Lower School Learning Outcomes

- Kindergarten
- First Grade
- Second Grade
- Third Grade
- Fourth Grade
- Fifth Grade

Kindergarten

English Language Arts

Language arts instruction in Kindergarten focuses on developing beginning literacy skills in the areas of reading, writing and speaking. Reading instruction for each child begins with the analysis of formal, informal and observational assessments which determine each child's individual starting point and instructional needs. Ongoing observation and assessment determine the course and pace of each student's instruction through mastery and application of letter-sound recognition, early phonics decoding strategies and mastery of essential primary sight words. Children learn in a variety of heterogeneous and homogeneous instructional groupings, as well as one-on-one, and are provided with reading skill instruction tailored to their evolving instructional needs.

Simultaneously, students build skills in reading comprehension through listening, analyzing and retelling a wide variety of reading genres. Children discover reading not as a passive process, but as an interactive challenge to create a personal understanding of what they read. Students learn to discuss the connections they make between stories and real-life experiences, identify characters, and determine settings, notice story events and share oral predictions. Written language in Kindergarten begins with building an understanding of sound-symbol correlations. Students learn to use sounds heard in words to spell and master high frequency non-phonetic words such as those with silent letters or unusual vowel sounds, foundational to beginning writing. Building on oral language, students learn to express personal ideas using complete sentences.

Essential Questions:

- How can I read for meaning and understanding?
- How does reading help us learn about ourselves and the world?
- How do you create a story?
- Why does writing need to follow a format?

Learning Outcomes:

1. Students will be able to identify and use the parts of speech.
2. Students will be able to actively engage in reading activities with purpose and understanding.
3. Students will be able to demonstrate understanding and organization of printing.

4. Students will be able to follow words from left to right, top to bottom, and page to page.
5. Students will be able to understand that words are separated by spaces in print.
6. Students will be able to recognize and name all of the upper and lowercase letters in the alphabet.
7. Students will be able to correctly pronounce the sounds of the letters in the alphabet.
8. Students will be able to retell a story's main idea with characters and setting.
9. Students will be able to understand rhyming words and produce them.
10. Students will be able to recite and memorize monthly poems.
11. Student will be able to memorize lines and songs in a Kindergarten musical in the spring.
12. Students will be able to demonstrate understanding of the spoken word, syllables and sounds.
13. Students will be able to count, pronounce, blend and segment syllables in spoken words.
14. Students will be able to isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant words.
15. Students will be able to add or substitute individual sounds in simple, one syllable words to make new words.
16. Students will be able to read with purpose and understanding.
17. With guidance and support from the teachers, students will be able to explore word nuances and create simple stories that are real and imaginative.
18. Students will be able to understand humor and why something makes them laugh.

Math

Kindergarten students focus on building a concrete understanding of concepts of number sense, algebra, measurement, geometry, statistics, probability and math reasoning. Through multiple experiences with manipulatives, students learn to connect their concrete understanding to symbolic numerical representations. By the end of their Kindergarten year, students are expected to count, recognize, represent,

name and order numbers to 100, as well as use concrete objects to determine the answers to addition and subtraction problems for two numbers, each less than ten.

Essential Questions:

- How do numbers show us meaning?
- Where do I see numbers, patterns and shapes in my world?
- How can sorting numbers provide a deeper meaning?
- Why is it important to have units of measure?
- What is estimation?

Learning Outcomes:

1. Students will be able to identify and sort numbers, patterns and shapes in his/her world by using pictures and manipulatives.
2. Students will be able to indicate ordinal positions of numbers or pictures.
3. Students will be able to understand the relationship between numbers and quantities.
4. Students will be able to say the number names in the standard order.
5. Students will be able to count to 100 by ones, twos, fives and tens.
6. Students will be able to read, write, name, represent, order and count to 100.
7. Students will be able to count “How many?”
8. Students will be able to solve addition and subtraction problems using fingers, pictures or manipulatives.
9. Students will be able to fluently add and subtract within 5.
10. Students will be able to graph pictures, manipulatives and understand the results.
11. Students will be able to describe the passage of time through mathematical vocabulary and in-depth study of the calendar, days of the week, and months of the year.
12. Students will be able to use a digital and analog clock to tell time to the nearest hour and half hour.
13. Students will be able to identify the value of the penny, nickel, dime, quarter, half-dollar and dollar.
14. Students will be able to identify shapes and geometrical designs

15. Students will be able to measure objects and understand and compare their similarities and differences.
16. Students will be able to organize a word problem using pictures to solve the problem correctly.
17. Students will understand the concept of estimation and estimate seeds in a pumpkin, pennies in a jar and hearts in a basket.

Social Studies

Through the Kindergarten social studies curriculum, students explore the concepts of safety, community helps, communication, children around the world, transportation and citizenship.

Essential Questions:

- How can I be safe?
- Who in my community can help me?
- What ways can we gather and share important information?
- Why is it important to know about our past history?
- How are children the world over just like me?
- How do people and things get from one place to another?
- How can I be a successful citizen and friend?
- What does it mean to persevere?

Learning Outcomes:

1. Students will be able to identify safety signs and community symbols.
2. Students will be able to demonstrate how to be safe both in the classroom and away from school.
3. Students will identify and understand the role of community helpers.
4. Students will be able to use technology to communicate with others and to share important information.
5. Students will be able to describe events and people in American history. (Johnny Appleseed, George Washington, Christopher Columbus, Abe Lincoln, Betsy Ross, Helen Keller, Albert Einstein, etc.)
6. Students will be able to identify the differences and similarities of others from around the world.

7. Students will be able to identify different forms of transportation on land, water and in the air.
8. Students will be able to identify the President of the United States of America and recite the Pledge.
9. Students will be able to identify specific feelings by names and verbalizing them.
10. Students will be able to accept the normalcy of feelings.
11. Students will be able to accept and carry out personal responsibilities.
12. Students will be able to participate in group activities and recognize the importance of shared play.
13. Students will be able to work in a group setting without interfering with others.
14. Students will be able to share space and equipment with others.
15. Students will be able to follow directions in sequence during any activity.
16. Students will be able to handle transitions easily and demonstrate independent problem solving skills.
17. Students will use the Four Steps to Friendship to solve minor conflicts at school and at home.
18. Students will demonstrate positive traits with others and in the classroom be helpful, kind, persevere, focus, follow directions, listen, communicate safely and appropriately, accept responsibility, think, enjoy friends and learning.

Science

The Rhoades School kindergarten students develop abilities necessary to do scientific inquiry in classroom and outdoor investigations. They learn that information and critical thinking, scientific problem solving, and the contributions of scientists are used in gathering data.

Learning Outcomes:

1. Students will be able to explain the scientific method.
2. Students will be able create a hypothesis and explain his/her thinking.
3. Students will be able to identify the control group.
4. Students will be able to identify and name the parts of a plant.
5. Students will be able to identify a dicot and monocot plant.
6. Students will be able to list what all living things need to survive.

7. Students will be able to explain turgor pressure.
8. Students will be able to explain and identify xylem.
9. Students will be able to identify the parts of an insect.
10. Students will be able to explain arachnids.
11. Students will be able to explain the life of a snail.
12. Students will be able to explain the life cycle of a butterfly.
13. Students will be able to explain how plants and animals change the environment to meet their needs.
14. Students will understand the effects of different directions of pushes and pulls on the motion of an object to analyze a design solution.
15. Students will be able to identify the sun as a major energy source and analyze its impact on the Earth's surface.
16. Students will understand patterns and variation in local weather.

Visual Arts

Art education at the kindergarten level encourages early discovery and exploration through the introduction of various art media, tools, processes and techniques. Repetitive experiences with tools help students to experiment and expand previous awareness. The perceptual, sensory, and manipulative development of students is emphasized at this time.

Essential Questions:

Why do artists create art?

How does art make people feel?

Why does art create questions?

Sample Activity: Art Masterpiece: A Rooster, 1938 by Pablo Picasso

Goal: To engage youngsters in a masters study while exploring the elements of art-color, line, shape, form, space and texture. Identify a well-known artist. Begin to use art vocabulary referring to the elements such as line, color, shapes and texture. To respond to works of art.

Objective: Through the qualities of oil pastels students will learn the art elements such as color (blended/combined), line (repeated/direction), shape and form (simple shapes to create form), space (consider background) and texture (applied mark making) in an oil pastel study of Pablo Picasso's "A Rooster".

Artist: Pablo Picasso

Music

Learning Outcomes:

KINDERGARTEN students will learn that:

Sound is created by vibration and that materials of differing sizes, shapes and materials produce different timbres (sound qualities). They will practice recognizing the source of various sounds first visually, then aurally and will play on an assortment of small percussion instruments.

Steady beat is the foundation of most music; beat may be slower or faster, but it never changes.

Rhythm is the pattern of long and short sounds over the beat. They will practice echoing, reading and performing rhythm patterns consisting of various combinations of quarter notes, quarter rests and two beamed eighth notes, first with body percussion, then transferring the rhythms to unpitched percussion such as rhythm sticks or hand drums. They will understand that a "rest" is a silent beat.

Melody is created by a series of pitches (higher and lower sounds); it is the part you can hum/sing/ or play on a pitched instrument. They will practice identifying pitches of do, re, mi, sol and la when heard sung or played in short patterns, and they will sing simple songs within these patterns, striving for accurate pitch matching.

Students will sing recreational songs of various styles and be aware that songs are sung all over the world to tell stories and to express a wide variety of human emotions.

Musical Instruments are grouped into "families": strings (bowed or plucked), wind (blown), and percussion (struck, scraped, rubbed). They will hear examples of instruments from each family and will be able to identify some of them aurally.

“Composers" are musicians who write ("make up") musical pieces/songs. They will learn about the childhoods of famous classical composers such as Bach, Beethoven, Tchaikovsky and Mozart and hear brief examples of their compositions.

Spanish

A critical learning outcome of Kindergarten Spanish at the Rhoades School is for all students to acquire an affinity and appreciation for learning Spanish. To this end, kindergarten students are active learners of Spanish, engaging in real world encounters, play-based activities, games, songs, and crafts.

Kindergarten students are exposed to Spanish language and grammar concepts including: pronunciation, singular and plural forms of nouns, gender agreement, words to describe location, expressions of quantity, and interrogatives. Listening and speaking skills are emphasized as students learn how to greet each other in Spanish, express their emotions, follow directions, and ask simple questions.

Units are organized around thematic topics such as: greetings and salutations, the body, family, shapes/colors/numbers, the school, food, seasons and weather. In addition, students grow in their awareness of Hispanic and Latino cultures with exposure to music, art, and literature. Students are encouraged to make connections and comparisons among cultures.

Resources include Spanish picture books, Spanish songs, puppets, and Spanish websites, such as Spanish 4 Teachers, Study Spanish, and Fun for Spanish Teachers.

Computer Technology

Kindergarten through 2nd grade computer curriculum is an interdisciplinary approach to the learning of technology and computer programming skills through the content areas of language arts, science, math, art and social studies. There are seven broad categories for computer instruction as defined by ISTE (International Society for Technology in Education):

- Empowered Learner
- Digital Citizen
- Knowledge Constructor
- Innovative Designer
- Computational Thinker
- Creative Communicator
- Global Collaborator

Kindergarten Learning Outcomes:

- Students will understand that a computer is made up of various components and will be able to identify the main components.
- Students will begin to communicate about technology using accurate terminology.
- Students identify letters on a keyboard.
- Students use a mouse.
- Students will be able to open and close programs on various devices including iPads and computers.
- Students will record, listen to, and reflect upon their oral reading fluency and intonation as they read their own stories.
- Students will practice beginning computer programming language and skills.
- Students will learn about robotics components and their functionality.

Physical Education

The Rhoades School Physical Education Department understands that practicing physical activity, movement, and sport in a safe environment is essential in the development of the whole student. The staff not only teaches about the physical and mental benefits of exercise and fitness, but also stresses the importance of social skills applied within group game play and sports. The program emphasizes a supportive social arena in physical education classes where students feel safe enough to take risks and express themselves through movement and action, as well as verbally. All movement skills and concepts learned are developmentally appropriate and are taught within a logical, gradual progression to ensure confidence and efficiency. Students not only develop physically and individually on all levels, but also learn how to positively contribute to their peer group in an informal, athletic setting. A student's confidence grows as class offers various opportunities to practice decision-making and leadership skills, as well as developing athletic skills and seeing how physical education knowledge contributes to an overall healthy lifestyle and wellness.

At The Rhoades School, grades K-5 have physical education class three times each week. At all levels classes include an aerobic warm-up, flexibility/stretching training, specific lead-up activity or game instruction. The majority of the period focuses on sport/activity/game play.

The main goal of the staff is to promote a fun, safe atmosphere that promotes healthy, educated students that have the skills and confidence needed to enjoy a lifetime of physical activity. Our curriculum is based on the California State Physical Education Framework and the AAHPERD (American Alliance for Health, Physical Education, Recreation, and Dance) general national standards.

Learning Outcomes & Essential Questions:

Each of the following general learning outcomes apply to all grade levels (K-8) at age adjusted expectations within these criteria. For example, for the final standard, a first grade student would demonstrate a lack of interference with others and an eighth grade student would demonstrate respect for officials in a game and show appreciation for all participants with the game.

- Students demonstrate the motor skills and movement patterns needed to perform a variety of physical activities.
- Students demonstrate knowledge of movement concepts, principles, and strategies that apply to the learning and performances of physical activities.
- Students demonstrate an appropriate level of physical fitness to improve health and performance.
- Students demonstrate knowledge of physical fitness concepts, principles, and strategies to improve health and performance.
- Students demonstrate and utilize knowledge of psychological and sociological concepts, principles, and strategies that apply to the learning and performance of physical activity.

Grades K-1

Development Factors and Essential Questions

DF: Slow reaction time, moderate/steady growth phase, impulsive, balance improving, no abstract thinking, “me” oriented, fundamental movement skills emphasized.

EQ: Why is it important to have strong muscles?

What does exercise make you feel like? Why is it important?

Learning Resources

Language Arts

Scott Foresman Reading, Phonics Readers by Educational Insights--Short to Long Vowels, proprietary teacher created materials, Primary Phonics Workbooks and Readers, Scholastic Leveled Readers, Scholastic News Issues, Junior Great Books, and Words Their Way.

Math

Math in Focus (Singapore Math), iPad math apps, proprietary teacher created materials.

Social Studies

Proprietary teacher created materials, curated selection of fiction and non-fiction, and educational DVDs.

Science

Proprietary teacher created materials, curated selection of fiction and non-fiction, and educational DVDs.

Social and Emotional

Proprietary teacher created materials (Four Steps to Friendship), curated selection of fiction and non-fiction, and educational DVDs.

*Brain Pop is used to supplement all subjectsm

First Grade

English Language Arts

The Rhoades School first grade students expand their skills in word analysis. They learn to decode phonetic elements of consonant blends, digraphs, vowel teams, diphthongs, r-control vowels and root words with common inflectional endings such as -ed, -es and –ing. First grade students also deepen their understanding and application of reading and comprehension strategies. They learn to describe story elements of plot and identify answers to who, what, where, when and how questions. Students also learn to confirm predictions made about text, identify key or signal words such as next and then, and learn how to retell the central ideas of simple expository or narrative passages. Throughout the year, students analyze and respond to literature by discussing, illustrating, summarizing, dramatizing and writing about books they have read.

Reading instruction for first grade students is individualized based upon analysis of frequent formal and informal oral reading assessments to determine skill application and next-step instructional needs. Depending on their changing needs and abilities, students receive guided reading instruction in small groups using a combination of leveled books, specific phonics readers, and grade-level basal readers. First grade teachers' emphasis in written language instruction is on helping students learn to select and maintain a focus in their writing and present ideas in logical sequence. Students work towards developing main ideas for paragraphs with supporting details.

Essential Questions:

- Why do we need phonics?
- How do phonics skills help us decode words?
- Why is it important to understand what you read?
- What makes a complete sentence?
- What are parts of speech?

Learning Outcomes:

1. Students will understand the basic features of reading, including concepts about print, phonemic awareness, decoding and word recognition.
2. Students will develop fluent oral reading.
3. Students will read, understand, and respond to grade-level-appropriate material by drawing upon a variety of comprehension strategies.
4. Students will be able to identify the story's main ideas as well as the plot, setting, and characters and include a description of the beginning, middle and end of the story.

5. Students will be able to write clear and coherent sentences and paragraphs, including a main idea and descriptive words applied in journals, friendly letters, and non-fiction reports.
6. Students connect the text to background knowledge, personal experience, and other texts by thinking about other stories the text reminds them of, what they already know about the topic, place, time, and how the plot or characters are similar to another text.
7. Students will indicate an understanding of the genre in a description of the text, its purpose, and how it is organized.
8. Students will build a rich oral and written vocabulary through exposure to a variety of fiction and non-fiction texts
9. Students will be able to define nouns, verbs, and adjective and locate them in text.

Resources Used: Scott Foresman Reading, Words Their Way, Fountas and Pinnell Guided Reading

Math

First grade math students build number sense and learn relationships among numbers and quantities up to 100. The use of manipulatives continues to be an integral part of the curriculum as students connect abstract concepts of place value, addition and subtraction, data graphs and patterns to concrete understanding. Determining operation and useful information in word problems helps students develop problem-solving skills. Students continue to work on developing greater computational fluency and automaticity of basic addition and subtraction facts through 20.

Essential Questions:

- What do numbers mean?
- Why are numbers valuable in the world?
- How do patterns define our world?

Learning Outcomes:

- Students will interpret numbers to tell how many there are in all.
- Students will construct numbers to represent the values in multiple ways.
- Students will relate addition and subtraction are inverse operations.
- Students will interpret tables and graphs to understand facts about the real world.
- Students will construct number patterns and apply them to various real life models.

- Students will name the value of a number based on its position.
- Students will understand that ones can be regrouped as tens to add.
- Students will combine various combinations of coins to understand the value of money.
- Students will understand time to the half hour and hour on an analog clock.
- Students will use various models and strategies to add and subtract 2 digit numbers.
- Students will describe, compare and combine shapes to understand geometrical figures.
- Students will synthesize various units of measure to understand length.
- Students will infer that units such as days, weeks, months, and years are used to measure time.

Resources Used: Math in Focus

Social Studies

First grade students explore the concepts of geographical location, physical characteristics of geography, and the effects of geography on the people who live in varied areas. Through comparisons of everyday life in different times and places, students learn that certain aspects of people, places and things stay the same over time, while others change.

Essential Questions:

- What is a community?
- How do we fit into the world around us?
- What are landforms and how are they formed?
- How do you read a map?

Learning Outcomes:

1. Students will understand the rights and responsibilities of being a citizen.
2. Students will be able to compare and contrast the absolute and relative locations of places and people, describing the physical or human characteristics of places.
3. Students will understand the symbols and icons of the United States and how these play a part in the tradition and sense of community in America.
4. Students will be able to identify the city, state, country, continent and planet in which they live.

5. Students will understand cardinal directions and be able to interpret simple maps.
6. Students will be able to identify and locate the five oceans and seven continents.
7. Students will be able to identify and describe how various landforms are formed and how they affect the people living in proximity to them.

Science

The Rhoades School first grade students develop abilities necessary to do scientific inquiry in classroom and outdoor investigations. They learn that information and critical thinking, scientific problem solving, and the contributions of scientists are used in gathering data.

Learning Outcomes:

Water and its Properties

1. Students will explain and identify the steps in the scientific method.
2. Students will collect data and make observations during science experiments.
3. Students will demonstrate that air can block water.
4. Students will define density.
5. Students will compare and contrast the differences between hydrophobic and hydrophilic.
6. Students will define cohesion.
7. Students will apply concepts of surface tension to classroom experiments.
8. Students will demonstrate capillary action in a lab setting.
9. Students will explain the cause and effect of chromatography.
10. Students will comprehend crystal growth as demonstrated by Borax and alum compounds.
11. Students will explain the stages of the water cycle.
12. Students will explain the different processes of evaporation, condensation, precipitation, and collection.
13. Students will explain that heat from the Sun causes water on Earth (in oceans, lakes, etc.) to evaporate (turn from liquid into gas) and rise into the sky.
14. Students will explain that water vapor collected in the sky is in the form of clouds.
15. Students will describe that as water vapor in the clouds cools down, it becomes water again, through a process called condensation.

16. Students will explain that water falls from the sky in the form of rain, snow, hail, or sleet through a process called precipitation.
17. Students will be able to describe collection in the form of run-off.

Light and Energy

1. Students will compare and contrast the differences and similarities between direct and indirect light.
2. Students will be able to explain that light is made up of photons.
3. Students will explain that light waves travel in straight lines through empty space.
4. Students will demonstrate that light waves can bend through refraction.
5. Students will compare and contrast the differences between specular reflection and diffuse reflection.
6. Students will define the effect of diffraction.
7. Students will describe that two light sources produce waves of light that travel and will interfere with one another where they cross.
8. Students will classify transparent, translucent, and opaque objects.
9. Students will explain how we see color.

Visual Arts

First Grade Visual arts Overview of Activities: How does art in the global community connect with me?

thinking, imagining, responding

In First Grade, students expand their ability to create with various art materials, and to reflect on the importance of the visual arts in defining community and transferring that knowledge to an evolving world view. New techniques are introduced to enhance personal expression. Social skills such as sharing, and respect for the work of others are emphasized. Students become aware of the role of artist in building a community. Art is understood as a worthy endeavor. First Grade will learn about Art History and cultures.

Learning Outcomes:

Each activity will follow with a critique to reflect:

- Articulate and implement critical thinking in the visual arts by synthesizing, evaluating, and analyzing visual information.
- The critique process informs judgments about artistic and aesthetic merits in works of art. The processes and philosophies of art and design inform interpretations in works of art.

Sample Activity: Aboriginal dot painting-symbols.

Artists: Indigenous Aboriginal art

Goal: Learning to understand and respect the art, artifacts, and traditions of diverse cultures and understand how these extend the knowledge and boundaries of our own personal culture. Art represents and renders the stories of people, places, or things, SYMBOLISM in art.

Objective: Use art materials such as acrylic paint markers to complete painting that explore the use of art elements such as variations in the use of dots to create repeated patterns, lines, positive/negative shape, texture and color. Learning to understand that symbolism is prevalent in many cultures to express many ideas.

Spanish

A critical learning outcome of first grade Spanish at the Rhoades School is for all students to acquire an affinity and appreciation for learning Spanish.

To this end, students are active learners of Spanish, engaging in real world encounters, play-based activities, games, songs, and crafts. First grade students are exposed to Spanish language and grammar concepts, such as: pronunciation of letter sounds, singular and plural forms, gender agreement, prepositions to describe location, expressions of quantity, and interrogatives. Students engage in authentic communication and participation that includes listening, speaking, reading, and writing.

Units are organized around thematic topics such as: greetings and salutations, the body, the family, the house, the school community, shopping/clothes, restaurants/food, seasons and weather, and travel.

In addition, students grow in their awareness of Hispanic and Latino cultures with exposure to music, art, and literature. Students are encouraged to make connections and comparisons among cultures.

Resources include Spanish picture books, Spanish songs, puppets, and Spanish websites, such as Spanish 4 Teachers, Study Spanish, and Fun for Spanish Teachers.

Music

Learning Outcomes:

FIRST GRADE students will:

Become more proficient at reading and playing 4-beat patterns of quarter notes, quarter rests and two beamed eighth notes and practice reading and playing along with recorded music using first body percussion, then transferring the rhythms to classroom percussion instruments.

Practice playing these patterns in a variety of rhythmic and instrumental combinations of gradually increasing complexity throughout the year.

Listen to and discuss two famous classical compositions: French composer Camille Saint-Saens' "Carnival of the Animals" and Russian composer Peter Tchaikovsky's "Peter and the Wolf". They will practice identifying which instrument is playing each featured part and will take part in class discusses , including why a particular instrument was a good choice to create the effect/mood that the composer was trying to convey.

Practice identifying and writing the rhythm of the words of brief classic children's poems/songs by 4-beat phrase. They will be able to distinguish between "rhythm" and "beat" and develop their sense of beat through a variety of kinesthetic music games based on the poems.

Listen to, discuss, and interact with a sampling of Native American, African and Irish music.

Sing a variety of recreational songs, including some that include words from foreign languages.

Computer Technology

Kindergarten through 3rd grade technology curriculum is an interdisciplinary approach to the learning of technology and computer programming skills through the content areas of language arts, science, math, art and social studies. There are seven broad categories for computer instruction as defined by ISTE (International Society for Technology in Education):

- Empowered Learner
- Digital Citizen
- Knowledge Constructor
- Innovative Designer
- Computational Thinker
- Creative Communicator
- Global Collaborator

First Grade Learning Outcomes:

- Students will communicate about technology using developmentally appropriate and accurate terminology.
- Students will be able to navigate in virtual environments such as electronic books, simulation software and Web sites.
- Students will be able to research and collect data using digital resources.
- Students will deepen their knowledge of computer programming language and skills.

- Students will learn beginning robotics engineering concepts.
- Students will be able to solve their own programming problems.

Tools: First Grade students use Bluebot during centers to practice language arts or math skills as well as continue beginning programming and robotics. Bluebot is a "see-through" robot with wheels, blinking eyes and basic programming keys such as forward, back, turn right, turn left and go. Students use a grid mat with cards that correlate to the day's lesson such as reading sight words, identifying or naming adjectives and proper nouns or telling time. Bluebot allows students to use an iPad or PC to program the robot remotely. Students also use Probot (Beebot & Bluebot's big brother). Pro-Bot offers students an enticing, engaging, and hands-on experience with Logo programming as well as robotic controls. Pro-Bot commands are entered via a set of arrow and number keys mounted on the back or through a computer program. Students plan a route for Pro-Bot and press the corresponding keypad controls, press the GO button and send Pro-Bot on its way. Pro-Bot will follow the sequence of commands that were entered step by step. iPad apps such as Shadow Puppet, Sushi Monster and Phonics Genius are used to create digital stories, record reading fluency and support math, language arts and science skills.

Physical Education

The Rhoades School Physical Education Department understands that practicing physical activity, movement, and sport in a safe environment is essential in the development of the whole student. The staff not only teaches about the physical and mental benefits of exercise and fitness, but also stresses the importance of social skills applied within group game play and sports. The program emphasizes a supportive social arena in physical education classes where students feel safe enough to take risks and express themselves through movement and action, as well as verbally. All movement skills and concepts learned are developmentally appropriate and are taught within a logical, gradual progression to ensure confidence and efficiency. Students not only develop physically and individually on all levels, but also learn how to positively contribute to their peer group in an informal, athletic setting. A student's confidence grows as class offers various opportunities to practice decision-making and leadership skills, as well as developing athletic skills and seeing how physical education knowledge contributes to an overall healthy lifestyle, or wellness.

At The Rhoades School, grades K-5 have physical education class three times each week. At all levels classes include an aerobic warm-up, flexibility/stretching training, specific lead-up activity or game instruction. The majority of the period concludes with the sport/activity/game play.

The main goal of the staff is to promote a fun, safe atmosphere that promotes healthy, educated students that have the skills and confidence needed to enjoy a lifetime of physical activity. Our curriculum is based on the California State Physical Education Framework, and the AAHPERD (American Alliance for Health, Physical Education, Recreation, and Dance) general national standards.

Learning Outcomes & Essential Questions:

Each of the following general learning outcomes apply to all grade levels (K-8) at age adjusted expectations within these criteria. For example, for the final standard, a first grade student would demonstrate a lack of interference with others and an eighth grade student would demonstrate respect for officials in a game and show appreciation for all participants with the game.

- Students demonstrate the motor skills and movement patterns needed to perform a variety of physical activities.
- Students demonstrate knowledge of movement concepts, principles, and strategies that apply to the learning and performances of physical activities.
- Students assess and maintain a level of physical fitness to improve health and performance.
- Students demonstrate knowledge of physical fitness concepts, principles, and strategies to improve health and performance.
- Students demonstrate and utilize knowledge of psychological and sociological concepts, principle, and strategies that apply to the learning and performance of physical activity.

Development Factors and Essential Questions

DF: Slow reaction time, moderate/steady growth phase, impulsive, balance improving, no abstract thinking, "me" oriented, fundamental movement skills emphasized.

EQ: Why is it important to have strong muscles?

What does exercise make you feel like? Why is it important?

Students will:

- Demonstrate competency in a variety of motor skills and movement patterns (e.g. hops, gallops, jogs and slides).
- Travel showing the difference between jogging and sprinting.
- Jump and land in a horizontal plane using a 2 foot take off and landing.
- Maintain their balance on different bases of support.
- Demonstrate twisting, bending, curling and stretching actions.
- Throw underhand with opposite foot forward most of the time, with accuracy at a reasonable distance.
- Throw overhand with opposite foot forward most of the time, with accuracy at a reasonable distance.
- Catch an object from a self toss before it bounces.
- Catch various size balls from a skilled thrower.

- Dribble continuously using their preferred hand.
- Tap or dribble a ball using the inside of the foot while walking in general space.
- Approach a stationary ball and kick it forward.
- Strike an object with a short handled paddle, sending it forward or upward.
- Jump forward or backward consecutively using a self-turned jump rope.
- Jump a long rope 5 times consecutively when a teacher is turning the rope.
- Hula Hoop for three consecutive motions.
- Move in self-space and general space in response to designated beats/rhythms.
- Demonstrate a variety of relationships with objects (i.e. over, under, around, through).
- Differentiate between fast and slow speeds.
- Differentiate between strong and light force.
- Demonstrate the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.
- Discuss the benefits of playing/exercising.
- Identify the heart as a muscle that grows stronger with exercise, play and physical activity.
- Exhibit responsible personal and social behavior that respects self and others.
- Accept personal responsibility by using equipment and space appropriately.
- Follow the rules & parameters of the activity.
- Respond appropriately to the general feedback from the teacher.
- Work independently with others in both small and large group settings.
- Follow the given directions for safe participation and proper use of equipment without reminders.

First Grade

English Language Arts

The Rhoades School first grade students expand their skills in word analysis. They learn to decode phonetic elements of consonant blends, digraphs, vowel teams, diphthongs, r-control vowels and root words with common inflectional endings such as -ed, -es and –ing. First grade students also deepen their understanding and application of reading and comprehension strategies. They learn to describe story elements of plot and identify answers to who, what, where, when and how questions. Students also learn to confirm predictions made about text, identify key or signal words such as next and then, and learn how to retell the central ideas of simple expository or narrative passages. Throughout the year, students analyze and respond to literature by discussing, illustrating, summarizing, dramatizing and writing about books they have read.

Reading instruction for first grade students is individualized based upon analysis of frequent formal and informal oral reading assessments to determine skill application and next-step instructional needs. Depending on their changing needs and abilities, students receive guided reading instruction in small groups using a combination of leveled books, specific phonics readers, and grade-level basal readers. First grade teachers' emphasis in written language instruction is on helping students learn to select and maintain a focus in their writing and present ideas in logical sequence. Students work towards developing main ideas for paragraphs with supporting details.

Essential Questions:

- Why do we need phonics?
- How do phonics skills help us decode words?
- Why is it important to understand what you read?
- What makes a complete sentence?
- What are parts of speech?

Learning Outcomes:

1. Students will understand the basic features of reading, including concepts about print, phonemic awareness, decoding and word recognition.
2. Students will develop fluent oral reading.
3. Students will read, understand, and respond to grade-level-appropriate material by drawing upon a variety of comprehension strategies.
4. Students will be able to identify the story's main ideas as well as the plot, setting, and characters and include a description of the beginning, middle and end of the story.

5. Students will be able to write clear and coherent sentences and paragraphs, including a main idea and descriptive words applied in journals, friendly letters, and non-fiction reports.
6. Students connect the text to background knowledge, personal experience, and other texts by thinking about other stories the text reminds them of, what they already know about the topic, place, time, and how the plot or characters are similar to another text.
7. Students will indicate an understanding of the genre in a description of the text, its purpose, and how it is organized.
8. Students will build a rich oral and written vocabulary through exposure to a variety of fiction and non-fiction texts
9. Students will be able to define nouns, verbs, and adjective and locate them in text.

Resources Used: Scott Foresman Reading, Words Their Way, Fountas and Pinnell Guided Reading

Math

First grade math students build number sense and learn relationships among numbers and quantities up to 100. The use of manipulatives continues to be an integral part of the curriculum as students connect abstract concepts of place value, addition and subtraction, data graphs and patterns to concrete understanding. Determining operation and useful information in word problems helps students develop problem-solving skills. Students continue to work on developing greater computational fluency and automaticity of basic addition and subtraction facts through 20.

Essential Questions:

- What do numbers mean?
- Why are numbers valuable in the world?
- How do patterns define our world?

Learning Outcomes:

- Students will interpret numbers to tell how many there are in all.
- Students will construct numbers to represent the values in multiple ways.
- Students will relate addition and subtraction are inverse operations.
- Students will interpret tables and graphs to understand facts about the real world.
- Students will construct number patterns and apply them to various real life models.

- Students will name the value of a number based on its position.
- Students will understand that ones can be regrouped as tens to add.
- Students will combine various combinations of coins to understand the value of money.
- Students will understand time to the half hour and hour on an analog clock.
- Students will use various models and strategies to add and subtract 2 digit numbers.
- Students will describe, compare and combine shapes to understand geometrical figures.
- Students will synthesize various units of measure to understand length.
- Students will infer that units such as days, weeks, months, and years are used to measure time.

Resources Used: Math in Focus

Social Studies

First grade students explore the concepts of geographical location, physical characteristics of geography, and the effects of geography on the people who live in varied areas. Through comparisons of everyday life in different times and places, students learn that certain aspects of people, places and things stay the same over time, while others change.

Essential Questions:

- What is a community?
- How do we fit into the world around us?
- What are landforms and how are they formed?
- How do you read a map?

Learning Outcomes:

1. Students will understand the rights and responsibilities of being a citizen.
2. Students will be able to compare and contrast the absolute and relative locations of places and people, describing the physical or human characteristics of places.
3. Students will understand the symbols and icons of the United States and how these play a part in the tradition and sense of community in America.
4. Students will be able to identify the city, state, country, continent and planet in which they live.

5. Students will understand cardinal directions and be able to interpret simple maps.
6. Students will be able to identify and locate the five oceans and seven continents.
7. Students will be able to identify and describe how various landforms are formed and how they affect the people living in proximity to them.

Science

The Rhoades School first grade students develop abilities necessary to do scientific inquiry in classroom and outdoor investigations. They learn that information and critical thinking, scientific problem solving, and the contributions of scientists are used in gathering data.

Learning Outcomes:

Water and its Properties

1. Students will explain and identify the steps in the scientific method.
2. Students will collect data and make observations during science experiments.
3. Students will demonstrate that air can block water.
4. Students will define density.
5. Students will compare and contrast the differences between hydrophobic and hydrophilic.
6. Students will define cohesion.
7. Students will apply concepts of surface tension to classroom experiments.
8. Students will demonstrate capillary action in a lab setting.
9. Students will explain the cause and effect of chromatography.
10. Students will comprehend crystal growth as demonstrated by Borax and alum compounds.
11. Students will explain the stages of the water cycle.
12. Students will explain the different processes of evaporation, condensation, precipitation, and collection.
13. Students will explain that heat from the Sun causes water on Earth (in oceans, lakes, etc.) to evaporate (turn from liquid into gas) and rise into the sky.
14. Students will explain that water vapor collected in the sky is in the form of clouds.
15. Students will describe that as water vapor in the clouds cools down, it becomes water again, through a process called condensation.

16. Students will explain that water falls from the sky in the form of rain, snow, hail, or sleet through a process called precipitation.
17. Students will be able to describe collection in the form of run-off.

Light and Energy

1. Students will compare and contrast the differences and similarities between direct and indirect light.
2. Students will be able to explain that light is made up of photons.
3. Students will explain that light waves travel in straight lines through empty space.
4. Students will demonstrate that light waves can bend through refraction.
5. Students will compare and contrast the differences between specular reflection and diffuse reflection.
6. Students will define the effect of diffraction.
7. Students will describe that two light sources produce waves of light that travel and will interfere with one another where they cross.
8. Students will classify transparent, translucent, and opaque objects.
9. Students will explain how we see color.

Visual Arts

First Grade Visual arts Overview of Activities: How does art in the global community connect with me?

thinking, imagining, responding

In First Grade, students expand their ability to create with various art materials, and to reflect on the importance of the visual arts in defining community and transferring that knowledge to an evolving world view. New techniques are introduced to enhance personal expression. Social skills such as sharing, and respect for the work of others are emphasized. Students become aware of the role of artist in building a community. Art is understood as a worthy endeavor. First Grade will learn about Art History and cultures.

Learning Outcomes:

Each activity will follow with a critique to reflect:

- Articulate and implement critical thinking in the visual arts by synthesizing, evaluating, and analyzing visual information.
- The critique process informs judgments about artistic and aesthetic merits in works of art. The processes and philosophies of art and design inform interpretations in works of art.

Sample Activity: Aboriginal dot painting-symbols.

Artists: Indigenous Aboriginal art

Goal: Learning to understand and respect the art, artifacts, and traditions of diverse cultures and understand how these extend the knowledge and boundaries of our own personal culture. Art represents and renders the stories of people, places, or things, SYMBOLISM in art.

Objective: Use art materials such as acrylic paint markers to complete painting that explore the use of art elements such as variations in the use of dots to create repeated patterns, lines, positive/negative shape, texture and color. Learning to understand that symbolism is prevalent in many cultures to express many ideas.

Spanish

A critical learning outcome of first grade Spanish at the Rhoades School is for all students to acquire an affinity and appreciation for learning Spanish.

To this end, students are active learners of Spanish, engaging in real world encounters, play-based activities, games, songs, and crafts. First grade students are exposed to Spanish language and grammar concepts, such as: pronunciation of letter sounds, singular and plural forms, gender agreement, prepositions to describe location, expressions of quantity, and interrogatives. Students engage in authentic communication and participation that includes listening, speaking, reading, and writing.

Units are organized around thematic topics such as: greetings and salutations, the body, the family, the house, the school community, shopping/clothes, restaurants/food, seasons and weather, and travel.

In addition, students grow in their awareness of Hispanic and Latino cultures with exposure to music, art, and literature. Students are encouraged to make connections and comparisons among cultures.

Resources include Spanish picture books, Spanish songs, puppets, and Spanish websites, such as Spanish 4 Teachers, Study Spanish, and Fun for Spanish Teachers.

Music

Learning Outcomes:

FIRST GRADE students will:

Become more proficient at reading and playing 4-beat patterns of quarter notes, quarter rests and two beamed eighth notes and practice reading and playing along with recorded music using first body percussion, then transferring the rhythms to classroom percussion instruments.

Practice playing these patterns in a variety of rhythmic and instrumental combinations of gradually increasing complexity throughout the year.

Listen to and discuss two famous classical compositions: French composer Camille Saint-Saens' "Carnival of the Animals" and Russian composer Peter Tchaikovsky's "Peter and the Wolf". They will practice identifying which instrument is playing each featured part and will take part in class discusses , including why a particular instrument was a good choice to create the effect/mood that the composer was trying to convey.

Practice identifying and writing the rhythm of the words of brief classic children's poems/songs by 4-beat phrase. They will be able to distinguish between "rhythm" and "beat" and develop their sense of beat through a variety of kinesthetic music games based on the poems.

Listen to, discuss, and interact with a sampling of Native American, African and Irish music.

Sing a variety of recreational songs, including some that include words from foreign languages.

Computer Technology

Kindergarten through 3rd grade technology curriculum is an interdisciplinary approach to the learning of technology and computer programming skills through the content areas of language arts, science, math, art and social studies. There are seven broad categories for computer instruction as defined by ISTE (International Society for Technology in Education):

- Empowered Learner
- Digital Citizen
- Knowledge Constructor
- Innovative Designer
- Computational Thinker
- Creative Communicator
- Global Collaborator

First Grade Learning Outcomes:

- Students will communicate about technology using developmentally appropriate and accurate terminology.
- Students will be able to navigate in virtual environments such as electronic books, simulation software and Web sites.
- Students will be able to research and collect data using digital resources.
- Students will deepen their knowledge of computer programming language and skills.

- Students will learn beginning robotics engineering concepts.
- Students will be able to solve their own programming problems.

Tools: First Grade students use Bluebot during centers to practice language arts or math skills as well as continue beginning programming and robotics. Bluebot is a "see-through" robot with wheels, blinking eyes and basic programming keys such as forward, back, turn right, turn left and go. Students use a grid mat with cards that correlate to the day's lesson such as reading sight words, identifying or naming adjectives and proper nouns or telling time. Bluebot allows students to use an iPad or PC to program the robot remotely. Students also use Probot (Beebot & Bluebot's big brother). Pro-Bot offers students an enticing, engaging, and hands-on experience with Logo programming as well as robotic controls. Pro-Bot commands are entered via a set of arrow and number keys mounted on the back or through a computer program. Students plan a route for Pro-Bot and press the corresponding keypad controls, press the GO button and send Pro-Bot on its way. Pro-Bot will follow the sequence of commands that were entered step by step. iPad apps such as Shadow Puppet, Sushi Monster and Phonics Genius are used to create digital stories, record reading fluency and support math, language arts and science skills.

Physical Education

The Rhoades School Physical Education Department understands that practicing physical activity, movement, and sport in a safe environment is essential in the development of the whole student. The staff not only teaches about the physical and mental benefits of exercise and fitness, but also stresses the importance of social skills applied within group game play and sports. The program emphasizes a supportive social arena in physical education classes where students feel safe enough to take risks and express themselves through movement and action, as well as verbally. All movement skills and concepts learned are developmentally appropriate and are taught within a logical, gradual progression to ensure confidence and efficiency. Students not only develop physically and individually on all levels, but also learn how to positively contribute to their peer group in an informal, athletic setting. A student's confidence grows as class offers various opportunities to practice decision-making and leadership skills, as well as developing athletic skills and seeing how physical education knowledge contributes to an overall healthy lifestyle, or wellness.

At The Rhoades School, grades K-5 have physical education class three times each week. At all levels classes include an aerobic warm-up, flexibility/stretching training, specific lead-up activity or game instruction. The majority of the period concludes with the sport/activity/game play.

The main goal of the staff is to promote a fun, safe atmosphere that promotes healthy, educated students that have the skills and confidence needed to enjoy a lifetime of physical activity. Our curriculum is based on the California State Physical Education Framework, and the AAHPERD (American Alliance for Health, Physical Education, Recreation, and Dance) general national standards.

Learning Outcomes & Essential Questions:

Each of the following general learning outcomes apply to all grade levels (K-8) at age adjusted expectations within these criteria. For example, for the final standard, a first grade student would demonstrate a lack of interference with others and an eighth grade student would demonstrate respect for officials in a game and show appreciation for all participants with the game.

- Students demonstrate the motor skills and movement patterns needed to perform a variety of physical activities.
- Students demonstrate knowledge of movement concepts, principles, and strategies that apply to the learning and performances of physical activities.
- Students assess and maintain a level of physical fitness to improve health and performance.
- Students demonstrate knowledge of physical fitness concepts, principles, and strategies to improve health and performance.
- Students demonstrate and utilize knowledge of psychological and sociological concepts, principle, and strategies that apply to the learning and performance of physical activity.

Development Factors and Essential Questions

DF: Slow reaction time, moderate/steady growth phase, impulsive, balance improving, no abstract thinking, "me" oriented, fundamental movement skills emphasized.

EQ: Why is it important to have strong muscles?

What does exercise make you feel like? Why is it important?

Students will:

- Demonstrate competency in a variety of motor skills and movement patterns (e.g. hops, gallops, jogs and slides).
- Travel showing the difference between jogging and sprinting.
- Jump and land in a horizontal plane using a 2 foot take off and landing.
- Maintain their balance on different bases of support.
- Demonstrate twisting, bending, curling and stretching actions.
- Throw underhand with opposite foot forward most of the time, with accuracy at a reasonable distance.
- Throw overhand with opposite foot forward most of the time, with accuracy at a reasonable distance.
- Catch an object from a self toss before it bounces.
- Catch various size balls from a skilled thrower.

- Dribble continuously using their preferred hand.
- Tap or dribble a ball using the inside of the foot while walking in general space.
- Approach a stationary ball and kick it forward.
- Strike an object with a short handled paddle, sending it forward or upward.
- Jump forward or backward consecutively using a self-turned jump rope.
- Jump a long rope 5 times consecutively when a teacher is turning the rope.
- Hula Hoop for three consecutive motions.
- Move in self-space and general space in response to designated beats/rhythms.
- Demonstrate a variety of relationships with objects (i.e. over, under, around, through).
- Differentiate between fast and slow speeds.
- Differentiate between strong and light force.
- Demonstrate the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.
- Discuss the benefits of playing/exercising.
- Identify the heart as a muscle that grows stronger with exercise, play and physical activity.
- Exhibit responsible personal and social behavior that respects self and others.
- Accept personal responsibility by using equipment and space appropriately.
- Follow the rules & parameters of the activity.
- Respond appropriately to the general feedback from the teacher.
- Work independently with others in both small and large group settings.
- Follow the given directions for safe participation and proper use of equipment without reminders.

Second Grade

English Language Arts

Second grade students learn to accurately and efficiently decode multi-syllable words of increasing complexity. They continue to refine the accuracy and fluency of their oral reading and to read with appropriate intonation and expression. Reading comprehension strategy instruction accelerates in second grade, as students learn to take greater responsibility for monitoring their understanding of texts. Students learn to ask clarifying questions while reading, such as what, why, or how. Students learn to adjust their pace and style of reading, depending on the type of material read, and they also learn how to determine an author's purpose for writing.

Guided reading, small-group instruction, guided practice and independent practice provide children with instruction tailored to personal learning needs, thus helping students gain independence and mastery in applying learned strategies.

Starting with sentence structure and part of speech, students construct each sentence with a subject and a predicate. They learn to expand their ideas by adding detail to each sentence. They learn preliminary research strategies such as gathering facts and organizing them into paragraphs. Second grade students learn to refine the focus of their writing, and learn to edit and revise drafts to improve clarity, sequence, mechanics and descriptions. Along with factual writing, they learn to express themselves creatively.

Students practice public speaking, sharing with their peers and questioning ideas.

Essential Questions:

- Why is it important to learn how to read fluently and accurately?
- How do we make connections to an author?
- Why use syllables to decode words?
- When do we use different types for writing?

Learning Outcomes:

1. Students will understand the basic features of reading.
2. Students will develop fluent oral reading.
3. Students will read, understand, and respond to grade-level-appropriate material by drawing upon a variety of comprehension strategies including inferential skills.
4. Students retell the story's main ideas as well as the plot, setting, and characters and include a description of the beginning, middle and end of the story.
5. Students will write in a variety of forms such as poems, narratives, journals, stories, friendly letters, lists, summaries, and reports.

6. Students will build a rich oral and written vocabulary through explicit instruction during guided reading.

Resources Used: Scott Foresman Reading, Fountas and Pinnell Guided Reading, Words Their Way

Social Studies

Second grade students understand and appreciate local and global communities and their place in it. They gain a global perspective, learning about the biomes, cultures, and animals of the seven continents of the world. They refine their understanding of absolute and relative map locations and learn to apply geographic terminology in locating and describing places and environments.

Essential Questions:

How does the history of our society affect our lives today?

- How can reading a map help us understand how communities and wild life adapt?
- Why learn about different cultures?

Learning Outcomes:

1. Students will be able to explain how individuals from long ago and the recent past have made a difference in other's lives.
2. Students will understand ways climate, location, and physical surroundings affect the way people and animals live.
3. Students will be able to identify map symbols, continents, and oceans on a world map.

Math

Second grade students build number sense and learn relationships among numbers and quantities up to 1,000. The use of manipulatives continues to be an integral part of the second grade math curriculum as students connect abstract concepts of place value, addition, subtraction, money, and fractions. Students develop the skills to independently solve multi-step real world problems. Students build models to represent and solidify understanding as they begin to study multiplication and division. Second grade students continue to build automaticity with math facts.

Essential Questions:

What would the world be like without fractions?

How are operations related?

Why do numbers count?

Learning Outcomes:

1. Students can fluently add and subtract four two-digit numbers using strategies based on place value and properties of operations.
2. Students can use repeated addition, arrays, and counting by multiples to solve multiplication facts.
3. Students can use repeated subtraction, equal sharing, and equal groups to solve division problems.
4. Students can use addition and subtraction within 100 to solve one and two step word problems.
5. Students will be able to solve word problems involving dollar bills, quarters, dimes, nickels, and pennies while making connections to real life situations.
6. Students will be able to use technology to explore math skills.

Resources Used: Math in Focus

Science

Students explore magnets and magnetic domains to understand the important applications of magnetism. Students define attraction and repulsion. Students will describe how electricity connects from a source to a receiver while building several circuits to demonstrate how circuits function. Second grade students understand that the position of an object can be described by locating it in relation to another object. Students describe an object's motion by recording the change in position over time.

Essential Questions:

- How can we study the behavior of magnets through interaction with other materials?
- How does the transfer of energy create electricity?
- How does a circuit function?
- How do Newton's Laws of Motion affect our everyday life?

Learning Outcomes:

1. Students will be able to identify what objects attract and repel a magnet.
2. Students will describe the process in which energy is transferred in order for electricity and static electricity to flow.
3. Students will identify conductors and insulators.
4. Students will be able to build a simple circuit, series circuit, parallel circuit, and fruit circuit.

5. Students will understand Newton's Laws of Motion and perform experiments to prove each law affects different aspects of everyday life.

Spanish

A critical learning outcome of second grade Spanish at the Rhoades School is for all students to acquire an affinity and appreciation for learning Spanish. To this end, students are active learners of Spanish, engaging in real world encounters, play-based activities, games, songs, and crafts.

By the end of second grade, students have knowledge of Spanish language and grammar concepts, such as: pronunciation of letter sounds, singular and plural forms of nouns and adjectives, gender agreement, prepositions to describe location, expressions of quantity, the concept of how verbs are conjugated, and interrogatives. Students engage in authentic communication and participation that includes listening, speaking, reading, and writing.

Units are organized around thematic topics such as: greetings and salutations, the body, the family, the house, the school community, shopping/clothes, restaurants/food, seasons and weather, and travel. In addition, students grow in their awareness of Hispanic and Latino cultures with exposure to music, art, and literature. Students are encouraged to make connections and comparisons among cultures.

Resources include Spanish picture books, Spanish songs, puppets, and Spanish websites, such as Spanish 4 Teachers, Study Spanish, and Fun for Spanish Teachers.

Visual Arts

Inquiry, discovery, research

At this grade level students should expand the ways they draw and know that there is more than one way to depict 3-dimensional form. In 2nd grade, students begin to develop exposure to drawing from observation, explicitly discussing the differences of drawing from memory. Learning how to look carefully at a subject is challenging, but drawing from observation is a crucial skill and students are often eager to develop their ability. It is developmentally appropriate for students to hone their ability to make conscious choices utilizing media, concepts and technique to represent the observable world. It is also critical that students become more mindful of how these choices affect their artwork and can describe these choices verbally. Students will be exposed to various mediums that will expand their opportunity to make choices in their artwork and experiment with technique.

Essential Questions:

- How might I acquire artistic methodology?
- How will I record what I see?
- How might I create the illusion of 3-dimensional form on a 2-dimensional

surface?

Each activity will follow with a critique to reflect:

- Articulate and implement critical thinking in the visual arts by synthesizing, evaluating, and analyzing visual information.
- The critique process informs judgments about artistic and aesthetic merits in works of art. The processes and philosophies of art and design inform interpretations in works of art.

Sample Activity: Indigenous animals-mixed media

Goal: Students will expand on their classroom studies investigating indigenous animals in the San Diego area. Selecting an animal of their choice, students will draw from observation considering composition while looking closely to depict the features of their animal in a sketch. Students will delve into watercolor techniques to create form, mass, volume and texture.

Objective for watercolors: Through the qualities of watercolors (layering, translucency, etc.) students will learn that watercolor colors can be mixed and techniques (wet on wet, wet on dry & dry on dry) with brushes to represent various textures and effects.

Objective for drawing from observation: Develop their skills in how to look carefully and record what they see in representing their animal.

Reference: Animal R & R

Music

Learning Outcomes:

SECOND GRADE students will:

Continue to extend and develop beat/rhythm competence with ensembles of several layers which include song, instrumental and vocal ostinato, bordouns and melody fragments on the tone bar instruments.

Read and play various combinations of sixteenth notes.

Read and play half and whole notes and their corresponding rests.

Know what a “measure” is.

Be aware of that a “measure” of 4/4 time contains 4 “beats”.

Recognize "ties" and "repeat" symbols and "bar lines" and understand how they are used.

Practice creating their own measures of four and eight beats using the appropriate music symbols.

Play their own and classmates' rhythm compositions on the classroom instruments.

Sing rounds.

Be aware of "dynamics": pianissimo, piano, mezzo piano, forte, mezzo forte, fortissimo, crescendo, and "tempo": andante, allegro, accelerando and the effects these elements have on musical compositions.

Become aware of feelings and "pictures" in compositions by Edvard Grieg "In the Hall of the Mountain King" and Antonio Vivaldi "The Four Seasons" and will respond to this music with their own observations and interpretations through their drawings. They will observe how tempo and dynamics shape this music.

Learn about highlights in the lives of selected composers and glimpse into the corresponding historical periods.

Computer Technology

Kindergarten through 3rd grade technology curriculum is an interdisciplinary approach to the learning of technology and computer programming skills through the content areas of language arts, science, math, art and social studies. There are seven broad categories for computer instruction as defined by ISTE (International Society for Technology in Education):

- Empowered Learner
- Digital Citizen
- Knowledge Constructor
- Innovative Designer
- Computational Thinker
- Creative Communicator
- Global Collaborator

Second Grade Learning Outcomes:

- Students will be able to log on to the network.
- Students will be able to open and save files on the network.
- Students will navigate word processing software.
- Students will illustrate and communicate original ideas and stories using digital tools and media rich resources.
- Students will engineer, construct, and program their own robots.
- Students will keyboard using appropriate keyboarding techniques.
- Students will use appropriate ergonomic positions while keyboarding.
- Students will be introduced to STEM careers.
- Students will use digital tools responsibly as digital citizens.

Tools: Second grade students use Lego Wedos to build robots with motors, gears, sensors, pulleys and other engineering components. Students program their robots with laptops using the Wedo software to move and make noise. Second grade students use PCs to write original stories and word process. iPad apps such as First in Math, Pages, Shadow Puppet, etc. are used to support math, language arts and science skills.

Physical Education

The Rhoades School Physical Education Department understands that practicing physical activity, movement, and sport in a safe environment is essential in the development of the whole student. The staff not only teaches about the physical and mental benefits of exercise and fitness, but also stresses the importance of social skills applied within group game play and sports. The program emphasizes a supportive social arena in physical education classes where students feel safe enough to take risks and express themselves through movement and action, as well as verbally. All movement skills and concepts learned are developmentally appropriate and are taught within a logical, gradual progression to ensure confidence and efficiency. Students not only develop physically and individually on all levels, but also learn how to positively contribute to their peer group in an informal, athletic setting. A student's confidence grows as class offers various opportunities to practice decision-making and leadership skills, as well as developing athletic skills and seeing how physical education knowledge contributes to an overall healthy lifestyle, or wellness.

At The Rhoades School, grades K-5 have physical education class three times each week. At all levels classes include an aerobic warm-up, flexibility/stretching training, specific lead-up activity or game instruction. The majority of the period concludes with the sport/activity/game play.

The main goal of the staff is to promote a fun, safe atmosphere that promotes healthy, educated students that have the skills and confidence needed to enjoy a lifetime of physical activity. Our curriculum is based on the California State Physical Education Framework, and the AAHPERD (American Alliance for Health, Physical Education, Recreation, and Dance) general national standards.

Learning Outcomes & Essential Questions:

Each of the following general learning outcomes apply to all grade levels (K-8) at age adjusted expectations within these criteria. For example, for the final standard, a first grade student would demonstrate a lack of interference with others and an eighth grade student would demonstrate respect for officials in a game and show appreciation for all participants with the game.

- Students demonstrate the motor skills and movement patterns needed to perform a variety of physical activities.

- Students demonstrate knowledge of movement concepts, principles, and strategies that apply to the learning and performances of physical activities.
- Students assess and maintain a level of physical fitness to improve health and performance.
- Students demonstrate knowledge of physical fitness concepts, principles, and strategies to improve health and performance.
- Students demonstrate and utilize knowledge of psychological and sociological concepts, principle, and strategies that apply to the learning and performance of physical activity.

Grades 2-3

Developmental Factors and Essential Questions

DF: Highly flexible, moderate-steady growth in muscle and bones, high energy bursts with periods of rest, high heart rate, begin working cooperatively with a partner.

EQ:

What does sportsmanship look like? Why is it important?

What are the advantages of athletic sneakers in PE?

Why do we need strategies in games?

Third Grade

English Language Arts

Third grade students learn to read narrative and expository texts fluently and expressively with appropriate pacing, intonation, and expression. They build on word analysis strategies to fluently decode regular multi-syllable words and words with common prefixes and suffixes.

Third grade students assume increasing academic responsibility, monitoring their understanding of what they read. They learn to ask questions and determine answers by connecting prior knowledge with literal and inferential information they encounter in text. Students also learn to distinguish between main ideas and supporting details in text.

Students learn to analyze traits of characters as they examine what characters say and do, as well as how authors portray characters. Literature selections provide students with practice as they identify the speaker or narrator of texts to determine underlying themes and authors' messages. In written language, students learn to group ideas into cohesive, focused, logically sequenced paragraphs. Third grade students create narratives, write descriptions and learn to write a factual 5 paragraph report, a fairy tale, a tall tale, a simulated pioneer journal, and various forms of poetry.

Essential Questions:

- How do you connect what you read with the world around you?
- How do reading strategies help you comprehend the text?
- What is good writing and how do you know?

Learning Outcomes:

1. Students will be able to apply understanding of story elements and draw upon a variety of comprehension strategies to read, interpret, and respond to significant works of children's literature.
2. Students will be able to use phonics, syllabication, and word parts to achieve fluency in oral and silent reading.
3. Students will distinguish their own point of view from that of the narrator or those of the characters.
4. Students will be able to progress through the stages of the writing process in order to write clear and coherent sentences and paragraphs about a central idea. They will incorporate rich description and details to support the main idea and keep in mind the audience and purpose.
5. Students will be able to listen critically and respond appropriately to oral communication.

Texts:
Fountas and Pinnell - Guided Reading Model
Spelling Workout D - Pearson
Spelling Workout E - Pearson
Grammar & Punctuation - Evan Moor
Building Language - Michael Clay Thompson

Math

Third Grade Math

Third grade students expand their understanding of place value by ordering, comparing, and rounding whole numbers through millions. They develop increasing sophistication in their understanding of decimals and fractions, learn to identify sequence, and compare decimals. They learn to factor whole numbers up to 144. Third grade students learn to solve multi-digit multiplication and division calculations and simple algebraic expressions.

In geometry, students learn to demonstrate an understanding of plane and solid geometric objects, describe and represent geometric solids, and determine the number and shape of faces, edges and vertices. They also learn to understand and use formulas to solve problems involving perimeter, area, and volume. Students learn to measure in millimeters, centimeters, and inches.

Third grade math instruction focuses on students' application of skills learned to real-life problem solving. Students develop increasing fluency and confidence as they apply strategies, skills and concepts to solve, communicate, and justify their solutions for increasingly complex, multi-step problems.

Essential Questions:

- How do we communicate mathematical ideas by solving multi-step problems?
- When and why should we estimate?
- How are all mathematical operations related?
- Why is place value important?
- What do good problem solvers do, especially when they get stuck?

Learning Outcomes:

1. Students can determine how whole numbers and decimals relate to simple fractions, recognizing place value.
2. Students will understand addition, subtraction, multiplication, and division and know how to factor small whole numbers.
3. Students will understand perimeter, area, and volume and demonstrate the understanding of plane and solid geometric objects.

4. Students can synthesize word problems by breaking them into smaller parts and using various strategies.
5. Students will be able to choose and use appropriate units and measurement tools to quantify the properties of objects.
6. Students will be able to calculate and solve problems involving addition, subtraction, multiplication, and division.

Text: *Math in Focus - Singapore Math: Level 3*

Level 4 Math

Learning Outcomes:

Numbers Through Millions

- ➢ Recognizes, writes, orders & compares numbers up to nine digits
- ➢ Able to compare and order whole numbers by rounding through a million
- ➢ Writes numbers in expanded notation

Addition and Subtraction

- ➢ Estimates sums and differences
- ➢ Applies addition and subtraction properties
- ➢ Evaluates expressions using parenthesis
- ➢ Solves equations and equalities

Multiplication and Division

- ➢ Relates multiplication and division
- ➢ Divides with remainders
- ➢ Evaluates expressions using all four operations
- ➢ Writes equations by comparing expressions
- ➢ Able to recall with automaticity multiplication and division facts up to 12

Algebra and Functions

- ➢ Writes and evaluates expressions containing variables
- ➢ Uses function tables

- ➢ Writes function rules using variables
- ➢ Solves multiplication problems involving multiplying multiple digit numbers (multiplying a 3 digit number by a two digit number)
- ➢ Estimating products by rounding factors
- ➢ Using facts and patterns to multiply mentally

Division and Number Theory

- ➢ Solves division problems involving multi-digit numbers
- ➢ Able to find quotients with and without remainders
- ➢ Uses facts and patterns to divide mentally
- ➢ Able to find factors of numbers to 50
- ➢ Determines whether a number is prime or composite
- ➢ Determines prime factors of composite numbers

Fractions

- ➢ understanding equal parts
- ➢ fractional parts of figures & sets
- ➢ Equivalent, comparing and simplifying fractions
- ➢ Renaming mixed numbers
- ➢ Addition, subtraction, multiplication and division of fractions (primary goal)
- ➢ Factorization
- ➢ Renaming fractions as decimals

Measurement & Negative Numbers

- ➢ When you convert larger units to smaller units, you multiply. When you convert smaller units to larger units, you divide.
- ➢ For every positive number, there is an opposite negative number.

Decimals

- ➢ The relationship between fractions & decimals
- ➢ Comparing & ordering decimals

- ➢ Addition & subtraction of decimals
- ➢ Estimating decimals

Graphs & Algebra

- ➢ Students use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
- ➢ Graphing functions & equations
- ➢ Coordinate grids

Statistics & Probability

- ➢ Use of line plots, coordinate graphs, tables, and charts to display and organize data
- ➢ Mean, median, mode & range
- ➢ Making predictions & outcomes with probability

Geometry & Measurement

- ➢ Define & classify plane figures. Describe and model solid figures by relating them to plane figures.
- ➢ Make drawing, measure, and use formulas to show how perimeter and area relate.

Text: *Math in Focus - Singapore Math: Level 4*

Level 5 Math

Math Level 5 covers concepts including number theory and fractions, equivalence in fractions and decimals, algebra, adding and subtracting fractions and mixed numbers, multiplying and dividing fractions, operations with decimals, data and graphs, geometry, measurement, percentages, integers, and coordinate planes.

The goal is to provide a safe learning environment where every student feels comfortable to participate and ask questions. Students will be guided through developing good strategies for study habits, note taking skills, and computation. Curriculum will be enriched beyond the basic scope and sequence to encourage students to develop a better understanding of the "big picture."

Essential Questions:

How do we translate written problems into numbers and symbols and vice-versa?

How can numbers be expressed in a variety of ways including fractions, decimals, percentages, equations and graphs?

Why is mastery of basic mathematical actions critical to future understanding of more advanced concepts?

Learning Outcomes:

Number Theory and Fractions

- Writes any number as a product of its prime factors
- Uses exponents to show multiples of a factor
- Identifies fractions and mixed numbers as points on a number line
- Renames fractions as mixed numbers to show simplest form

Equivalence between Fractions and Decimals

- Recognizes the relationship between place value in numbers and decimals and powers of 10
- Understands that numbers can be represented in the forms of fractions and decimals

Algebra

- Uses variables to represent potential solutions of problems
- Uses the Distributive, Commutative, Associative, Identity, and Equality Properties to solve equations

Add and Subtract Fractions and Mixed Numbers

- Adds fractions using equivalency to make common denominators
- Regroups as needed when adding and subtracting mixed numbers

Multiply and Divide Fractions

- Realizes that the product of two fractions results in a number of less value than either fraction
- Recognizes that division is another way of writing multiplication and applies this to rewrite division problems with fractions as multiplication problems

Operations with Decimals

- Understands that a decimal is the same as a fraction with a denominator of a power of 10
- Adds and subtracts decimals like whole numbers by lining up the decimal points
- Multiplies and divides decimals like whole numbers and places decimal point correctly in the resulting answer

Data and Graphs

- Uses a letter to represent an unknown number
- Writes and evaluates simple algebraic expressions in one variable by substitution
- Identifies and graphs ordered pairs in the four quadrants of the coordinate plane
- Solves problems involving linear functions with integer values; writes the equation; and graphs the resulting ordered pairs of integers on a grid.
- Identifies ordered pairs of data from a graph and interprets the meaning of the data in terms of the situation depicted by the graph
- Knows how to write ordered pairs correctly

Geometry and Measurement

- Knows that the sum of the angles of any triangle is 180 degrees and the sum of the angles of any quadrilateral is 360 degrees and uses this information to solve problems
- Measures, identifies, and draws angles, perpendicular and parallel lines, rectangles, and triangles by using appropriate tools
- Derives and uses the formula for the area of a triangle and of a parallelogram by comparing each with the formula for the area of a rectangle
- Constructs a cube and a rectangular box from two-dimensional patterns and uses these patterns to compute the surface area for these objects
- Understands the concept of volume and uses the appropriate units in common measuring systems to compute the volume of rectangular solids

Percent

- Interprets percentages as a part of a hundred
- Finds decimal and percent equivalents for common fractions and explains why they represent the same value
- Computes a given percent of a whole number
- Identifies and represents on a number line decimals, fractions, mixed numbers, and positive and negative integers
- Adds, subtracts, multiplies, and divides with decimals
- Uses percentages and fractions to analyze and compare data sets of different sizes

Integers

- Adds with negative integers and subtracts positive integers from negative integers; verifies the reasonableness of the results
- Solves problems involving linear functions with integer values; writes the equation; and graphs the resulting ordered pairs of integers on a grid

Coordinate Plane

- Graphs ordered pairs and functions in the coordinate plane
- Completes a table of values for a given function, and chooses an equation for a given function table
- Graphs formulas and linear equations, and uses graphs to solve problems
- Writes equations for linear functions

Text: *Math in Focus - Singapore Math: Level 5*

Level 6 Math

Math students study the following topics:

- Operations with fractions and decimals
- Operations with integers with the goal of gaining automaticity
- Write and simplify expressions and solve one and two step equations with applications
- Simplify ratios and unit rates
- Write and solve proportions algebraically
- Percent/fraction/decimal equivalencies
- Percent markup and discount applications
- Collect, organize, and analyze data
- Identify geometric figures based on angle relationships
- Use information to construct triangles and quadrilaterals
- Apply algebra to formulas of polygons, circles and solids – perimeter, area, circumference, and surface area
- Coordinate geometry – graphing points, linear equations, and functions

A sample of enrichment topics and applications in Level 6 math may include:

- Problem solving: California Math League (CML)
- Problem solving: Math Olympiads for Elementary and Middle School (MOEMS)
- Mathematician Investigation
- Constructions of solids

Essential Questions:

- How do we translate verbal ideas to the language of mathematics?
- What are the different ways of communicating mathematics with clarity?
- How is balance relevant to mathematics?

Learning Outcomes:

- Students learn essential vocabulary and communicate using mathematical rhetoric.
- Students develop an appreciation for number systems and will be able to classify types of numbers in the real and imaginary number systems.
- Students develop fluency of operations with fractions, decimals, integers, and percent/fraction/decimal equivalencies.
- Students make connections between mathematical ideas, unknowns, and real world applications.
- Students practice basic algebraic concepts of writing, evaluating, and solving expressions and equations.
- Students exercise deductive reasoning, critical thinking, and flexible thinking to apply core concepts to word problems and new mathematical experiences.

Text: *Big Ideas: Course 1 Advanced*

Social Studies

Third grade students study the regions of California and examine the social, cultural, and economic life and interactions among people of California from Native Americans, explorers of California, to the Spanish missions, the Mexican rancho periods, the pioneers, and the Gold Rush era. Third grade students continue their study of geography, as they learn to use maps, tables, and graphs. Students draw from historical resources to organize the sequence of historical events, as they study how each period of settlement left its mark on California.

Essential Questions:

- How has life changed for people over time?
- How does physical geography affect the movement of people and their way of life?
- How does where we live affect how we live?
- How can various cultural groups have an impact on the development of a community?

Learning Outcomes:

1. Students will be able to determine ways in which physical geography and climate influence how people, from California Native Americans through people today, adapt to their natural environment.
2. Students demonstrate map skills by locating, labeling, and comparing and contrasting locations of Native American places and environments.
3. Students identify natural resources and think critically about how to preserve and protect our earth.
4. Students will be able to relate how California communities have changed from the time of explorers through today and how each period of settlement left its mark on the land.
5. Students will be able to use maps, tables, graphs, and charts to organize information about people, places, and environments.
6. Students will be able to locate California in North America and the world and relate how its location and physical features have influenced the growth and development of the state.
7. Students will describe the social, political, cultural, and economic life and interactions among groups of people who have visited California, including Native Americans, explorers, and settlers, and describe the physical challenges they faced in getting to and/or settling California.
8. Students will be able to explain the economic, social, and political life in California from the establishment of the Bear Flag Republic through the Mexican-American War, the Gold Rush, and the granting of statehood.

9. Students explain how California became an agricultural and industrial power, tracing important economic trends, and political and cultural developments since the 1850s.

Texts: Interactive Textbook: *Our California* - History - Social Science for California

California Studies Weekly Newspaper

Science

Learning Outcomes:

1. Students will know the charges on subatomic particles (protons, neutrons and electrons).
2. Students will know what the atomic number and the atomic mass of an element represent.
3. Students will be familiar with more than 25 common elements and their typical roles in our bodies and in other materials (including oxygen, nitrogen, carbon, hydrogen, calcium).
4. Students will know a pH indicator identifies whether a substance is acid, base or neutral.
5. Students will be able to identify polar and nonpolar substances.
6. Students will be able to identify polymers and crosslinking substances ("bridge-formers").
7. Students will know the poles on a magnet.
8. Students will recognize changes that represent a chemical reaction.
9. Students will write a biography report of a scientist.
10. Students will know higher pressure moves towards areas of lower pressure.
11. Students will understand the concept of density.
12. Students will know the three states of matter (gas, liquid, solid).
13. Students will be able to explain Bernoulli's Principle.
14. Students will understand the concept of effervescence.
15. Students will know heated gases expand and cooled gases contract.
16. Students will know the major bones in the human body.
17. Students will be able to identify the rodent bones found in an owl pellet.
18. Students will understand the concepts of food chains and food webs.

19. Students will know examples of behavioral and physical adaptations in animals.
20. Students will be able to explain how pesticide residues travel through the food chain.

Visual Arts

In third grade, the concepts of space and dimension are emphasized. The students will recognize and work with spatial relationships in two- and three-dimensions. Pattern and order are stressed. Composition is analyzed as a fundamental component of art. Art history and cultural studies will focus on topics of study within the third grade.

Essential Questions:

- What are the various purposes for creating art and how do one's experiences influence the artistic creation?

Sample Activity: Watercolor, "Still life- Poppies"

Goal: Contour Drawing from observation for sketch then finished with watercolor and color pencils for value. The ability to create the illusion of a 3 dimensional form considering mass & volume by way of contour drawing technique followed with value of color for depth. State flower.

Artist: Georgia O'Keeffe

Spanish

Spanish in third grade fosters enthusiasm for Spanish language learning while developing content vocabulary and grammar concepts. Students are active learners of Spanish, engaging in real world encounters and collaborative learning activities.

Essential Questions:

How can I enhance my connections with people through language?

How do I collaborate with my classmates to create an authentic, positive Spanish learning environment?

Learning Outcomes:

1. Students introduce themselves, ask basic greeting questions and say goodbye.
2. Students express how they are feeling using descriptive adjectives.
    i. Students use the verb *Ser* to ask, "where are you from?" and answer, "I am from…"
3. Students locate where they live on a world map, the regions where Spanish is

primarily spoken, and can see the geographical relationship to where they live.

4. Students articulate the cultural significance of *Día de los Muertos* and the differences between this holiday and Halloween.
5. Students identify classroom objects, school subjects, and places in the school.
6. Students understand that in Spanish nouns are gender specific and can use the four definite articles and four indefinite articles corresponding with nouns.
7. Students identify subject pronouns (I, you, he/she, we and they) in Spanish. Students understand that verb endings in Spanish change according to the subject of the sentence.
8. Students conjugate regular Spanish verbs ending in –ar, -er, and –ir.
9. Students ask simple questions and say phrases such as: “May I go to the bathroom?” “May I get a drink of water?” “I need a pencil”...
10. Students ask, "how is the weather today?" and answer using descriptive weather related vocabulary and expressions with the appropriate form of *haber* or *hacer*.
11. Students understand basic South American geography and climate.
12. Students communicate the sports and pastimes they participate in and ask others about their favorite pastimes.
13. Students compare and contrast the activities they participate in with popular activities in the Spanish-speaking world.
14. Students communicate using the verb *jugar* to express playing sports.
15. Students communicate food preferences using stem-changing verbs *preferir* and *querer*.
16. Students use the verb *gustar* to communicate likes and dislikes.
17. Students understand differences in typical foods, eating schedules, eating at home and eating "out" in the Spanish-speaking world.
18. Students understand reasons for celebrations and how they are celebrated in Spanish-speaking countries including Patron Saint's Day, *Quinceañera*, and Independence Day.

Music

Essential Question:

How do you create music with modern technology?

Learning Outcomes:

Students will understand that:

Musical options will be enhanced using modern music technology.

Students will know that:

Having access to multiple sonic timbres will enhance creativity.

Students will be able to:

Analyze and differentiate between sonic textures.

Interpret modern technology to expand the creative awareness.

Reconstruct musical sounds they have heard in the past to create music.

Express themselves in new and creative ways.

Compose and create music.

Computer Technology

Kindergarten through 3rd grade technology curriculum is an interdisciplinary approach to the learning of technology and computer programming skills through the content areas of language arts, science, math, art and social studies. There are seven broad categories for computer instruction as defined by ISTE (International Society for Technology in Education):

- Empowered Learner
- Digital Citizen
- Knowledge Constructor
- Innovative Designer
- Computational Thinker
- Creative Communicator
- Global Collaborator

Third Grade Learning Outcomes:

Students will navigate word processing software.

Students will illustrate and communicate original ideas and stories using digital tools and media rich resources.

Students will engineer, construct, and program their own robots.

Students will understand, build and experiment with simple machines, structures and mechanisms.

Students will keyboard using appropriate keyboarding techniques.

Students will use appropriate ergonomic positions while keyboarding.

Students will use digital tools responsibly as digital citizens.

Tools: Third grade students continue to use Wedos to build robots, advancing skills and concepts learned in second grade. Students also use Lego Simple Motorized Mechanisms to build and explore machines and mechanisms, investigate motorized machines, calibrate and capture wind, and study gearing mechanisms. Students will use the engineering process to ask, imagine, plan, create and improve as they work with their mechanisms. Third grade students use technology to analyze, interpret and present data through charts, tables and spreadsheets. Students will also use Sphero robots, iOS programmable robotic balls, to deepen their programming and robotic skills.

Physical Education

The Rhoades School Physical Education Department understands that practicing physical activity, movement, and sport in a safe environment is essential in the development of the whole student. The staff not only teaches about the physical and mental benefits of exercise and fitness, but also stresses the importance of social skills applied within group game play and sports. The program emphasizes a supportive social arena in physical education classes where students feel safe enough to take risks and express themselves through movement and action, as well as verbally. All movement skills and concepts learned are developmentally appropriate and are taught within a logical, gradual progression to ensure confidence and efficiency. Students not only develop physically and individually on all levels, but also learn how to positively contribute to their peer group in an informal, athletic setting. A student's confidence grows as class offers various opportunities to practice decision-making and leadership skills, as well as developing athletic skills and seeing how physical education knowledge contributes to an overall healthy lifestyle, or wellness.

At The Rhoades School, grades K-5 have physical education class three times each week. At all levels classes include an aerobic warm-up, flexibility/stretching training, specific lead-up activity or game instruction. The majority of the period concludes with the sport/activity/game play.

The main goal of the staff is to promote a fun, safe atmosphere that promotes healthy, educated students that have the skills and confidence needed to enjoy a lifetime of physical activity. Our curriculum is based on the California State Physical Education Framework, and the AAHPERD (American Alliance for Health, Physical Education, Recreation, and Dance) general national standards.

Learning Outcomes & Essential Questions:

Each of the following general learning outcomes apply to all grade levels (K-8) at age adjusted expectations within these criteria. For example, for the final standard, a first grade student would demonstrate a lack of interference with others and an

eighth grade student would demonstrate respect for officials in a game and show appreciation for all participants with the game.

- Students demonstrate the motor skills and movement patterns needed to perform a variety of physical activities.
- Students demonstrate knowledge of movement concepts, principles, and strategies that apply to the learning and performances of physical activities.
- Students assess and maintain a level of physical fitness to improve health and performance.
- Students demonstrate knowledge of physical fitness concepts, principles, and strategies to improve health and performance.
- Students demonstrate and utilize knowledge of psychological and sociological concepts, principle, and strategies that apply to the learning and performance of physical activity.

Grade 3

Developmental Factors and Essential Questions

DF: Highly flexible, moderate-steady growth in muscle and bones, high energy bursts with periods of rest, high heart rate, begin working cooperatively with a partner.

EQ: What does sportsmanship look like? Why is it important?

Why are the advantages to athletic sneakers in PE?

Why do we need strategies in games?

Fourth Grade

English Language Arts

Fourth grade students continue to build on their ability to think within, beyond, and about fiction and non-fiction texts. Fourth grade students learn to identify and interpret various literary techniques and identify and compare story elements by engaging with challenging and engaging novel studies through written responses, group discussions, and group projects. Students have a shared literacy experience with the following novels: **Bridge to Terabithia, The Fighting Ground, and Phantom Tollbooth**.

Fourth grade students progress as writers by having a variety of experiences and support as they draft summaries, narratives, responses to literature, informative, persuasive, comparative and contrast essays, in addition to, an extensive science oriented research report. We use Culham's 6+1 Traits of Writing as our writing model of instruction & assessment to guide our fourth grade writers. This model provides a common language for us to communicate about the characteristics of writing. The traits are: Ideas, Organization, Voice, Word Choice, Sentence Fluency, Conventions, and Presentation. Utilizing these traits establishes a clear vision of what good writing looks like.

Fourth grade students continue to build on their prior learning of grammar, spelling, and vocabulary development.

Essential Questions:

- How do I become a great reader?
- What does it mean to "go below the surface of the obvious" when reading?
- What is a good writer?
- How does the writing process help my writing?

Learning Outcomes:

Reading Foundational Skills

- Students will be able to identify and apply appropriate word analysis and vocabulary strategies (word patterns, structural analysis) to identify unfamiliar words.
- Students will begin to use etymologies to construct meaning of new words.

Literature

- Students will be able to analyze the main idea and supporting details in a wide variety of texts (varying in genre and complexity).
- Students will be able to determine story elements (explicit and implicit) and be able to identity conflict, resolution, and character motives, and develop an increasing awareness of how universal themes play out in literature.

- Students will be able to identify multiple points of view within a given text and evaluate the author's use of various literary techniques.

Informational Text

- Students will be able to search for, use, and summarize informational text features and text structures to organize or categorize information, to answer questions, or to perform specific tasks.
- Students will be able to critique and analyze text structure (sequence, cause/effect, compare/contrast and problem/solution) to predict meaning to deepen understanding.

Writing

- Students will be able to develop and strengthen their writing by planning, revising, editing, and publishing.
- Students will be able to write multi-paragraph opinion pieces, informative/explanatory texts, narratives and responses to literature.
- Students will be able to increasingly transfer their learning of grammar and spelling conventions to their own writing.

Resources Used: Culham's 6+1 Writing Traits, Caesar's English Volume 1, Junior Great Books, Novel Study, Modern Curriculum Press Spelling Curriculum

Math

Level 4

Learning Outcomes:

Numbers Through Millions

- ➢ Recognizes, writes, orders & compares numbers up to nine digits
- ➢ Able to compare and order whole numbers by rounding through a million
- ➢ Writes numbers in expanded notation

Addition and Subtraction

- ➢ Estimates sums and differences
- ➢ Applies addition and subtraction properties
- ➢ Evaluates expressions using parenthesis

- ➢ Solves equations and equalities

Multiplication and Division

- ➢ Relates multiplication and division
- ➢ Divides with remainders
- ➢ Evaluates expressions using all four operations
- ➢ Writes equations by comparing expressions
- ➢ Able to recall with automaticity multiplication and division facts up to 12

Algebra and Functions

- ➢ Writes and evaluates expressions containing variables
- ➢ Uses function tables
- ➢ Writes function rules using variables
- ➢ Solves multiplication problems involving multiplying multiple digit numbers (multiplying a 3 digit number by a two digit number)
- ➢ Estimates products by rounding factors
- ➢ Uses facts and patterns to multiply mentally

Division and Number Theory

- ➢ Solves division problems involving multi-digit numbers
- ➢ Able to find quotients with and without remainders
- ➢ Uses facts and patterns to divide mentally
- ➢ Able to find factors of numbers to 50
- ➢ Determines whether a number is prime or composite
- ➢ Determines prime factors of composite numbers

Fractions:

- ➢ understanding equal parts, fractional parts of figures & sets
- ➢ Equivalent, comparing and simplifying fractions
- ➢ Renaming mixed numbers
- ➢ Addition, subtraction, multiplication and division of fractions (primary goal)

- ➢ Factorization
- ➢ Renaming fractions as decimals

Measurement & negative Numbers

- ➢ When you convert larger units to smaller units, you multiply. When you convert smaller units to larger units, you divide
- ➢ For every positive number, there is an opposite negative number

Decimals

- ➢ The relationship between fractions & decimals
- ➢ Comparing & ordering decimals
- ➢ Addition & subtraction of decimals
- ➢ Estimating decimals

Graphs & Algebra

- ➢ Students use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
- ➢ Graphing functions & equations
- ➢ Coordinate grids

Statistics & Probability

- ➢ Use of line plots, coordinate graphs, tables, and charts to display and organize data
- ➢ Mean, median, mode & range
- ➢ Making predictions & outcomes with probability

Geometry & Measurement

- ➢ Define & classify plane figures. Describe and model solid figures by relating them to plane figures.
- ➢ Make drawing, measure, and use formulas to show how perimeter and area relate.

Resources Used: Math in Focus, Modern Curriculum Press Math Resources

---

Level 5 Math

Math Level 5 covers concepts including number theory and fractions, equivalence in fractions and decimals, algebra, adding and subtracting fractions and mixed numbers, multiplying and dividing fractions, operations with decimals, data and graphs, geometry, measurement, percentages, integers, and coordinate planes.

The goal is to provide a safe learning environment where every student feels comfortable to participate and ask questions. Students will be guided through developing good strategies for study habits, note taking skills, and computation. Curriculum will be enriched beyond the basic scope and sequence to encourage students to develop a better understanding of the "big picture."

Essential Questions:

How do we translate written problems into numbers and symbols and vice-versa?

How can numbers be expressed in a variety of ways including fractions, decimals, percentages, equations and graphs?

Why is mastery of basic mathematical actions critical to future understanding of more advanced concepts?

Learning Outcomes:

Number Theory and Fractions

- ➢ Writes any number as a product of its prime factors
- ➢ Uses exponents to show multiples of a factor
- ➢ Identifies fractions and mixed numbers as points on a number line
- ➢ Renames fractions as mixed numbers to show simplest form

Equivalence between Fractions and Decimals

- ➢ Recognizes the relationship between place value in numbers and decimals and powers of 10
- ➢ Understands that numbers can be represented in the forms of fractions and decimals

Algebra

- Uses variables to represent potential solutions of problems
- Uses the Distributive, Commutative, Associative, Identity, and Equality Properties to solve equations

Add and Subtract Fractions and Mixed Numbers

- Adds fractions using equivalency to make common denominators
- Regroups as needed when adding and subtracting mixed numbers

Multiply and Divide Fractions

- Realizes that the product of two fractions results in a number of less value than either fraction
- Recognizes that division is another way of writing multiplication and applies this to rewrite division problems with fractions as multiplication problems

Operations with Decimals

- Understands that a decimal is the same as a fraction with a denominator of a power of 10
- Adds and subtracts decimals like whole numbers by lining up the decimal points
- Multiplies and divides decimals like whole numbers and places decimal point correctly in the resulting answer

Data and Graphs

- ➢ Uses a letter to represent an unknown number
- ➢ Writes and evaluates simple algebraic expressions in one variable by substitution
- ➢ Identifies and graphs ordered pairs in the four quadrants of the coordinate plane
- ➢ Solves problems involving linear functions with integer values; writes the equation; and graphs the resulting ordered pairs of integers on a grid.
- ➢ Identifies ordered pairs of data from a graph and interprets the meaning of the data in terms of the situation depicted by the graph
- ➢ Knows how to write ordered pairs correctly

Geometry and Measurement

- ➢ Knows that the sum of the angles of any triangle is 180 degrees and the sum of the angles of any quadrilateral is 360 degrees and uses this information to solve problems
- ➢ Measures, identifies, and draws angles, perpendicular and parallel lines, rectangles, and triangles by using appropriate tools
- ➢ Derives and uses the formula for the area of a triangle and of a parallelogram by comparing each with the formula for the area of a rectangle
- ➢ Constructs a cube and a rectangular box from two-dimensional patterns and uses these patterns to compute the surface area for these objects
- ➢ Understands the concept of volume and uses the appropriate units in common

measuring systems to compute the volume of rectangular solids

Percent

- ➢ Interprets percentages as a part of a hundred
- ➢ Finds decimal and percent equivalents for common fractions and explains why they represent the same value
- ➢ Computes a given percent of a whole number
- ➢ Identifies and represents on a number line decimals, fractions, mixed numbers, and positive and negative integers
- ➢ Adds, subtracts, multiplies, and divides with decimals
- ➢ Uses percentages and fractions to analyze and compare data sets of different sizes

Integers

- ➢ Adds with negative integers and subtracts positive integers from negative integers; verifies the reasonableness of the results
- ➢ Solves problems involving linear functions with integer values; writes the equation; and graphs the resulting ordered pairs of integers on a grid

Coordinate Plane

- ➢ Graphs ordered pairs and functions in the coordinate plane
- ➢ Completes a table of values for a given function, and chooses an equation for a given function table
- ➢ Graphs formulas and linear equations, and uses graphs to solve problems
- ➢ Writes equations for linear functions

Text: *Math in Focus - Singapore Math: Level 5*

Level 6 Math

Math students study the following topics:

- Operations with fractions and decimals
- Operations with integers with the goal of gaining automaticity
- Write and simplify expressions and solve one and two step equations with applications

- Simplify ratios and unit rates
- Write and solve proportions algebraically
- Percent/fraction/decimal equivalencies
- Percent markup and discount applications
- Collect, organize, and analyze data
- Identify geometric figures based on angle relationships
- Use information to construct triangles and quadrilaterals
- Apply algebra to formulas of polygons, circles and solids – perimeter, area, circumference, and surface area
- Coordinate geometry – graphing points, linear equations, and functions

A sample of enrichment topics and applications in Level 6 math may include:

- Problem solving: California Math League (CML)
- Problem solving: Math Olympiads for Elementary and Middle School (MOEMS)
- Mathematician Investigation
- Constructions of solids

Essential Questions:

- How do we translate verbal ideas to the language of mathematics?
- What are the different ways of communicating mathematics with clarity?
- How is balance relevant to mathematics?

Learning Outcomes:

- Students learn essential vocabulary and communicate using mathematical rhetoric.
- Students develop an appreciation for number systems and will be able to classify types of numbers in the real and imaginary number systems.
- Students develop fluency of operations with fractions, decimals, integers, and percent/fraction/decimal equivalencies.
- Students make connections between mathematical ideas, unknowns, and real world applications.
- Students practice basic algebraic concepts of writing, evaluating, and solving expressions and equations.
- Students exercise deductive reasoning, critical thinking, and flexible thinking

to apply core concepts to word problems and new mathematical experiences.

Text: *Big Ideas: Course 1 Advanced*

Social Studies:

Fourth grade students begin their social studies journey with a geography unit that will help orient and deepen their understanding of the themes of change that are presented throughout the year. Fourth grade students then move into a study of the Age of Exploration and pre-Columbian cultures. The culture and history of the Native American Nations and their encounters with early American explorers is examined from a variety of perspectives. Fourth grade students study the Early American Colonies and the political, religious, social, and economic institutions that developed during this period. Fourth grade students explore the causes, course, and consequences of the American Revolution and of the people and events associated with the development of the United States Constitution.

Geography

Essential Questions:

- How do geography, climate, and natural resources affect the way people live and work? OR How does where you live influence how you live?
- How do maps and globes reflect history, politics, and economics?
- What effect do people have on their environment?

Learning Outcomes:

- Students learn how the geography, climate, and natural resources of a region influence the economy and lifestyle of the people living there.
- The students will learn about maps of locales, regions, and the world that demonstrate understanding of relative location, direction, size, and shape.
- Students will locate and describe varying landforms and geographic features.
- Students will examine the ways historical events have been influenced by physical and human geographic factors in local, regional, national, and global settings.
- Students will identify the early land and sea routes to their states and European settlements noting the importance of geographical features.
- Students can explain the use of the coordinate grid system of latitude and longitude to determine location.

Age of Exploration

Essential Questions:

- What happens when different cultures meet?
- What caused Europeans to take such risky journeys?
- How was the world changed by the explorations of European nations?

Learning Outcomes:

- Students reconstruct the literal meaning of a historical passage by identifying who was involved, what happened, what events led to the developments, and what consequences or outcomes followed.
- Students will compare and contrast differing sets of ideas, values, personalities, behaviors, and institutions by identifying likenesses and differences.
- The students will analyze and explain the ways groups, societies, and cultures address human needs and concerns.
- The students are able to analyze cause & effect relationships and multiple causation, including the importance of the individual, the influence of ideas, and the role of chance.
- Students consider multiple perspectives of various peoples in the past by demonstrating differing motives, beliefs, interests, hopes, and fears.
- Students participate in reenactments of the encounters between Native Americans and explorers.
- Students identify the major European Explorers during the Age of Exploration.
- Students analyze the major reasons for exploration during the Age of Exploration.

Colonial America

Essential Questions:

- Why do people settle in new areas?
- How do change, diversity, and conflict relate to this nation's quest for and preservation of freedom?
- How would life be different if you lived in each of the Southern, Middle, and Northern colonies?

Learning Outcomes:

- Students understand the influence of location and physical setting on the founding of the original 13 colonies.
- The students are able to identify on a map the locations of the colonies.

- Students are able to compare and contrast the primary industry, major cities, and geographic features of each region.
- Students are able to describe the political, religious, social, and economic institutions that evolved in the colonial era.
- Students are able to describe the impacts of the English, Dutch, and French colonies that grew in North America as they searched for a Northwest Passage to Asia.

Revolutionary War

Essential Questions:

- What are some thing people are willing to fight for?
- What is fair treatment?
- What defines a Revolution?
- Why do people form governments?

Learning Outcomes:

- Students can explain the causes of the American Revolution.
- The students understand the principles articulated in the drafting and signing of the Declaration of Independence.
- The students understand the Revolution's effects on different social groups.
- The students can identify and describe significant historical periods and patterns of change within and across cultures.
- Students explore and in-depth look at the social, political and economic reasons people were willing to fight for.

U.S. Government

Essential Questions:

- What is power?
- Where is the balance between personal freedoms and the common good?
- How does our country's court system affect the lives of citizens?
- How do the structures and functions of the U.S. government interrelate?
- How are governments created, structured, maintained, and changed?

Learning Outcomes:

- Students compare how groups have governed themselves in the past.
- Identify and explain the basic functions of the three branches of government.

- Students will understand how the Constitution is designed to secure our liberty by a system of balancing power between the three branches of government and the people.

Resources Used: The History of Us Volumes 1-3, Interact: Learning Through Experience Simulations

Science

Learning Outcomes:

1. Students will compare eye anatomy structures and functions and recognize these features in a cow's eye dissection.
2. Students will contrast the colors of the visible spectrum (400 nm-700 nm) and which cones are activated by which wavelengths.
3. Students will contrast ultraviolet wavelengths as shorter than visible wavelengths.
4. Students will contrast infrared wavelengths as longer than visible light.
5. Students will experiment with the concept of phosphorescence.
6. Students will examine white light as all colors as demonstrated by diffraction gratings.
7. Students will apply the law of reflection (and diffuse versus specular reflections).
8. Students will demonstrate through experimentation the brain retains a visual image for a fraction of a second.
9. Students will examine the concept of refraction.
10. Students will contrast concave and convex lenses.
11. Students will design and develop their own science fair project based on the scientific method.
12. Students will demonstrate that sound is produced by vibrations of particles.
13. Students will conclude that with sound vibrations the shorter the wavelength, the higher the frequency, and frequency is measured in Hertz.
14. Students will apply the speed of sound in air at sea level and how to estimate the distance of a lightning strike.
15. Students will compare the hearing range for humans (and other animals).

16. Students will differentiate between typical sounds and their decibel measures of sound intensity (volume).
17. Students will compare the structures and functions of ear anatomy.
18. Students will analyze echoes as sound reflections.
19. Students will apply sound concepts in a variety of laboratory experiments.
20. Students will classify leaves according to shapes, margins, and leaf arrangements.
21. Students will contrast the differences between monocotyledons, dicotyledons and conifers (angiosperms and gymnosperms).
22. Students will examine the basic formula for photosynthesis, and its oxygen contribution.
23. Students will compare the transport functions of the xylem and phloem (and the role of the cambium).
24. Students will simulate applications of dendrochronology.

Visual Arts

In fourth grade, students identify and apply the elements of art and principles of design. Students will be formally introduced to the concept of abstraction and learn that expressive qualities are not restricted to any particular style. Emphasis will be placed on the ability of students to value their own emerging style. Fourth graders will learn about art history.

Essential Questions:

- What tools do artists use to express their ideas?
- What are unique ways to use materials and processes?
- How might you demonstrate how to create a work of art using a variety of techniques?

Envision and Critique to Reflect:

The critique process informs judgments about artistic and aesthetic merits in works of art. The processes and philosophies of art and design inform interpretations in works of art. Students will have thoughtful conversations while describing what they see in the artwork based on process, techniques, elements and principles of art using appropriate art vocabulary to support their objective commentary.

Sample Activity: "Surreal Me"

Part 1: Acrylic painting

Part 2: "The real me" -Collage

Goal: To seemingly intertwine realism with surrealism in how we see ourselves and how we dream of ourselves. Students will explore surrealism concepts while recording what they see from direct observation in the mirror. Students will examine how past cultures and throughout art history animals, dreams and reality have been explored in art making.

Part 1: Surreal Me…Self-portrait as an animal.

Objective: Through the qualities of acrylic painting students will learn brush techniques, painting skills and color theory to build up a painting as they look closely and think imaginatively in creating a self-portrait as an animal.

Part 2: Collage…Self Portrait.

Objective: Through the qualities of collage materials students will learn that principles of design and elements of art contribute to developing a successful composition in arranging their self-portrait collage.

Artist: Salvador Dali, Native American animal spirits

Spanish

In our 4th grade Spanish program, we teach using curriculum and methodologies which will best help students meet the National Standards for Foreign Language Learning as well as meet the standards for foreign language listening, speaking, reading, writing, and cultural literacy.

Goals include: enhancement of reading, writing, speaking, and listening skills in English and Spanish, development of higher order cognitive skills, promoting global awareness and cross-cultural understanding, and development of increased functional proficiency.

Essential Questions:

- Who am I and how can I get to know you?
- What strategies can I use to communicate more effectively?

Learning Outcomes:

- Students will complete a thorough review of greetings, numbers, telling time, dates, identifying and describing objects, and talking about the weather and seasons.
- Students will name the parts of the body, head, and face, and practicing telling and asking people what hurts.
- Students will describe clothing, talk about how clothes look and fit, discuss prices, and tell to whom things belong.
- Students will talk about what they and others look like, personalities, and compare people, places, and things.

- Students will name the places inside and outside the home, talk about different rooms in a house, and describe where something is located.
- Students will learn and talk about items in the kitchen and describe activities, talk about having to do chores, and talk about activities they have just finished.
- Students will name the items used at the table and foods, talk about putting and bringing things, talk about different kinds of foods and drinks for each meal, discuss their personal preferences, and describe what belongs to them and others.

Music

Essential question:

How do you create music with modern technology?

Learning Outcomes:

Students will understand that:

Musical options will be enhanced using modern music technology.

Students will know that:

Having access to multiple sonic timbres will enhance creativity.

Students will be able to:

Analyze and differentiate between sonic textures.

Interpret modern technology to expand the creative awareness.

Reconstruct musical sounds they have heard in the past to create music.

Express themselves in new and creative ways.

Compose and create music.

Technology

Our 4th grade students learn through experiential, inquiry-based projects. There are four parts to each project. (1) Learning: students explore fundamental science concepts and gain knowledge to apply in the engineering process; (2) Doing: students think, brainstorm, and design to begin the engineering design process; (3) Making: students build, test, redesign, rebuild and retest their own designs; and (4) Writing: Students keep their own engineering notebook. In this notebook they will record observations, make predictions, record results of their plans, constructions and experiments. They will collect data, draw designs and reflect on their experiences.

Essential Questions:

- What is the design process and how is it used in engineering, animating, and programming?
- What are the 6 simple machines and can they really be used to make all of the machines in the world?

Learning Outcomes:

Students will understand:

- The purpose and uses of the engineering design process
- The 6 simple machines and how they relate to the design of other machines
- The purpose of an engineering notebook to articulate and share knowledge
- How to think flexibly and be persistent

Students will be able to:

- Use the engineering design process to innovate, design and build
- Innovate solutions
- Think analytically and critically by applying knowledge to new circumstances
- Think algorithmically to perform simple drag-n-drop programming
- Use technology to create simple animations
- Work collaboratively
- Reflect on their learning and articulate their reflections

Physical Education

Students within this age range will have mastered many locomotor and non-locomotor skills and be able to manipulate objects in a variety of ways. Students will play cooperatively and come up with group goals and support when necessary, as well as be able to work and play independently when given the chance. Understanding how exercise, movement, and fitness play a role in their health and wellness in general is an overarching principle that is important to understand at this time.

As this age group progresses, the idea of linking in social appropriateness and sportsmanship becomes very important to a sense of team, self, and school community. Individuality becomes more important and students start to gain a greater confidence with more time. Long-term fitness and sport performance goals become easier and clearer as the student grows into their own individual. The connections of movements to other movement patterns or sports becomes more clear

with time, and the connection of exercise and exertion to overall health and wellness also should be more clear.

Essential Questions:

- What physical and social skills are necessary to have a successful game or experience in physical education class?
- What are good examples of sportsmanship? Should sportsmanship look different in different sports/games?
- Can you be a leader without being overly vocal or "bossy"?
- Does this game/sport/activity relate to any other? How is it similar? How is it different? What skills overlap?
- How do you know that you are improving?

Learning Outcomes:

Students will be able to:

- Define appropriate rules, class, structure, and procedures for PE class.
- Apply given rules for class.
- Demonstrate willingness to participate in PE.
- Demonstrate sportsmanship and mutual respect for others regardless of any differences.
- Understand basic ways of how PE affects overall health and wellness as well as how physical activity improves academic performance.
- Demonstrate ability of positive social interaction within our class structure.
- Demonstrate the ability to agree on a common goal with a group.
- Display the ability to perform age appropriate locomotor and physical manipulation skills.
- Show participation and skill competency in aerobic, anaerobic, strength, endurance, sport and other physical exertion activities.
- Show flexibility, understanding, and compassion for others in all aspects of PE class.

Fifth Grade

English Language Arts

The Rhoades School 5th Grade ELA is a cross-curricular program which incorporates the analysis of non-fiction and fiction. Students learn to discern between fact and opinion, draw conclusions based upon literary evidence, make connections between text and experiential knowledge, and communicate supported viewpoints in both written and oral form. Additionally, students are encouraged to express themselves through discussion, creative writing, academic writing, collaborative projects, and multimedia presentations. Caesar's English II (Royal Fireworks Press) and Spelling Workout G (Modern Curriculum Press) complement our 5th Grade ELA program.

5th Grade literature focuses on the classics. Students study works such as Johnny Tremain, Christmas Carol, The Adventures of Tom Sawyer, and Treasure Island. Through discussion, written responses and group projects, students analyze character development, author's purpose, theme, and literary devices. Students complete creative book report projects for additional literature throughout the year. These novels include biographies, classics, Newbery award novels, and historical fiction related to the social studies curriculum. Projects include oral presentations by the students. Students study four novels in class in addition to four independently read novels.

5th Grade vocabulary development focuses on British and American classic word lists and Latin stems. Etymology of words, applications in classic literature, and analogies are analyzed through discussion, activities and assessment. Assessment is cumulative and promotes authentic learning. Additionally, vocabulary from novels and non-fiction text are studied. Students complete weekly spelling lessons which exercise skills in vocabulary development, word analysis, word application, analogies, and proofreading skills.

5th Grade writing focuses on both academic and creative writing. Students study the 6+1 traits of writing, the research process, journal writing, poetry, creative writing, grammar, editing skills, and vocabulary development. Students will learn to develop introductory and concluding paragraphs, write thesis statements that include voice, purpose, and transition statements. In addition, students will apply grammar lessons, incorporate new vocabulary in writing and analyze structure through the self, peer, and teacher-editing process. Students will also conduct research, create Cornell notes, and write multi-paragraph essays.

Fifth-Grade Essential Questions:

How do people communicate effectively through writing and speaking?

What is the purpose of writing?

How can literature be used to improve our writing and thinking?

Learning Outcomes:

Through presenting the traits of academic and creative writing, studying classic literature and non-fiction text, and learning Latin stems and classic vocabulary, students will be able to:

- analyze sentence, paragraph and essay structure through the self, peer, teacher editing process
- use literary evidence to support responses
- conduct research, create Cornell notes, and write multi-paragraph essays
- develop stories related to units in social studies
- develop stories using vocabulary from Caesar's English lessons
- create journals documenting the SWIFT experience
- develop introductory and concluding paragraphs
- write thesis statements with appropriate voice and reason
- incorporate transition statements into writing
- apply grammar lessons to writing
- incorporate new vocabulary in writing
- identify and use literary devices
- use textual evidence to support opinions, make generalizations, draw conclusions, and make connections to characters, themes, plot development, and non-fiction topics
- analyze an author's voice and sentence structure and apply concepts to the student's writing
- identify weekly vocabulary words in literature and evaluate their meanings in context
- discern the meaning of unfamiliar words by recognizing their stems

Math

Level 5 Math

Math Level 5 covers concepts including number theory and fractions, equivalence in fractions and decimals, algebra, adding and subtracting fractions and mixed numbers, multiplying and dividing fractions, operations with decimals, data and graphs, geometry, measurement, percentages, integers, and coordinate planes.

The goal is to provide a safe learning environment where every student feels comfortable to participate and ask questions. Students will be guided through developing good strategies for study habits, note taking skills, and computation. Curriculum will be enriched beyond the basic scope and sequence to encourage students to develop a better understanding of the "big picture."

Essential Questions:

How do we translate written problems into numbers and symbols and vice-versa?

How can numbers be expressed in a variety of ways including fractions, decimals, percentages, equations and graphs?

Why is mastery of basic mathematical actions critical to future understanding of more advanced concepts?

Learning Outcomes:

Number Theory and Fractions

- Writes any number as a product of its prime factors
- Uses exponents to show multiples of a factor
- Identifies fractions and mixed numbers as points on a number line
- Renames fractions as mixed numbers to show simplest form

Equivalence between Fractions and Decimals

- Recognizes the relationship between place value in numbers and decimals and powers of 10
- Understands that numbers can be represented in the forms of fractions and decimals

Algebra

- Uses variables to represent potential solutions of problems
- Uses the Distributive, Commutative, Associative, Identity, and Equality Properties to solve equations

Add and Subtract Fractions and Mixed Numbers

- Adds fractions using equivalency to make common denominators
- Regroups as needed when adding and subtracting mixed numbers

Multiply and Divide Fractions

- Realizes that the product of two fractions results in a number of less value than either fraction
- Recognizes that division is another way of writing multiplication and applies this to rewrite division problems with fractions as multiplication problems

Operations with Decimals

- Understands that a decimal is the same as a fraction with a denominator of a power of 10
- Adds and subtracts decimals like whole numbers by lining up the decimal points

- Multiplies and divides decimals like whole numbers and places decimal point correctly in the resulting answer

Data and Graphs

- Uses a letter to represent an unknown number
- Writes and evaluates simple algebraic expressions in one variable by substitution
- Identifies and graphs ordered pairs in the four quadrants of the coordinate plane
- Solves problems involving linear functions with integer values; writes the equation; and graphs the resulting ordered pairs of integers on a grid.
- Identifies ordered pairs of data from a graph and interprets the meaning of the data in terms of the situation depicted by the graph
- Knows how to write ordered pairs correctly

Geometry and Measurement

- Knows that the sum of the angles of any triangle is 180 degrees and the sum of the angles of any quadrilateral is 360 degrees and uses this information to solve problems
- Measures, identifies, and draws angles, perpendicular and parallel lines, rectangles, and triangles by using appropriate tools
- Derives and uses the formula for the area of a triangle and of a parallelogram by comparing each with the formula for the area of a rectangle
- Constructs a cube and a rectangular box from two-dimensional patterns and uses these patterns to compute the surface area for these objects
- Understands the concept of volume and uses the appropriate units in common measuring systems to compute the volume of rectangular solids

Percent

- Interprets percentages as a part of a hundred
- Finds decimal and percent equivalents for common fractions and explains why they represent the same value
- Computes a given percent of a whole number
- Identifies and represents on a number line decimals, fractions, mixed numbers, and positive and negative integers
- Adds, subtracts, multiplies, and divides with decimals
- Uses percentages and fractions to analyze and compare data sets of different sizes

Integers

- Adds with negative integers and subtracts positive integers from negative integers; verifies the reasonableness of the results
- Solves problems involving linear functions with integer values; writes the equation; and graphs the resulting ordered pairs of integers on a grid

Coordinate Plane

- Graphs ordered pairs and functions in the coordinate plane
- Completes a table of values for a given function, and chooses an equation for a given function table
- Graphs formulas and linear equations, and uses graphs to solve problems
- Writes equations for linear functions

Text: *Math in Focus - Singapore Math: Level 5*

Level 6 Math

Math students study the following topics:

- Operations with fractions and decimals
- Operations with integers with the goal of gaining automaticity
- Write and simplify expressions and solve one and two step equations with applications
- Simplify ratios and unit rates
- Write and solve proportions algebraically
- Percent/fraction/decimal equivalencies
- Percent markup and discount applications
- Collect, organize, and analyze data
- Identify geometric figures based on angle relationships
- Use information to construct triangles and quadrilaterals
- Apply algebra to formulas of polygons, circles and solids – perimeter, area, circumference, and surface area
- Coordinate geometry – graphing points, linear equations, and functions

A sample of enrichment topics and applications in Level 6 math may include:

- Problem solving: California Math League (CML)
- Problem solving: Math Olympiads for Elementary and Middle School (MOEMS)
- Mathematician Investigation
- Constructions of solids

Essential Questions:

- How do we translate verbal ideas to the language of mathematics?
- What are the different ways of communicating mathematics with clarity?
- How is balance relevant to mathematics?

Learning Outcomes:

- Students learn essential vocabulary and communicate using mathematical rhetoric.
- Students develop an appreciation for number systems and will be able to classify types of numbers in the real and imaginary number systems.
- Students develop fluency of operations with fractions, decimals, integers, and percent/fraction/decimal equivalencies.
- Students make connections between mathematical ideas, unknowns, and real world applications.
- Students practice basic algebraic concepts of writing, evaluating, and solving expressions and equations.
- Students exercise deductive reasoning, critical thinking, and flexible thinking to apply core concepts to word problems and new mathematical experiences.

Text: *Big Ideas: Course 1 Advanced*

Social Studies

The Fifth Grade Social Studies curriculum is comprised of the following units: early humans, prehistoric Southwest cultures, and Spanish Conquest. Geography is a major component of each curricular unit, with particular attention given to how geography affects human movement and settlement. The students analyze the development of early humans; compare various hominids and their migration patterns across the continents. The students study the earliest technological advances made by Clovis and Folsom cultures. They evaluate the key elements of ancient Southwest cultures including The Ancestral Pueblo, Mogollon and Hohokam. When exploring these agricultural societies of the Southwest, the students pay particular attention to cause and effect relationship between humans and the environment in which they live. Students study the history of relationships between the Native American nations and new settlers.

The Essential Questions:

- How does physical geography affect the movement of people and their way of life?
- What are the universal facets of culture?
- How have the Earth and mankind changed over time?

Learning Outcomes:

1. Students create political and physical maps of the Southwest, timelines, PowerPoint presentations, and iMovies.
2. Students investigate the customs and traditions of the ancient Native American groups and explore the extensive cultural borrowing that occurred throughout the Southwest and Northern Mexico.
3. Students read primary sources documents, dating to the Spanish Conquest, and analyze and discuss the author's cultural bias and perspective.
4. Students read secondary sources and discuss historical revisionism and modern conceptions of political correctness and cultural sensitivity.
5. Students write a research paper focusing on an approved topic relating to the history of the Southwest. Students conduct research, create Cornell notes, and write multi-paragraph essays.
6. Students study and produce original poems based on the poetry of the Pueblo and Navajo people.
7. Students will read, listen and write *Pourquoi* tales & creation stories based on Native American traditions.
8. Students will explore early concepts of spirituality then create a Neanderthal-style masks and metaphor poems.
9. Students will study Hopi and Zuni kachina spirits, dancers and figurines, then use oil pastels to create vivid illustrations.
10. Students will learn about the pottery of the ancient and modern Southwest cultures and create a two-dimensional drawing of one specific style and type of pot.
11. Students will study the various phases of Southwest architecture, ranging from pithouses, multi-storied mesa-top and cliff-dwelling unit pueblos, and then produce a drawing based on a ruin of their choice.

Science

Learning Outcomes:

1. Students will know the eight major elements that compose the Earth's solid crust.
2. Students will know the major elements of the mantle.
3. Students will know and be able to identify major crust minerals (feldspar, quartz, calcite, mica).
4. Students will know the geologic layers and characteristics of the layers that form the structure of the Earth (crust, mantle, inner core, outer core).
5. Students will be able to identify the three basic types of rocks, igneous, sedimentary, metamorphic, and explain their origins.
6. Students will know James Hutton's theories as the first theories of modern geology.
7. Students will understand how sediments may reveal the fossil record.
8. Students will be able to identify a variety of marine microfossils.
9. Students will be familiar with the divisions of geologic time.
10. Students will know the scientific method and develop their own science project.
11. Students will know how animals and plants evolved over time according to fossil evidence.
12. Students will be familiar with ice age animals found at the La Brea Tar Pits and Project 23.
13. Students will be aware of recent Woolly Mammoth finds in Siberia.
14. Students will know the characteristics of old versus young rivers and how strata are laid.
15. Students will know the geologic progression of a plateau to a mesa or a butte.
16. Students will be able to identify various types of volcanoes (shield, cinder and stratovolcanoes) and know the differences in their lavas.
17. Students will be familiar with examples of famous volcanic eruptions, mountains and mountain ranges.
18. Students will be able to define a pyroclastic flow.
19. Students will know the recognized warning signs that indicate a volcano may be ready to erupt.
20. Students will know the Earth's crust is composed of tectonic plates.

21. Students will be able to identify divergent, convergent and transform plate boundaries.
22. Students will know the various movements and effects of earthquake waves, including the P-wave, S-wave, Love Wave and Rayleigh Wave.
23. Students will know the San Andreas Fault is the division between the North American Plate and the Pacific Plate.
24. Students will be familiar with the Richter Scale.
25. Students will know important vocabulary relating to earthquakes, such as fault, focus, epicenter, tsunami, seismograph and earthquake magnitude.

Visual Arts

Young children are active and exuberant explorers. As they become increasingly curious and are learning to become good observers of their everyday worlds, making art stimulates inquiry and sharpens careful perception. Children are interested in capturing the details that makes their artwork personalized. They discover that ideas can be interpreted in many different ways, and art making focuses the skills of imagination, observation and invention.

Throughout the year the art curriculum will be closely tied in theme and content. Our work together will consist of research and investigation of a variety of works of art by artists from many cultures and time periods. These inquiries will provoke rich discussions as we contemplate such questions as:

Essential Questions:

- What is art?
- What is the role of art in society?
- Why does art matter?

Students will learn new techniques and hone their skills with a variety of materials. Through guided exploration of art mediums we strive to foster a dynamic environment in which children are encouraged to take risks, make discoveries and find multiple solutions. Art projects are designed to be developmentally appropriate and are open-ended in order to allow for experimentation and creative thinking. Such interdisciplinary connections reflect the complexities of the real world and promote deeper understandings and multiple perspectives. Art investigations deepen each artist's understanding of each other as well as aide in the understanding of multi-cultural differences. The overall art program will be a journey of art experiences to promote and enhance the skills and spirit in each student in the pursuit of developing evolved innovative thinkers, a.k.a "artists of life".

"Artist of life": Creative. Critical thinker. Confident. Compassionate, caring, conscience and courageous. Thoughtful. Mindful, active and accepting. Inquisitive. Communicative: verbally, written and visually. Respectful. Believe- that anything is

possible, in their dreams and themselves. Imaginative. Proud. Open minded. Individualistic yet still able to be a part of the global community. Dedicated and determined. Strong: Mind, body and soul. Responsible. Resilient. Persistent and peaceful.

As students explore art they develop their own ideas and perceptions about art. Through close observation and sustained investigation, students develop individual and global perspectives on art. With this gained knowledge young artists will utilize the principles of art while solving design problems. All projects will contain a meaningful concept and a goal that each student must achieve on their own to explore their identity in life and art. The key concepts are form, function and connection.

Learning Outcomes:

- Students hone observational skills and discuss works of art.
- Expand on techniques used to produce art, elements and principles of design.
- Students integrate visual, spatial and temporal concepts with content to communicate ideas.
- Understanding the visual arts in relation to history and cultures.
- Students extend knowledge of art media, compositional and design elements while choosing new ways of using familiar tools and materials.
- Deepen imaginative capacities, observational and expressive skills.

Spanish

In our Spanish program, the curriculum and methodologies are aligned to the National Standards for Foreign Language Learning.

One of the methods we use in fifth grade is called TPRS "Teaching Proficiency Through Reading & Stories". This method meets the needs of various learning styles. It is a multi-sensory methodology. Gestures and acting, for example, meet the needs of kinesthetic learners; visual images (illustrations, props, puppets, live actors, etc.) satisfy the needs of visual learners. Students develop a real "ear for the language," learning to listen and respond to what sounds right. Students will also use the text (Antología) (Anthology) which helps students develop literacy skills.

Essential Questions:

- How can I use my existing communication skills to learn a new language?
- How does language change in different situations?

Learning Outcomes:

1. Students will greet and introduce people, listen and respond to verbal classroom directions, and review numbers, body parts, and the use of definite articles.
2. Students will talk about activities people like and do not like, ask others and write about what they like to do, recognize and use verbs in the infinitive, and produce positive and negative statements
3. Students will express and ask how people are alike, using adjectives, correct word order, and definite and indefinite articles
4. Students will identify and use the subject pronouns, recognizing and conjugating regular -AR-ER-IR- verbs in the present tense.
5. Students will talk about personal items, classroom items, furniture, and the location of objects in a classroom, recognize and use the irregular verb *estar*, and correctly make nouns and articles plural.
6. Students will talk and write about foods and beverages for breakfast, lunch and dinner, as well as foods they like and dislike.
7. Students will discuss and write about health and exercise choices.
8. During the last trimester, the students will learn to conjugate the most common verbs in past tense applying them in different sentences.
9. Through participation in the Spanish Spelling Bee, students will demonstrate accurate translation, pronunciation and spelling of Spanish words.

Music Technology

Essential question:

How do you create music with modern technology?

Learning Outcomes:

Students will understand that:

Musical options will be enhanced using modern music technology.

Students will know that:

Having access to multiple sonic timbres will enhance creativity.

Students will be able to:

Analyze and differentiate between sonic textures.

Interpret modern technology to expand the creative awareness.

Reconstruct musical sounds they have heard in the past to create music.

Express themselves in new and creative ways.

Compose and create music.

Technology

In the first third of the year, our 5th grade students will embark on a NASA-based adventure by programming and building a Mars Lander that will perform many scientific functions. In the second trimester, they will explore more advanced programming. In the third trimester, they will have a look at electronics and building electronic systems. They will use the four parts of inquiry-based learning. (1) Learning: students explore fundamental engineering concepts and gain knowledge to apply in the design process; (2) Doing: students think, brainstorm, and design according to required functions; (3) Making: students build, test, redesign, rebuild and retest robot designs; and (4) Writing: Students keep their own robots engineering notebook. In this notebook they will record observations, make predictions, record results of their plans, constructions and experiments. They will collect data, draw designs and reflect on their experiences.

Essential Questions:

1. How do robots see the world?
2. How do robots know what to do?
3. How can an autonomously programmed robot be designed to make decisions?

Learning Outcomes:

Students will understand:

- The purpose and uses of the engineering design process in robotic design
- How various sensors help the robot see its world
- The uses of robotics in the exploration of space
- The flowcharting process and how it is used to plan code
- How to use programming to communicate with a robot
- How to use programming to allow the robot to make decisions
- How to think flexibly and weigh alternatives
- The importance of accuracy and precision, as well as risk taking and creativity

Students will be able to:

- Construct different robotic assemblies to accomplish tasks

- Identify and use mechanical advantage and power efficiently to perform robotic tasks
- Use algorithmic thinking to construct logical code
- Synthesize and evaluate the validity and reliability of robotic programming methods
- Apply math concepts to robotics programming
- Ask useful questions
- Be persistent

Physical Education

Students within this age range should have mastered many locomotor and non-locomotor skills and are able to manipulate objects in a variety of ways. Students should play cooperatively and come up with group goals and support when necessary, as well as being able to work and play independently when given the chance. Understanding how exercise, movement, and fitness plays a role in their health and wellness in general is an overarching principle that is important to understand at this time.

As this age group progresses, the idea of linking in social appropriateness and sportsmanship becomes very important to a sense of team, self, and school community. Individuality becomes more important and students start to gain a greater confidence with more time. Long-term fitness and sport performance goals become easier and clearer as the student grows into their own individual. The connections of movements to other movement patterns or sports becomes more clear with time, and the connection of exercise and exertion to overall health and wellness also should be more clear.

Essential Questions:

- What physical and social skills are necessary to have a successful game or experience in physical education class?
- What are good examples of sportsmanship? Should sportsmanship look different in different sports/games?
- Can you be a leader without being overly vocal or "bossy"?
- Does this game/sport/activity relate to any other? How is it similar? How is it different? What skills overlap?
- How do you know that you are improving?

Learning Outcomes:

Students will be able to:

- Define appropriate rules, class, structure, and procedures for PE class.
- Apply given rules for class.
- Demonstrate willingness to participate in PE.
- Demonstrate sportsmanship and mutual respect for others regardless of any differences.
- Understand basic ways of how PE affects overall health and wellness as well as how physical activity improves academic performance.
- Demonstrate ability of positive social interaction within our class structure.
- Demonstrate the ability to agree on a common goal with a group.
- Display the ability to perform age appropriate locomotor and physical manipulation skills.
- Show participation and skill competency in aerobic, anaerobic, strength, endurance, sport and other physical exertion activities.
- Show flexibility, understanding, and compassion for others in all aspects of PE class.