

BERTSCHI SCHOOL

Curriculum Guide
2011-2012

From the Director:

I am so pleased to present this Curriculum Guide, a comprehensive outline of the educational program at Bertschi School. This guide represents years of collaborative work from our teachers to design a curriculum that is interdisciplinary, and builds on prior knowledge as students progress through the grade levels. Grade level teachers and resource specialists work as a team to implement this interdisciplinary curriculum, and teachers partner across grade levels to ensure an effective scope and sequence.

The Curriculum Guide is organized by grade level. First, you will find the curricula, the core classroom areas, and the resource classes at that grade.

At the back of the Curriculum Guide are the Reading, Writing and Mathematics continua, three wonderful tools to describe the progression and sequence of reading, writing and math growth and achievement. Bertschi teachers use these descriptive levels to track student progress and to communicate with parents.

Bertschi's longstanding commitment to global education is rooted in the belief that children benefit from an environment where diversity is embraced on all levels. Diverse cultures are studied through year-long, project-based studies to explore origins of families, aspects of community, history and celebrations. The curriculum emphasizes diversity to broaden perspectives and encourages children to become active community members at Bertschi and beyond.

A key part of Bertschi School's mission statement states that we have a commitment to making children "confident and creative builders of their future". In keeping with this vision, the school has made a commitment to further develop and integrate a sustainability curriculum. Sustainability is defined as living in a way that ensures the essential needs of all living things are met now and in the future. Children will discover principles, strategies, and technologies that prepare and empower them to create a positive future.

This is not a document etched in stone. Our curriculum is constantly being updated and adapted as we apply new research and new ideas to the way we teach at Bertschi.

A handwritten signature in black ink that reads "Brigitte Bertschi". The signature is written in a cursive style with a horizontal line above the name.

Our Mission

Bertschi School educates children to become compassionate, confident and creative learners in a global community.

Our Values

Our community values integrity, inclusiveness, respect and a commitment to sustainable practices.

Our Approach

Our **teachers** inspire academic excellence and individual success.

Our **curriculum** fosters intellectual curiosity and emotional maturity.

Our **school** encourages social responsibility and collaborative problem solving.

Our **community** supports and celebrates the unique gifts of every child.

Diversity Statement

At Bertschi School, we honor and support the unique contributions to our society made by people of all ethnic, economic, religious, racial backgrounds, physical ability, learning styles and sexual orientation.

We strive to promote inclusiveness in all school areas, including school programs, community activities and recruitment of students, faculty, staff and trustees. We are actively committed to increasing diversity in our school community to reflect the region in which we live.

Contents

From the Director: 1

Pre-kindergarten 4

Curriculum Areas.....4
Resource Classes5

Kindergarten 6

Curriculum Area6
Resource Classes7

First Grade 9

Curriculum Areas.....9
Resource Classes10

Second Grade 12

Curriculum Areas.....12
Resource Classes13

Third Grade..... 16

Curriculum Areas.....16
Resource Classes18

Fourth Grade.....20

Curriculum Areas.....20
Resource Classes22

Fifth Grade24

Curriculum Areas24
Resource Classes26

Reading Continuum
Writing Continuum
Mathematics Continuum

Pre-kindergarten

The pre-kindergarten program is often a child's first foray into a full time, structured academic environment. Our aim is to make this first step a positive, developmentally appropriate experience. The focus of our pre-kindergarten is to promote enthusiasm for learning, using themes parallel to the children's surroundings, cultures and interests. We hope to create an atmosphere where students see themselves as members of a greater learning community and citizens of a greater human community. Children will develop a sense of responsibility for themselves, their classroom, their school, and the natural world around them, gaining independence and appreciation for sustainability along the way.

Curriculum Areas

Language Arts

Children are exposed daily to reading, writing, and the development of their vocabulary. The relationship between words and the world around us is the focus of literacy in pre-kindergarten. Our aim is to promote a love of reading by surrounding the children with literature and providing them with opportunities to explore books of their choosing. "Read-alouds" include stories that initiate the opportunity to think as effective citizens of our global society. We follow the curriculum, *Handwriting without Tears*. We allow the children to explore handwriting through the practice of their names and writing individual letters without constraints.

Reading, Listening and Speaking

Activities include:

- ~ Initiating phonetic and phonemic awareness
- ~ Describing our surroundings in an active classroom
- ~ Dictating stories
- ~ Practicing alphabetic proficiency
- ~ Tracking from left to right
- ~ Decoding literature from illustrations
- ~ Following oral instructions
- ~ Listening to stories and poems
- ~ Participating in group discussions
- ~ Predicting what comes next in story sequence
- ~ Retelling stories
- ~ Role-playing

Writing

Activities include:

- ~ Pre-writing/writing skills
- ~ Creating illustrations
- ~ Exercising small motor muscles through manipulation of such things as clay blocks, beads and other objects
- ~ Using white boards for free form writing
- ~ Daily practice of writing their names

Mathematics

Math and numbers (much like reading and letters) exist everywhere in the world around us; the number of leaves on a tree, how much electricity it takes to light a classroom, the amount of water needed to keep the classroom garden flourishing. Pre-k students will learn to appreciate the importance of numbers and their use on a daily basis. Bertschi School uses the EnVision curriculum. Pre-k children are introduced to this school-wide program, gaining an early start to connecting math to other areas of study.

Number and Operations

Content include:

Number Sense

- ~ Explores one to one correspondence
- ~ Recognizes numerals to ten and is able to write them with guidance
- ~ Uses words to describe quantity and their relationships
- ~ Explores mathematical symbols and their meanings
- ~ Understands some parts to the whole

Algebra

- ~ Can create a repeating pattern with manipulatives
- ~ Explores the creation of sets using objects

Geometry

- ~ Identifies basic shapes
- ~ Sorts objects by a single attribute
- ~ Beginning to describe relative locations of objects

Measurement

- ~ Explores using non-standard units to measure length, width and height
- ~ Uses words to describe speed, temperature and size
- ~ Can recognize some coins
- ~ Begins to understand the concept of time relative to own activities

Data Analysis and Probability

- ~ Predicts, collects and counts objects and begins to explore ways to record that information

~ Sorts information and is able to graph it with guidance

Social Studies

The pre-kindergarten students are just learning to appreciate the world beyond their own homes. Concepts that encourage children to think beyond the borders of home, neighborhood, city, and state are introduced. Children will develop a concrete sense of the multi-cultural aspects of the world and how that diversity impacts our classroom. The focus of our curriculum in social skills is to promote respect for self, others, and the world around us. Children will practice manners and conflict resolution, develop a sense of community in and out of the classroom, and embrace independence and cooperation. Students will focus on families as a way to explore the importance of valuing cultural diversity. Social skill development will be emphasized on a daily basis within every area of study. Through modeling and extending lessons at home, parents and families are an important factor in building social skills in the pre-kindergarten student.

History

Activities include:

- ~ Hearing cultural-specific stories
- ~ Developing a basic concept of past and present and the passage of time
- ~ Studying the lives of people and events associated with major national holidays
- ~ Studying the everyday lives of people in our community

Geography

Activities include:

- ~ Familiarity with globes and maps
- ~ Tracking travel within the class

Civics

Activities include:

- ~ Honoring all cultural groups
- ~ Classroom ownership and care
- ~ Reflection of self and interests
- ~ Group Projects that rely on the efforts of the group
- ~ Public speaking
- ~ Community service
- ~ Knowing and applying traits of a good citizen

Economics

Activities include:

- ~ Learning to share limited resources

Health

The importance of health and personal cleanliness is emphasized school wide. Children will practice hand washing, healthy eating, exercise, and personal safety while at school. We extend these lessons to include healthy skill building at home.

Activities include:

- ~ Knowledge of the food pyramid and balanced nutrition
- ~ Disaster safety that includes visits to and from our local fire and police departments
- ~ Dental health and home tooth brushing chart

Art

Art is taught throughout the day and is totally integrated into the class curriculum. Pre-k children experience a rich variety of art materials, and are introduced to textures, patterns, lines, and shapes. To build their fine motor skills, students engage in a variety of art processes such as drawing, painting, clay and fabric. The focus of the art program is to enjoy the process of exploring, creating and making art. The goal of the art program is for the students to take risks and feel proud of their displayed works.

Science

The science curriculum is largely a thematic one, driven by monthly themes that cover big concepts such as transportation, weather, animals, earth, electricity, conservation of natural resources, and the solar system.

Activities include:

- ~ Planting and tending a garden
- ~ Star and sky watching
- ~ Ecology projects
- ~ Use of a water and sand table
- ~ Weather chart
- ~ Tending a classroom pet

Drama	Twice a week for 20-30 minutes
Library	Once a week for 20-30 minutes
Music	Twice a week for 20-30 minutes
Physical Education	One time a week for 30 minutes
Spanish	Twice a week for 30 minutes
Creative Movement	Twice a week for 30 minutes

Resource Classes

Drama

Pre-k students love imaginary, dress-up play. The children are encouraged at an elementary level to use their body and voice to represent their character and act out their role. They work in small groups and learn to work together in presenting short skits. Skills taught include listening, working together, body control and memorization. Students will at times record voices or imagery, incorporating elements of technology. Most costumes, sets and properties created are built from recycled materials, and reused or sent home for further use by students after production closes.

Library

Pre-kindergarten children experience the joy and wealth of books! They are exposed to many picture books with stories focusing on topics such as family, animals, transportation, global awareness, friends and toys. Throughout the year, books are included that touch on waste, recycling, habitat protection and respect for the natural world. Weekly visits to the library include story telling, selecting books and learning appropriate care for them.

Music

Music is a part of the children's daily routine. In addition to daily songs and chants in the classroom, the children will have music instruction twice a week.

Music instruction will include:

- ~ Singing appropriate folk and composed songs from around the world
- ~ Moving to music
- ~ Working on developing skills in beat and rhythm
- ~ Discriminating between comparatives (e.g. louder from softer)
- ~ Ear training and music memory
- ~ Listening skills and focused listening
- ~ Music appreciation and sharing

Physical Education/Movement

The Physical Education program aims to develop and enhance skills, coordination and physical fitness in each child at every grade level. The overall program seeks to promote enjoyment and lifetime habits of physical fitness for purposes of general health, wellness and strong sense of health. The Pre-k students are exposed to basic locomotive skills, movement exploration, manipulative skills, and cooperative games and activities.

In all grade levels the concept of environmental sustainability is addressed in a variety of ways. Students learn conservation skills by making their own equipment: hula hoops and juggling balls. Also by repurposing materials that would otherwise be recycled or discarded. During Earth Week the students play games and activities that explore environmental concepts. We discuss carbon-neutral ways to travel and exercise.

The pre-k physical education activities incorporate concepts and skills that encourage the students to:

- ~ Develop body control while in motion through locomotive activities such as running, skipping, hopping and galloping
- ~ Introduce static motor skills such as balancing, bending, swaying, twisting and turning
- ~ Explore manipulative skills such as rolling, bouncing, catching, and throwing
- ~ Follow rules of the game, understand and exhibit issues of fairness, and practice safety
- ~ Cooperate with others through partner and group activities
- ~ Enjoy participation in physical activity

Spanish

Learning to speak, read, and write in another language takes a long time! Very young children who learn a second language "naturally" acquire skills and abilities at a level appropriate to their age. Children are introduced to Spanish through games, songs, storybooks and cultural

Kindergarten

The kindergarten program supports the child's joy and enthusiasm for learning. Developmentally appropriate activities and materials are designed to meet individual and group needs and abilities. The program allows children to explore and discover within an integrated curriculum. Thematic units or activities are often enriched by collaboration with resource classes. The curriculum reflects and honors the experiences and perspectives of different cultural groups. Children are encouraged to be responsible for the care of the room and materials. In addition, students learn about sustainability through experiences that connect them to the natural world.

Our fundamental goals are to promote:

- ~ A positive self-concept
- ~ Cooperation and social responsibility
- ~ Intellectual growth
- ~ Use of imagination
- ~ Physical well-being
- ~ Creative problem solving
- ~ Stewardship and a connection to their neighborhood

Daily Schedule

Math, reading readiness activities, and other academics are reserved primarily for mornings. A large portion of the afternoon is reserved for "choice time" which includes free play and art activities.

Curriculum Area

Language Arts

Children are immersed daily in a wide variety of literacy experiences to help nurture a love of language and a passion for reading. Literature, which enhances and reinforces concept building in the arts, sciences, and world diversity, is incorporated throughout the year.

Reading

Students will learn to:

- ~ Track from left to right and top to bottom
- ~ Understand concepts of print and structural features of text
- ~ Develop phonemic awareness
- ~ Identify and name upper and lower case letters
- ~ Understand the association between letters and sounds
- ~ Recognize initial and final consonants in words
- ~ Recognize rhyme
- ~ Follow simple oral instructions
- ~ Build a basic, beginning sight word vocabulary
- ~ Begin to use decoding strategies such as picture cues, context clues and phonics skills
- ~ Understand story sequence

- ~ Dictate a group of sentences related to an idea or group of illustrations
- ~ Participate in group stories, and dramatizations
- ~ Develop comprehension skills.

Writing

Students will:

- ~ Make predictions and inferences
- ~ Identify rich language through read-alouds led by the teacher
- ~ Write and name all upper and lower case letters
- ~ Write own name and then names of some family members and friends
- ~ Form most letters correctly
- ~ Use phonemes and letter knowledge in phonetic spelling when writing independently
- ~ Build a repertoire of some conventionally spelled two- or three-letter words
- ~ Show awareness that writing has conventions (some student writing shows directionality)
- ~ Write for own satisfaction and purpose
- ~ Begin to write labels, signs, or captions for drawings and models
- ~ Use complete sentences when dictating ideas or information
- ~ Recall main idea and details in writing activities
- ~ Begin to read own writing

Speaking and Listening

Students will:

- ~ Attend to oral stories and poems
- ~ Maintain eye contact with others
- ~ Listen for information
- ~ Follow directions during classroom routines
- ~ Participate in group story telling, chants, and songs
- ~ Express thoughts and ideas clearly
- ~ Use developmentally appropriate grammar
- ~ Speak at a rate and volume that fosters good communication
- ~ Allow others to speak without unnecessary interruptions
- ~ Contribute to group discussions
- ~ Suggest solutions for problems

Mathematics

The math curriculum encourages discovery and develops an understanding of mathematical patterns and concepts through the use of concrete materials, auditory, kinesthetic and visual activities based on the EnVision program.

Number and Operations

- ~ Use numbers, including written numerals, to represent and solve quantitative problems
- ~ Counts objects in a set and creates a set with a given number of objects
- ~ Compares or orders sets or numerals by using both cardinal and ordinal meanings
- ~ Models simple joining and separating situations with objects
- ~ Choose, combine, and apply effective strategies for answering quantitative questions
- ~ Recognizes the number in a small set
- ~ Counts and produces sets of given sizes and the number in combined sets
- ~ Counts backward
- ~ Skip counts by 5's and 10's to 100

Algebra

- ~ Identifies, duplicates and extends patterns

Geometry

- ~ Knows and reproduces basic shapes and uses vocabulary that corresponds
- ~ Identifies and builds symmetry, reconstructs objects

Measurement

- ~ Understands procedures to measure length and weight with non-standard units

- ~ Tells hour on an analog clock
 - ~ Uses monthly calendar as a tool
 - ~ Knows the value of a penny, nickel, and dime; recognizes quarter
- Data Analysis and Probability
- ~ Sorts and classifies according to specific attributes
 - ~ Performs simple data collection
 - ~ Interprets and creates basic graphs

Social Studies

The curriculum focuses on the social development of the child through activities that foster self-esteem, independence, group awareness, and cooperation. We emphasize problem solving, helping children examine how their behavior affects the environment and, conversely, how their environment affects them. We look closely at the child's relationship in family, home and school. Social skills include learning to respect and honor cultural differences. Thematic units include: family structures of the students as well as around the world. Celebrating cultural differences of our school community and beyond is an integral part of the curriculum.

History

Students will:

- ~ Develop a concept and appreciation of other cultures
- ~ Understand the relationship of the individual to family, community, and school
- ~ Explore traditions, leaders, and holidays
- ~ Recognize devices for measuring passage of time (clocks, watches, calendars)

Geography

Students will:

- ~ Understand the concept of a neighborhood

Civics

Students will:

- ~ Develop self-awareness
- ~ Communicate own feelings and beliefs while listening to viewpoints of others
- ~ Develop community building skills

Economics

Students will:

- ~ Learn to determine what to recycle, compost and re-use; conserve water, electricity and other materials thereby taking an active role in sustainable practices
- ~ Recognize the differences between basic wants and needs

Art	Twice a week for 40 minutes
Drama	Twice a week for 60 minutes for 6 – 8 weeks
Library	Once a week for 30 minutes
Music	Twice a week for 30 minutes
Physical Education	Twice a week for 30 minutes
Spanish	Twice a week for 30 minutes
Creative Movement	Once a week for 30 minutes

- ~ Recognize that people use money to purchase goods

Health

Health topics are covered daily. We teach the importance of getting enough sleep, eating correctly and exercising. We discuss eating healthy snacks and lunches and the importance of drinking enough water. We practice the proper way to cough, sneeze and wash hands. Students learn to dress for the weather. We have lessons that focus on emotional health which include feelings, impulse control, anger management, and conflict resolution.

Science

Kindergarten works with their third grade buddy classes to tour the campus and identify examples of sustainability.

Students in Kindergarten and Pre-K take regular walks to a community garden in the school's neighborhood. They investigate the different types of plants and learn how to be good stewards. Through these activities the children develop a sense of wonder and care for the natural world. Select activities from Life Lab's Great Explorations Curriculum.

Key Concepts:

- ~ Gardens are important parts of communities
- ~ Gardens can provide habitat for animals and crops for people
- ~ Planting and taking care of a garden requires planning and commitment, and the whole community benefits

Children begin to develop accurate concepts through hands-on experience and exploring questions about the world around them. Discoveries are made in the areas of life science, Earth and space science and physical science. Often well-selected and conceptually and factually correct fictional literature is used to stimulate conversations and investigations. Kindergarteners learn by "doing" science!

Resource Classes

Art

In kindergarten, students are introduced to the elements of art, experiencing projects that emphasize line, color, shape, texture and pattern. They build their fine motor skills and are introduced to many different art processes (drawing, painting, printmaking, mixed media, clay, sculpture, fabric arts). Of fundamental importance in teaching art is providing a safe environment for children where they are free to express themselves and take creative risks. The focus is on fun and exploration.

In art, recycled materials are used widely, and conservation and respect for materials is emphasized. Students learn about artists and cultures that use recycled and found objects. Art can be a vehicle to express ideas and educate others about sustainability. Kindergarten students demonstrate an understanding in the following areas:

- ~ Conserving water during hand-washing
- ~ Using different types of lines
- ~ Using lines to invent shapes
- ~ Recognizes, names and creates geometric shapes
- ~ Identifies textures (rough, smooth, etc.)
- ~ Identifies and names primary and secondary colors

Drama

Students develop characters in small groups or pairs, with most characters based on animals or other non-human persona. There is broad introduction of basic acting theory, along with general theater vocabulary. Emphasis is placed on achieving individual and group focus and direction to achieve a common goal of performing one story together as an ensemble. Stories and performance subject matter are typically chosen from literature. Stories may be fictional, mythical or cultural in nature. Most costumes, sets and properties created are built from recycled materials, and reused or sent home for further use by students after production closes. Students are introduced to the actors' tools: voice, body, mask and imagination and how these

elements are used on stage, and in life, to tell stories. Original sound design is built through Sound Studio. In addition, limited music and movement components are explored as well as the elements listed below:

- ~ Areas of the stage
- ~ Exploring physical levels
- ~ Limited memorization
- ~ Characterization
- ~ Listening and following direction
- ~ Body control
- ~ Focus, on both stage and story
- ~ Collaboration and ensemble development
- ~ Exploration of the audience/performer dynamic

Library

Kindergarten classes visit the library weekly. Library time includes storytelling and time for each child to select a book for the week. Materials shared in story time often reflect the theme for the week from classes such as an appreciation of other cultures, neighbors, the sustainability focus or insects. Children are taught about book parts, their care, the need for each book to have an “address,” and the concept of subjects when looking for materials.

Their experiences include:

- ~ Caring for books.
- ~ Respecting other library users
- ~ Identifying book parts
- ~ Identifying picture books, non-fiction, and folktales
- ~ Learning that each book has an “address” in the library
- ~ Following circulation procedure

Music

Music is part of the children’s daily routine. The primary goal of the music program is to reinforce and develop the love of music instinctive to each child.

The kindergarten student:

- ~ Hears and makes loud and soft sounds
- ~ Hears and makes high and low tones
- ~ Hears and makes a steady beat, long and short sounds, and fast and slow tempos
- ~ Hears and makes echoes, and tells sections apart
- ~ Knows when music has an accompaniment
- ~ Shows enjoyment and creativity
- ~ Shows growth in motor development
- ~ Music appreciation and sharing

Physical Education

The kindergarten students continue exploration of basic locomotive skills, movement exploration, physical fitness activities, and cooperative games and activities.

In all grade levels the concept of environmental sustainability is addressed in a variety of ways. Students learn conservation skills by making their own equipment: hula hoops and juggling balls. Also by repurposing materials that would otherwise be recycled or discarded. During Earth Week the students play games and activities that explore environmental concepts. We discuss carbon-neutral ways to travel and exercise.

The kindergarten physical education activities incorporate concepts and skills that encourage the students to:

- ~ Further develop body control while in motion through locomotive activities such as running, skipping, hopping and galloping
- ~ Enhance static motor skills such as balancing, bending, swaying, twisting and turning
- ~ Strengthen manipulative skills such as rolling, bouncing, striking, kicking, catching, and throwing and speed
- ~ Follow rules of the game, understand and exhibit issues of fairness, and practice safety
- ~ Cooperate with others through partner and group activities
- ~ Enjoy participation in physical activity

Spanish

Any language user must internalize the sound system, a basic lexicon, basic grammatical structures, communication strategies and rules about how the language is used appropriately in interactions. In kindergarten, the children learn primarily through imitation and repetition and the introduction of Total Physical Response (TPR) where the children act out a response to a teacher’s request. Vocabulary is introduced with games, songs, software, and small skits. Children go to Spanish classes twice a week beginning in late September. Spanish also is used daily in the regular classroom in various routines involving counting, color recognition, the weather, etc.

First Grade

In the first grade, curriculum and instruction are designed to develop children's self-esteem, sense of competence, and positive feelings toward learning. Each child is viewed as a unique person with an individual pattern and timing of growth. Different levels of ability, development, and learning styles are expected, accepted, and used to design curriculum. Children are allowed to move at their own pace in acquiring the important skills they need to be successful. The curriculum is integrated; academic areas and the arts are combined to explore specific concepts and themes. Learning occurs primarily through skill focus lessons, projects and learning centers, and playful activities that are concrete, real, and relevant to children's lives as students today and stewards of our Earth tomorrow. Our curriculum honors the experiences and perspectives of different social groups. The environment is designed to encourage mutual respect, personal responsibility, cooperation, natural curiosity, creative thinking and problem solving skills.

Curriculum Areas

Language Arts

Reading, writing, listening and speaking are the three essential components of our literacy program. Literature selections as well as our writing topics often provide opportunities for discussions revolving around personal characteristics that create positive global citizens. First graders participate in literature circles, which provide the opportunities to think about, discuss and respond to books they read and are read to them.

* The goal of our language and literacy program is to give students the tools and confidence to be self-motivated writers and readers. We also support student self-expression through movement and illustration.

- ~ Producing powerful poetry
- ~ Exploring RINGO (reading Bingo) projects

Reading

Students will understand and apply their knowledge by:

- ~ Selecting "Just Right Books"
- ~ Learning about high quality children's literature
- ~ Appreciating books during D.E.A.R. (Drop Everything and Read) time
- ~ Engaging in guided reading groups

- ~ Using "word attack" strategies
- ~ Exchanging ideas through choral reading
- ~ Connecting home and school by sharing weekend news
- ~ Highlighting authors' work through the "author's chair/stump" experience

Mathematics

Our daily math routine is established to reinforce and provide continuous review of mathematic concepts. Skill building occurs during the routine process: introduction, group practice, work in student books, and reinforcement through learning centers and games. Developmentally, children begin to move from concrete materials to more symbolic work. Manipulatives are from recycled materials (buttons, pen caps, etc.)

Content Includes:

- Number and Operations
- ~ Recognizes and writes numbers 1-100
- ~ Develops strategies for adding and subtracting larger whole numbers
- ~ Uses length based models to model "part-whole", "adding to", "taking away from" and "comparing" strategies
- ~ Delves into fractions
- ~ Cements addition and subtraction fact families to 12
- ~ Understands the effects of adding and

subtracting whole numbers

- ~ Develops and uses strategies for whole number computations with a focus on addition and subtraction up to two digit addition and subtraction
- ~ Skip counts by 2's, 5's and 10's
- ~ Compares and orders one to two digit numbers on a number line

Algebra

- ~ Uses concrete, pictorial and verbal representation to develop an understanding of invented and conventional symbolic notations
- ~ Analyzes how both repeating and growing patterns are generated
- ~ Learns properties of numbers including odd and even

Geometry

- ~ Compose and decompose plane and solid figures
- ~ Recognizes and creates shapes that have symmetry and part-whole relationships of shapes
- ~ Develops a background for congruence, measurement and geometric properties

Measurement

- ~ Records date using calendars and picture and bar graphs
- ~ Strengthens the skills of measurement including weight, distance and time
- ~ Selects appropriate unit and tool for the attribute being measured

Data Analysis and Probability

- ~ Represents data using concrete objects and graphs

Problem Solving

- ~ Recognizes a variety of problem solving strategies and learns when to apply them
- ~ Investigates mental arithmetic and logical thinking

Social Studies

The first grade focus is on families and community. In our classrooms, children explore values, social relations, and learn respect for individual differences. In taking a multi-cultural approach to social studies, we bring in folktales, music and dance from various cultures around the world. Thematic units include: Family and Family Structure, Folktales and Myths and Flat Stanley.

History

Students will:

- ~ Share individual family stories
- ~ Develop appreciation of various people's backgrounds through literature

Art	Twice a week for 50 minutes for 6 week rotation
Drama	Twice a week for 60 minutes for 10 week session
Library	Twice a week for 40 minutes
Music	Twice a week for 40 minutes
Physical Education	Twice a week for 30 minutes
Science	Twice a week for 50 minutes for 6 week rotation
Spanish	Twice a week for 40 minutes
Technology	Ongoing, year-round collaborations
Creative Movement	Once a week for 30 minutes

- ~ Explore folktales and myths from around the world
- ~ Compare cultural traditions and celebrations with others in the community and in the United States
- ~ Discuss how communities and family life have changed over time

Geography

Students will:

- ~ Explain basic geography terminology
- ~ Use basic map skills such as symbols and cardinal directions to locate places
- ~ Describe how climate, location, and physical surroundings affect the way people live and work

Civics

Students will:

- ~ Know and apply traits of a good citizen
- ~ Participate in democratic processes, such as making rules and voting
- ~ Celebrate students' individuality in family and community
- ~ Embrace a variety of family structures
- ~ Encourage empathy and respect for others
- ~ Develop problem solving and anger management skills
- ~ Create cohesiveness in the classroom by understanding individual gifts and needs
- ~ Practice strategies for impulse control

Health

Health topics are addressed daily. We teach the importance of getting enough sleep, eating right and exercising. We have discussions about eating healthy snacks and lunches and the importance of drinking water. We encourage sustainable practices by packing lunches in a waste free manner and recycling and composting in the classroom. We also have silverware in the classroom as opposed to plastic. We practice the proper way to cough, sneeze, and wash hands. Students learn to dress for the weather.

Resource Classes

Art

Art uses a multicultural approach and teaches cooperative group skills and problem solving. Of fundamental importance in teaching art is providing a safe environment for children where they are free to express themselves and take creative risks. First grade students continue to explore the elements of art through increasingly complex projects. Art is

integrated within the class curriculum as well.

In art, recycled materials are used widely, and conservation and respect for materials is emphasized. Art can be a vehicle to express ideas and educate others about sustainability. Students learn about artists and cultures that use recycled and found objects. Students will demonstrate their competency by:

- ~ Identifying line direction (e.g. horizontal, vertical) and quality
- ~ Identifying and using geometric and organic shapes
- ~ Identifying actual shapes and texture
- ~ Identifying and mixing secondary colors from primary colors
- ~ Using repetition of several elements to create patterns
- ~ Using art tools and materials safely and appropriately
- ~ Identifying how feelings are expressed through art

Drama

First graders experience a review of previously introduced themes and theory, with an increased emphasis on physical and vocal character development, using gesture and expression as well as vocal detailing. Students are given more responsibility in working in partner groups, with expanded text and story elements. Additional keen focus elements are introduced, such as the idea of the "fourth wall," the invisible boundary that separates the audience from the world of the play, and the concept of "suspension of disbelief." In addition, some or all of the following elements or ideas may be introduced:

- ~ Ongoing exploration of the elements of voice, body, mask and imagination
- ~ Vocal and emotional projection and articulation
- ~ Listening and following directions
- ~ Memorization
- ~ Storytelling
- ~ Ongoing development of audience/performer dynamic
- ~ Continued practice of individual and group goal work

Most costumes, sets and properties created are built from recycled materials, and reused or sent home for further use by students after production closes. Sound design is used to support the story and characters.

Library

First grade students are assisted in locating materials (fiction and nonfiction) that fit their growing skills, interests, and needs. Students enjoy many kinds of books reflecting an increased awareness of global citizenship and responsibility for our planet. Library time is spent in hearing stories, talking about our reading, and selecting books to take back to the classroom. Students learn to:

- ~ Locate materials: picture books, non-fiction, folktales, magazines, and early chapter books
- ~ Check out and return materials
- ~ Using keywords, locate materials on the computer catalog
- ~ Early literacy concepts
- ~ Practicing library rules and manners

Music

Music plays a basic role in the emotional and intellectual development of the child, and enriches all of life's experiences. In addition to daily songs and chants in the classroom the children have music class, where they will be introduced to music from around the world.

The first grade student:

- ~ Hears differences in dynamics and tempos
- ~ Recognizes different kinds of sounds (timbre)
- ~ Understands the difference between beat and rhythm
- ~ Distinguishes between high and low
- ~ Knows that music has form
- ~ Is able to hear and make simple kinds of harmony
- ~ Music appreciation and sharing

Physical Education

The first grade curriculum focuses on continuing to enhance basic locomotive and manipulative skills, in addition to more complex concepts of physical fitness and increased attention on cooperation. Manipulative skills are reinforced in group and team games that incorporate locomotor skills such as running, dodging and jumping.

In all grade levels the concept of environmental sustainability is addressed in a variety of ways. Students learn conservation skills by making their own equipment: hula hoops and juggling balls. Also by repurposing materials that would otherwise be recycled or discarded. During Earth Week the students play games and activities that explore environmental concepts. We discuss carbon-neutral ways to travel and exercise.

The first grade physical education activities incorporate concepts and skills that encourage the students to:

- ~ Further develop body control while in motion through more complex locomotive activities and games that include running, leaping, jumping, and landing
- ~ Develop concepts of transferal of weight through locomotive activities, animal movements and tumbling activities
- ~ Enhance static motor skills such as balancing, bending, swaying, twisting and turning
- ~ Integrate manipulative skills into partner and group game situations
- ~ Move and respond to music by exploring rhythm, pathways, and changes of direction and speed
- ~ Follow rules of the game, develop an understanding of sportsmanship and fair play, and practice safety
- ~ Cooperate with others through partner and group activities
- ~ Enjoy participation in physical activity

Science

The first grade program is based on research that shows children learn science best through concrete experiences. As students progress through each grade, they acquire new knowledge and skills and develop extended scientific-reasoning abilities. In first grade, students focus on observing, measuring, and identifying properties. First grade science units cover themes such as:

Organisms ~ Students create a land and water habitat and observe both plant and animal life. Through studying the needs and characteristics of a variety of organisms, students are able to draw conclusions about how plants and animals are similar and different. Students learn to recognize the interdependence of the plant and animal world.

Weather ~ Students use a variety of tools to observe, discuss, measure, and record data on cloud cover, precipitation, temperature, and wind.

Solids and Liquids ~ Students investigate the similarities and differences in a variety of solids and liquids. They observe, describe, and compare materials based on properties such as color, shape, texture, fluidity and degree of absorption.

Science/Technology ~ Students use Legos building materials to construct simple machines.

Wetland Study ~ Students participate in a study of local Wetlands. This study also integrates the creatures that inhabit them.

Spanish

Current research and classroom practice indicate that a variety of approaches can successfully lead learners to internalize second language acquisition. Building on vocabulary previously learned, first graders continue working in a variety of culturally appropriate communicative tasks through games, skits, software and songs.

Interpersonal, Interpretive, Presentational Communication

Students will:

- ~ Learn more greetings and farewells
- ~ Be introduced to the alphabet
- ~ Count with numbers 0-50
- ~ Recall basic vocabulary, including words focused on sustainability
- ~ Listen to and follow simple Spanish instructions
- ~ Learn the names of more body parts, animals and parts of the house
- ~ Introduce family members
- ~ Name articles of clothing
- ~ Specify clothing in relation to weather
- ~ Identify fruits and other foods
- ~ Recite and memorize everyday phrases
- ~ Name classroom objects
- ~ Continue work with articles, singular and plural forms
- ~ Use gender agreement when speaking
- ~ Learn words to express feelings (I am sad, mad, hot, sleepy etc.)

Practices and Products of Culture

- ~ Learn fairy tales and stories
- ~ Perform short drama pieces
- ~ Talk about holidays in Hispanic countries

Technology

Midway through first grade, students are introduced to technology. They begin with basic computer skills by learning to find their name on our network, log into their own folders on the student server, remember a password, and open and close programs. Some other skills introduced during first grade are:

- ~ Use a mouse and keyboard to enter data
- ~ Enter text into a word-processor appropriately using the shift key and space bar
- ~ Insert and remove cursor
- ~ Recognize and locate letters and numbers on the keyboard
- ~ Use two hands on the keyboard, left on the left side and right on the right side

Second Grade

The second grade child grows in competency in academic and social skills. Expectations are based on an understanding of individual development and learning styles. The student is supported in taking steps to be responsible for organizing his/her own time, and to be responsible for the care of the group environment and personal belongings. Mutual respect, understanding of the diversity of our society and its resources, and cooperation are encouraged.

An integrated curriculum is used in which various academic areas, visual arts, drama, physical education, science, music, Spanish, library skills, and technology are combined to explore specific concepts or units. Problem solving, thinking skills and practices to help build a sustainable future are interwoven into the curriculum.

Curriculum Areas

Language Arts

Reading and writing are taught in a workshop environment. Each child is encouraged to find his/her own voice as a writer and discover his/her own interests as a reader. Children are exposed to a variety of literature, which reflect the diversity of our world today. Projects and class studies are designed to expand horizons and foster creativity and confidence in his/her ability to communicate. Most importantly, we try to develop a lifelong love and curiosity for reading and writing. Becoming literate is not solely based on one of these skills, but encompasses all of them.

Reading

Students will:

- ~ Develop phonemic awareness
- ~ Expand vocabulary development
- ~ Engage in sustained silent reading
- ~ Participate in class "Read Aloud" novels, author studies, and genre studies
- ~ Focus on reading comprehension strategies
- ~ Make inferences using information from text
- ~ Learn to use non-fiction books as research tools
- ~ Explain the problem, solution, or central idea of a piece of writing
- ~ Develop an appreciation of literature/genres
- ~ Expand literature choices to include books from a multicultural perspective
- ~ Expand literature choices to include books promoting environmental stewardship
- ~ Develop reading fluency through book clubs and literature circles

Writing

Students will:

- ~ Write in a weekly journal
- ~ Complete a research project
- ~ Explore a variety of genres including fiction, non-fiction, and poetry
- ~ Emphasize writing as a process
- ~ Learn to follow a writing process and publish pieces throughout the year
- ~ Expand on individual ideas through the use of descriptive language and conventional writing practices
- ~ Learn to organize writing to include beginning, middle and end
- ~ Use descriptive details to elaborate on central ideas
- ~ Revise and edit writing for clarity, grammar, and developmentally appropriate spelling and punctuation
- ~ Move towards dictionary spelling of commonly used words
- ~ Learn high frequency words and letter patterns
- ~ Develop handwriting skills

Listening and Speaking

Students will:

- ~ Create and perform an original play
- ~ Present "Explorations" in front of the class
- ~ Share and listen to student-generated pieces
- ~ Improve communication and affirmation skills

Mathematics

Students learn to solve problems, reason logically, communicate ideas, make connections, and understand concepts and procedures. The use of a variety of strategies, estimation, and mental mathematics is fostered. Our main program is EnVision. Manipulatives and pictorial models are used. Mathematics is taught daily. Mathematical concepts and procedures include:

Number and Operations

- ~ Understands Base 10 and place value to (at least) 1000.
- ~ Knows addition and subtraction facts through 20
- ~ Solves arithmetic problems by applying knowledge of properties of number, properties of addition (cumulatively and associatively), and models of addition and subtraction
- ~ Understands adding and subtraction of two and three digit numbers with regrouping
- ~ Estimates sums and differences and calculate them mentally
- ~ Develops fluency with efficient procedures such as standard algorithms
- ~ Understands concept of multiplication including facts through five time five
- ~ Has beginning fraction skills

Measurement

- ~ Develop meaning of linear measurement as an iteration of units and use measurement tools with that understanding
- ~ Establish facility with measuring lengths and capacity (standard and metric) and weight

Algebra

- ~ Can successfully model situations that involve addition and subtraction of whole numbers using objects, pictures and symbols
- ~ Can observe and replicate patterns to build understanding of multiples and factors
- ~ Can create and interpret graphs

Geometry

- ~ Able to recognize geometric shapes and structures in the environment
- ~ Compose and decompose two-dimensional shapes they develop foundations for understanding area, fractions, and proportions
- ~ Understands symmetry
- ~ Estimates, measures, and computes lengths as they solve problems involving

data, space, and movement through space

Social Studies

We provide an opportunity for children to begin to expand their horizons to the world beyond themselves. The curriculum honors the experiences and perspectives of different cultural groups. Computers are used to enhance the unit of study, to delve deeper into subject matter, and to create projects that compliment thematic units. For example, in the Forest Explorers unit, students develop presentations about tropical and temperate rainforests and the animals that live there. They use books and the Internet for research. Then they build a PowerPoint presentation, insert graphics and text, use appropriate sound, learn about spell-check and give a presentation. "Community" is the focus for second graders, including thematic units such as Pike Place Market, Forest Explorers, and Families and Family Structures.

Key Concepts:

- ~ The Pike Place Market provides valuable services to farmers and the community
- ~ The market depends on people who are interconnected from around the world
- ~ Buying local and/or organic foods is beneficial to local communities and the environment
- ~ Diversity makes the world a more interesting and healthy place

History

Students will:

- ~ Study cultures and their local histories
- ~ Study the history of the Pike Place Market
- ~ Explore various cultures affiliated with rainforest environments
- ~ Recognize various family structures throughout our local communities and the world at large
- ~ Share individual family stories
- ~ Interview to gather firsthand information
- ~ Develop basic strategies to organize and communicate information about cultures around the world

Art	Twice a week for 40 minutes
Drama	Twice a week for 50-60 minutes for 10 weeks
Library	Once a week for 40 minutes
Music	Twice a week for 30 minutes
Physical Education	Twice a week for 30 minutes
Science	Twice a week for 40 minutes
Spanish	Twice a week for 40 minutes
Technology	Ongoing, year-round collaborations
Creative Movement	Once a week for 30 minutes

Geography

Students will:

- ~ Develop an understanding of tropical and temperate forests and explore the plants and animals in each habitat and their interdependence.
- ~ Visit forest environments in our area
- ~ Compare and contrast the ways different groups of people adapt to their environment and meet their basic needs
- ~ Use maps and globes to learn the physical features, climates, & oceans of the continents.

Civics

Students will:

- ~ Honor the importance of local and organic foods
- ~ Donate proceeds from our school market to the Pike Place Market Foundation
- ~ Discuss human impact on forests and ways to practice conservation
- ~ Recognize a variety of family structures
- ~ Encourage empathy and respect for others
- ~ Create cohesiveness in the classroom by understanding individual gifts and needs
- ~ Demonstrate an understanding of good citizenship, including rights and responsibilities in one's personal life as well as in the school community

Economics

Students will:

- ~ Create and run a market at school
- ~ Demonstrate an understanding of the interdependence of producers and consumers

Health

This study is designed to help students develop an understanding of healthy behaviors, including physical fitness, eating habits and safety. We teach the importance of getting enough sleep, eating right and exercising. We practice the proper way to cough, sneeze, and wash hands. Students learn to dress for the weather.

Resource Classes

Art

Second grade students become more fluent in their art expression. They begin to master skills needed for more advanced work. Some projects refer to art history and students begin to develop an awareness of the work of artists from a variety of cultures. Art is integrated across disciplines and provides experience in a broad range of materials and processes.

In art, recycled materials are used widely, and conservation and respect for materials is emphasized. Students learn about artists and cultures that use recycled and found objects. Art can be a vehicle to express ideas and educate others about sustainability. Students will demonstrate competency by:

- ~ Combining geometric and organic shapes to build compositions
- ~ Identifying warm and cool colors
- ~ Creating space in artwork using the spatial devices of overlap and relative size
- ~ Recognizing that works of art have different styles
- ~ Demonstrating active listening and viewing skills
- ~ Learning how an idea can be represented through various arts disciplines
- ~ Applying previously learned arts concepts, vocabulary and skills

Drama

In addition to a review and deepened study of previously introduced elements and theory, second grade generally marks an introduction to the study of story structure, or The Well Made Play. The following seven elements are introduced and explored: introduction, inciting incident, rising action, obstacles, climax, falling action, resolution and dramatic question. These elements are used to guide students in the group development of their own play. Students choose the environment, the problem, and identify an antagonist and protagonist and a problem that the story can center around. With the support of an adult dramatist and scribe, an original work is developed in which students represent individual characters. Sound design is used to support the story and characters.

Second graders use expanded study of vocabulary and theory. Their work is critiqued through self and group evaluations. In addition, students are asked to design and build their own costumes at home, using recycled materials or used clothing.

Library

Classroom projects often bring students to the library with a specific need, and extra library sessions are frequently scheduled for this purpose. Second graders research and read about many topics including families, forests, butterflies, current events and global responsibilities. Organization of fiction materials is reviewed, and the children continue to explore the Dewey Decimal Classification of nonfiction. Time is spent:

- ~ Exploring various genres through story time
- ~ Improving location skills to include biography, non-fiction, and fiction
- ~ Becoming more independent in using the computer catalog
- ~ Using the Table of Contents and the Index in non-fiction materials
- ~ Citing sources for reports

Music

Children are encouraged to develop their gifts both as individuals and as a part of the greater ensemble. Activities include following patterns, listening to sounds, movement, clapping and singing. The second grade student:

- ~ Understands the use of dynamics in music
- ~ Understands and hears timbre in

instruments and voices

- ~ Understands beat and the duration of notes and rests
- ~ Understands basic harmony and makes it using different methods
- ~ Understands basic music forms
- ~ Music appreciation and sharing
- ~ Identifies a variety of orchestra instruments

Physical Education

The second grade students continue to develop locomotive and manipulative skills. They begin to explore more specific sports skills and more advanced concepts of physical fitness.

In all grade levels the concept of environmental sustainability is addressed in a variety of ways. Students learn conservation skills by making their own equipment: hula hoops and juggling balls. Also by repurposing materials that would otherwise be recycled or discarded. During Earth Week the students play games and activities that explore environmental concepts. We discuss carbon-neutral ways to travel and exercise.

The second grade physical education activities incorporate concepts and skills that encourage the students to:

- ~ Strengthen body control and coordination while in motion through more complex locomotive activities and games that include running, leaping, jumping, and landing
- ~ Develop concepts of transferal of weight through the locomotive activities above, in addition to animal movements and tumbling activities
- ~ Enhance static motor skills such as balancing, bending, swaying, twisting and turning
- ~ Integrate manipulative skills into group activities and team game situations
- ~ Follow rules of the game, deepen understanding of the concepts of sportsmanship and teamwork, and practice safety
- ~ Respect differences and cooperate with others through partner and group activities
- ~ Learn to work at own level, set goals for individual achievement, and identify own successes
- ~ Enjoy participation in physical activity

Science

Second graders build on the knowledge and skills acquired in first grade and continue to investigate scientific phenomena firsthand. They engage in activities that relate directly to their understanding of the world and are now ready and capable of recognizing patterns and cycles. Second grade science units cover themes such as:

Butterflies ~ Students investigate the concept of life cycles by investigating the painted lady butterfly. They compare the life cycle of the butterfly with that of other organisms, an experience that deepens their understanding of the diversity of life and the patterns that characterize animal life cycles.

Soils ~ Students investigate the chief components of soil and explore the relationship between soil and plant growth. They observe and learn about earthworms to discover their connection to plant roots and soil and their role in recycling our food waste.

Changes ~ Students expand their understanding of solids, liquids, and gases by exploring changes in state. They investigate freezing, melting, evaporation, and condensation of water.

Science/Technology ~ Extending the knowledge gained in first grade, second graders use Lego building materials to construct simple machines that use gears to operate.

Balancing and Weighing ~ Second graders explore the relationship between balance and weight. Using a fulcrum and beam, students discover how the amount, distance, and position of objects affect balance. They work with an equal-arm balance to understand the concept of a standard unit.

Spanish

Second graders are given opportunities to explore, develop and use communication strategies, and critical thinking skills. Our introductory program continues to build vocabulary, adding more nouns. The vocabulary is introduced and reviewed by textbooks, skits, songs, software and games.

Interpersonal, Interpretive, Presentational Communication

Students will:

- ~ Expand greetings and farewells by interviewing each other
- ~ Follow multi-step directions in Spanish
- ~ Count with numbers to 100
- ~ Learn commands using classroom objects (open the door, close the door, take out your pencil)
- ~ Name more parts of the body and be able to tell what parts of the body hurt (I have a headache, etc.)
- ~ Name family, friends, and relatives outside the nuclear family
- ~ Talk about the locations of the family in different parts of the house
- ~ Be introduced to verbs in the present tense
- ~ Read, write and memorize simple sentences
- ~ Describe feelings and emotions (I am hungry, cold...)
- ~ Describe clothing
- ~ Review how to use gender agreement
- ~ Review the days of the week and learn the months and seasons
- ~ Use adjectives to describe persons, animals etc
- ~ Talk about fruit and food (like, don't like, want, don't want)
- ~ Learn plural, nouns, articles (el, la, las, los)

Practices and Products of Culture

- ~ Enjoy participating in stories, games, songs and small drama performances
- ~ Talk about and celebrate holidays acknowledged in Hispanic countries
- ~ Learn tongue twisters (Ex: Paco Peco pica papas con un pico.)

Technology

Second graders build on the introductory skills they acquired in first grade. Using computers in their classrooms, they are introduced to the following skills:

- ~ Choose appropriate page orientation
- ~ Import files
- ~ Select printer
- ~ Create, name, and save documents to own folder on student server
- ~ Format and edit text
- ~ Cut, copy, paste text
- ~ Use basic spell check
- ~ Import and arrange graphics in document
- ~ Use basic key functions, such as space bar, return, delete, caps lock, command, option, control, tab
- ~ Use correct home row position when typing
- ~ Practice responsible use of technology systems
- ~ Discuss common uses of technology in daily life and the advantages and disadvantages it provides

Spanish
Second graders are given opportunities to explore, develop and use communication strategies, and critical thinking skills. Our introductory program continues to build vocabulary, adding more nouns. The vocabulary is introduced and reviewed by textbooks, skits, songs, software and games.

Third Grade

Students in the third grade continue to gain skills and confidence in working independently and responsibly. Third-graders have opportunities to explore and organize information, identify problems, and test a variety of solutions. They are encouraged to regard themselves positively as students, individuals, and members of communities. Students develop an awareness of sustainability through a unit on recycling and garbage. The curriculum honors the experiences, perspectives and contributions of different cultural groups. A cooperative, non-competitive approach to teaching is most frequently used, integrating subjects within the class and/or with resource classes when possible. Students learn a variety of skills to aid them in learning and presenting information about the world around them.

Curriculum Areas

Language Arts

The language arts curriculum focuses on reading, writing, listening and speaking. Students study setting, character, point of view, plot, climax, resolution and theme. Attention is given to skill development, understanding, and questioning. The connection between reading, writing, and listening is fostered. Students' writing develops on a continuum from well-constructed sentences, to paragraphs, essays and research projects. Self-directed students wishing to pursue topics of particular interest are guided in researching and completing optional independent reports.

Reading

The reading program fosters student enjoyment and appreciation of reading through relevant, meaningful and exciting interactions with many genres of literature, including those rooted in a variety of cultures. The program provides guided instruction to develop strategies that help students gain meaning from the text, become active participants in the reading process, become efficient with fluency, become aware of their own reading strategies, and respond to the text in meaningful ways. A variety of assessment tools are used throughout the year. These include teacher-based,

student based, and computer comprehension assessments, as well as informal observation.

Students will:

- ~ Read and discuss a variety of reading materials in small groups and as a whole class
- ~ Develop fluency and comprehension skill through literature circles
- ~ Develop strategies and skills for reading fiction and non-fiction including questioning, predicting, asking questions, inferring, visualizing, finding information, comparing, retelling, decoding and comprehension
- ~ Analyze words and develop vocabulary
- ~ Learn and practice study skills, note-taking, report writing, word-processing and presentation skills
- ~ Read a variety of materials including textbooks, reference materials, computer information sources, and news magazines
- ~ Use reading skills with specific classroom topics of study
- ~ Learn to choose books at an appropriate level
- ~ Read independently during quiet reading periods and listen to stories read aloud
- ~ Record themselves reading aloud
- ~ Expand reading genres through creative book projects

Writing

Students at this age are learning to convey their thoughts clearly and organize their ideas logically. Writing occurs across the curriculum. Students are taught a process of writing as well as the mechanics of writing. Skill based learning is reinforced and applied throughout the writing process. A proofreading and editing process, requiring input from other students as well as from the teacher, encourages discussion and rethinking prior to completion of the final version. Final copies are created utilizing technology or are written by hand. Students will:

- ~ Write in a variety of forms throughout the year, expressing themselves through stories, letters, narratives, poetry, and research projects to a variety of audiences
- ~ Plan, write a first draft, confer, revise, edit, and publish a final copy
- ~ Write paragraphs, factual reports, stories, poems, letters, and opinion papers
- ~ Compose paragraphs and papers with a beginning, middle and end
- ~ Review manuscript handwriting and learn cursive through instruction and regular practice
- ~ Strengthen keyboarding and word processing skills
- ~ Develop proficiency with spelling and language mechanics using a variety of texts and a spelling program
- ~ Be held accountable for correctly spelling frequently used words
- ~ Research topics using the Internet, library, and other sources
- ~ Take notes, write reports, and give presentations
- ~ Develop word choice to include colorful, descriptive language
- ~ Demonstrate comprehension of independent reading through written book projects

Speaking and Listening

Through guided instruction, students develop skills with communication, following directions and conflict resolution.

Students will:

- ~ Discuss news events, including social, cultural and environmental issues
- ~ Make a variety of presentations to the class
- ~ Students will share thoughts and ideas about interpersonal situations using the

Art	Once a week for 60 minutes
Drama	Twice a week for 60 minutes for 12 weeks
Library	Once a week for 45 minutes
Music	Twice a week for 40 minutes
Physical Education	Twice a week for 30 minutes
Science	Twice a week for 45 minutes
Spanish	Twice a week for 45 minutes
Technology	Ongoing, year round collaborations
Creative Movement	Once a week for 30 minutes

Virtues Project curriculum

- ~ Take part in an annual drama production
- ~ Participate in classroom meetings focusing on student agenda items
- ~ Express thoughts and listen actively in a variety of groupings
- ~ Use technology for creating and sharing presentations

Mathematics

The EnVision Math program places emphasis on problem solving as well as computational fluency. Students work individually, with a partner, or in flexible groups often employing manipulative materials and technology. Frequent assessments and working with students keep the teacher apprised of progress and understanding. Basic facts and skills are important at this age and a solid working knowledge of the basic facts is developed. Third graders may use calculators and other materials as needed when solving more challenging problems. Numerous enrichment activities take the form of challenge programs, constructions, pattern work, writing, logic and problem solving strategies and puzzles. One opportunity for integrating technology across the curriculum is the students' use of Excel to graph weight and volume measurements they collect during the third grade sustainability study of garbage and recycling.

Content includes:

Numbers and Operations

- ~ Developing understanding to decimal place value to hundredths and expanded notation and place value to 10,000
- ~ Build facility with mental computation by using computational estimation and using paper and pencil strategies
- ~ Developing understanding of math facts through easy multiplication and division
- ~ Using a variety of solution strategies, students relate multiplication and division as inverse operations
- ~ Knows addition and subtraction with regrouping using four-digit numbers
- ~ Develops ability to identify fractional parts, uses fractions to represent parts of a whole, parts of a set, or points or distances on a number line

Algebra

- ~ Developing the ability to find patterns on number grids
 - ~ Build conceptual understanding with the use of the hands on Algebra curriculum
- Geometry

- ~ Beginning to identify, draw and label segments, lines and rays, angles while identifying symmetry
- ~ Beginning to identify parallel and intersecting lines
- ~ Investigate, describe, and reason about decomposing, combining, and transforming polygons to make other polygons

Measurement

- ~ Can tell time to the nearest minute
- ~ Measure and analyze data connected to the sustainability unit
- ~ Develop facility in measuring with fractional parts of linear units
- ~ Knows how to measure to the nearest $\frac{1}{4}$ inch and whole centimeter
- ~ Select appropriate units, strategies, and tools to solve problems involving perimeter

Data Analysis and Probability

- ~ Developing ability to predict outcomes and discuss probability
- ~ Able to construct and analyze frequency tables, bar graphs, picture graphs, and line plots

Problem Solving

- ~ Developing ability to learn and practice specific problem solving strategies

Social Studies

The approach to the social studies program is a broad, interdisciplinary one. The students continue to learn about relationships with each other, people of their community, and the world as they expand their global awareness. In third grade, students get involved in, discuss and problem solve local issues of sustainability focusing on garbage, compost and recycling. Students develop ideas and formally present findings and suggestions to the entire student body. Social studies is integrated with reading, writing, discussion, and experiential activities.

History

Students will:

- ~ Study and compare cultures
- ~ Learn about cultures of Seattle
- ~ Study key events in Seattle history
- ~ Compare and contrast lifestyles of people in ancient civilizations, including local Native Americans, with their own lifestyle
- ~ Demonstrate a basic understanding of chronology
- ~ Use a variety of forms to communicate knowledge of historical concepts
- ~ Examine a variety of sources including

- pictures and artifacts to gain information about ancient civilizations
- ~ Engage in guided Internet research
- ~ Refine researching and presentation skills utilizing technology

Geography

Students will:

- ~ Learn map skills and map features: key, compass, symbols, scale, hemispheres, prime meridian, latitude, and longitude
- ~ Locate major Seattle landmarks
- ~ Define city, state, country
- ~ Undertake a country study utilizing non-fiction research & technology, and construct a PowerPoint project
- ~ Be introduced to Seattle as a port city interacting with the global community and the environment
- ~ Research, analyze and present finding of ongoing garbage, recycling and compost unit
- ~ Use basic geographic terminology including equator, hemisphere, and prime meridian
- ~ Use a simple letter/number grid system to locate specific places on a map

Civics

Students will:

- ~ Recognize similarities and differences
- ~ Discuss stereotypes, prejudice, and discrimination through the use of the Virtues project
- ~ Learn essentials of Seattle government and elections
- ~ Participate in developing class rules
- ~ Understand the need for government and rules
- ~ Develop democratic group decision-making skills
- ~ Participate in community service activities
- ~ Recognize rights and responsibilities of citizens in school and in the city
- ~ Study individuals who made significant contributions to the United States and the world

Health

In addition to health related topics, lessons guide students in further developing social and emotional skills.

Students will:

- ~ Learn and practice basic hygiene, basic first aid, and handling emergency situations
- ~ Learn, discuss and practice empathy, interpersonal problem solving, and anger management skills

Resource Classes

Art

Art is integrated across disciplines and provides experience in a broad range of materials and processes. Our hope is to develop learners who consider themselves artists, understand the language of art, make connections between art and other areas such as sustainability and develop skills and creative processes to solve problems. Third grade students' skill level and art knowledge increases and so does the complexity of their work. Imagination and originality are encouraged as children's expressive skills expand.

Art can be a vehicle to express ideas and educate others about sustainability. In art, recycled materials are used widely and conservation and respect for materials is emphasized. Students learn about artists and cultures that use recycled and found objects. Students will demonstrate competency by:

- ~ Beginning to undertake drawing exercises and learning how to create illusion of volume, shading/value, and perspective
- ~ Using line to create detail
- ~ Applying arts knowledge and skills to reinforce learning in other content areas such as environmental awareness
- ~ Recognizing that aesthetic choices are influenced by culture and history
- ~ Using texture in two or three dimensional work
- ~ Applying previously learned arts concepts, vocabulary, skills and techniques
- ~ Increased group collaboration and individual work in two and three dimensional media

Drama

Detailed review and reincorporation of ideas presented from PreK-2nd grade occur. In their third grade drama studies, students will explore themes ranging from realism of Seattle history, the fantasy of cultural myths, or folktales. Students are asked to take an active role in researching character, historical periods and more, through the use of the Internet and historical, mythical or folkloric literature. Sound and slides can be used to create story or environment. Continued study revolves around some of the themes and ideas below:

- ~ Representation of realistic or mythical characters from history
- ~ Audience/performer dynamic
- ~ Exploration of character through character relationships
- ~ Introduction of tactics and objectives
- ~ Introduction of status
- ~ Memorizations
- ~ Expanded vocabulary and theory
- ~ Research
- ~ Self and group evaluation
- ~ Working to achieve individual and group goals toward common good
- ~ No adult narration or presentation; plays are totally student driven

Most costumes, sets and properties created are built from recycled materials, and reused or sent home for further use by students after production closes.

Library

Students become increasingly independent in catalog searching and in use of print and online reference tools. The children become more frequent visitors to the library, individually or in scheduled extra class sessions, for special assignments including Seattle history, Native Americans, rocks and minerals, and multi-cultural explorations. This age group is often working on Independent Research Projects and is helped to locate information on CDs and websites, and in nonfiction works, magazines, and encyclopedias. The class's focus on consumption and waste provides a topic for information seeking exercises.

Music

Music is indeed the universal language. Learning music involves a wide variety of instructional techniques. Third grade students will:

- ~ Sing independently, on pitch and in rhythm, with appropriate timbre, diction, and posture, and maintains a steady tempo
- ~ Identify by genre or style aural examples of music from various historical periods and cultures
- ~ Improvise "answers" in the same style to a given rhythmic and melodic phrase
- ~ Devises criteria for evaluating performances and compositions
- ~ Echoes short rhythms and melodic patterns
- ~ Understands the treble clef and improves on the ability to sing and play instruments
- ~ Music appreciation and sharing

Physical Education

The third grade program introduces the students to individual and team sport skills and integrates these skills into modified games. The students focus more on physical fitness and learn about their body in relation to sport and physical activity.

In all grade levels the concept of environmental sustainability is addressed in a variety of ways. Students learn conservation skills by making their own equipment: hula hoops and juggling balls. Also by repurposing materials that would otherwise be recycled or discarded. During Earth Week the students play games and activities that explore environmental concepts. We discuss carbon-neutral ways to travel and exercise.

The third grade physical education activities incorporate concepts and skills that encourage the students to:

- ~ Enhance manipulative skills to develop more sport-specific skills
- ~ Further develop individual sport skills such as juggling, jumping rope, climbing, tumbling and yoga
- ~ Strengthen skills specific to sports such as basketball, football, soccer, ultimate frisbee, hockey, volleyball and baseball
- ~ Integrate sport-specific skills into individual and partner non-competitive activities, as well as team games and activities
- ~ Develop an understanding of how fitness

activities affect bodies

- ~ Explore the relationship between sports and physical activity and own bodies, including studies of bones, joints, muscles, the heart and nutrition
- ~ Follow rules of the game, develop a deeper understanding of the concepts of sportsmanship and teamwork, and play safely
- ~ Respect differences of ability and style of play and cooperate with others through partner and group activities
- ~ Learn to work at own level, set goals for individual achievement, and identify own successes
- ~ Enjoy participation and develop habits in physical activity

Science

Third grade students refine and develop their skills and work independently as well as cooperatively to do investigations: ask questions, make and test predictions, record, reflect on and share their findings. Other areas of the elementary curriculum such as reading, writing, math, and social studies are incorporated by providing students with opportunities to read stories about topics that they are studying in class. Third grade science units cover themes such as:

Plant Growth and Development ~ Students observe and record each stage in the life cycle of the Wisconsin Fast Plant. Students cross-pollinate the flowers with dried honeybees to focus on the interdependence of living things.

Rocks and Minerals ~ Students explore the differences and similarities between rocks and minerals by investigating samples of these earth materials and performing tests on them. They also read about how rocks and minerals are used.

Chemical Tests ~ Students are introduced to chemistry by investigating and determining the identity of five common household chemicals.

Motion and Design ~ Students use K'NEX to explore the physics of motion and then apply these concepts to technological design. They test how fast the vehicles move and use their findings to redesign the vehicles to move more efficiently and reduce their cost.

Science/Technology ~ Using Lefo NXT building materials, third graders are introduced to building and programming robotic machines. The machines are ultrasonic, sound, touch, and light sensors to perform specific tasks.

Students will also learn to:

- ~ Make a storyboard for a multimedia presentation
- ~ Use multimedia-authoring software
- ~ Give a simple presentation using multimedia software

Spanish

The curriculum emphasizes culturally rich themes to help students gain an understanding of customs and traditions from the Spanish speaking countries around the world. These themes are expressed via songs, food, drama, poems, games and stories. New vocabulary is introduced with each new topic, building upon previously learned vocabulary. The focus in third grade is neighborhoods, markets and shopping. In the restaurant unit, students videotape themselves ordering meals.

Interpersonal, Interpretive, Presentational Communication

Students will:

- ~ Name additional objects in the classroom
- ~ Use more commands in the classroom (go to the board and write your name)
- ~ Tell time
- ~ Learn the names of school subjects and the times they occur
- ~ Begin to speak full, simple sentences
- ~ Read, write, and understand short sentences
- ~ Learn to purchase clothing and food (fruit, vegetables, grains, etc.)
- ~ Identify the silverware used at the table
- ~ Review parts of the house, adding furniture
- ~ Learn prepositions (in, out, under, up, etc.)
- ~ Calculate simple math in Spanish (add, subtract)
- ~ Add more adjectives to describe people, animals, feelings, and emotions
- ~ Name places in the school and around the neighborhoods (park, city, movie, etc.)
- ~ Conjugate ar, er in the present tense
- ~ Review and use more nouns, articles, singular and plural (un, una, uno, unas, estos, estas, esos, esas)

Practices and Products of Culture

- ~ Create and play games using Spanish
- ~ Learn poems related to the Earth and gardening
- ~ Prepare Day of the Dead Altar
- ~ Make Spanish alphabet books to share with kindergarten buddies

- ~ Create presentations with technology, dance and music in Spanish

Technology

By third grade students have mastered most of the skills introduced in first and second grade. Though typing is introduced in second grade, expectations are raised significantly beginning in third grade. Other skills introduced this year are:

- ~ Use "Save As" appropriately
- ~ Select printer
- ~ Delete, transfer, and "hand in" documents
- ~ Understand and use "Group Shared" folder
- ~ Change justification and line spacing
- ~ Use and understand spell and grammar check
- ~ Enter text at a defined speed and accuracy
- ~ Produce multimedia presentations that include illustrations, charts, movies, photos and sounds
- ~ Understand and agree to the rules for computer use as outlined in the Bertschi School Acceptable Use Policy
- ~ Navigate the Internet using a browser
- ~ Bookmark Internet sites and retrieve sites from bookmark list
- ~ Evaluate a website for age-appropriateness, ease of use, accuracy, and validity
- ~ Construct keywords to search for information, using subject directories and search engines
- ~ Synthesize information from multiple sources in an authentic product or presentation in order to give evidence of new understanding
- ~ Work cooperatively and collaboratively with peers and others when using technology
- ~ Demonstrate positive social and ethical behaviors when using technology
- ~ Discuss basic issues related to responsible use of technology and information and describe personal consequences of inappropriate use

Fourth Grade

In the fourth grade, students continue to grow in independence, responsibility, confidence, and open-mindedness. They are encouraged to further develop positive feelings about themselves and their own ideas, as well as to respect others, the ideas of others, and the differences of others. In a cooperative atmosphere, students have opportunities to explore information, to think critically, and to make decisions based on learned information. Subjects are integrated, when possible, by combining academic areas and the arts to focus on concepts and specific areas of study in greater depth. Students work in groups or individually and are expected to develop self-motivation, efficient time management, and organizational skills. Sustainability and technology are integrated in various curriculum areas.

Curriculum Areas

Language Arts

Language Arts are part of each day's schedule and are related to other areas of study whenever possible. Attention is given to skill development, understanding and questioning. The connection between reading and writing is fostered. In written communication, students practice various types of writing with increased attention to producing thoughtful and well-edited papers. The main resources are Writers Express Handbook, Writers Express Skillsbook, Cursive, Handwriting, Time for Kids (the news magazine), Spelling Workout, computer resources, and children's fiction and non-fiction books. Our literature integrates human issues and provides substance for discussion and projects stimulating students' awareness of the world-at-large. Laptops are regularly used for writing projects. Library books, additional literature, and research materials supplement the program.

Reading

Students will:

- ~ Develop word analysis skills, including prefix, suffix, root words, syllables, and phonics
- ~ Expand vocabulary using context, parts of speech, synonyms, antonyms, dictionary skills, meaning of prefixes and suffixes, idioms
- ~ Identify details of main idea or theme
- ~ Actively engage in peer-led literature circles
- ~ Make inferences and predictions
- ~ Understand literary elements such as genres, plot, character, and setting
- ~ Understand similes, metaphors, and exaggeration
- ~ Know the difference between non-fiction and fiction
- ~ Use skills of skimming, scanning, summarizing, identifying cause and effect, sequence
- ~ Develop research skills including use of the table of contents, index, and sources such as the atlas, encyclopedia, textbooks, and the Internet
- ~ Recognize fact and opinion
- ~ Read a variety of genres, including poetry

Writing

Students will:

- ~ Write clearly and effectively
 - ~ Develop a topic
 - ~ Organize thoughts into a clear beginning, middle, and end
 - ~ Use transitional sentences and phrases to connect ideas
 - ~ Apply conventions of spelling, grammar, sentence structure, punctuation, capitalization, and paragraphing
 - ~ Demonstrate ability to write in a variety of forms for different purposes and different audiences (poems, essays, stories, reports)
 - ~ Understand and use the steps of the writing process: pre-write, draft, revise, edit, and publish
 - ~ Develop fluent and legible cursive handwriting
 - ~ Develop word processing skills including typing, formatting, and layout
- Speaking and Listening

Students will:

- ~ Develop oral presentation skills including eye contact, volume of voice, rate of speech, and good posture
- ~ Contribute to discussions, and share current events
- ~ Give oral reports
- ~ Participate in drama performances
- ~ Take notes while listening

Mathematics

Students learn to solve problems, reason logically, communicate ideas, make connections, and understand concepts and procedures. The use of a variety of strategies, estimation, and mental math is fostered. Basic facts, problem solving, and real life math situations are emphasized and involve sustainability when possible. The main text is EnVision Math. Manipulative materials, projects, activities, and games are used to enhance conceptual learning.

Content includes:

- Numbers and Operations
- ~ Understands place value of whole numbers to millions
- ~ Learn to use decimals as equivalencies to fractions, compare and order decimals, and estimate decimal or fraction amounts in problem solving
- ~ Able to add, subtract, multiply and divide whole numbers
- ~ Able to add and subtract decimal numbers

Art	Once a week for 60 minutes
Drama	Twice a week for 60 minutes for 8-10 weeks
Library	Once a week for 45 minutes
Music	Twice a week for 40 minutes
Physical Education	Three times a week for 30 minutes
Science	Twice a week for 45 minutes
Spanish	Twice a week for 45 minutes
Technology	Ongoing, year round collaborations
Creative Movement	Once a week for 30 minutes

- ~ Identifies the relationship between decimal, fraction and percentages
- ~ Simplifies fractions
- ~ Develops quick methods of recall for basic math facts

Algebra

- ~ Recognizes and predicts patterns
- ~ Solves simple equations with unknowns

Geometry

- ~ Identifies polygons and circles
- ~ Identifies simple 3-D shapes
- ~ Uses coordinates
- ~ Identifies parallel and perpendicular lines
- ~ Recognizes, measures and classifies angles and produces line and rotational symmetry
- ~ Designs and analyzes transformations through tessellations
- ~ Constructs circles and some polygons using a compass

Measurement

- ~ Calculates area, perimeter and volume of simple shapes
- ~ Measures (using correct units) money, length, area, volume, weight, capacity, and temperature (metric and standard)

Data Analysis and Probability

- ~ Creates and understands graphs, tables, line plots, and charts
- ~ Recognizes probabilities and predicts outlines
- ~ Apply the understanding of place value to develop and use stem-and-leaf-plots
- ~ Identifies minimum, maximum and range

Problem Solving

- ~ Organizes and manipulates relevant data
- ~ Chooses appropriate strategies to solve problems

Social Studies

Fourth grade studies include Washington State, water, religions, and global geography. In Washington, the focus is on the geography, history, government and economics of the state. In collaboration with the science teacher, the sustainable use of water is considered with regard to water supply and disposal, and competing uses of water in the state, focusing on the needs of salmon. Students study five major world religions: Judaism, Islam, Hinduism, Buddhism, Christianity. In each case, consideration is given to history, traditions, geography, arts and culture. Issues pertaining to stereotypes and prejudice are discussed. An integral

experience is visiting a house of worship for each religion. In collaboration with technology, students create and present slideshows, transform spreadsheet data into graphs and interpret them, advance their word processing skills, use of the Internet for research and use of the Notebook program for compiling and creatively displaying information about Washington state. Other areas of the curriculum include current events and map studies. Students participate in service learning projects, both school-wide and individually. Work includes discussions, reports and special projects. Resources, which help develop concepts, include texts on Washington state, a news magazine, field trips, videos, reference books and online references.

History

Students will:

- ~ Explore key events of state history and development from pre-Columbian times to the present
- ~ Compare and contrast the lives of the plateau and coastal Indians in the pre-Columbian times
- ~ Study early explorers of land and waterways
- ~ Identify the contributions of influential Washingtonians, including minorities and women in the past and present

Geography

Students will:

- ~ Understand how environment affects culture
- ~ Define watersheds
- ~ Identify latitude and longitude.
- ~ Recognize and use of physical and political maps
- ~ Recognize and use key and scale
- ~ Identify the geographic regions of Washington and learn how the geography of each region influences the lifestyle and economy of its people
- ~ Describe how different groups of people have adapted to the climate and environment of Washington

Civics

Students will:

- ~ Understand that Washington is comprised of many cultural groups
- ~ Identify the main parts of the state government
- ~ Discuss current events, including local, national, and international news
- ~ Use the democratic process to solve problems and make decisions in the classroom
- ~ Consider issues of civil rights and social justice
- ~ Understand civil rights and citizen responsibilities

Economics

Students will:

- ~ Understand the basic elements of the state's economy
- ~ Identify the life cycle and environmental needs of salmon
- ~ Discuss the role of technology in Washington's economic development and its effect on the environment
- ~ Identify Washington's economic interdependence with other states and countries

Health/Life skills

Social and emotional health issues and skills are addressed throughout the year through discussions and activities. We use the Virtues program to help support the understanding of social relationships and feelings.

Resource Classes

Art

Our hope is to develop learners who consider themselves artists, understand the language of art, make connections between art and other areas such as sustainability and develop skills and creative processes to solve problems. Fourth grade students refine the skills developed in previous art classes and may undertake more sophisticated projects such as charcoal drawing, animation and photography. Some projects are completed in one class period while others are refined over a longer period of time. Art is integrated across disciplines and provides experience in a broad range of materials and processes. The students will work through increasingly complex projects that introduce concepts at a time that is developmentally appropriate and favorable to learning.

In art, recycled materials are used widely, and conservation and respect for materials is emphasized. Students learn about artists and cultures that use recycled and found objects. Art can be a vehicle to express ideas and educate others about sustainability. Students will demonstrate competency by:

- ~ Defining space using horizon/ground line, foreground, middle ground and background
- ~ Identifying and making color values, tints/shades, monochromatic color schemes
- ~ Identifying and demonstrating symmetrical and asymmetrical balance in two and three dimensions
- ~ Producing detailed imagery in a variety of media
- ~ Appreciating attributes of artworks used by specific artists and cultures, including recycled art
- ~ Applying previously learned arts concepts, vocabulary, skills and techniques through a creative process

Drama

Detailed review and reincorporation of ideas presented from pre-k through third grade, including a deeper exploration of realism, and representation of human characters in historical, cultural or classical dramatic story occur. Characters increase in complexity and script length expands. An expanded study of detailed use of actor's tools, incorporating rhythm, texture, deepened study of tactics and objectives, and character relationships, plot and tensions occur. Sound, slides or other technical elements may be added for story or effect. Topics covered include:

- ~ Character research
- ~ Audience performer dynamic
- ~ Character development and relationships
- ~ Detailed study of tactics and objectives
- ~ Self and group evaluation
- ~ Collaborations
- ~ Vocal, physical, and emotional exploration
- ~ Memorizations
- ~ Vocabulary
- ~ No adult narration; student driven typically 45 minutes

Most costumes, sets and properties created are built from recycled materials, and reused or sent home for further use by students after production closes.

Library

Independent research is a frequent activity for fourth graders; many materials will go to their classrooms during a particular unit of study, but students may continue to use library time to locate supplemental materials for individual projects. Resources for the class relate to world religions, Washington state geography and history, sustainability in architecture, awareness of global issues and salmon. Use of reference materials is reviewed and students are given guidance in seeking information on the Internet, determining the value and appropriateness of a website, downloading material, and citation of sources. Search strategies are discussed and students are led through the Big6 information skills: task definition, information seeking strategies, location and access, use of information, synthesis, and evaluation.

During the first term of school, the class reads various materials on the Lewis and Clark expedition. This is the theme used in research skills work in the second term. Short stories, folklore, poetry, mythology, and nonfiction works continue to be shared. Skills covered

include:

- ~ Locating nonfiction materials using the Dewey Decimal System
- ~ Using Boolean searching
- ~ Knowing location and uses of reference materials and biographies
- ~ Reviewing citation form and need for citation
- ~ Composing logical search strategies for research
- ~ Assessing appropriateness of possible resources (Internet searches included)

Music

Children are encouraged to explore varying aspects of musical expression. The fourth grade student:

- ~ Sings from memory, a varied repertoire of songs representing genres and styles from diverse cultures
- ~ Performs in groups, blending instrumental timbres, matching dynamic levels, and responding to the cues of the conductor
- ~ Uses solfege to read simple pitch notation in the treble clef in major keys
- ~ Explains, using appropriate music terminology, personal preferences for specific musical works and styles
- ~ Identifies the sounds of a variety of instruments, including orchestra and band instruments from various cultures, as well as children's voices and male and female adult voices
- ~ Understands fundamentals of recorder playing
- ~ Music appreciation and sharing

Physical Education

The fourth grade program continues to explore and reinforce individual and team sport skills, and integrates these skills into modified games. The students increase their focus on physical fitness by learning about nutrition and their bodies (body type, bones, muscles and heart) in relation to sport and physical activity.

In all grade levels the concept of environmental sustainability is addressed in a variety of ways. Students learn conservation skills by making their own equipment: hula hoops and juggling balls. Also by repurposing materials that would otherwise be recycled or discarded. During Earth Week the students play games and activities that explore environmental concepts. We discuss carbon-neutral ways to travel and exercise.

The fourth grade physical education activities incorporate concepts and skills that encourage the students to:

- ~ Reinforce manipulative skills to develop more sport-specific skills
- ~ Continue to develop and refine individual sport skills such as juggling, jumping rope, climbing, tumbling and yoga
- ~ Strengthen skills specific to sports such as basketball, football, soccer, ultimate frisbee, hockey, volleyball and baseball
- ~ Integrate sport-specific skills into individual and partner non-competitive activities, as well as team games and activities
- ~ Develop a more complex understanding of how fitness activities affect the body
- ~ Explore the relationship between sports and physical activity and the body, including studies of body type, bones, joints, muscles, the heart and nutrition
- ~ Follow rules of the game, develop a deeper understanding of the concepts of sportsmanship and teamwork, and play safely
- ~ Respect differences of ability and style of play and cooperate with others through partner and group activities
- ~ Learn to work at own level, set goals for individual achievement, and identify own successes
- ~ Enjoy participation and develop habits in physical activity

Science

By fourth grade, students can identify cause-and-effect relationships and are able to apply the skills and knowledge they have gained to new situations. As a result of conducting many investigations in first through third grades, students have improved their scientific skills. They are able to observe and record results, form conclusions on the basis of experience, communicate results and apply their knowledge to solve problems. Once again, science investigations provide a natural transition to literacy as students read stories about topics that they are studying in science class. Fourth grade science units cover themes such as:

- ~ Salmon ~ Students study the life cycle of the salmon by setting up and maintaining a salmon aquarium. They investigate the relationship between a healthy, clear water shed and the survival of our salmon. Students release their

salmon in the spring.

- ~ Animal Studies ~ Students care for and observe animals from different habitats. They learn what animals need to survive, the primary parts of their anatomical structure, and the ways in which they are suited for life in a particular environment. Fourth graders perform a number of investigations and gather data into a spreadsheet and graph results.
- ~ Land and Water ~ Students investigate the interactions between land and water by using a stream table as their model. The stream table also serves as a basis for investigations of the water cycle.
- ~ Electric Circuits ~ Students are introduced to the basic properties of electricity as they learn about electric circuits and the parts of the light bulb. They also explore different kinds of circuits, learn about switches, construct a flashlight, and investigate the properties of diodes.
- ~ Science/Technology ~ Building on the self-confidence gained and the skills learned in third grade, fourth graders use Lego NXT building materials to design, construct, and program a robotic machine. The machine uses sensors that react to the environment and perform a useful task. Students solve problems creatively and work collaboratively with their peers.
- ~ Human Body
- ~ Students study the basic structural systems of their bodies (skeleton, joints, and muscles) and how these systems work together to provide movement
- ~ Floating and Sinking ~ Students investigate the phenomenon of buoyancy

Spanish

The Spanish program offers an introductory program that makes communication in Spanish a natural process. Students engage in conversations, provide and obtain information, express feelings and emotions, and exchange opinions. Students study vocabulary lists, and conjugate verbs. There are informal grammar tests and quizzes. In Spanish class, children work individually and in groups. They learn Spanish through dictations, games, poems, songs, dialogues, and art projects. Oral work is supplemented with the use of dictionaries and classroom textbooks.

Interpersonal, Interpretive, Presentational Communication

Students will:

- ~ Learn vocabulary lists (classroom, school, home)
- ~ Understand and use personal pronouns, possessive pronouns and prepositions.
- ~ Conjugate regular verbs such as tener, ser and estar; and irregular verbs such as llamar, ir, llevar
- ~ Understand and use masculine and feminine, singular and plural forms
- ~ Work with definite and indefinite articles (el, la, los, las)
- ~ Write words for six-digit numerals and read basic math problems
- ~ Tell time

Practices and Products of Culture

Students will:

- ~ Name Spanish speaking countries, including the capitals and distinctive attributes
- ~ Learn about Hispanic poets and artists
- ~ Understand Spanish traditions through arts and crafts (make books and paper roses to learn about the legend and the day of San Jorge)
- ~ Sing and perform to Spanish music

Technology

Building on skills learned since first grade, students are introduced to the following skills in fourth grade:

- ~ Format margins, headers, footers, and page numbers
 - ~ Create multi-column document
 - ~ Use find/replace, thesaurus, and user/custom dictionaries
 - ~ Use templates
 - ~ Enter text at a defined speed with acceptable accuracy
 - ~ photo enhancement
 - ~ Use spreadsheet formulas and functions
- Know appropriate type of graphics application to complete a given task, such as drawing, painting, or

Fifth Grade

The fifth grade program is intended to guide students toward becoming increasingly broad-minded in their outlook, skilled, confident, and independent in their work. They are encouraged to feel positively about themselves as citizens in a global community and their responsibilities to do their part as good stewards of our planet. We instill in them the belief system that every individual can make a difference. They are expected to respect and appreciate others. Development of social skills is enhanced through day-to-day problem solving, class meetings, and service learning projects. To all these ends, we use a cooperative, non-competitive approach to teaching. The integration of subjects receives high priority.

Curriculum Areas

Language Arts

The fifth grade Language Arts program is designed to guide students to become successful, motivated, confident readers, writers and communicators. Reading, writing, thinking, speaking and listening are integrated throughout all areas of the curriculum. In fifth grade, activities become more independent and self-directed. Attention is given to skill development, understanding, and questioning. In written communication, students practice various types of writing, with increasing attention to producing thoughtful and well-edited papers. Literature circles comprise a significant part of the reading program. Whole group novel studies integrate notetaking, quiz preparation and the study of vocabulary and literary device. They also provide a foundation for the use of the Socratic Seminar discussions. The core-spelling curriculum is based on Spelling Workout from Modern Curriculum Press. This program groups high frequency writing words into sound families and provides opportunities to use these words in multiple settings.

Reading

Reading is an important part of the student learning process. A daily reading program is provided which is eclectic in its methods. Students may receive instruction individually and in small groups, as well as in whole-group situations. Whenever practical,

there is a silent free-choice reading period approximately three days each week for 15-20 minutes. A variety of reading materials is incorporated, including trade books, reference materials, periodicals (Time Magazine for Kids), and newspaper articles that deal with a variety of issues. Books and articles promoting global awareness are an integral part of the curriculum. Reading is encouraged as a self-initiated activity for pleasure and personal growth. Attention is paid to understanding and questioning what is read, to skill development and word analysis, particularly through our literature circles. Understanding and use of vocabulary is constantly developed. Reading is associated with specific classroom topics of study.

Students will:

- ~ Read, respond to, and evaluate literary forms, including fiction, non-fiction and poetry
- ~ Further develop research skills
- ~ Enjoy and appreciate great literature that embraces many diverse cultural ideas
- ~ Read about fictional characters and real people from a variety of cultures and backgrounds who have experienced various forms of adversity
- ~ Read with understanding and empathy about issues surrounding diversity

Writing

The writing process and specific skills are taught using the Six Trait Writing model. Our goal is to challenge students to become clearer thinkers and writers. The writing program draws much of its content from literature and social studies units. The writing process regularly involves input from other students, as well as from the teacher, and encourages discussion and rethinking prior to completion of the final copy. Students will:

- ~ Explain their understanding of specific concepts or processes
- ~ Proofread and edit
- ~ Experience a variety of writing such as essays, stories, letters, poetry, and extensive research projects
- ~ Follow a writing process, which includes brainstorming, prewriting, drafting, editing, final publishing, and presenting
- ~ Understand that organization and conventions are part of the process
- ~ Edit for clarity, spelling, grammar, capitalization and punctuation
- ~ Use computers for word processing and publishing and practice appropriate uses of spell and grammar check
- ~ Use language mechanics skills taught in context, as well as in workbook exercises
- ~ Write a biographical sketch about a person who represents diversity and has contributed to society, overcoming significant adversity
- ~ Write a research paper on a selected U.S. state, with preliminary steps of reading, extensive note taking, and outlining
- ~ Employ word processing as an alternative to writing by hand (Technology instruction in the Fall includes keyboarding and word processing for the purpose of speed and accuracy)
- ~ Reinforce word study, grammar and vocabulary through class activities, writing assignments, oral reports, performance, public speaking, meaningful contributions to group discussion, current events presentations, and group problem-solving exercises

Speaking and Listening

Students will:

- ~ Continue to develop understanding of usage of vocabulary
- ~ Develop oral presentation skills such as eye contact, voice, rate of speech, and good posture

Art	Once a week for 60 minutes
Drama	Twice a week for 60 minutes for 10-15 weeks
Library	Once a week for 45 minutes
Music	Twice a week for 40 minutes
Physical Education	Three times a week for 30 minutes
Science	Twice a week for 45 minutes
Spanish	Twice a week for 45 minutes
Technology	Ongoing, year-round collaborations

Mathematics

Our math program is varied in focus. Our program strives to engage the students so they enjoy the process of mathematics and appreciate the subject. Students work alone, in small groups, or as a whole class. Frequent assessments along with individual and small group work keep the teacher apprised of student progress and understanding. Extension activities are provided for advanced students. Our primary math program is EnVision Math. Supplementary materials including manipulative items and additional developmentally appropriate work to meet individual needs are used to solidify and enhance conceptual understanding. Enrichment activities take the form of art-related design projects, constructions, games, pattern work, problem-solving strategies, puzzles, and technology projects. Differing learning styles are accommodated through a variety of approaches.

Core content includes:

Numbers and Operations

- ~ Understands place value, models for division and the relationship between division and multiplication through millions and millionths
- ~ Demonstrates an understanding of multiplying and dividing fractions, decimals, percents and landmark statistics
- ~ Understands and can use standard algorithms
- ~ Forms ability to choose the most useful form of quotient for the solution, and interpret it correctly
- ~ Able to add, subtract, multiply and divide fractions and decimals
- ~ Able to multiply and divide large numbers involving multi digit dividends

Algebra

- ~ Can search to function rules, write and solve equations with inequalities
- ~ Create line graphs of equations
- ~ Explore prime and composite numbers, use factors and multiples as they add and subtract fractions

Geometry

- ~ Identifies properties of 2-D and 3-D figures, polygons and angles
- ~ Understands perpendicular lines and congruencies
- ~ Relates two to three dimensional shapes and quantifies volume

- ~ Use area formulas of shapes to solve problems

Measurement

- ~ Understands basic units of length, weight, capacity, volume and temperature
- ~ Estimates and makes precise measurements in standard and metric units using protractors and rulers and develops strategies for estimative calculations

Data Analysis and Probability

- ~ Predicts outcome
- ~ Understands the concept of probability
- ~ Collects and organizes data
- ~ Learns how to interpret statistics from graphs, charts and tables

Problem Solving

- ~ Solves word problems using a variety of operations
- ~ Applies specific problem solving strategies

Social Studies

The approach to the social studies program is a broad, interdisciplinary one. It includes reading, writing, discussion and technology, and includes multi-cultural experiences within U.S. history. Special projects include studies of immigration and family ancestry, World War II, the Home Front, Martin Luther King Jr. and the civil rights movement, and in-depth biographies reflecting contributions of many diverse individuals who faced profound adversity. Students share weekly current news, articles often sparking discussions that broaden students' horizons and illustrate multiple perspectives on today's important diversity and environmental issues. Specific 5th grade environmental issues comprise an entire unit on energy and sustainability. Students learn how energy is used at Bertschi and about the resources that provide that energy. They explore the impact associated with using different energy resources. They participate in a school project that increases awareness of energy use and energy waste on campus. Notable aspects of the 5th grade program are the service learning projects, both in and outside of Bertschi. Fifth graders are peer teachers for their second grade buddies.

History

Students will:

- ~ Study people and cultures of different societies throughout history and the impact of these cultures as it relates to immigration to the United States
- ~ Examine basic needs, contributions, and achievements of different cultures
- ~ Describe how ways of life change with time and complexity of cultures
- ~ Research and interpret historical information using literature, technology, and primary sources
- ~ Develop strategies for organizing and communicating information pertaining to past and present cultures
- ~ Explore multicultural studies including studies of the Holocaust and Martin Luther King, Jr.
- ~ Become familiar with the geographical, historical, and cultural heritage of a selected US state

Geography

Students will:

- ~ Acquire understanding of concepts and terminology of physical and human geography
- ~ Use a variety of resources and geographic tools to gather, interpret, and begin to evaluate information from geographic data
- ~ Manipulate elements such as scale, latitude, and longitude to create maps

Civics

Students will:

- ~ Understand environmental issues and how they impact the world
- ~ Increase awareness of world news and events
- ~ Summarize, present, and discuss current events
- ~ Compare and contrast political systems of other societies to understand the American system
- ~ Explore the roles of all individuals as determined by laws, traditions, and customs of their society
- ~ Apply knowledge of history and civics to make decisions and solve problems; recognize that political ideals and beliefs of one culture influence those of another in a later period of history

Health/Life Skills

Social and emotional health issues and skills are taught on a regular basis throughout the entire school year through discussions and activities. We stress the value of showing empathy for others' emotional experiences, recognizing physical signs that may be associated with physical stress, and learning how people react differently to the same situation. Students are taught to acknowledge, accept, and honor the differences among us. Students also learn about physical safety, fitness, and nutrition. In addition, a comprehensive study of nutrition is taught in conjunction with the science teacher. An in-depth puberty unit is taught in the Spring.

Camp

Each year, the fifth grade class spends part of a week in a sustainable camping experience, celebrating nature and our interdependence with one another, living things, and the earth. Details of this trip are presented in the Fifth Grade Parent Newsletter.

Resource Classes

Art

Art is integrated across disciplines and provides experience in a broad range of materials and processes. Our hope is to develop learners who consider themselves artists, understand the language of art, make connections between art and other areas such as sustainability and develop skills and creative processes to solve problems.

Fifth grade students continue to polish their skills and to explore the elements of art through increasingly complex projects. Some projects are completed in one class period while others are refined over a longer period of time.

The fifth grade students' final group project is to create a piece of art that is permanently installed on campus as their departing gift. Media used for this project may include a variety of materials such as recycled materials, tile (mosaic), wood, metal, clay and glass. In art, recycled materials are used widely, and conservation and respect for materials is emphasized. Students learn about artists and cultures that use recycled and found objects.

Art can be a vehicle to express ideas and educate others about sustainability. Students will demonstrate competency by:

- ~ Identifying specific attributes of art works of various artists, cultures and times, including recycled art, using arts vocabulary

- ~ Recognizing and using spatial devices to create volume, depth, perspective
- ~ Expressing feelings and communicating through art
- ~ Enjoyment and appreciation of art through critique and discussion
- ~ Applying previously learned arts concepts, vocabulary, skills and technique through a creative process

Drama

Fifth graders experience a detailed review of all previous theory and ideas. Increased involvement in script development, and dramatically heightened production values are incorporated into the curriculum. The fifth grade project, hosted off campus, typically consists of an hour-long performance including elements of drama, music and dance and highlighting a theme of study taken from the fifth grade curriculum. The installation of the project in a traditional theater setting allows for a maximum exploration of both onstage and off stage etiquette, self-motivation and group commitment. In addition, all of the traditional technical elements used in the genre are incorporated into the production. Students work on:

- ~ Character research
- ~ Audience performer dynamic
- ~ Introduction to working in a professional theatrical setting
- ~ Incorporating lights, sound and scenery
- ~ Presentation
- ~ Character journey/story
- ~ Tactics and objectives
- ~ Character relationships
- ~ Status
- ~ Memorization
- ~ Story
- ~ Incorporation of song and dance

Most costumes, sets and properties created are built from recycled materials, and reused or sent home for further use by students after production closes.

Library

Fifth grade students are frequent visitors to the library, seeking materials for independent work or class reports. They investigate topics such as energy, immigration, the Holocaust, Japanese-American internment, multicultural traditions and ecosystems. Laptop computers are used to instruct students in seeking online information, determining the value and appropriateness of a website, downloading material, and citation of sources. More complex search strategies are discussed, and reliable information sites for children are explored. Use of the Big6 Information Skills continues.

Part of the first term class time is spent reading a book that has been nominated for the Young Readers' Choice Award. Children are encouraged to read these independently and vote for their choices in the Spring. Short stories, folklore, poetry, mythology, and nonfiction works continue to be shared. Interested fifth graders may participate in our library assistant program, helping for a brief time each week. Time is spent reviewing and reinforcing:

- ~ Locating materials in libraries and via the Internet
- ~ Selecting books for personal reading or research
- ~ Taking notes and citing sources accurately

Music

Literature includes folk and composed music of the United States as well as of other cultures and lands. The fifth grade student:

- ~ Understands the use of dynamics in music recognizing the musical forms of themes
- ~ Sings accurately and with good breath control throughout the student's singing range, alone and in small and large ensembles
- ~ Recognizes dynamics in a piece of music, and can name them in greater detail
- ~ Read at sight, simple melodies in the treble clef
- ~ Echoes a given syncopated pattern accurately
- ~ Understands beat and the duration of notes and rests in more depth and can make it in many ways
- ~ Understands basic harmony
- ~ Understands more complex music forms
- ~ Develops soprano recorder skills, and plays with increasing accuracy and musical sensitivity

- ~ Integrates music skills in the year-end drama production
- ~ Music appreciation and sharing

Physical Education

The fifth grade program reinforces and further explores individual and team sport skills, and integrates these skills into modified games. The students expand their knowledge of physical fitness by learning about the components of physical fitness and continuing to learn about nutrition and their bodies (body type, bones, muscles and heart) in relation to sport and physical activity.

In all grade levels the concept of environmental sustainability is addressed in a variety of ways. Students learn conservation skills by making their own equipment: hula hoops and juggling balls. Also by repurposing materials that would otherwise be recycled or discarded. During Earth Week the students play games and activities that explore environmental concepts. We discuss carbon-neutral ways to travel and exercise.

The fifth grade physical education activities incorporate concepts and skills that encourage the students to:

- ~ Further improve manipulative skills to develop more sport-specific skills
- ~ Continue to develop and refine individual sport skills such as juggling, jumping rope, climbing, tumbling and yoga
- ~ Further strengthen skills specific to sports such as basketball, football, soccer, ultimate frisbee, hockey, volleyball and baseball
- ~ Integrate sport-specific skills into individual and partner non-competitive activities, as well as more competitive team games and activities
- ~ Develop a more complex and deeper understanding of how fitness activities affect the body
- ~ Explore the relationship between sports and physical activity and the body, including studies of fitness components (speed, agility, balance, flexibility, strength), body type, bones, joints, muscles, the heart and nutrition

- ~ Follow rules of the game, play safely, and become responsible competitors who model good sportsmanship and teamwork
- ~ Respect differences of ability and style of play and cooperate with others through partner and group activities
- ~ Develop the practice of working at own level, while goals are set for individual achievement without comparing performance to others, and identify successes
- ~ Enjoy participation and develop habits in physical activity

Science

Fifth graders have developed more sophisticated scientific skills. They are able to identify their assumptions, use critical and logical thinking, and consider alternative explanations. By fifth grade, students can design and conduct their own controlled experiments. Once again, each science unit provides a variety of literacy methods and materials that give students opportunities to practice their reading skills and improve their reading comprehension. Fifth graders develop not only their reading skills but also their writing, speaking, and listening skills as they complete record sheets, maintain science journals, and share findings with their classmates. Fifth grade science units cover themes such as:

Microworlds ~ Students examine everyday objects as well as microorganisms with a variety of magnifying devices. They learn to how to use a compound microscope and examine the cell structures of a variety of organisms.

Ecosystems ~ Students set up a terrarium and an aquarium. By connecting the two to create an ecocolumn, students are able to observe the interdependent relationship between the two environments and the organisms living within them.

Food Chemistry ~ Fifth graders investigate the effects of nutrients on the growth and behavior of four female albino rats. They remove calcium from the diet of two of the rats and by weighing all four and measuring their tails weekly for a month, they discover that body growth can be affected.

Magnets and Motors ~ This unit builds on the knowledge that students gained in fourth grade. Fifth graders explore the properties of magnets and the magnetic properties of electric currents.

Astronomy ~ Students study our solar system. Field trips to the Pacific Science Center and Museum of Flight contribute to developing an appreciation and understanding of astronomy.

Science/Technology ~ In the fifth grade, teams of students use the Internet to research building and programming ideas for robotic machines. Using their information, they build Lego robots, which have sensors that respond to their environment. Students show their machines to classmates, receive feedback, and have an opportunity to improve their design.

Spanish

In our interdependent world of the twenty-first century, the ability to communicate in Spanish is becoming increasingly important. Effective communication includes the ability to understand and express oneself orally and in writing in a variety of situations. Fifth graders continue with their introduction to Spanish by participating appropriately in a range of social conversations, interpreting what they observe, hear, read, and view. They also present information, concepts, and ideas, orally, visually, and in writing.

Interpersonal, Interpretive, Presentational Communication

Students will:

- ~ Conjugate the irregular verbs tener, ser, estar, querer, ver, and saber
- ~ Learn basic regular verb conjugations in Spanish: -ar, -er, and -ir
- ~ Understand and use interrogative forms
- ~ Understand and use the present continuous form -ing
- ~ Understand and give basic directions (how to get to various locations)
- ~ Write descriptions in paragraphs, using complete sentences

Practices and Products of Culture

Students will:

- ~ Write and perform original poems, in Spanish
- ~ Create and play games
- ~ Write and follow directions in Spanish (treasure hunt)
- ~ Create PowerPoint presentations
- ~ Sing and dance to Spanish music

Technology

Fifth grade is a time to fine-tune all the skills learned in previous years at Bertschi. New skill sets may be added, depending on the projects involved. Some of those skills are:

- ~ Create a database, defining fields and other information
- ~ Set field attributes
- ~ Create layouts to display information
- ~ Brainstorm and plan video organization and content: proposal, storyboarding, scripting, production schedule
- ~ Learn production skills such as camera shots, movements, composition, lighting, microphone use and placement, and directing
- ~ Use basic editing techniques to edit videotape
- ~ Create a simple web page, incorporating text and links
- ~ Prepare text and images in the appropriate file format for publishing on the Internet
- ~ Use principles of design

READING CONTINUUM

Preconventional Ages 3–5	Emerging Ages 4–6	Developing Ages 5–7	Beginning Ages 6–8	Expanding Ages 7–9
<ul style="list-style-type: none"> Begins to choose reading materials (e.g., books, magazines, and charts) and has favorites. Shows interest in reading signs, labels, and logos (environmental print). Recognizes own name in print. <input checked="" type="checkbox"/> Holds book and turns pages correctly. <input checked="" type="checkbox"/> Shows beginning/end of book or story. <input checked="" type="checkbox"/> Knows some letter names. Listens and responds to literature. Comments on illustrations in books. Participates in group reading (books, rhymes, poems, and songs). 	<ul style="list-style-type: none"> Memorizes pattern books, poems, and familiar books. Begins to read signs, labels, and logos (environmental print). Demonstrates eagerness to read. <input checked="" type="checkbox"/> Pretends to read. <input checked="" type="checkbox"/> Uses illustrations to tell stories. <input checked="" type="checkbox"/> Reads top to bottom, left to right, and front to back with guidance. <input checked="" type="checkbox"/> Knows most letter names and some letter sounds. <input checked="" type="checkbox"/> Recognizes some names and words in context. <input checked="" type="checkbox"/> Makes meaningful predictions with guidance. Rhymes and plays with words. Participates in reading of familiar books and poems. Connects books read aloud to own experiences with guidance. 	<ul style="list-style-type: none"> Reads books with simple patterns. Begins to read own writing. Begins to read independently for short periods (5-10 minutes). Discusses favorite reading material with others. <input checked="" type="checkbox"/> Relies on illustrations and print. <input checked="" type="checkbox"/> Uses finger-print-voice matching. <input checked="" type="checkbox"/> Knows most letter sounds and letter clusters. <input checked="" type="checkbox"/> Recognizes simple words. <input checked="" type="checkbox"/> Uses growing awareness of sound segments (e.g., phonemes, syllables, rhymes) to read words. <input checked="" type="checkbox"/> Begins to make meaningful predictions. <input checked="" type="checkbox"/> Identifies titles and authors in literature (text features). Retells main event or idea in literature. Participates in guided literature discussions. Sees self as reader. Explains why literature is liked/disliked during class discussions with guidance. 	<ul style="list-style-type: none"> Reads simple early-reader books. Reads harder early-reader books. Reads and follows simple written directions with guidance. Identifies basic genres (e.g., fiction, nonfiction, and poetry). Uses basic punctuation when reading orally. Reads independently (10-15 minutes). Chooses reading materials independently. Learns and shares information from reading. <input checked="" type="checkbox"/> Uses meaning cues (context). <input checked="" type="checkbox"/> Uses sentence cues (grammar). <input checked="" type="checkbox"/> Uses letter/sound cues and patterns (phonics). <input checked="" type="checkbox"/> Recognizes word endings, common contractions, and many high frequency words. <input checked="" type="checkbox"/> Begins to self-correct. Retells beginning, middle, and end with guidance. Discusses characters and story events with guidance. Identifies own reading behaviors with guidance. 	<ul style="list-style-type: none"> Reads easy chapter books. Chooses, reads, and finishes a variety of materials at appropriate level with guidance. Begins to read aloud with fluency. Reads silently for increasingly longer periods (15-30 minutes). <input checked="" type="checkbox"/> Uses reading strategies appropriately, depending on the text and purpose. <input checked="" type="checkbox"/> Uses word structure cues (e.g., root words, prefixes, suffixes, word chunks) when encountering unknown words. <input checked="" type="checkbox"/> Increases vocabulary by using meaning cues (context). <input checked="" type="checkbox"/> Self-corrects for meaning. <input checked="" type="checkbox"/> Follows written directions. <input checked="" type="checkbox"/> Identifies chapter titles and table of contents (text organizers). Summarizes and retells story events in sequential order. Responds to and makes personal connections with facts, characters, and situations in literature. Compares and contrasts characters and story events. "Reads between the lines" with guidance. Identifies own reading strategies and sets goals with guidance.
Bridging Ages 8–10	Fluent Ages 9–11	Proficient Ages 10–13	Connecting Ages 11–14	Independent
<ul style="list-style-type: none"> Reads medium level chapter books. Chooses reading materials at appropriate level. Expands knowledge of different genres (e.g., realistic fiction, historical fiction, and fantasy). Reads aloud with expression. <input checked="" type="checkbox"/> Uses resources (e.g., encyclopedias, CD-ROMs, and nonfiction texts) to locate and sort information with guidance. <input checked="" type="checkbox"/> Gathers information by using the table of contents, captions, glossary, and index (text organizers) with guidance. <input checked="" type="checkbox"/> Gathers and uses information from graphs, charts, tables, and maps with guidance. <input checked="" type="checkbox"/> Increases vocabulary by using context cues, other reading strategies, and resources (e.g., dictionary and thesaurus) with guidance. <input checked="" type="checkbox"/> Demonstrates understanding of the difference between fact and opinion. <input checked="" type="checkbox"/> Follows multi-step written directions independently. Discusses setting, plot, characters, and point of view (literary elements) with guidance. Responds to issues and ideas in literature as well as facts or story events. Makes connections to other authors, books, and perspectives. Participates in small group literature discussions with guidance. Uses reasons and examples to support ideas and opinions with guidance. 	<ul style="list-style-type: none"> Reads challenging children's literature. Selects, reads, and finishes a wide variety of genres with guidance. Begins to develop strategies and criteria for selecting reading materials. Reads aloud with fluency, expression, and confidence. Reads silently for extended periods (30-40 min.). <input checked="" type="checkbox"/> Begins to use resources (e.g., encyclopedias, articles, Internet, and nonfiction texts) to locate information. <input checked="" type="checkbox"/> Gathers information using the table of contents, captions, glossary, and index (text organizers) independently. <input checked="" type="checkbox"/> Begins to use resources (e.g., dictionary and thesaurus) to increase vocabulary in different subject areas. Begins to discuss literature with reference to setting, plot, characters, and theme (literary elements), and author's craft. Generates thoughtful oral and written responses in small group literature discussions with guidance. Begins to use new vocabulary in different subjects and in oral and written response to literature. Begins to gain deeper meaning by "reading between the lines." Begins to set goals and identifies strategies to improve reading. 	<ul style="list-style-type: none"> Reads complex children's literature. Reads and understands informational texts (e.g., want ads, brochures, schedules, catalogs, manuals) with guidance. Develops strategies and criteria for selecting reading materials independently. <input checked="" type="checkbox"/> Uses resources (e.g., encyclopedias, articles, Internet, and nonfiction texts) to locate information independently. <input checked="" type="checkbox"/> Gathers and analyzes information from graphs, charts, tables, and maps with guidance. <input checked="" type="checkbox"/> Integrates information from multiple nonfiction sources to deepen understanding of a topic with guidance. <input checked="" type="checkbox"/> Uses resources (e.g., dictionary and thesaurus) to increase vocabulary independently. Identifies literary devices (e.g., similes, metaphors, personification, and foreshadowing). Discusses literature with reference to theme, author's purpose, and style (literary elements), and author's craft. Begins to generate in-depth responses in small group literature discussions. Begins to generate in-depth written responses to literature. Uses increasingly complex vocabulary in different subjects and in oral and written response to literature. Uses reasons and examples to support ideas and conclusions. Probes for deeper meaning by "reading between the lines" in response to literature. 	<ul style="list-style-type: none"> Reads complex children's literature and young adult literature. Selects, reads, and finishes a wide variety of genres independently. Begins to choose challenging reading materials and projects. <input checked="" type="checkbox"/> Integrates nonfiction information to develop deeper understanding of a topic independently. <input checked="" type="checkbox"/> Begins to gather, analyze, and use information from graphs, charts, tables, and maps. Generates in-depth responses and sustains small group literature discussions. Generates in-depth written responses to literature. Begins to evaluate, interpret, and analyze reading content critically. Begins to develop criteria for evaluating literature. Seeks recommendations and opinions about literature from others. Sets reading challenges and goals independently. 	<ul style="list-style-type: none"> Reads young adult and adult literature. Chooses and comprehends a wide variety of sophisticated materials with ease (e.g., newspapers, magazines, manuals, novels, and poetry). Reads and understands informational texts (e.g., manuals, consumer reports, applications, and forms) Reads challenging material for pleasure independently. Reads challenging material for information and to solve problems independently. Perseveres through complex reading tasks. <input checked="" type="checkbox"/> Gathers, analyzes, and uses information from graphs, charts, tables, and maps independently. Analyzes literary devices (e.g., metaphors, imagery, irony, and satire). Contributes unique insights and supports opinions in complex literature discussions. Adds depth to responses to literature by making insightful connections to other reading and experiences. Evaluates, interprets, and analyzes reading content critically. Develops and articulates criteria for evaluating literature. Pursues a widening community of readers independently.

✍️ WRITING CONTINUUM

Preconventional Ages 3–5	Emerging Ages 4–6	Developing Ages 5–7	Beginning Ages 6–8	Expanding Ages 7–9
<ul style="list-style-type: none"> 📄 Relies primarily on pictures to convey meaning. 📄 Begins to label and add “words” to pictures. 📄 Writes first name. 📁 Demonstrates awareness that print conveys meaning. ✍️ Makes marks other than drawing on paper (scribbles). 😊 Writes random recognizable letters to represent words. 😊 Tells about own pictures and writing. 	<ul style="list-style-type: none"> 📄 Uses pictures and print to convey meaning. 📄 Writes words to describe or support pictures. 📄 Copies signs, labels, names, and words (environmental print). 📁 Demonstrates understanding of letter/sound relationship. ✍️ Prints with upper case letters. ✍️ Matches letters to sounds. ✍️ Uses beginning consonants to make words. ✍️ Uses beginning and ending consonants to make words. 😊 Pretends to read own writing. 😊 Sees self as writer. 😊 Takes risks with writing. 	<ul style="list-style-type: none"> 📄 Writes 1-2 sentences about a topic. 📄 Writes names and familiar words. 📁 Generates own ideas for writing. ✍️ Writes from top to bottom, left to right, and front to back. ✍️ Intermixes upper and lower case letters. ✍️ Experiments with capitals. ✍️ Experiments with punctuation. ✍️ Begins to use spacing between words. ✍️ Uses growing awareness of sound segments (e.g., phonemes, syllables, rhymes) to write words. ✍️ Spells words on the basis of sounds without regard for conventional spelling patterns. ✍️ Uses beginning, middle, and ending sounds to make words. 😊 Begins to read own writing. 	<ul style="list-style-type: none"> 📄 Writes several sentences about a topic. 📄 Writes about observations and experiences. 📄 Writes short nonfiction pieces (simple facts about a topic) with guidance. 📁 Chooses own writing topics. ✂️ Reads own writing and notices mistakes with guidance. ✂️ Revises by adding details with guidance. ✍️ Uses spacing between words consistently. ✍️ Forms most letters legibly. ✍️ Writes pieces that self and others can read. ✍️ Uses phonetic spelling to write independently. ✍️ Spells simple words and some high frequency words correctly. ✍️ Begins to use periods and capital letters correctly. 😊 Shares own writing with others. 	<ul style="list-style-type: none"> 📄 Writes short fiction and poetry with guidance. 📄 Writes a variety of short nonfiction pieces (e.g., facts about a topic, letters, lists) with guidance. 📁 Writes with a central idea. 📁 Writes using complete sentences. 📁 Organizes ideas in a logical sequence in fiction and nonfiction writing with guidance. 📁 Begins to recognize and use interesting language. ✂️ Uses several prewriting strategies (e.g., web, brainstorm) with guidance. ✂️ Listens to others' writing and offers feedback. ✂️ Begins to consider suggestions from others about own writing. ✂️ Adds description and detail with guidance. ✂️ Edits for capitals and punctuation with guidance. ✂️ Publishes own writing with guidance. ✍️ Writes legibly. ✍️ Spells most high frequency words correctly and moves toward conventional spelling. 😊 Identifies own writing strategies and sets goals with guidance.
Bridging Ages 8–10	Fluent Ages 9–11	Proficient Ages 10–13	Connecting Ages 11–14	Independent
<ul style="list-style-type: none"> 📄 Writes about feelings and opinions. 📄 Writes fiction with clear beginning, middle, and end. 📄 Writes poetry using carefully chosen language with guidance. 📄 Writes organized nonfiction pieces (e.g., reports, letters, and lists) with guidance. 📁 Begins to use paragraphs to organize ideas. 📁 Uses strong verbs, interesting language, and dialogue with guidance. ✂️ Seeks feedback on writing. ✂️ Revises for clarity with guidance. ✂️ Revises to enhance ideas by adding description and detail. ✂️ Uses resources (e.g., thesaurus and word lists) to make writing more effective with guidance. ✂️ Edits for punctuation, spelling, and grammar. ✂️ Publishes writing in polished format with guidance. ✍️ Increases use of visual strategies, spelling rules, and knowledge of word parts to spell correctly. ✍️ Uses commas and apostrophes correctly with guidance. 😊 Uses criteria for effective writing to set own writing goals with guidance. 	<ul style="list-style-type: none"> 📄 Begins to write organized fiction and nonfiction (e.g., reports, letters, biographies, and autobiographies). 📄 Develops stories with plots that include problems and solutions with guidance. 📄 Creates characters in stories with guidance. 📄 Writes poetry using carefully chosen language. 📁 Begins to experiment with sentence length and complex sentence structure. 📁 Varies leads and endings with guidance. 📁 Uses description, details, and similes with guidance. 📁 Uses dialogue with guidance. ✂️ Uses a range of strategies for planning writing. ✂️ Adapts writing for purpose and audience with guidance. ✂️ Revises for specific writing traits (e.g., ideas, organization, word choice, sentence fluency, voice, and conventions) with guidance. ✂️ Incorporates suggestions from others about own writing with guidance. ✂️ Edits for punctuation, spelling, and grammar with greater precision. ✂️ Uses tools (e.g., dictionaries, word lists, and spell checkers) to edit with guidance. 😊 Develops criteria for effective writing in different genres with guidance. 	<ul style="list-style-type: none"> 📄 Writes persuasively about ideas, feelings, and opinions. 📄 Creates plots with problems and solutions. 📄 Begins to develop the main characters and describe detailed settings. 📄 Begins to write organized and fluent nonfiction, including simple bibliographies. 📁 Writes cohesive paragraphs including reasons and examples with guidance. 📁 Uses transitional sentences to connect paragraphs. 📁 Varies sentence structure, leads, and endings. 📁 Begins to use descriptive language, details, and similes. 📁 Uses voice to evoke emotional response from readers. 📁 Begins to integrate information on a topic from a variety of sources. ✂️ Begins to revise for specific writing traits (e.g., ideas, organization, word choice, sentence fluency, voice, and conventions). ✂️ Uses tools (e.g., dictionaries, word lists, spell checkers) to edit independently. ✂️ Selects and publishes writing in polished format independently. ✍️ Begins to use complex punctuation (e.g., commas, colons, semicolons, quotation marks) appropriately. 😊 Begins to set goals and identify strategies to improve writing in different genres. 	<ul style="list-style-type: none"> 📄 Writes in a variety of genres and forms for different audiences and purposes independently. 📄 Creates plots with a climax. 📄 Creates detailed, believable settings and characters in stories. 📄 Writes organized, fluent, and detailed nonfiction independently, including bibliographies with correct format. 📁 Writes cohesive paragraphs including supportive reasons and examples. 📁 Uses descriptive language, details, similes, and imagery to enhance ideas independently. 📁 Begins to use dialogue to enhance character development. 📁 Incorporates personal voice in writing with increasing frequency. 📁 Integrates information on a topic from a variety of sources independently. 📁 Constructs charts, graphs, and tables to convey information when appropriate. ✂️ Uses prewriting strategies effectively to organize and strengthen writing. ✂️ Revises for specific writing traits (e.g., ideas, organization, word choice, sentence fluency, voice, and conventions) independently. ✂️ Includes deletion in revision strategies. ✂️ Incorporates suggestions from others on own writing independently. ✍️ Uses complex punctuation (e.g., commas, colons, semicolons, quotation marks) with increasing accuracy. 	<ul style="list-style-type: none"> 📄 Writes organized, fluent, accurate, and in-depth nonfiction, including references with correct bibliographic format. 📄 Writes cohesive, fluent, and effective poetry and fiction. 📁 Uses a clear sequence of paragraphs with effective transitions. 📁 Begins to incorporate literary devices (e.g., imagery, metaphors, personification, and foreshadowing). 📁 Weaves dialogue effectively into stories. 📁 Develops plots, characters, setting, and mood (literary elements) effectively. 📁 Begins to develop personal voice and style of writing. ✂️ Revises through multiple drafts independently. ✂️ Seeks feedback from others and incorporates suggestions in order to strengthen own writing. ✂️ Publishes writing for different audiences and purposes in polished format independently. ✂️ Internalizes writing process. ✍️ Uses correct grammar (e.g., subject/verb agreement and verb tense) consistently. 😊 Writes with confidence and competence on a range of topics independently. 😊 Perseveres through complex or challenging writing projects independently. 😊 Sets writing goals independently by analyzing and evaluating own writing.

Math Continuum

<p align="center">Preconventional <i>Ages 3-5</i></p>	<p align="center">Emergent <i>Ages 4-6</i></p>	<p align="center">Developing <i>Ages 5-7</i></p>	<p align="center">Beginning <i>Ages 6-8</i></p>	<p align="center">Expanding <i>Ages 7-9</i></p>
<p>Number Sense ~ Recognizes some numerals to ten ~ Explores writing numerals</p> <p>Algebra ~ Explores patterns in familiar surroundings ~ Begins to replicate patterns with objects</p> <p>Geometry ~ Recognizes simple shapes ~ Begins to draw simple shapes</p> <p>Measurement ~ Explores using non-standard units to measure</p> <p>Data Analysis ~ Collects and counts objects</p>	<p>Number Sense ~ Explores one to one correspondence ~ Recognizes numerals to ten and is able to write them with guidance ~ Uses words to describe quantity and their relationships ~ Explores mathematical symbols and their meanings ~ Understands some parts to the whole</p> <p>Algebra ~ Can create a repeating pattern with manipulatives ~ Explores the creation of sets using objects</p> <p>Geometry ~ Identifies basic shapes ~ Sorts objects by a single attribute ~ Beginning to describe relative locations of objects</p> <p>Measurement ~ Explores using non-standard units to measure length, width and height ~ Uses words to describe speed, temperature and size ~ Can recognize some coins ~ Begins to understand the concept of time relative to own activities</p> <p>Data Analysis and Probability ~ Predicts, collects and counts objects and begins to explore ways to record that information ~ Sorts information and is able to graph it with guidance</p>	<p>Number and Operations ~ Use numbers, including written numerals, to represent and solve quantitative problems ~ Counts objects in a set and creates a set with a given number of objects ~ Compares or orders sets or numerals by using both cardinal and ordinal meanings ~ Models simple joining and separating situations with objects ~ Choose, combine, and apply effective strategies for answering quantitative questions ~ Recognizes the number in a small set ~ Counts and produces sets of given sizes and the number in combined sets ~ Counts backward ~ Skip counts by 5's and 10's to 100</p> <p>Algebra ~ Identifies, duplicates and extends patterns</p> <p>Geometry ~ Knows and reproduces basic shapes and uses vocabulary that corresponds ~ Identifies and builds symmetry, reconstructs objects</p> <p>Measurement ~ Understands procedures to measure length and weight with non-standard units ~ Tells hour on an analog clock ~ Uses monthly calendar as a tool ~ Knows the value of a penny, nickel, and dime; recognizes quarter</p> <p>Data Analysis and Probability ~ Sorts an classifies according to specific attributes ~ Performs simple data collection ~ Interprets and creates basic graphs</p>	<p>Number and Operations ~ Recognizes and writes numbers 1-100 ~ Develops strategies for adding and subtracting larger whole numbers ~ Uses length based models to model "part-whole", "adding to", "taking away from" and "comparing" strategies ~ Delves into fractions ~ Cements addition and subtraction fact families to 12 ~ Understands the effects of adding and subtracting whole numbers ~ Develops and uses strategies for whole number computations with a focus on addition and subtraction up to two digit addition and subtraction ~ Skip counts by 2's, 5's and 10's ~ Compares and orders one to two digit numbers on a number line</p> <p>Algebra ~ Uses concrete, pictorial and verbal representation to develop an understanding of invented and conventional symbolic notations ~ Analyzes how both repeating and growing patterns are generated ~ Learns properties of numbers including odd and even</p> <p>Geometry ~ Compose and decompose plane and solid figures ~ Recognizes and creates shapes that have symmetry and part-whole relationships of shapes ~ Develops a background for congruence, measurement and geometric properties</p> <p>Measurement ~ Records date using calendars and picture and bar graphs ~ Strengthens the skills of measurement including weight, distance and time ~ Selects appropriate unit and tool for the attribute being measured</p> <p>Data Analysis and Probability ~ Represents data using concrete objects and graphs</p> <p>Problem Solving ~ Recognizes a variety of problem solving strategies and learns when to apply them ~ Investigates mental arithmetic and logical thinking</p>	<p>Number and Operations ~ Understands Base 10 and place value to (at least) 1000. ~ Knows addition and subtraction facts through 20 ~ Solves arithmetic problems by applying knowledge of properties of number, properties of addition (cumulatively and associatively), and models of addition and subtraction ~ Understands adding and subtraction of two and three digit numbers with regrouping ~ Estimates sums and differences and calculate them mentally ~ Develops fluency with efficient procedures such as standard algorithms ~ Understands concept of multiplication including facts through five time five ~ Has beginning fraction skills</p> <p>Measurement ~ Develop meaning of linear measurement as an iteration of units and use measurement tools with that understanding ~ Establish facility with measuring lengths and capacity (standard and metric) and weight</p> <p>Algebra ~ Can successfully model situations that involve addition and subtraction of whole numbers using objects, pictures and symbols ~ Can observe and replicate patterns to build understanding of multiples and factors ~ Can create and interpret graphs</p> <p>Geometry ~ Able to recognize geometric shapes and structures in the environment ~ Compose and decompose two-dimensional shapes they develop foundations for understanding area, fractions, and proportions ~ Understands symmetry ~ Estimates, measures, and computes lengths as they solve problems involving data, space, and movement through space</p>
<p align="center">Bridging <i>Ages 8-10</i></p>	<p align="center">Fluent <i>Ages 9-11</i></p>	<p align="center">Proficient <i>Ages 11-13</i></p>	<p align="center">Independent</p>	
<p>Numbers and Operations ~ Developing understanding to decimal place value to hundredths and expanded notation and place value to 10,000 ~ Build facility with mental computation by using computational estimation and using paper and pencil strategies ~ Developing understanding of math facts through easy multiplication and division ~ Using a variety of solution strategies, students relate multiplication and division as inverse operations ~ Knows addition and subtraction with regrouping using four-digit numbers ~ Develops ability to identify fractional parts, uses fractions to represent parts of a whole, parts of a set, or points or distances on a number line</p> <p>Algebra ~ Developing the ability to find patterns on number grids and solve "What's My Rule?" tables and Frames and Arrows charts</p> <p>Geometry ~ Beginning to identify, draw and label segments, lines and rays, angles while identifying symmetry ~ Beginning to identify parallel and intersecting lines ~ Investigate, describe, and reason about decomposing, combining, and transforming polygons to make other polygons</p> <p>Measurement ~ Can tell time to the nearest minute ~ Develop facility in measuring with fractional parts of linear units ~ Knows how to measure to the nearest ¼ inch and whole centimeter ~ Select appropriate units, strategies, and tools to solve problems involving perimeter</p> <p>Data Analysis and Probability ~ Developing ability to predict outcomes and discuss probability ~ Able to construct and analyze frequency tables, bar graphs, picture graphs, and line plots</p> <p>Problem Solving ~ Developing ability to learn and practice specific problem solving strategies</p>	<p>Numbers and Operations ~ Understands place value of whole numbers to 100,000 ~ Learn to use decimals as equivalencies to fractions, compare and order decimals, and estimate decimal or fraction amounts in problem solving ~ Able to add, subtract, multiply and divide whole numbers ~ Able to add and subtract decimal numbers ~ Identifies the relationship between decimal, fraction and percentages ~ Simplifies fractions</p> <p>Algebra ~ Recognizes and predicts patterns ~ Solves simple equations with unknowns ~ Develops quick methods of recall for basic math facts</p> <p>Geometry ~ Identifies polygons and circles ~ Identifies simple 3-D shapes ~ Uses coordinates ~ Identifies parallel and perpendicular lines ~ Recognizes, measures and classifies angles and produces line and rotational symmetry ~ Designs and analyzes transformations through tessellations ~ Constructs circles and some polygons using a compass</p> <p>Measurement ~ Calculates area, perimeter and volume of simple shapes ~ Measures (using correct units) money, length, area, volume, weight, capacity, and temperature (metric and standard)</p> <p>Data Analysis and Probability ~ Creates and understands graphs, tables, line plots, and charts ~ Recognizes probabilities and predicts outlines ~ Apply the understanding of place value to develop and use stem-and-leaf-plots ~ Identifies minimum, maximum and range</p> <p>Problem Solving ~ Organizes and manipulates relevant data ~ Chooses appropriate strategies to solve problems</p>	<p>Numbers and Operations ~ Understands place value, models for division and the relationship between division and multiplication through millions and millionths ~ Demonstrates an understanding of multiplying and dividing fractions, decimals, percents and landmark statistics ~ Understands and can use standard algorithms ~ Forms ability to choose the most useful form of quotient for the solution, and interpret it correctly ~ Able to add, subtract, multiply and divide fractions and decimals ~ Able to multiply and divide large numbers involving multi digit dividends</p> <p>Algebra ~ Can search to function rules and write and solve equations with inequalities ~ Create graphs of equations ~ Explore prime and composite numbers, use factors and multiples as they add and subtract fractions</p> <p>Geometry ~ Identifies properties of 2-D and 3-D figures, polygons and angles ~ Understands perpendicular lines and congruencies ~ Relates two to three dimensional shapes and quantifies volume ~ Use area formulas of shapes to solve problems</p> <p>Measurement ~ Understands basic units of length, weight, capacity, volume and temperature ~ Estimates and makes precise measurements in standard and metric units using protractors and rulers and develops strategies for estimative calculations</p> <p>Data Analysis and Probability ~ Predicts outcome ~ Understands the concept of probability ~ Collects and organizes data ~ Learns how to interpret statistics from graphs, charts and tables</p> <p>Problem Solving ~ Solves word problems using a variety of operations ~ Applies specific problem solving strategies</p>	<p>Number and Operations ~ Explains numbers by comparing and sequencing whole numbers, fractions, percents, exponents and negative numbers (real numbers) ~ Divides and multiplies fractions and understands ratio and rate ~ Distinguish multiplicative comparisons from additive comparisons ~ Performs operations on real numbers and give mixed number and decimal solutions to division and multiplication problems</p> <p>Algebra ~ Finds and is able to write functional rules for linear and simple exponential relationships and patterns ~ Expand the repertoire of problems that they can solve by using multiplication and division ~ Construct and analyze tables ~ Use mathematical expressions to solve problems ~ Solve simple equations by using number sense, properties of operations, and the idea of maintaining equality on both sides of an equation</p> <p>Geometry ~ Is able to understand and identify properties and relationships of plane geometry ~ Able to find areas or volumes from lengths</p> <p>Measurement ~ Compares different measurable attributes of polygons and 3-D shapes (height, length, weight, capacity, area, volume and perimeter)</p> <p>Data Analysis and Probability ~ Questions different interpretations of the same data ~ Is able to consider the problem, collect and record data, describe and interpret data and develop hypotheses based on the data</p> <p>Problem Solving ~ Applies associative and commutative laws to problem solve and check work</p>	

