



Lower School  
Curriculum Guide  
2018-2019

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## **MISSION STATEMENT**

Rye Country Day School is a coeducational, college preparatory school dedicated to providing students from Pre-Kindergarten through Grade 12 with an excellent education using both traditional and innovative approaches. In a nurturing and supportive environment, we offer a challenging program that stimulates individuals to achieve their maximum potential through academic, athletic, creative and social endeavors. We are actively committed to diversity. We expect and promote moral responsibility, and strive to develop strength of character within a respectful school community. Our goal is to foster a lifelong passion for learning, understanding, and service in an ever-changing world.

## **RYE COUNTRY DAY SCHOOL'S CORE VALUES**

R – RESPECT AND RESPONSIBILITY

C- COMMITMENT TO PERSONAL & ACAMEDIC EXCELLENCE

D – DIVERSITY WITHIN AN INCLUSIVE COMMUNITY

S – SERVICE

## **RCDS Diversity Mission Statement**

At Rye Country Day, we believe that diversity is the existence of human variety. As such, each one of us is diverse in multiple ways and in a variety of contexts. We recognize diversity as including, but not limited to, differences in ability/disability, age, ethnicity, family structures, gender, geographic origin, life experiences, physical appearance, race, religion, sexual orientation, and socioeconomic status.

As educators, we are committed to creating and sustaining a school community that is diverse and inclusive, one in which all members can participate fully and maximize their potential. We believe that only an inclusive school community can be equitable and just.

We are proactive about teaching our students the importance of diversity and inclusion in an increasingly inter-connected, multicultural, and ever-changing world. As we prepare our students for leadership in the world beyond Rye Country Day, we are responsible for teaching them how to communicate with and be respectful of others—beginning with those in our school community and extending to those who live beyond our nation’s borders. Every global citizen should be able to thrive in a diverse and interconnected society.

Our commitment to inclusion enriches our community with diverse ideas and perspectives. Students grow and flourish in this type of environment, where they can safely explore their individual identity while developing and exercising strength of character, healthy self-esteem, and confidence.

Through our commitment to diversity and inclusion, we strive to be good role models for the individuals in our care so that their present and future actions and choices may positively impact the world.

## **Public Purpose Mission Statement**

Since 1869, Rye Country Day School's motto "Not for self, but for service" has been integral to the culture of the School. The Rye Country Day school philosophy states, "A superior education embraces the concept that to educate is to do more than to teach." Through service learning, we will provide transformative educational opportunities that prepare our students to be responsible citizens with an ethic of service and empathy for our shared human experience. We believe that meaningful and mutually beneficial partnerships emanate from a curriculum enhanced by community engagement. Rye Country Day School's sustained commitment to making a positive impact on the community and contributing to the common good defines our public purpose.

## **Sustainability Mission Statement**

The RCDS community, in conjunction with the expressed mission of Rye Country Day School, exists to foster understanding of our world around us, to act in accord with our school motto "Not for Self, but for Service" and to promote moral responsibility as citizens of the planet. The long-term goals of the committee are to create a climate of environmental awareness and to help students understand that they can effect positive and lasting change in the world by becoming life-long stewards of our planet.

## LOWER SCHOOL PHILOSOPHY

The Lower School strives  
to instill within each child  
a balance between individual development  
and commitment to the community.  
Our invigorating and supportive environment  
stimulates and promotes ethical, social,  
emotional, physical, and intellectual  
growth in every student.  
In a program which recognizes each child's  
unique timetable and needs,  
the measure of success  
is in the ongoing process  
rather than the finished product.

## The Lower School

The Lower School years at Rye Country Day School (Grades Pre-Kindergarten through Four) encompass a time of significant growth for students. Intellectually, socially, creatively, emotionally and physically, children acquire skills and knowledge that will contribute significantly to the quality of their lives, throughout their lives. For a student of this age, the most valuable skills and knowledge are not composed of isolated facts and repetitive drills, but come from the child's ability to make meaning of the work by integrating it with prior knowledge and experience. This is why our program in the Lower School is based on active learning, learning by doing, learning by challenging oneself and stretching in ways that promote growth in all developmental aspects.

Lower School classes are small, with homeroom instruction based in math, social studies, and language arts. The broad educational experience includes classes in music, visual art, science, physical education, computer science, library, and, beginning in second grade, French or Spanish. Many opportunities exist for various curricular areas to be integrated from time to time, thus deepening student understanding.

Some subject matters transcend all grades and all disciplines. Study skills are taught at all levels across all areas. Teaching children to actively listen for directions, helping children organize their work and manage their time for long term assignments are three crucial building blocks to learning that are reinforced throughout the day, subject to subject.

Equally important to the academic goals for our students is Rye Country Day's commitment to support the students' social and emotional growth. This is defined in our school as "Character Building" and is accomplished in all classrooms in a variety of ways. Besides situational instruction, intervention and social coaching from Lower School teachers, the school takes advantage of nationally recognized resources to assist children in developing healthy and effective behaviors.

The Responsive Classroom philosophy is an integral part of the Lower School character-building program and permeates every classroom, every day. This philosophy complements our approach to teaching because it takes into account the whole child and addresses the social/emotional needs of the children just as it helps to develop their cognitive areas. Teachers focus on building relationships within their classrooms to create a safe, nurturing community of learners. Throughout the day, teachers offer strategies and

explicitly teach and model social skills with the understanding that children’s cognitive and social growth develops through the social interactions that occur throughout their day.

The focus of the program is on increasing student awareness of the power of peer interactions. The community-building activities encourage children to consider the characteristics of appropriate, caring behavior and unacceptable, hurtful behavior. Our school psychologist has on-going Friendship Groups at all grade levels, which, support appropriate social behavior and enriches peer interaction. Teachers at the different grade levels, at times, gather students for activities and discussions that focus on the challenges and benefits of sustaining mutually rewarding friendships in a multicultural world.

At Rye Country Day School we are committed to helping our students develop empathy for others and introducing the “Not for Self but for Service” motto. In the Lower School that translates to building a sense of community among the students, and introducing public purpose and service oriented projects connected to the curriculum in age appropriate ways.

## **Pre-Kindergarten**

The pre-kindergarten program is designed for children who are four years of age before September first of the entry year. Under the guidance of early childhood professionals, children are actively engaged in a variety of learning experiences throughout the day. The classroom environment is designed to be nurturing and sensitive to the needs of the individual child, while at the same time, fostering a sense of classroom community. Some of the themes covered throughout the year include: “All About Me,” Dr. Seuss and additional author studies, and fairy tales. In conjunction with the science curriculum, the teachers expand on topics that include: the properties of matter, the five senses, the parts of a plant, the life cycle of butterflies, and the pond environment.

### **Language Arts**

Pre-kindergarten lays the foundation on which a student’s future language-based skills are built. Our goal is to have children develop a positive attitude toward reading and writing. Language arts activities for pre-kindergarteners foster and promote growth in receptive and expressive language, provide exposure to the written word, and provide the tools for early literacy. Children begin to investigate letter recognition, letter sound correspondence, and sight words through literature, environmental print, and other fun, age-appropriate games and activities. “Share Time” is an important part of the program where children practice expressive language as they present their ideas to their peers. Teachers use the Handwriting Without Tears program to help begin the process of writing with the proper grip.

### **Math**

Math is woven throughout the day as children explore the properties of manipulatives, and they are provided with numerous opportunities to immerse themselves in mathematical investigations. The math challenges are presented through a play-based curriculum, as well as through group activities and routines such as the calendar, weather chart, snack distribution, and attendance. Some of the many math skills and concepts that are emphasized in the pre-kindergarten curriculum include number exploration and identification, one-to-one correspondence, counting, sorting, working with shapes, graphing, measuring, classifying, comparing, and patterning.

### **Social Studies**

In the beginning of the year, the pre-kindergarten child begins with a study of self and family. As the children learn more about themselves, their friends and their families, they share their findings with each other in a celebratory

manner. In addition, through various activities and age-appropriate literature, we honor the diverse world both in and beyond our classroom. The teachers also cover the holidays such as Thanksgiving, Columbus Day, Presidents' Day, and students learn about the life of Martin Luther King, Jr.

### **Character Building**

Character building begins when the pre-kindergarteners become increasingly independent through the expectations of the daily routine and become responsible for simple self-care. In using the Responsive Classroom approach, our program recognizes the inherent value and importance of modeling and teaching pre-k students appropriate social/emotional skills to become happy and engaged learners. Teachers guide students' growth in social problem solving and in developing emotional strength. Integral to the pre-kindergarten program is practice in the development of personal skills in the area of cooperation, building friendships, sharing, working together, and taking turns. Children begin to make connections to the larger school community through their scheduled activities as they participate in the fourth grade buddy program, attend the Lower School meetings, and work with special area teachers. The pre-k students also interact with Upper School students in activities such as pumpkin composting and study the life cycle of butterflies with Middle School science students.

### **Visual Arts**

Current classroom investigations include daily open-ended art activities where self-expression and exploration of various art media are nurtured.

### **Gross and Fine Motor Skills**

Children are active throughout the day in ways that engage large and small muscle groups. Outdoor play provides opportunities to use the climbing structure, bikes, and a setting for ball play and running around. Indoor opportunities include the use of big and small blocks, music, and movement. Our physical environment allows for freedom and movement throughout the day. Small muscle groups and eye-hand coordination are strengthened through the use of manipulatives, art materials, and writing implements. Our two extended days allow us to specifically explore locomotor skills (i.e. running, hopping, jumping, skipping), ball-handling skills, and rhythmic skills and the students are learning to function as a team in their physical education class.

## **Library**

The Lower School library is a place of inquiry and discovery for all who use it. Students visit the library on a regular basis so that they can explore their own interests; be introduced to new stories, concepts, information and ideas; and discover who they are as readers and thinkers. Library activities are designed to support the Pre-k curriculum. Often this includes a read-aloud of a story that pertains to a topic being studied in their classroom. This provides pre-k students the opportunity to listen respectfully to a story, think and talk about what they're learning, and practice engaging in class conversations appropriately. Every library class includes the opportunity for children to use the library independently. During this time, students choose for themselves the books they want to read and/or take home to borrow.

## **Music**

The pre-kindergarten music program has a strong emphasis on vocal and instrumental exploration. The time spent on exploration is an important part of the students' musical foundation prior to the kindergarten study. Pre-kindergarten students focus on learning how to sing, say, dance and play through collaborative and community building skills, kinesthetic and fine motor development, and exposure to a variety of traditional music from around the world. In the spring, the pre-kindergarteners share their progress with family and friends during an informal performance highlighting the skills they have developed over the course of the year.

## **Science**

The pre-kindergarten science program was developed with the enthusiasm, interests, and developmental abilities of four and five year olds in mind. It touches upon the physical, earth, and life sciences as they apply to young children. In the fall, the children begin learning about themselves and further that understanding by using their five senses to explore the world around them. In the winter, the children learn about fairy tales through their literacy program. As the children read many different versions of fairy tales in their homeroom, such as: The Gingerbread Man, Jack and the Beanstalk, The Three Little Pigs, and Three Billy Goats Gruff, they begin exploring the reality of these stories in science class. The children become trap builders to catch the gingerbread man, test the tallest structure they can build to compare with a beanstalk, build the three little pig's homes from straw, wood, and brick, and finally, create bridges that would allow the goats to cross over the troll. Once spring has sprung, the children are actively investigating the pond habitat with butterflies, turtles, ducks, snails, lily pads and insects.

## **Kindergarten**

The kindergarten program addresses the developmental needs and interests of five and six year old learners. The spacious classrooms are filled with educational materials such as building blocks, math manipulatives, SmartBoards, cozy book corners, as well as an area for classroom meetings, dramatic play, painting, writing, and drawing. Responsive Classroom's philosophy plays an important role in providing students with the tools to effectively interact with each other and develop respect for the learning process.

Students engage in classroom activities that support their growth as communicators, readers, mathematical thinkers, and productive community members. They are provided with time to problem-solve, question, and understand. Children are also given the opportunity to cultivate their own interests through play. Learning extends to include special area classes, field trips, and outdoor play. Physical education, music, science, library, art, and computer classes are an integral part of a kindergartner's life at school. In all of the disciplines, teachers guide students in developing behaviors that foster independent work as well as cooperative learning.

### **Language Arts**

The kindergarten program is designed to nurture enjoyment and self-confidence in reading and writing. We integrate reading, writing, listening and speaking across the curriculum. We facilitate a phonological awareness program to support students in understanding the sound sequences within words and the larger units of sound in our language. We utilize a multisensory curriculum for teaching reading, spelling, and handwriting. Instructional materials and methods represent current understanding of how children learn best and allow for individualization to accommodate children's reading readiness.

### **Expressive and Receptive Language**

Children are given opportunities to enrich and extend both their expressive and receptive language skills. Our large and small group language arts activities focus on vocabulary, rhyme, auditory processing, memory tasks, and sequence.

### **Reading**

Throughout the day, opportunities are provided for children to develop their reading skills. Children listen and choral read while teachers model with literature. Students learn to read the schedule, the morning message, words to

chants and poems, and environmental print in the classroom. At this age, teachers are sensitive to the fact that the acquisition of reading skills can be developmental and thus their approach in teaching is more individualized. The teachers guide their students' development by challenging or reinforcing the necessary fluency and comprehension skills, no matter what the level. In individual and small group dynamics, children apply their growing knowledge of phonics and reading strategies to appropriate text. We encourage children to make inquiries, share relevant insights, and respond to questions about the text in order to promote reading comprehension.

### **Writing**

Our writing program is based on the Lucy Calkins Writing Curriculum. Through direct instruction, modeling, and opportunities for independent experimentation, children are introduced to the writing process. Children learn to write personal narratives, letters, and informational text. In addition, they are taught the mechanics of print. We look forward to celebrating and acknowledging the children's work through class-made books, partner sharing, and author's celebrations.

### **Mathematics**

The mathematics program in kindergarten, Singapore Math, is designed to help children learn a wide range of mathematical concepts as well as to ensure a beginning knowledge of basic arithmetic skills. This program is based on current research evaluating the most effective ways to teach young children mathematics. The students engage in mathematical discussions and experiences rather than worksheets of abstract drill. The children become actively involved with concrete materials and make many discoveries using tiles, pattern blocks, Unifix cubes, collections of items, and various other math manipulatives.

During the year, students will explore the concepts of number sense, graphing, sorting and classifying, counting and number operations. Children will be experiencing each of these areas in a hands-on, active way. They will have opportunities to share their discoveries and connections with their teachers and classmates, which will help to make the skills and concepts more concrete.

### **Social Studies**

The emphasis of the social studies curriculum is to provide socialization experiences that help children to bridge their home life with the larger community. Introducing children to a world of many diverse people, cultures, and changing environments does this. Our program focuses on interrelated

themes and uses an interdisciplinary and a multisensory approach to help students learn about themselves, families, homes, and the farm. Through whole group discussions and experiences, critical thinking, hands-on activities, literature, and multi-media resources, students acquire new concepts and vocabulary related to the units of study.

During the first six weeks of school, children learn about their role as responsible members of the classroom community. Through class read-alouds, guided discovery, and interactive modeling, children learn the expectations and the routines of the classroom. Throughout the year, we reinforce the Responsive Classroom community expectations of C.A.R.E.S. (cooperation, assertion, responsibility, empathy, and self-control.)

Our exploration of homes takes us from observations of houses and construction of a home within our community to homes around the world. Students develop an awareness and appreciation of the different types of homes and lifestyles based on geography, climate, and family traditions.

The kindergarten farm unit begins with the study of “Food and Nutrition.” Next, we connect our food study to planting and agriculture on a farm, including the farm to table journey. Our farm study concludes with an embryology project and the study of chicks as well as a visit to the farm.

## **Visual Arts**

Each year, the Lower School art program has an overarching theme for its curricular focus for example: Art Around the World, Celebrated Artists, and Art through the Ages. Over the course of their Lower School art experience, students will learn about art from a variety of cultures such as: India, Japan, Mexico, and Ghana. They will learn about artists such as Keith Haring, Yayoi Kusama, Henri Matisse and Frida Kahlo, to name just a few. Students will also learn about important periods in art history from cave paintings to modern architecture, all the while touching on the elements and principals of design such as: line, form, color, pattern and composition. Sometimes the lessons at the start of class will focus on the curricular theme, while other times the focus will be on a material or technique within a certain medium. After each lesson, students will then have the choice to work on art inspired by the special project, or an original creation from the centers around the room as part of the Choice Based Art program.

Kindergarteners are natural explorers, so the emphasis is on exploration with different materials and tools as well as on developing fine motor skills. Throughout the year, they will have the opportunity to draw, collage, paint,

make monoprints, stitch, make their own toys, use clay, and sculpt in a variety of materials. They will experiment with different ways to create marks on paper using tools other than the brush. Kindergarteners have great imaginations and love to express their stories through their art making. They are encouraged to incorporate topics from the classroom, other disciplines and their own lives whenever possible. Students learn to reflect on their art and determine whether their work is finished or needs more details. They learn to work independently as well as collaboratively learning how to share, plan and predict what they can do with various materials. Students have the opportunity to learn from and appreciate the talents of their peers during daily share time.

### **Computer**

The kindergarten students learn how they can safely utilize computers to enhance their math, language, social studies, and science curriculum. Each child uses technology to develop, refine, and ultimately teach others concepts that they are studying while also learning to take chances and develop resilience in working with technology. While building skills through independent and collaborative work, each kindergartener is developing an understanding of what computers can and cannot do. We begin the school year developing essential computer safety and navigation skills, which include logging on to the server and saving their work. In the autumn, the students use iPads, the flatbed scanner, and Notebook software to create a scientific illustration of a campus maple tree. They also create surveys, tables, and various types of graphs. In the winter months, the students expand upon their geometry, social studies, and “following-multistep-directions,” curriculum to create a 3D model of a house. The kindergarteners finish the year by creating complex illustrations showing the journey of food from the farm to the market.

### **Library**

The Lower School library is a place of inquiry and discovery for all who use it. Students visit the library on a regular basis so that they can explore their own interests; be introduced to new stories, concepts, information and ideas; and discover who they are as readers and thinkers. The library program is designed to support the kindergarten curriculum. Students are introduced to various books, genres and authors that support their units of study as well as their own development as readers. Inquiry- based projects centered on major topics of classroom study (such as homes and farms) allow students to learn research skills. Every library class includes the opportunity for children to use the library independently. During this time, students decide for themselves what books they want to read and/or take home to borrow.

## **Music**

Kindergarten music encompasses singing and dancing in a cooperative group setting. A vast repertoire of songs, dances, and musical games help to develop the concepts of steady beat versus rhythm, language, rhyme, high/low, slow/fast, loud/soft, and speaking/singing through multi-cultural song literature. This foundation serves as a base for music making during the continuation of their time in the Lower School.

## **Lower School Physical Education Philosophy**

The Lower School physical education program provides a positive, structured and safe environment for students in kindergarten through fourth grade. Students are introduced to various activities, which incorporate locomotor, manipulative, and gross motor skills, movement patterns, and spatial awareness. Sports skills are also introduced at the appropriate age. Social skills such as cooperation, listening, and respect for self and others are instilled daily through various games and activities. In addition, the teachers seek to enforce the Lower School code of behavior to create an inclusive and supportive atmosphere.

## **Kindergarten Physical Education**

The kindergarteners participate in a physical education program that allows the students to understand and apply movement concepts and to become competent in basic motor skills. The motor skills that are taught and practiced on a daily basis include: skipping, hopping, jumping, chasing, galloping, sidestepping, and running, to name a few. Specific skills are taught in themes and include: throwing, catching, jumping and landing, striking, kicking, dribbling and volleying. Some lifetime sports are also taught in class and include: tennis, yoga, ice-skating, bowling, and fitness. Throughout each activity, safety, cooperation, teamwork, and sportsmanship are emphasized.

A key component is teaching children to feel positive about themselves and their participation in physical activity, thus encouraging them to try new and varied activities. With clear safety practices set forth by the teachers, the students practice specific patterned movement skills to enhance their manipulative skills, develop spatial awareness, and broaden their movement repertoire. In addition to skill development, students participate in community building events such as the American Heart Association's Jump Rope and Hoops for Heart and the RCDS Wildcat Weekend Fun Run.

## **Science**

The kindergarten science program builds on the emerging skills of students as they engage in “hands-on” activities to make discoveries and learn to think critically. The children delve into a variety of science topics related to the farm study that highlight the physical, earth, and life sciences. In the fall, the students begin by using their five senses to observe the science room. Then they focus on trees and the properties of wood. Later, the children learn how to build many simple machines used on a farm. Near the end of the study, the students learn about farm plants focusing on the plant parts that are edible and growing their own vegetables. The children learn about the variety of farm animals, but are immersed in the life cycle of chickens as they carefully monitor hatching chicken eggs in an incubator. The culmination of the unit is a trip to a farm looking for the animals, plants, and machines they have learned about over the year.

## Grade One

First grade provides developmentally appropriate experiences with particular attention to process rather than product. The primary focus is to develop students' skills in reading, writing, and mathematics. The program incorporates multi-sensory teaching methods to accommodate different learning styles and abilities. Some of the highlights of our year include the Rye community study, child directed interviews during the RCDS community study, and a field trip to the Material Recovery Facility to see the positive impact recycling has on our community. First graders are active participants in hands-on activities, which foster creativity and excitement for learning. In a nurturing environment, children become self-motivated, independent learners. With high expectations for attainable goals, students demonstrate academic, social, and emotional growth. Through Responsive Classroom, the social curriculum is deemed as crucial as the academic program, and both social and academic growth are fostered simultaneously and harmoniously.

### **Language Arts**

Language arts activities in first grade focus primarily on the development of written and spoken language. First graders practice "active listening" throughout the year. In the fall they are engaged in an inquiry based community study of the school, where they facilitate interviews of many important members of the RCDS faculty and staff. Throughout the year, their listening skills are refined through auditory comprehension activities and teacher guidance in sustaining attention during whole group discussions and instruction. Listening skills are also developed through continued expansion of phonemic awareness using our reading and writing programs.

Oral expression is also an integral part of the first grade language arts program. During the RCDS community study and the study of the City of Rye, students practice creating questions that will evoke the desired information. Oral expression is also developed through Responsive Classroom. Students are engaged in many different role-playing activities, where they practice using appropriate empathetic and assertive language in a variety of social situations. Portions of Morning Meeting are also designed to allow students to participate in meaningful "shares," which call for clear and articulate expressive language. Oral expression is also refined through reading responses, as students strengthen their ability to retell stories and reflect thoughtfully upon a text.

## **Reading**

First graders develop valuable reading behaviors such as choosing appropriate books independently and developing an appreciation for different authors and genres. The students are immersed in a balanced reading program, which focuses on decoding and comprehension strategies.

Our multisensory approach to reading demands that visual, auditory, and kinesthetic skills are developed simultaneously. Children work in small groups, at an appropriate pace, to move through this sequential program and build upon the structure of written language. This program incorporates phonics, reading, spelling, and grammar into one integrated lesson.

Another component of the first grade reading program is guided reading. While our word study concentrates more heavily upon phonemic awareness and phonics, guided reading focuses upon the contextual aspects of reading. Students meet in small book groups to practice using contextually based reading strategies and to stretch their comprehension skills. Some of the reading skills that are taught include: sequencing the elements of the story; identifying the main idea; describing character, setting, problem and solution; comparing and contrasting; retelling a story; making predictions and text-to-self connections, and articulating basic inferences. Students also are taught to attend to punctuation, to build on their sight word vocabulary, and to develop fluency.

The final portion of the first grade balanced reading program is independent reading. Each day, students are given the opportunity to practice and master their new skills and strategies to become more independent and effective readers. This is also a chance for the teacher to read individually with students.

## **Writing**

Written expression is an area of specific focus in first grade. Students learn to record their thoughts and ideas meaningfully, as they work to develop and strengthen their sentence structure, initiate a writing task, evaluate and edit their own work, engage in journal writing activities, and develop greater writing fluency and stamina. In the fall, the writing workshop process is launched, and the students develop their skills in choosing a topic, expressing ideas using accurate sound/symbol correspondence, and expanding upon their written work by including interesting and pertinent details.

Throughout the winter, students are engaged in an informative/explanatory “How To” and an Author study. In preparation of writing their own “How-

To” books, students write instructions that demonstrate multiple steps in a sequential order. Students learn to reread and revise for clarity, proper sequencing, and missing steps. The author study is a springboard for opinion writing where students learn to state an opinion, support their thoughts with a reason, and provide an ending. In the spring, students learn the structures and conventions of letter writing and build on their emerging writing skills to compose their own letters. At the end of each unit of study, there is a publishing celebration. Students share their writings with their third grade reading buddies, present their “How To” books to kindergarteners or publish their work in a professionally bound book.

Throughout the writing program, students learn the importance of writing mechanics. Students work on their writing posture, pencil grip, grapho-motor fluency, letter formation, spatial orientation on a page, the use of phonemic knowledge, capitalization, punctuation, dictation skills, and the memorization of priority spelling words.

## **Mathematics**

The first grade math program, Singapore Math, relies upon a concrete, pictorial, and abstract process that has our students first working with tangible materials, and then exposing them to a pictorial representation of the mathematical concept, before moving to more abstract numbers, notations, and symbols. This program emphasizes the communication of mathematical ideas, encouraging students to be conscious of the strategies they use to solve problems and to share these strategies with their peers. With a teacher’s guidance, students are led to select the most efficient and accurate strategy for solving a problem.

In the first two months of school, students focus on exploring, understanding, manipulating, and discussing numbers up to 10. They learn to think of numbers within a number bond format and think of a whole number being made up of a combination of numbers (parts). The activities allow students to internalize their understanding of the basic facts up to 10 with an expectation for accurate recall of those number facts before moving onto understanding the inverse relationship of addition and subtraction through various number stories. Students learn to represent the stories using addition and subtraction equations with an emphasis on distinguishing between parts (addends) to whole (sum). As they explore two digit numbers, students are introduced to strategies that help them to decompose two digit numbers into tens and ones and thus allow them to recombine numbers easily. For example, when adding  $6 + 7$ , students are encouraged to think of 6 as two parts, 3 and 3. By

adding one 3 to 7, they have 10 and when adding the remaining 3, they have 13.

In the second half of the year, students use repeated addition and arrays to solve multiplication problems within 40. They use sharing and grouping experiences to understand division and begin to relate division to multiplication. Students also explore money, time, fractions, and geometry. They identify and know the value of coins and dollars. Students count combinations of coins and bills and use the cent and dollar sign. They learn about the parts of an analog clock and learn to tell time to the half-hour. In the fraction unit, first graders recognize and name halves and fourths. Finally in their geometry unit, they identify, describe, and categorize two-dimensional and three-dimensional shapes.

During daily morning meetings, students count to take attendance, use the calendar to establish the day and date, and review the day's schedule. This exposure helps develop fluency with counting while also establishing a routine that gives students the opportunity to explore the structure of time in the context of a season, school day, a month, a week or a year. These daily discussions give children practice with vocabulary to talk about time (morning, noon, midday, afternoon.) Through the use of standard and nonstandard units of measure, students develop a foundation of skills for accurate linear measurement, such as knowing where to start and stop measuring and understanding that many measurements are not reported in whole numbers. Throughout the school year, students collect, record and discover different ways to represent their data by creating surveys, describing attributes of objects, and then using these attributes to decide how to sort. Then students use pictures, bar graphs, tallies, and diagrams to represent and categorize their data.

### **Social Studies**

First graders continue to learn about themselves and their responsibilities as community members in the classroom, at the grade level, and within the school. Rye Country Day School, as a dynamic work and study environment, provides a microcosm for in-depth examinations of community. The study expands as students learn about the city of Rye and its infrastructures. Social studies, science, and art are combined in the spring when the first graders learn about the different types of natural resources and the importance of conservation.

The social studies curriculum begins with the students identifying their role in the Rye Country Day community. Students discover the needs and

characteristics of our community and also, through student-generated questions, interview many of the faculty and staff who enrich our School.

Keeping with the theme of community, the first graders transition to study the city of Rye and develop an understanding of the larger community that exists around them. A walking trip to the Rye Free Reading Room launches this part of the curriculum. The first graders observe the many stores and businesses to become aware of the services offered in our community. They go on a guided tour of the Rye Post Office, using this experience to help them create their own Lower School Post Office. First graders design and sell stamps, gather, sort, and deliver mail while building their interpersonal skills. The money collected from their efforts is donated to a local charity of their choosing. To complete our social studies unit, the first graders learn how to sustain our beautiful community. Through research, the students learn about natural resources and the importance of reducing and recycling various products to help preserve our natural resources.

### **Visual Arts**

Each year, the Lower School art program has an overarching theme for its curricular focus for example: Art Around the World, Celebrated Artists, and Art through the Ages. Over the course of their Lower School art experience, students will learn about art from a variety of cultures such as: India, Japan, Mexico, and Ghana. They will learn about artists such as Keith Haring, Yayoi Kusama, Henri Matisse and Frida Kahlo, to name just a few. Students will also learn about important periods in art history from cave paintings to modern architecture, all the while touching on the elements and principals of design such as: line, form, color, pattern and composition. Sometimes the lessons at the start of class will focus on the curricular theme, while other times the focus will be on a material or technique within a certain medium. After each lesson, students will then have the choice to work on art inspired by the special project, or an original creation from the centers around the room as part of the Choice Based Art program.

First graders continue with the exploration of media, concepts, and skills explored in kindergarten. In addition, first graders independently visit centers around the room, as well as determine the medium they choose to work with each day. Centers include drawing, painting, Inventor's Workshop, clay, printmaking and fiber arts, to name a few. Their level of focus is beginning to increase and they can sit and work on one project for a longer time. Through a combination of assignments and the ability to pursue their own ideas as artists, students not only have the opportunity to generate their own ideas but also to choose the materials with which to express them.

Work at the first grade level is both realistic and imaginary, developing observational and creative thinking skills.

### **Computer**

The first graders begin the year exploring safe ways to use computers at school and at home. Their curriculum is deeply integrated and collaborative with the child's homeroom and specials classes. These collaborative projects allow each child to use technology to develop, refine, and ultimately share a broad range of first grade curriculum knowledge. We also do shorter, stand-alone assignments that are designed to help the students to take more chances and develop independence and resilience. In conjunction with their science curriculum, each student creates an interactive quiz to help identify the songs of birds found in various Rye habitats. They also build upon their math curriculum when creating pattern block puzzles and "tens trees."

To support the students' study of the City of Rye, they use the *Sketch Up* application to create a 3D re-design of a downtown building. They also use the *Scratch* coding tool to navigate a journey through a map of Rye. The students apply fundamental word processing and editing skills to create postcards from migrating birds to resident birds. Graphing software is used to compare physical attributes of local birds. The year culminates with each first grader using *Microsoft Word* to write and edit research for a field guide of Rye birds. While building skills through independent and group work, each child is developing an understanding of what computers and other technology can and cannot do.

### **Library**

The Lower School library is a place of inquiry and discovery for all who use it. Students visit the library on a regular basis so that they can explore their own interests; be introduced to new stories, concepts, information and ideas; and discover who they are as readers and thinkers. The library program is designed to support the first grade curriculum. Students are introduced to material that support their units of classroom study, as well as other authors, books and genres that help them grow as readers.

Inquiry-based projects are developed in collaboration with other teachers according to the classroom curriculum, and allow students to develop their research skills. These topics of study include: schools, community and garbage/waste. First graders also participate in a study of folk tales, and are introduced to digital tools. Every library class includes the opportunity for children to use the library independently. During this time, students decide for themselves the books they want to read and/or take home to borrow.

## **Music**

First grade is a year of tremendous musical growth. Students experience music and rhythm through singing, dancing, speaking, and playing. In first grade, students will decode the songs and poems learned using the solfege and rhythmic syllables. Emphasis is placed upon the proper development of the singing voice and differentiation between beat and rhythm. Students also begin to explore western composers and their contributions to the world of music and other art forms.

## **Lower School Physical Education Philosophy**

The Lower School physical education program provides a positive, structured and safe environment for students in kindergarten through fourth grade. Students are introduced to various activities, which incorporate locomotor, manipulative, and gross motor skills, movement patterns, and spatial awareness. Sports skills are also introduced at the appropriate age. Social skills such as cooperation, listening, and respect for self and others are instilled daily through various games and activities. In addition, the teachers seek to enforce the Lower School code of behavior to create an inclusive and supportive atmosphere.

## **First Grade Physical Education**

The first graders participate in a physical education program that allows the students to understand and apply movement concepts and to become competent in basic motor skills. The motor skills that are taught and practiced on a daily basis include: skipping, hopping, jumping, chasing, galloping, sidestepping, and running, to name a few. Specific skills are taught in themes and include: throwing, catching, jumping and landing, striking, kicking, dribbling and volleying. Some lifetime sports are also taught in class and include: tennis, yoga, ice-skating, bowling, and fitness. Throughout each activity, safety, cooperation, teamwork, and sportsmanship are emphasized.

A key component is teaching children to feel positive about themselves and their participation in physical activity and thus encouraging them to try new and varied activities. With clear safety practices set forth by the teachers, the students practice specific patterned movement skills to enhance their manipulative skills, develop spatial awareness, and broaden their movement repertoire. In addition to skill development, students participate in community building events such as the American Heart Association's Jump Rope and Hoops for Heart and the RCDS Wildcat Weekend Fun Run.

## **Science**

The first grade science program provides a variety of “hands-on” activities as the students become totally immersed in the scientific method and use related process skills. Throughout the year, children focus on the different science disciplines of physical, earth, and life sciences. The units in first grade science are closely aligned with their language arts, social studies, art, library, music, and computer curricula. The integrated units, such as the one of birds, help children to make connections across disciplines.

In the fall, the students begin viewing the school community as being comprised of natural and human-made elements. This extends to the year-long study of the Rye Community where the students are first exploring the natural world of birds, developing an understanding of how humans impact the community’s natural resources and then brainstorming ideas that they may use to positively help the environment using natural and human-made strategies. Children will begin by learning about the calling, singing, feeding, flying and nesting behavior of birds native to Rye. Then, they will learn about the natural resources of Rye including soil, water, animals, and wind. Finally, the students will build upon their knowledge of simple machines from kindergarten to investigate windmills and build a working prototype as one human-made strategy for helping the environment.

## **Grade Two**

Second graders are becoming more responsible, independent problem solvers, and demonstrate increasing engagement in their work and their developing skills across the curriculum. Addressing the social and emotional needs of each child is an essential aspect of our day, which complements our strong academic program. In order to be successful both academically and socially, second graders do their best when equipped with a set of social skills. With teacher guidance, students explicitly learn social skills through a combination of lessons and activities revolving around the Responsive Classroom philosophy. Second graders continue to practice the Lower School acronym C.A.R.E.S: Cooperation, Assertion, Responsibility, Empathy, and Self-Control. They become increasingly aware of others around them and are able to learn from one another. Interest and empathy for others is fostered not only in the classroom, but also through related service projects.

### **Language Arts Reading**

A significant part of the reading program in second grade involves the building of independence. Students are encouraged to initiate and refine their independent reading choices by exploring books from a variety of genres. In second grade we begin to move from learning to read, to reading to learn – we read for pleasure, information, and research. Through these avenues, sustained individual reading time increases. Students have the opportunity to apply reading skills through silent reading, partner reading, and also engage in discussions surrounding the books they read. In addition, second grade homework includes reading every weeknight for approximately 20 minutes. This regular practice provides children with a chance to share their reading growth with adults at home.

We expand and further develop fundamental reading strategies through Reader’s Workshop, which includes whole group and small group instruction, mini lessons, and one-on-one conferences. Recognizing that a wide range of reading abilities exist within any grade level or age group, reading at the appropriate levels ensures students’ success. Teachers monitor and guide the reading of each child. In “Reader’s Workshop,” children hone reading skills by increasing their sight vocabulary, self-correcting miscues, applying phonics, and increasing fluency, just to name a few. The program also provides students an opportunity to reflect and respond to literature and increase comprehension. Children will make predictions or draw conclusions. They will compare characters, recognize plot, and visualize important aspects of the story. Book discussions and peer chats are a great

way to discover how others view a story or to extend different ideas about literature.

### **Writing**

In second grade, students are exposed to the organizational tools and planning required to write about a favorite topic and to develop it into a narrative with a focus. To map out the story before writing, students use graphic organizers and quick outlines. Our writers' workshop includes the importance of planning and revising, and incorporates mini lessons on the various skills necessary to good writing. Our goals are to challenge the students to expand their ideas, to create focus within a topic, and foster confidence in writing. The students naturally become more aware of correct spelling and punctuation. Skills still vary and progress at different rates, but most second graders enjoy the activity of independent writing, the power of their words to express thoughts, and the opportunity to describe experiences to their classmates.

### **Word Study**

Students utilize a carefully sequenced multisensory approach to learn reading, spelling, and handwriting. Our goal is to give our students the tools to read fluently, write effortlessly, and spell with ease. There are explicit phonics lessons, an instructional scope and sequence, oral reading exercises, decoding skills, and integration of comprehension, writing and spelling strategies.

### **Mathematics**

The second grade math program, Singapore Math, relies upon a concrete, pictorial, and abstract process that has our students first working with tangible materials, and then exposing them to a pictorial representation of the mathematical concept before moving onto more abstract numbers, notations, and symbols. This program emphasizes the communication of mathematical ideas, encouraging students to reflect upon the strategies they use to solve problems, and to share these strategies with their peers. With a teacher's guidance, students are led to select the most efficient and accurate strategy for solving a task.

Students start the year solidifying their understanding of place value within whole numbers by counting, reading, and writing whole numbers to the hundreds place. They use place value models, number discs, to represent numbers and begin to write three digit numbers in expanded form. They also compare and order numbers within 1000.

Students review the part-whole concepts of addition and subtraction and practice using addition to find a whole and subtraction to find a part. Mental math addition and subtraction strategies are reviewed and students transition away from adding two-digit numbers in a horizontal format to using a standard vertical algorithm for addition and subtraction for numbers up to three digits. Mental math strategies are practiced as flexibility with numbers reflects a good understanding of place value and number sense.

Second graders' initial experiences with multiplication and division emphasize a deep understanding of the operation. They use repeated addition, pictures, arrays, and counters to represent different multiplication and division scenarios. When exploring division, two different types of problems are introduced: sharing (finding the number of objects in each group) and grouping (finding the number of groups made.) Once conceptual understanding of the operations is evident, students begin to study and commit multiplication facts to memory. Second graders learn multiplication and division facts for 2's, 3's, 4's, 5's, and 10's. Students end the year by practicing division with remainders.

Second graders spend the remainder of the year studying money, fractions, time, and geometry. In their money unit, they count combinations of bills and coins to \$10.00, use decimal notation for money, and add and subtract money within \$10.00. Students continue to recognize and name halves and fourths. Finally in their geometry unit, they identify, describe, and categorize two and three-dimensional shapes.

### **Social Studies**

Second graders extend the study of community to examine the shore areas of the Long Island Sound. We visit the sound for a first hand experience with its many creatures, habitats, and quickly discover what impact the surrounding area has on the Long Island Sound. Each student selects a particular Long Island Sound animal to study. As researchers, second graders read and listen for information, take notes, organize material, and present their research papers. Activities throughout this study are designed to encourage students to discuss and build a sense of respect and responsibility to the environment as global citizens. Second graders are passionate about this topic. We capitalize on this enthusiasm by leading students through a public purpose project. This project allows them to educate others on the importance of preserving the Long Island Sound.

The Immigration unit further builds upon the students' study of community in first grade. Students expand their understanding of diversity and the

combining of different communities. We learn that New York City is an urban community where cultural traditions illustrate and celebrate diversity. Throughout the unit, second graders will continue to hone their writing skills by taking on the role of an immigrant coming to the United States and writing a journal. This personal diary will weave a realistic fiction piece, which will be presented at the end of the school year to families and friends.

### **Visual Arts**

Each year, the Lower School art program has an overarching theme for its curricular focus for example: Art Around the World, Celebrated Artists, and Art through the Ages. Over the course of their Lower School art experience, students will learn about art from a variety of cultures such as: India, Japan, Mexico, and Ghana. They will learn about artists such as Keith Haring, Yayoi Kusama, Henri Matisse and Frida Kahlo, to name just a few. Students will also learn about important periods in art history from cave paintings to modern architecture, all the while touching on the elements and principals of design such as: line, form, color, pattern and composition. Sometimes the lessons at the start of class will focus on the curricular theme, while at other times the focus will be on a material or technique within a certain medium. After each lesson, students will then have the choice to work on art inspired by the special project, or an original creation from the centers around the room as part of the Choice Based Art program.

The second grade program builds on the concepts and skills developed in the earlier grades, but in addition to the usual centers (drawing, painting, collage, Inventor's Workshop, and clay,) they will learn how to sew in fiber arts and use cameras to learn basics of photography. Students will continue to develop a sense of themselves as artists and develop their own styles as they try new materials and hone their emerging skills. In conjunction with their classroom studies, students will create a mixed media collaborative piece inspired by their studies of the Long Island Sound environment.

### **Computer**

The second graders learn how to safely use computers and other technology as an academic tool to enhance their learning experiences. Our project-based curriculum is deeply integrated and collaborative with the child's homeroom and specials classes. These collaborative projects help each child to gain an understanding of how they can use technology to develop, refine, and teach curricular concepts. We also do a considerable amount of work that is more autonomous to the computer lab. These stand-alone assignments encourage the students to take deeper chances and develop resilience in working with technology. Throughout the year, the second graders use a typing tutorial to

develop their touch-typing skills. To enrich their Long Island Sound research, they create graphs to test hypotheses about characteristics of their research animals. They also create maps showing important topography of the Sound. Finally, the students practice their keyboarding, formatting, and editing skills by creating rhyming poems that personify attributes of their Long Island Sound animals.

In programming a drawing of a city skyline and by creating flag designs, the students explore symmetry and fractions. They build a 3D articulation of a skyline tower and use word processing skills to share the architectural choices they made to create it. In the spring, the computer is used for a number of integrated projects to better understand immigration through Ellis Island. The second graders finish the year by using the *Keynote* application to depict a day in the life of an immigrant one hundred years ago in New York City. While building skills through independent and collaborative work, each child is gaining a deeper understanding of how technology can support their learning.

### **Modern Language**

The Lower School Spanish and French programs provide opportunities for language acquisition. Students are exposed to the language through developmentally appropriate activities and contexts via stories, role-plays, songs and rhymes, games, videos, and other strategies. Attention is paid to the four language skills: listening, reading, speaking, and writing. Listening always precedes speaking, and reading precedes writing. We seek to foster the students' awareness and appreciation of the native speakers' cultures in and out of the classroom. The class meets twice for forty-five minutes every six-day cycle.

In the second grade, the vocabulary and texts used in class relate to the children's immediate world, such as family, home and school, and pets. Basic items of vocabulary are introduced through opening and closing class routines, such as calendar or round-robin question and answer activities.

### **Library**

The Lower School library is a place of inquiry and discovery for all who use it. Students visit the library on a regular basis so that they can explore their own interests; be introduced to new stories, concepts, information and ideas; and discover who they are as readers and thinkers. Second graders take a closer look at the literature available in the library collection by participating in an author study. They also begin to use the library more independently by learning how to use the OPAC (online public access catalog) in order to

locate books of interest. Other online tools are incorporated to allow students to begin practicing good digital citizenship in a safe and controlled setting.

The library program is also designed to support the second grade curriculum. Students are exposed to literature and nonfiction materials that expand on the topics that are presented in their classroom and during specials, such as Long Island Sound animals and immigration. Inquiry-based activities and projects are developed according to these units of study, which help students to build their research skills. Every library class also includes the opportunity for children to use the library independently. During this time, students decide for themselves the books they want to read and/or take home to borrow.

### **Music**

Second grade music concentrates on taking previously learned vocal and rhythmic skills and using them to read and write music. Students learn traditional songs from around the world that encompass the notes of the pentatonic scale (do, re, mi, sol, la). The repertoire also engages students in more challenging rhythmic motives. Proper vocal development is critical. Pitched and un-pitched Orff instruments are used to build rhythmic, note reading and group playing skills, while giving students the experience of self/group accompanied songs. By the end of second grade, students have a general knowledge of the pentatonic scale on the musical staff. Second grade students learn about composers and their compositions by analyzing rhythm, form, and melody of many well-known works.

### **Lower School Physical Education Philosophy**

The Lower School physical education program provides a positive, structured and safe environment for students in kindergarten through fourth grade. Students are introduced to various activities, which incorporate locomotor, manipulative, and gross motor skills, movement patterns, and spatial awareness. Sports skills are also introduced at the appropriate age. Social skills such as cooperation, listening, and respect for self and others are instilled daily through various games and activities. In addition, the teachers seek to enforce the Lower School code of behavior to create an inclusive and supportive atmosphere.

### **Second Grade Physical Education**

The second and third grade program focuses on maximizing the learning experience using activities, which incorporate locomotor, manipulative and gross motor skills, movement patterns, and spatial awareness both in the gymnasium or on the fields. Through a variety of sports and games, character building and social skills that include active listening, cooperation and

teamwork, respect for self and other, and good sportsmanship are consistently emphasized. The teachers include the Lower School's Responsive Classroom philosophy to create an inclusive and supportive atmosphere. The goal of the second grade program is to develop the students' skill levels while encouraging them to feel positive about themselves and their participation in physical activity. The activities are varied to tap the myriad talents of our students and to stretch their abilities. In addition to the instructional units covered in class, students will participate in community building through special events such as the American Heart Associations' Jump Rope for Heart and Hoops for Heart and the Wildcat Weekend Fun Run.

### **Grades 2-4 Seasonal Units**

<b>Fall</b>	<b>Winter</b>	<b>Spring</b>
Soccer	Ice Skating	Lacrosse
Football	Team Handball	Baseball
Field Hockey	Squash	Softball
Rugby	Volleyball	Kickball
Speed Ball	Basketball	Badminton
Yoga	Tumbling	Track
Scooters	Wrestling	Ultimate Games
Cooperative Games	Bowling	Tennis

### **Science Program**

The students explore a broad range of topics with “hands-on activities” while reinforcing the scientific method and related process skills that were previously introduced. As often as possible, the children’s study of physical science, earth science, and life science is coordinated with and complements their homeroom social studies, language arts, and math curricula as well as their experiences in art, library, and computer. The children begin the year by studying the plants, animals, and habitat of the Long Island Sound by closely learning about Cove Island Park. Later the children learn how to use the metric system to determine weight, capacity, and length. The students will use these skills to assist them with learning about the states of matter: solids, liquids, and gases. Students become chemical engineers learning how important following the “recipe” (scientific procedure) is for scientists. At the end of the year, the children will learn how electricity works by making light from wire, light bulbs, and batteries.

## **Grade Three**

Third grade is a year of tremendous growth. Throughout the year, the teachers guide the students to develop increased accountability, responsibility and independence in all aspects of the third grade curriculum. We look at the students' potential, both academic and social, as we build on their strengths, emphasizing critical thinking and cooperative learning as tools for discovery. As students' abilities increase, so does their confidence. They are challenged to be reflective and conscientious thinkers, and empowered to become partners in their own learning. Throughout this growth, students continue to be nurtured and guided, as they come to understand their unique learning styles.

Woven throughout our curriculum are the tenets of the Responsive Classroom model. We strive to give each third grader the tools and skills necessary to model the fundamental principles of (C.A.R.E.S.) - cooperation, assertion, responsibility, empathy, and self-control. With the use of common language and regular class meetings, along with academic choice, the students gain a greater sense of their role in our third grade community during the year.

### **Language Arts**

Language instruction involves many dimensions of the program, as the heart of third grade is reading and writing about important topics. It blends reading, spelling, literature, and writing together in meaningful ways. Skills taught in isolation are embedded into the curriculum and revisited throughout the day.

### **Reading**

In third grade, we continue to focus upon building reading skills in the areas of word recognition, fluency, and comprehension while encouraging a love for reading. The foundational skills acquired in first and second grade are now becoming more automatic so that students' attention is focused on the active processing of text. By using the workshop model, these reading skills are solidified through guided reading, shared reading, independent reading and myriad reading related activities. The focus of reading in third grade builds on the second graders' shift from "learning to read" to "reading to learn." Students not only read and discuss books, but they respond to what they have read in writing.

## **Writing**

Writing crosses all areas of the curriculum: reading, math, science, and social studies. The writing process is used extensively, whether students are writing creatively or involved in a research report. Students begin with a pre-writing activity, such as brainstorming, followed by drafts, revisions, edits, before the completion of a writing piece. Through the writing process, skills such as sentence structure, punctuation, capitalization, and paragraph development are reinforced. Research skills are taught both in the classroom as well as in special areas. To support the students in spelling, we use a combined approach of the Rebecca Sitton spelling program and Multi- Sensory Reading and Writing program. Third grade students begin the year using manuscript writing, but they soon change over to cursive writing and continue to practice throughout the year. Students are given opportunities to practice keyboarding skills during computer class on classroom laptops.

## **Mathematics**

The third grade math program, Singapore Math, relies upon a concrete, pictorial, and abstract process that has our students first working with tangible materials, and then exposing them to a pictorial representation of the mathematical concept before moving onto more abstract numbers, notations, and symbols. This program emphasizes the communication of mathematical ideas, and students are encouraged to be conscious of the strategies they use to solve problems and to share these strategies with their peers. With a teacher's guidance, students are led to select the most efficient and accurate strategy for solving a task.

Students begin the year by developing their understanding of place value within four digit numbers. They start by counting, reading, and writing whole numbers to 10,000. By using place value discs, students practice creating four digit numbers, writing them in expanded form and using the "greater than" and "less than" symbols to compare and order the numbers. Students end the unit by rounding off numbers up to 10,000 to the nearest ten, hundred, and thousand. In their addition and subtraction unit, students review their mental addition and subtraction strategies to practice their flexibility with numbers and increase their number sense. Students continue to use algorithms for solving addition and subtraction numbers under 10,000 while representing the procedure being performed with place value discs. This allows students to fully demonstrate their conceptual understanding.

In third grade students learn to solve complex multistep word problems. Two pictorial models known as bar model techniques are introduced to facilitate their understanding of the problem and provide methods for solving them.

These tools are useful in translating word problems into algebraic equations, and are used throughout the year to solidify student understanding. In the beginning of the third grade, students review their multiplication facts of 2,3,4,5, and 10 and then spend the bulk of the unit learning and memorizing to automaticity the multiplication facts for 6,7,8, and 9. Students spend time playing games and practicing their facts until they have demonstrated mastery. Students solve simple problems involving multiplication and division while using number discs to demonstrate the connection between the concrete materials and the algorithm. By the end of the unit, students should be proficient at dividing and multiplying numbers within 1,000 by a one-digit number.

Students spend the last third of the year exploring fractions, time, and money. Using concrete materials such as fraction bars and circles, students recognize and name fractions of a whole, demonstrate an understanding of numerator and denominator, compare and order fractions with a common denominator or numerator, and order fractions. Working with fraction cards, students find equivalent fractions, find the simplest form of a fraction, and practice adding and subtracting fractions. Using geared clocks, students learn to tell time to the minute, find the duration of time intervals, and practice adding and subtracting time. Using calendars, students understand the relationships of time within years, months, days, weeks, hours, and seconds and practice converting between the units mentioned above. In their money unit, students use real money to convert dollars and cents to cents and vice versa while also solving word problems involving addition and subtraction of money.

### **Social Studies**

An overall goal for third grade is to use social studies as a tool for critical thinking, and for students to begin acquiring knowledge of geography, map skills, and research skills through the study of history. Our three main units are European Explorers, Colonial Life in North America, and A New Nation. These units bring the students from the sixteenth century up through the eighteenth century. Through the use of literature: fiction, and non-fiction, students learn about the past, noting how diverse cultures confront and resolve problems, which helps them to understand our world today. Students are guided to think within an historical context in order to understand the history, geography, economic, political, social institutions, traditions, and values of the United States as expressed in both its unity and diversity.

## **Visual Arts**

Each year, the Lower School art program has an overarching theme for its curricular focus for example: Art Around the World, Celebrated Artists, and Art through the Ages. Over the course of their Lower School art experience, students will learn about art from a variety of cultures such as: India, Japan, Mexico, and Ghana. They will learn about artists such as Keith Haring, Yayoi Kusama, Henri Matisse and Frida Kahlo, to name just a few. Students will also learn about important periods in art history from cave paintings to modern architecture, all the while touching on the elements and principals of design such as: line, form, color, pattern and composition. Sometimes the lessons at the start of class will focus on the curricular theme, while other times the focus will be on a material or technique within a certain medium. After each lesson, students will then have the choice to work on art inspired by the special project, or an original creation from the centers around the room as part of the Choice Based Art program.

Third graders learn to hone their observational drawing and painting skills with scientific illustration and landscape painting. Students are introduced to the 3Doodler Start, a 3D printing pen in art. They will also continue to create art, which they will be encouraged to spend longer time on developing and trying new skills in drawing, collage, painting, Inventor's Workshop, printmaking, fiber arts, technology, and fashion. Third graders are full of ideas, which they want to express through their art. They are more concerned with making their drawings look "real," so drawing from observation is a skill we continue to develop.

## **Computer**

The third graders explore ways they can safely use the Internet and other technology at school and at home. Through project-based learning that is integrated and collaborative with the child's homeroom and specials classes, each child gains an understanding of how they can use technology to develop, refine, and teach others. We also do a considerable amount of work that is more autonomous to the computer lab. These stand-alone assignments encourage the students to take deeper chances and develop resilience in working with technology. Using a touch-typing tutorial, the third graders focus on their finger positioning as they become familiar with more keys.

Using both the *Scratch* and *LOGO* programming languages, the students explore factors of 360° as they create complex nested programs composed of repeating polygons. These geometry and coding concepts are expanded upon as they work together to create complex polygon illustrations. Working in small groups, they write and edit a Revolutionary War newspaper. The

students frequently use *Google Docs* on their laptops in the classroom to refine their word processing skills. The students also use *Google Sketchup* to build a 3D re-creation of Rye in the year 1776. Each child uses *Photoshop* to create beautiful scientific illustrations incorporating work done in Science, Library, and in Art. The third graders design slideshow presentations to teach others about the language of probability. We also work in Science, Art, and Computer class to design, code, and construct, LED light sculptures using Arduino mini computers.

### **Modern Language**

The Lower School Spanish and French programs provide opportunities for language acquisition. Students are exposed to the language through developmentally appropriate activities and contexts via stories, role-plays, songs and rhymes, games, videos, and other strategies. Attention is paid to the four language skills: listening, reading, speaking, and writing. Listening always precedes speaking, and reading precedes writing. We seek to foster the students' awareness and appreciation of the native speakers' cultures in and out of the classroom. The class meets twice for forty-five minutes every six-day cycle.

In third grade, the vocabulary that the students are able to recognize and recall orally and in writing continues to expand along with repetition and recycling of language that was previously presented. The students begin noticing language patterns on their own. The students also start retelling and rewriting the stories and texts presented in class.

### **Library**

The Lower School library is a place of inquiry and discovery for all who use it. Students visit the library on a regular basis so that they can explore their own interests; be introduced to new stories, concepts, information and ideas; and discover who they are as readers and thinkers. Third graders take a close look at how the library is organized, which helps them to be able to find books and information more independently. They also explore the basic principles of good digital citizenship, and utilize various online tools in order to practice building those skills. The library program is also designed to support the third grade curriculum. Various fiction and nonfiction books are introduced to expand and enrich classroom topics of study, such as explorers and colonialism. Inquiry-based activities and projects are developed in collaboration with classroom teachers so that students can explore what interests them about a topic and develop their research skills. Every library class also includes the opportunity for children to use the library

independently. During this time, students decide for themselves the books they want to read and/or take home to borrow.

## **Music**

Third grade music focuses on vocal, rhythmic and dance development through traditional music from around the world. The pentatonic scale is still the basis of much of our staff reading, with additions from the extended scale. Students use the recorder to practice reading music on the staff, work on their fine motor finger isolations, and prepare their breath support for a band instrument in fifth grade. Students work on singing and playing alone and with others in both unison and beginning harmonies.

## **Lower School Physical Education Philosophy**

The Lower School physical education program provides a positive, structured and safe environment for students in kindergarten through fourth grade. Students are introduced to various activities, which incorporate locomotor, manipulative, and gross motor skills, movement patterns, and spatial awareness. Sports skills are also introduced at the appropriate age. Social skills such as cooperation, listening, and respect for self and others are instilled daily through various games and activities. In addition, the teachers seek to enforce the Lower School code of behavior to create an inclusive and supportive atmosphere.

## **Third Grade Physical Education**

The second and third grade program focuses on maximizing the learning experience using activities, which incorporate locomotor, manipulative and gross motor skills, movement patterns, and spatial awareness both in the gymnasium or on the fields. Through a variety of sports and games, character building and social skills that include active listening, cooperation and teamwork, respect for self and other, and good sportsmanship are consistently emphasized. The teachers include the Lower School's Responsive Classroom philosophy to create an inclusive and supportive atmosphere that allows students to develop individual responsibility that enhances the learning for everyone.

The goal of the third grade program is to develop the students' skill levels while encouraging them to feel positive about themselves and their participation in physical activity. The activities are varied to tap the myriad talents of our students and to stretch their abilities. In addition to the instructional units covered in class, students will participate in community building through special events such as the American Heart Associations'

Jump Rope for Heart and Hoops for Heart and the Wildcat Weekend Fun Run.

### **Grades 2-4 Seasonal Units**

<b>Fall</b>	<b>Winter</b>	<b>Spring</b>
Soccer	Ice Skating	Lacrosse
Football	Team Handball	Baseball
Field Hockey	Squash	Softball
Rugby	Volleyball	Kickball
Speed Ball	Basketball	Badminton
Yoga	Tumbling	Track
Scooters	Wrestling	Ultimate Games
Cooperative Games	Bowling	Tennis

### **Science**

The third grade science program provides a variety of “hands-on” activities as the students become completely immersed in the scientific method and use related process skills. Throughout the year, the children are expected to work independently as well as cooperatively in observing, documenting, and reflecting on their varied experiments and activities. The children begin the year by learning about the Hudson River and Blind Brook Stream habitats including the macro-invertebrates living there. Later, each child becomes an expert on one animal living within the deciduous forest and its relationship to the other animals living there.

In the winter, the children learn how the constellations, moon, compasses, and sundials helped the early colonists and explorers navigate their journeys (a topic of study in social studies, art, language arts, library, and computer). In the middle of the winter, students build upon their knowledge of electricity from second grade when they create a lighted sculpture. Students develop their understanding of how electric circuits work when they combine their computer programming and their artistic creativity. When spring arrives, the children discover the impact that weather and boat styles had on the early explorers and colonists.

## Grade Four

In fourth grade, learning comes to life through hands-on application of skills, collaborative exploration, and independent research. As students mature academically and socially, the fourth grade program allows them to practice and apply skills that will enable them to embrace the increasing responsibilities of future academic years. Children develop and solidify strategies to further develop their critical thinking skills and enable them to become increasingly independent learners. The program is designed to help students become capable, creative thinkers, while fostering concern and commitment to the group as a whole.

Addressing the social and emotional needs of each student is an important component of the fourth grade program. The use of the Responsive Classroom approach helps to create a supportive environment where students can succeed socially and academically. The program's key social skills, CARES: cooperation, assertion, responsibility, empathy, and self-control are part of the fabric of the fourth grade curriculum. Being the "seniors" of the Lower School, the fourth graders assume the special responsibility of being positive role models for the younger students in our community as they assume leadership roles in Lower School Meetings and serve as buddies to the younger students.

As children at this developmental stage are more curious and aware of the larger world, the curriculum seeks to build a greater understanding of social issues and diversity and how they impact our perceptions of others, the world, and ourselves. Through small group discussions, social studies curriculum content, public purpose initiatives, and developmentally appropriate literature, students uncover issues of diversity, learn to respect individual cultures, and develop skills for handling issues related to peers, families, their communities, and the world.

### **Language Arts Reading**

The Fourth Grade Language Arts program promotes the development of students' reading skills, comprehension, and critical thinking skills using a Readers Workshop model. Students engage in reading and analyzing text across several genres including: realistic fiction, speculative fiction, biographies, and poetry. Whole group mini- lessons focus on helping students to further develop their comprehension strategies. These strategies include: analyzing characters, questioning, visualizing, inferring, and monitoring comprehension. Students also participate in smaller literature discussion groups in which they learn to interpret content, explore thematic

ideas, and form opinions about meaning leading to a deeper understanding of the text. Fluency is regularly monitored through oral reading. Students are asked to convey their understanding of a text through a variety of writing activities as the reading-writing connection is strongly emphasized as a means to deepen comprehension.

Throughout the year, students learn to negotiate non-fiction texts and to appreciate how the text structure contributes to greater comprehension. In a collaborative program with the Lower School library, the students read non-fiction as a means to develop their research skills. Using common research methods, the students are guided through the process of determining a topic, selecting and evaluating resources, obtaining information through a variety of texts, recording information obtained and documenting sources used in the research process. The products of their research include written reports, oral presentations, and more creative scrapbooks and visual displays.

Students' vocabularies are developed through the study of context clues, analogies, figurative language, idiomatic expressions, as well as through words collected and studied in curricular areas and in their reading books. To support vocabulary development, teachers use the Vocabulary from Classic Roots and rich vocabulary extracted from classroom literature, which strengthen the link between vocabulary and reading comprehension.

## **Writing**

In Grade Four, students continue to hone their writing skills through the use of the Basic Writing Program and writing activities across the curriculum. Students engage in a process-approach to writing, which includes planning, drafting, conferencing, revising, and producing a final product. The focus of the fourth grade program is on the creation of a well-defined and expanded paragraph. Students are offered specific instruction on how to create a topic sentence, supporting details, and a concluding sentence rich with details and clear in organization. Beginning with brainstorming, students then use a Quick Outline to plan and organize their thoughts on a topic. Students learn specific conferencing and revision techniques so they are able to share their ideas effectively with one another. Teachers work with individual students and small groups guiding students through the editing process and advising them in their expansion of sentences and choice of precise vocabulary.

The students are taught forms of writing, such as descriptive and personal narrative paragraphs, expository writing of reports, letter writing, and the creative process of composing poetry. Through the fourth grade writing

program, it is hoped that all students will develop the skills, confidence, and interest in expressing themselves through writing.

### **Public Speaking**

The fourth grade students learn the skills involved in public speaking. To begin the year, the students become familiar with the characteristics of a strong public speaker, including voice projection, the importance of body language, and eye contact. The students learn how to write, practice, and perform a variety of speeches including informative, demonstrative, and inspirational. In addition, the students become familiar with the art of storytelling and oral interpretation. As leaders of the Lower School, fourth graders have the opportunity to host Lower School Morning Meeting. Public speaking easily lends itself to curricular tie-ins with our social studies and writing units.

### **Mathematics**

The fourth grade math program, Singapore Math, relies upon a concrete, pictorial, and abstract process that has our students first working with tangible materials then exposing them to a pictorial representation of the mathematical concept before moving onto more abstract numbers, notations, and symbols. This program emphasizes the communication of mathematical ideas, encouraging students to reflect on the strategies they use to solve problems and to share these strategies with their peers. With a teacher's guidance, students are led to select the most efficient and accurate strategy for solving a task.

Students begin the year by developing their understanding of place value within nine-digit numbers. They start by counting, reading, and writing whole number to 100,000,000. By using place value discs, they practice creating nine-digit numbers and writing them in standard and expanded form. Working with these large numbers, students recognize number patterns and develop approximation skills by learning how to round whole numbers to the nearest ten thousand, hundred thousand or million.

Students review their understanding of multiplication by using rectangular arrays and begin to understand the terms: factor, composite numbers, and prime numbers. They learn rules of divisibility for 2,3,4,5,6,9 and 10 and learn the concept of multiples. Throughout the unit, they practice listing factors, common multiples and least common multiples. Students move on to mixed operations involving addition, subtraction, multiplication, and division without parentheses while applying the order of the operations to solve word problems.

Throughout the year, fourth graders practice the four operations. In the addition and subtraction unit, students add and subtract using a vertical algorithm up to 5 digits and practice using mental math calculations to add or subtract a number close to 10, 100 or 1000. Students use place value number discs to solidify their understanding of multiplication and division and develop their use of estimation to verify the reasonableness of their solutions. The fourth grade fraction unit includes reviewing equivalent fractions and simplest form as well as developing the students' understanding of mixed numbers as the sum of a whole number and a proper fraction. Students solve problems involving mixed numbers and improper fractions and convert between the two. In their geometry unit, students learn to recognize angles of 180, 270 and 360. They estimate, measure with a protractor, and construct angles that are less than 180. They learn to distinguish and draw perpendicular and parallel lines and move to the formulas for the area and perimeter of a rectangle.

Fourth grade students finish the year with a study of decimals. By using decimal discs, they learn to read and write three-place decimals. By the end of the unit, they are able to express fractions with a denominator of 10, 100 and 1000 as a decimal and write mixed numbers as a decimal. They practice comparing and ordering numbers having up to three decimal places and finish the unit by rounding decimals to the nearest whole number as well as to the nearest

### **Classroom Economy**

In order to strengthen the students' understanding of money, the economy, and one's personal finances, the fourth grade incorporates a yearlong classroom economy study into the curriculum. The students learn about a variety of financial concepts such as salaries, bank accounts, renting versus owning, and ultimately how to operate a small business. Upon receiving a "salary" for their classroom jobs, the students learn how to budget and handle money, balance accounts, and "share" their money with those in need.

### **Social Studies**

The fourth grade social studies curriculum gives students an understanding of geography through an understanding of the relationship of humans to their environment through an in-depth study of North American regions. As students study each region, the overriding theme is the connectedness between environment and culture. By comparing and contrasting Indian tribes that are located in these different geographic settings, students become aware of how the available resources in an environment impact the people's

culture. This awareness of the many differences among various groups of Native Americans also enables students to explore the inaccuracy of Native American stereotypes. In addition, after learning about the arrival of the Europeans, students understand the results of cultural contact and the conflicts that often arise.

Fourth graders will explore essential questions such as why people migrated and explored new regions, and how their findings impacted our nation's history. Through project-based activities, examination of historical resources, and exposure to non-fiction texts, students will study geographic and scientific discoveries made by the expedition of Lewis and Clark and learn how the expedition affected Native American tribes in the region. In addition, students will practice their reading comprehension, writing, and map skills.

In their study of geography, the students develop essential map skills while mastering the identification and spelling of all fifty U.S. states and capitals. Throughout the year, students are engaged in several research projects, both independent and cooperative, which allow them to practice research skills such as: reading for information, note taking, organizing information, and presenting their findings. One such project is, "The Inspirational Figure." Students research an historical figure of choice and write a persuasive paragraph about him or her. In addition, the students create a script and present it on stage, dressed in character.

### **Visual Arts**

Each year, the Lower School art program has an overarching theme for its curricular focus for example: Art Around the World, Celebrated Artists, and Art through the Ages. Over the course of their Lower School art experience, students will learn about art from a variety of cultures such as: India, Japan, Mexico, and Ghana. They will learn about artists such as Keith Haring, Yayoi Kusama, Henri Matisse and Frida Kahlo, to name just a few. Students will also learn about important periods in art history from cave paintings to modern architecture, all the while touching on the elements and principals of design such as: line, form, color, pattern and composition. Sometimes the lessons at the start of class will focus on the curricular theme, while other times the focus will be on a material or technique within a certain medium. After each lesson, students will then have the choice to work on art inspired by the special project, or an original creation from the centers around the room as part of the Choice Based Art program.

In addition to the media, concepts, and skills explored in previous grades, fourth graders learn many art forms inspired by their Native American studies, including flintknapping, designing and beading wampum belts, and illustrating the oral stories that they create in library. Fourth grade is the time when students become more aware of themselves as artists, recognizing both their shortcomings and strengths. Developmentally, these crafts not only enrich their classroom curriculum, but also help students who are less comfortable with art skills such as drawing to find strengths in other art forms. At the same time, more formal drawing skills, such as one point perspective are taught. Many classes begin with a “draw now” exercise to further refine their ability to see and draw from life. Various types of printmaking, including carved printing blocks are also introduced. In the spring, students build armatures and use modeling clay to sculpt a model of someone they admire. Interdisciplinary projects incorporating science and technology are also incorporated into the program throughout the year.

### **Computer**

In the fourth grade, students gain a deeper understanding how to safely navigate computers and technology by exploring project-based curriculum that is deeply integrated and collaborative with the child's homeroom and specials classes. These collaborative projects allow each child to use technology to develop, refine, and ultimately articulate learned concepts. We also do stand-alone assignments where the primary intent is to encourage the students to take chances and develop resilience in working with technology. While building skills through independent and collaborative work, each child is also developing an understanding of what technology can and cannot do. Throughout the year, the students utilize the *Typing Club* keyboarding tutorial to strengthen their typing skills. The fourth graders also frequently use *Google Docs* on their laptops in the classroom to refine their word processing skills.

In the autumn, the students explore interface, variables, and conditional programming by coding an interactive conversation simulator in *Scratch*. They also spend two periods exploring the mechanics of what happens between turning on the computer and doing a simple *Google Search*. Though this exploration, they learn how their privacy is a commodity, and hopefully gain a deeper desire to protect it. We use coordinate graphing skills to code illustrations inspired by Navajo rug and Lakota quilt designs. We create a *PowerPoint* presentation to teach others about mean, mode, and median as a representation of a larger group. They create databases in *FileMaker* and line graphs using *Google Spreadsheets*. Using *Photoshop*, each fourth grader creates photomontage self- portraits. These images and other computer works

are incorporated into their 3D portfolio, showing the evolution of their technology skills and understanding over their Lower School years.

### **Modern Language**

The Lower School Spanish and French programs provide opportunities for language acquisition. Students are exposed to the language through developmentally appropriate activities and contexts via stories, role-plays, songs and rhymes, games, videos, and other strategies. Attention is paid to the four language skills: listening, reading, speaking, and writing. Listening always precedes speaking, and reading precedes writing. We seek to foster the students' awareness and appreciation of the native speakers' cultures in and out of the classroom. The class meets twice for forty-five minutes every six-day cycle.

In fourth grade, new language structures, basic vocabulary, and previously introduced content are presented in novel situations and contexts to ensure a deeper level of acquisition. The students' readiness to produce language increases. Special attention is given to the new students to the grade in order to facilitate a smooth integration into the program.

### **Library**

The Lower School library is a place of inquiry and discovery for all who use it. Students visit the library on a regular basis so that they can explore their own interests; be introduced to new stories, concepts, information and ideas; and discover who they are as readers and thinkers. The library program is designed to closely support the fourth grade curriculum. Various fiction and nonfiction books are introduced to expand and enrich topics of classroom study, such as Native Americans, Lewis and Clark, and inspirational figures. Also in support of their study of Native Americans and geography, students take a close look at Native American folktales and create their own digital story that incorporates the oral storytelling tradition. In addition, inquiry-based projects and activities are developed in collaboration with classroom teachers so that students can explore what interests them about a topic and develop vital research skills such as: locating information via print and online sources, evaluating resources, and creating citations.

Fourth graders also develop into strong digital citizens by exploring relevant issues such as cyberbullying, online safety, and copyright. Various digital and online tools are integrated into learning activities so that students can practice these digital citizen skills. Every library class also includes the opportunity for children to use the library independently. During this time, students choose the books they want to read and/or take home to borrow.

## **Music**

Fourth grade students have the opportunity to put musical skills to use in both classroom and ensemble settings. Each class continues to meet twice per rotation for 45 minutes, and the entire grade level meets for chorus once every other rotation. Vocal development during chorus time comes from singing simple songs in a round and eventually singing in two parts. Ensemble listening and memory skills are greatly developed through these activities. Classroom music consists of developing vocal, movement, rhythm, and reading musical notation skills while continuing to learn the recorder. The students use various percussion and Orff instruments to create melodic and rhythmic compositions in both individual and collaborative projects.

## **Lower School Physical Education Philosophy**

The Lower School physical education program provides a positive, structured and safe environment for students in kindergarten through fourth grade. Students are introduced to various activities, which incorporate locomotor, manipulative, and gross motor skills, movement patterns, and spatial awareness. Sports skills are also introduced at the appropriate age. Social skills such as cooperation, listening, and respect for self and others are instilled daily through various games and activities. In addition, the teachers seek to enforce the Lower School code of behavior to create an inclusive and supportive atmosphere.

## **Fourth Grade Physical Education**

The fourth grade classes are gender split and with the guidance of two teachers in each group, students participate in activities that demonstrate locomotor, non-locomotor, and manipulative skills, and demonstrate specialized skills both while stationary and in motion. In fourth grade, the students recognize active and enjoyable physical challenges and voluntarily participate in myriad activities that tap the talents of our students and stretch their abilities. The goal of the program is to develop the students' skill levels while encouraging them to feel positive about themselves and their participation in physical activity and to recognize the importance of cooperation, teamwork, and good sportsmanship. The expectation is that the fourth grade students be able to develop a mature form of patterned movement skills and locomotor skills and be able to vary and adapt their movements when appropriate. Emphasis is placed on being able to follow instruction and adhering to safety procedures while working cooperatively and productively with a partner, in a group, or independently. In addition to the instructional units covered in class, special events such as American Heart Association's Jump Rope for Heart and Hoops for Heart are included

to enhance the curriculum and increase student involvement in the community.

### **Grades 2-4 Seasonal Units**

<b>Fall</b>	<b>Winter</b>	<b>Spring</b>
Soccer	Ice Skating	Lacrosse
Football	Team Handball	Baseball
Field Hockey	Squash	Softball
Rugby	Volleyball	Kickball
Speed Ball	Basketball	Badminton
Yoga	Tumbling	Track
Scooters	Wrestling	Ultimate Games
Cooperative Games	Bowling	Tennis

### **Science**

The fourth grade science curriculum provides a variety of “hands-on” activities as the students become wholly immersed in the scientific method and use related process skills. Throughout the year, the children are expected to work independently as well as collaboratively in observing, documenting, and reflecting on their varied experiments and activities. As often as possible, the students’ study of physical, earth, and life science is coordinated with and complements their homeroom social studies, language arts, and math curricula as well as their experience in art, library, and computer.

The students begin the year by learning about the “three sisters” (corn, beans, squash) plants, earthworms, nutrition and the relationships among them, which is a connection to their Native American studies. The students learn the way scientists document collected data in the form of line graphs and stories. This leads to an integrated S.T.E.A.M. unit with computer science and art in which they experiment with building robots that they program to interact with a specific environment. In the winter, the students learn about the habitats, plants, rocks, and minerals that would have impacted Lewis and Clark’s expedition west. When the spring arrives, students are exposed to scientists who inspired others, and we focus on those who are often overlooked. The culmination of the year is an exciting study of the owl and its prey! Students work together to dissect owl pellets (the regurgitation of the hair and bones from an owl’s prey), identify bones and then reconstruct the owl’s prey.