and when interpreting the content of stories. In the former, objects are weighed, lengths measured, etc. Or in a story of St. Patrick removing snakes from Ireland, students might calculate how many snakes he could move in a day, how many in a month, what would be the length of a snake, of all the snakes transported, how big must be their container, etc. Students are introduced to time and its measure. Students become familiar with their weekly and monthly class calendar.	
2.0 Students identify and describe the attributes of common figures in the plane and of common objects in space: 2.1 Describe and classify plane and solid geometric shapes (e.g., circle, triangle, square, rectangle, sphere, pyramid, cube, rectangular prism) according to the number and shape of faces, edges, and vertices. 2.2 Put shapes together and take them apart to form other shapes (e.g., two congruent right triangles can be arranged to form a rectangle)	**2.0-2.2 In part:** Students experience geometric shapes (circles, rectangles, triangles, etc) by movement of their bodies in space and through extensive form drawing. Students work with *manipulatives* to understand how forms fit together; they order objects according to length, size and volume. Students draw symmetrical forms.	
Statistics, Data Analysis, and Probability		
1.0 Students collect numerical data and record, organize, display, and interpret the data on bar graphs and other representations: 1.1 Record numerical data in systematic ways, keeping track of what has been counted. 1.2 Represent the same data set in more than one way (e.g., bar graphs and charts with tallies). 1.3 Identify features of data sets (range and mode). 1.4 Ask and answer simple questions related to data representations.	**1.0-1.4 In part:** Students are asked to categorize, quantify, and generalize drawings of natural objects. They sort objects by self-created taxonomies, tally characteristics of objects thus sorted, and represent their relative quantities by a simple sketch (a pie chart or histogram) estimating fractions of the whole.	
2.0 Students demonstrate an understanding of patterns and how patterns grow and describe them in general ways: 2.1 Recognize, describe, and extend patterns and determine a next term in linear patterns (e.g., 4, 8, 12 ...; the number of ears on one horse, two horses, three horses, four horses). 2.2 Solve problems involving simple number patterns.	**2.0 As stated, in addition:** Students identify even and odd integers, number patterns and groups of numbers belonging in categories. Given drawings and activities, students recognize and describe number patterns. For example: given the story of "King 12" students note all possible factors of 12 and, by comparison to other numbers, recognize it as the "richest" number. They look for patterns among whole numbers and in arithmetic processes (e.g. 9 x 6 = 54, 5 + 4 = 9). As students learn multiplication *tables*, they are asked to notice quantities in the world around them (e.g.. number of pairs, legs on tables, points on five or six pointed stars).	

Mathematical Reasoning		
1.0 Students make decisions about how to set up a problem: 1.1 Determine the approach, materials, and strategies to be used. 1.2 Use tools, such as manipulatives or sketches, to model problems.	**1.0-1.2 As stated.** Given imaginative characters representing four mathematical processes and concept of equality, students verbally describe the nature of each mathematical operation. After hearing a story, students write a computational formula representing its computational mathematics. For example if squirrels are collecting a certain number of acorns to provide for their winter sustenance, students reason how a certain number will last for a certain period of time. Students listen to a simple word problem and mentally calculate the response to the question posed.	
2.0 Students solve problems and justify their reasoning: 2.1 Defend the reasoning used and justify the procedures selected. 2.2 Make precise calculations and check the validity of the results in the context of the problem.	**2.0-2.2 As stated.** In the context of nature studies, and given sets of objects to categorize from the nature table, students identify and quantify subgroups	
3.0 Students note connections between one problem and another.	**3.0 As stated.**	

Grade Two
History-Social Science Content Standards.

California State Standards	Journey School Alignment	Remarks
People Who Make a Difference Students in grade two explore the lives of actual people who make a difference in their everyday lives and learn the stories of extraordinary people from history whose achievements have touched them, directly or indirectly. The study of contemporary people who supply goods and services aids in understanding the complex interdependence in our free-market system.		
2.1 Students differentiate between things that happened long ago and things that happened yesterday. 1. Trace the history of a family through the use of primary and secondary sources, including artifacts, photographs, interviews, and documents. 2. Compare and contrast their daily lives with those of their parents, grandparents, and/ or guardians. 3. Place important events in their lives in the order in which they occurred (e.g., on a time line or storyboard).	**2.1 As stated, in addition:** In a main lesson block titled *Golden Legends,* students hear stories of extraordinary leaders who inspired humanity to greater love, compassion, freedom, etc.	
2.2 Students demonstrate map skills by describing the absolute and relative locations of people, places, and environments. 1. Locate on a simple letter-number grid system the specific locations and geographic features in their neighborhood or community (e.g., map of the classroom, the school) 2. Label from memory a simple map of the North American continent, including the countries, oceans, Great Lakes, major rivers, and mountain ranges. Identify the essential map elements: title, legend, directional indicator, scale, and date. 3. Locate on a map where their ancestors live(d), telling when the family moved to the local community and how and why they made the trip. 4. Compare and contrast basic land use in urban, suburban, and rural environments in California.	**2.2 In part:** In the context of story, students recognize differences in geography, village life, occupations, commerce, and family relationships, then and now. For example, when students learn of Martin of Tours, they are told of soldiers, beggars and villagers at the gate of a wall-enclosed village. Students also create maps and pictures from story imagery. For example, students draw a picture of the village of Assisi and chapel construction.	
2.3 Students explain governmental institutions and practices in the United States and other countries. 1. Explain how the United States and other countries make laws, carry out laws, determine whether laws have been violated, and punish wrongdoers. 2. Describe the ways in which groups and nations interact with one another to try to resolve problems in such areas as trade, cultural contacts, treaties, diplomacy, and military force.	**2.3 In part:** Students hear about laws and punishments. For example, when explained the tradition of Valentine's Day, students learn of a gentle man executed for beliefs held illegal under Roman Law. Fictional stories and parables also help students grasp complex issues in an age-appropriate way. For example, a squabble among barnyard animals is analogous to community debate and consensus building. The question of how to handle an excessively proud peacock plays against the rights of other individuals	

2.4 Students understand basic economic concepts and their individual roles in the economy and demonstrate basic economic reasoning skills. 1. Describe food production and consumption long ago and today, including the roles of farmers, processors, distributors, weather, and land and water resources. 2. Understand the role and interdependence of buyers (consumers) and sellers (producers) of goods and services. 3. Understand how limits on resources affect production and consumption (what to produce and what to consume)	**2.4 in part (see above)** These themes are explored as they emerge through stories as well as word problems. 1. is covered in greater depth in 3rd grade, where farming is a major unit of study.	
2.5 Students understand the importance of individual action and character and explain how heroes from long ago and the recent past have made a difference in others' lives. (e.g., from biographies of Abraham Lincoln, Louis Pasteur, Sitting Bull, George Washington Carver, Marie Curie, Albert Einstein, Golda Meir, Jackie Robinson, Sally Ride).	**2.5 As stated.**	

Journey School – Grade Two Content Standards
From the California State Board of Education Standards and Framework

Grade Two
Science Content Standards

California State Standards	Journey School Alignment	Remarks
Physical Sciences		
1. The motion of objects can be observed and measured. As a basis for understanding this concept: a. Students know the position of an object can be described by locating it in relation to another object or to the background. b. Students know an object's motion can be described by recording the change in position of the object over time. c. Students know the way to change how something is moving is by giving it a push or a pull. The size of the change is related to the strength, or the amount of force, of the push or pull. d. Students know tools and machines are used to apply pushes and pulls (forces) to make things move. e. Students know objects fall to the ground unless something holds them up. f. Students know magnets can be used to make some objects move without being touched. g. Students know sound is made by vibrating objects and can be described by its pitch and volume.	**1.0 As stated, in addition:** Students learn about position, balance, motion, support, force, etc. through classroom and playground activities, building with blocks, playing with bean bags, and listening to narrative stories. They experience such dynamics in their bodies during circle time. Students participate in play which explores forces such as those seen in levers, dynamic tensions etc. Students continue flute playing in 2nd grade and understand vibration by pitch and volume of music.	
Life Sciences		
2. Plants and animals have predictable life cycles. As a basis for understanding this concept: a. Students know that organisms reproduce offspring of their own kind and that the offspring resemble their parents and one another. b. Students know the sequential stages of life cycles are different for different animals, such as butterflies, frogs, and mice. c. Students know many characteristics of an organism are inherited from the parents. Some characteristics are caused or influenced by the environment. d. Students know there is variation among individuals of one kind within a population. e. Students know light, gravity, touch, or environmental stress can affect the germination, growth, and development of plants. f. Students know flowers and fruits are associated with reproduction in plants.	**2.0 As stated, in addition:** There are two science main lesson blocks taught in the 2nd grade. Each is 6 weeks long, 2 hrs. per day, 5 days per week. Additionally, students observe natural relics, take nature walks, and hear stories. The first block of Nature Stories presents accurate concepts in contexts that appeal to the young child. The second block studies animal characteristics, environments, habitats, behavior, etc. Students hear stories of the lives of various animals, and create an artistic interpretation. For example the symbiosis of yucca plant and yucca moth is conveyed, and students write a poem and paint a water-color about the life-cycle of the moth. Depending upon story selection, students may learn that: animal offspring resemble parents and one another; sequential life stages differ among animals (butterflies, frogs, and mice); characteristics are adaptations to the environment; and variations occur among individuals within a population. Students grow plants and learn what happens when plants are cared for, and when they are not. Students are responsible for watering plants in their care. They learn light, gravity, touch, or environmental stress can affect the germination, growth, and development of plants.	

Earth Sciences		
3. Earth is made of materials that have distinct properties and provide resources for human activities. As a basis for understanding this concept: a. Students know how to compare the physical properties of different kinds of rocks and know that rock is composed of different combinations of minerals. b. Students know smaller rocks come from the breakage and weathering of larger rocks. c. Students know that soil is made partly from weathered rock and partly from organic materials and that soils differ in their color, texture, capacity to retain water, and ability to support the growth of many kinds of plants. d. Students know that fossils provide evidence about the plants and animals that lived long ago and that scientists learn about the past history of Earth by studying fossils. e. Students know rock, water, plants, and soil provide many resources, including food, fuel, and building materials, that humans use.	**3.0 As stated, in addition:** The nature of erosion, weathering, and the rock cycle of the earth are introduced by *Nature Stories* where processes are imaginatively portrayed. Story content introduces basic geographical terminology such as mountains, islands, volcanoes, rivers, streams, rivulets, etc. Students draw or paint these, or play with water and landscaping in the sand pit. A nature table or "indoor garden" is created, a sort of microcosm of fossils, plants, rocks and minerals, and soil, etc.. Students handle these items and consider their origination and physical differences. The teacher discusses the items in wider context. For example, a piece of quartz leads to a story about granite mountain ranges. Students hear stories regarding rocks, plants, soil and fossils intended to bring science concepts to life. The topic of soil is introduced, but living soil is a major science topic in 3rd grade.	
Investigation and Experimentation		
4. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will: a. Make predictions based on observed patterns and not random guessing. b. Measure length, weight, temperature, and liquid volume with appropriate tools and express those measurements in standard metric system units. c. Compare and sort common objects according to two or more physical attributes (e. g., color, shape, texture, size, weight). d. Write or draw descriptions of a sequence of steps, events, and observations. e. Construct bar graphs to record data, using appropriately labeled axes. f. Use magnifiers or microscopes to observe and draw descriptions of small objects or small features of objects. g. Follow oral instructions for a scientific investigation.	**4.0 in part:** Nature exhibits predictable patterns of repetition between contrasting poles. The teacher helps students observe recurring features, e.g. rock-cycle, seasons, patterns of clouds, plant cycle, etc. And students demonstrate an emerging awareness and vocabulary for contrasts and polarities. This is seen in their use of appropriate vocabulary for elemental changes (ice, snow, rain, sleet, frost, dew, mist), and in their response to metaphoric language used in story material, such as "light as a feather" or "heavy as a millstone." Students draw, sort, and measure objects at the nature table. Such drawings become a basis for future accurate sketches, and underlies their future use of graphs. Through play at the nature table, and by their listening to nature stories, students become aware of minute details, such as the venation of butterfly wings, facets of an amethyst, reproductive seasons of moth and butterfly, etc. They display increased observation skills, and they categorize objects by a multi-level taxonomy. Students are able to identify changes in plant growth, properly sequence them (e.g., a seed, a sprout, a plant, a flowering plant, a fruiting plant, a dying plant), and indicate the cyclical nature of the process (e.g., the dying plant followed by seed sprouting).	