



**Curriculum  
Guide  
2015-16**

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# PRESCHOOL

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## INTRODUCTION

Our commitment to nurturing the gifts of each child as an individual provides a warm and stimulating environment where children feel free to explore the world around them. The BFS Preschool program provides a rich child-centered curriculum that supports children's learning styles and developmental readiness. As they meet increasingly complex challenges and practice social skills, our preschoolers become curious, motivated and competent learners.

The curriculum for Preschool Threes and Fours offers children activities and materials that stimulate the imagination, build independence, and present ample opportunities for exploring and discovering their world. Through a wide range of activity choices – from creating stories and solving puzzles, to measuring ingredients and investigating nature – children gain confidence in themselves as learners. They learn to adapt to group experiences and to respect the feelings of others.

We believe that children's play is an expression of intelligence and growth, and that young children learn best through hands-on, concrete experiences. Play is the essential work of childhood and an important part of developing cognitive, social-emotional, and problem-solving skills. In preschool, the curricular areas overlap and provide the foundation upon which the academic areas of literacy, mathematics, science, and social studies are established, preparing children for the more formal educational experiences of Lower School.

## EMERGING LITERACY

From the time they are born, children are acquiring language and learning to listen. Soon they begin to recognize that written symbols can have meaning and are used as a method of communication. Preschool students are encouraged to express themselves and build vocabulary by being read to, looking at books, and conversing during circle and activity times. A trip to the library to hear a story and choose a book occurs on a regular basis.

Language is valued as a positive way to resolve problems and issues in the classroom. Children learn to control and predict their environment as they develop and use their language skills.

Teachers monitor and guide each child to ensure the development of the following skills as they play and explore:

- Visual discrimination
- Auditory discrimination
- Memory
- Sorting, matching – recognizing differences and commonalities
- Sequencing – logical order
- Use of oral language
- Ability to answer questions and follow verbal directions
- Ability to remember previous events and apply that information

## MATHEMATICS

Mathematics is a way of ordering and thinking about the world; it is much more than learning to count and to read and write numbers. As soon as a child thinks of himself or herself (one) and others (more than one), the child is beginning to understand and learn math. Mathematical concepts develop through the hands-on use of manipulatives, puzzles, and blocks so that children discover and explore early math principles through play.

When children are building in the block area, playing with sand, setting the table, taking only two crackers for snack, or following a recipe chart, they are developing mathematical skills and concepts, including:

- Sequencing
- Matching
- Sorting and grouping
- Patterns – creating and noticing them
- One to one correspondence
- Part/whole relationships
- Spatial relationships
- Number concepts
- Collecting and comparing data

## **SCIENCE**

Science in the Preschool means more hands-on exploring, experimenting, and discovering to develop an awareness of the changing world. Children learn by engaging in activities such as observing grass grow, raising composting worms, watching butterflies emerge from their chrysalides, collecting leaves and identifying trees, researching the night sky, and becoming “experts” on owls.

Preschool science study consists of concrete experiences. Children observe growth in nature and in themselves and others, and follow seasonal changes. When children cook or bring snow into the room and watch it melt, they are gaining an understanding of changes and properties. Activities include using magnets, color wheels, and magnifying glasses. The Fours take walks outside to the park to experience seasonal changes first-hand. A local wildlife rehabilitation center brings an owl to visit so they can witness firsthand all that they have learned about in their Owl Study. This study culminates with their own “Owl Museum”. As the children explore, their observations lead to “scientific” predictions and finding ways to record their observations.

## **SOCIAL STUDIES**

The social studies curriculum allows preschoolers to explore and understand their immediate environment. Children begin a journey of discovery as they learn about their classroom community. They learn the community’s routines, rhythms, and rules, and begin to understand how to function as a group.

There are many ways in which preschoolers notice and discover the wonderful differences and common threads that bind individuals together. In the classroom setting, teachers, families, and students share their diverse backgrounds in all the ways they are diverse– ages, cultures, races, gender, learning styles. They explore family traditions, holidays and cultural roots by cooking a variety of recipes from around the world, reading stories, listening to an array of music, and watching dances.

Threes Classrooms incorporate a Family Traditions Curriculum in their program. Each family shares a tradition which is defined as anything you do more than once with the people you love. The Traditions Curriculum creates a bridge between home and school. It provides an opportunity for sharing the identities of families, presents the diversity in ways we live, gives children a voice, creates community and allows children to celebrate one another. Through these activities, the children learn to acknowledge the differences they notice, and to gain respect for and acceptance of a variety of ideas and opinions.

After children become comfortable in their own classroom, they are introduced to the wider school community: interacting with students in other Divisions through Lower School and Middle School Buddy Time, shared projects such as Earth Day miniature gardens with the Upper School, watching performances by other classes, and participating in school-wide events such as the spring art show.

As part of their educational program, the children learn what a community is, what it means to be part of that community, and begin to understand their roles in serving their classroom and school community. In addition they begin to find ways to serve the community outside school. The seeds and foundation for Community Service Learning are planted through our early childhood social-emotional curriculum as our preschoolers learn to share and care for one another. Curricular and service projects such as participating in collections of pennies, books, food or clothing or baking bread for people living in area shelters further empower children to know they can make a difference in the world around them.

## **VISUAL ARTS**

Creating, experimenting, and learning go hand in hand. Art is a form of communication that comes naturally to children. It is experiential and exploratory and does not need to be planned or purposeful. Students have opportunities to be creative every day, using a variety of materials including paint, markers and crayons, and collage. Art activities develop the following skills:

- Fine motor coordination
- Awareness of color, shape, size, and texture
- Understanding of spatial relationships
- Awareness and understanding that symbols have meaning
- Developing self-expression

## **MUSIC**

Classes engage in musical activities daily, and a music specialist works with classes on enhancing music skills on a weekly basis. Children sing or play rhythm instruments during circle time and listen to music of varied styles and cultures. As children sing, perform finger plays, or imitate animals in a song, they use their imaginations, strengthen their memory and language skills, and improve their coordination. They develop an appreciation for the patterns and the musical variety produced by rhythms and melodies. Also important at this age, they learn to love music and find enjoyment in singing together. In addition, all the children and teachers participate in a weekly All-Preschool group sing-along.

## **DRAMATIC PLAY**

Dramatic play allows children many opportunities to grow socially and emotionally as they use their imaginations in a variety of ways: in the house area, the block area, with a basket of small figures, through the simple act of draping a colored scarf, or by playing on the rooftop playground. It is here that children, in a safe, supportive environment with the guidance of teachers, can:

- Encourage the use of rich expressive language
- Reenact real-life situations
- Imitate the adults in their world
- Express their needs
- Explore reading and writing as they play
- Reverse the roles usually taken
- Release unacceptable impulses in a safe way
- Learn to develop and expand narratives
- Reflect the relationships and experiences in their lives
- Problem-solve and experiment with solutions
- Learn to symbolize- i.e. a banana can be a telephone

## **LARGE MOTOR PLAY**

On the roof, in the gymnasium, and during dance class with the Preschool dance specialist, children are developing an awareness of their bodies in space. The ability to move with skill, care, thought, and imagination is a learning process for children as they gain control of their own bodies. On the rooftop playground or in the gym, children have the opportunity to run, jump, climb, play with balls, ride bikes, and move with freedom.

## **DANCE**

Preschool students explore the elements of dance through story and song while developing body awareness and large motor skills. Weekly dance classes include a variety of themes for exploration and imagination. Each theme generates a sequence of actions and qualities of movement. Classroom studies of weather, space, animals and holidays make their way into the dance room with creative movement investigations in which children may scamper like squirrels, swirl and fall like snow, hatch like chicks, or dance with red ribbons for the Lunar New Year.

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# **LOWER SCHOOL**

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## **INTRODUCTION**

Lower School is a time of curiosity, discovery, joy, meaningful learning, risk-taking, growing competencies, deep friendships, and increased self and social awareness. Through direct instruction and student defined explorations in the academic, artistic and physical domains, children's critical thinking skills and multiple intelligences are nurtured. Academic achievement, creative expression and physical aptitude are goals embraced by all teachers in all disciplines. We seek to foster learners who are competent, confident and caring.

## **LANGUAGE ARTS**

Writing is closely connected to reading. If the focus in reading is a genre such as folktales or poetry, students may subsequently write in that genre. Students write memoirs, quest stories, diary entries, biographies, fiction and non-fiction pieces throughout the year. Research writing is a critical component of the writing program, beginning as early as kindergarten, with skills taught in an age-appropriate and increasingly sophisticated manner. Topics are ones related to science and social studies themes, as well as, personally selected areas of interest.

In every Lower School classroom a writing process, in which students think of an idea, write a draft, revise it, edit their work, and publish it, is utilized. Skill work in writing is related to meaningful real-life application. Lessons are designed to build writing process skills. Writing mechanics and grammar are emphasized. Researched books or reports are generated independently or through small group work. Note-taking and organizational skills are directly taught in the classroom, and in the library and technology programs. Books authored by students are displayed in the classroom and are often a popular choice during independent reading time. Spelling and handwriting are taught within the context of the child's own writing and through a program of sequentially introduced skills. Workbooks and/or widely recognized instructional programs are used at each grade level.

## **MATHEMATICS**

Elementary age children naturally delight in and explore a range of mathematical experiences, including counting, sorting, carrying out surveys, measuring, attempting to share items fairly, and creating patterns. Our mathematics curriculum strives to enhance this joy in the world of numbers, shapes, and data through a thoughtfully designed sequence of studies that provide key strategies, tools, and models that are developmentally appropriate, engaging, and meaningful.

We seek to give opportunities for students to engage in rich mathematical explorations that support their own construction of a deep understanding and interest in number, relationships, and patterns. In addition to dedicated class times for math, other mathematically rich experiences are also incorporated throughout the day, including morning meeting and activities such as cooking, game playing, and community service projects. In these situations, students apply math skills and strategies such as measuring, estimating, counting money, telling time, organizing, and the operations of addition, subtraction, multiplication, and division.

Our mathematics curriculum largely follows the well regarded Investigations in Number, Data, and Space (TERC) curriculum, which itself follows the recommended principles and standards of the National Council of Teachers of Mathematics. Complementary activities from other programs and connections to other areas of the curriculum enrich our math curriculum at each grade level.

Context for Learning Mathematics units are woven in at each grade level. The content in Kindergarten through Grade 4 includes studies of numbers and operations, geometry, measurement, and data analysis, as well as the beginnings of algebraic thinking. Just as importantly, our approach develops students' habits of mathematical thinking and practice, including: reasoning and proof; predicting and strategizing in problem solving situations; connecting concepts and skills between mathematical strands; communicating verbally and on paper with fellow mathematicians; selecting and effectively using appropriate manipulatives and tools; representing ideas and solutions concretely and symbolically; and reflecting critically on process, challenges, and successes.

Through guided exploration, students develop a foundational number sense and understanding of the relationships between number operations. One overarching goal of this approach is that over time, students acquire a repertoire of increasingly efficient and accurate computational methods, including the standard algorithm, from which they can select thoughtfully to solve problems. Crucial to this process is the careful sequence and building up of basic number facts for quick and accurate recall.

The Lower School Math Coordinators work closely with individual teachers and grade level teams to support classroom math instruction to optimize learning for all students. This role also includes careful examination of teaching practices, assessments, resources, instructional materials, and ongoing professional development. Parent workshops detailing our curriculum, the development of math concepts in children, and ways to support this growth outside of the school day are also organized by the Math Coordinators.

## **SOCIAL STUDIES**

The curriculum is premised on a progression of awareness and understanding that expands a child's view of self and the world. The program emphasizes human interdependence within communities, fostering a respect for different cultures, and taking responsibility for the environment.

In kindergarten, children explore the concepts of self, family, and school community. The first grade studies systems and institutions in our neighborhood, such as the post office. Change-makers (i.e. Sojourner Truth and Harvey Milk) and the building of the Brooklyn Bridge are primary second grade units. Third graders learn about Native Americans communities in the Eastern Woodlands and other geographic regions in the US, historically and present day. Fourth graders study the Explorers to the New World and the settlement of New Amsterdam.

In addition, all children take part in community service learning activities, such as collecting donations for Penny Harvest and Unicef, gardening in city parks, writing to the homebound elderly, or cooking for the monthly community dinner at the Friends Meetinghouse.

## SCIENCE

The science program is based on children's natural curiosity about their world and their need to explore, ask questions, and search for answers. Through a wide range of scientific experiences and opportunities children develop their skill at using the scientific process: making careful observations, hypothesizing, developing appropriate tests and understanding variables, recording observations and data, drawing conclusions and evaluating data.

Children have classes weekly in the Lower School Science Lab with one of the two Lower School science specialists, in addition to science instruction in the classrooms. The primary goal of the curriculum is to help students learn to think scientifically. Science studies are sometimes integrated with Social Studies topics. Instructional materials include a rich array of appropriate reading material, films, technology tools, software, visual aids, lab materials, and animals for life-cycle studies. Field trips are an important part of the science curriculum. The curriculum is enriched by the resources of the city, such as the Aquarium, American Museum of Natural History, the Brooklyn Botanic Garden, the environmental Sloop Clearwater and Prospect Park. Trips outside the city include visits to environmental centers and overnight camping experiences for 3rd and 4th graders at The Clearpool Education Center in Carmel, NY and Nature's Classroom in Lakeside, CT.

## SPANISH

All K - 4 students have Spanish language instruction with one of the two Lower School Spanish teachers several times in a two-week cycle. The emphasis is on the lively engagement of children in listening to and speaking Spanish. Children are introduced to basic vocabulary, expressions, and the cultural traditions of countries where Spanish is spoken. They sing songs, play games, view videos, and practice interactive dialogues in Spanish. Children also begin to gain facility with Spanish by learning the vocabulary associated with their curricular studies in other academic areas. Reading and writing skills are increasingly emphasized in third and fourth grade. There is an intentional correlation with each grade's classroom curriculum. *Examples follow:*

- Kindergarteners are very engaged by their classroom study of folktales. Upon completion of this much loved theme study, children listen, chant and act out some of the folktales in Spanish. This past year, "Goldilocks and The Three Bears" was a favorite, culminating in a professional theater company's bilingual performance on our stage.

- The first grade study of the post office is followed by children learning the Spanish names for postal workers and items needed to send and process mail.

- Second graders follow their study of water by learning, in Spanish, how to explain the water cycle, the states of water, and the names of different types of precipitation.

- Third graders do extensive work in the classroom and Lower School Science Lab studying plants and trees. Following that study, they explain, ask, and answer questions in Spanish about the main parts of a plant, seed to plant growth, the process of photosynthesis and the seasonal physical changes of trees.

- Fourth grade follow their study of Explorers by learning, in Spanish, about the life of conquistadors, such as: Ponce De León, Hernán Cortés, Francisco Pizarro and the Taínos who inhabited Puerto Rico at the time of the discovery of the Americas. In addition, fourth graders sharpen their writing skills by exchanging pen-pal letters with students in Spain. The two, pen-pal Skype sessions that happen in the course of the year are eagerly anticipated.

## **LIBRARY**

Students visit the library for literature-enriched experiences that focus on the joy of reading and the selection and use of books for research and for pleasure.

The mission of the library program is to ensure that students become effective users of ideas and information. This is accomplished by providing relevant resources, technology, and programming that integrates classroom curricula with the instruction of research skills. The library program promotes a love of literature, encouraging students to become critical thinkers and lifelong readers.

In the library, students not only listen to stories read aloud, they actively participate in storytelling, book-making, puppet-making and dramatizations in connection to their studies in literature, social studies, and science. They learn how to conduct and evaluate research in print formats, websites, and online databases. Students receive guided instruction to develop critical thinking skills, both in formal small groups and during independent study. A month-long Makerspace curriculum allows, for each grade level, several class sessions of designing, innovating, and creating with a rich array of materials, and digital resources.

## **TECHNOLOGY**

While the formal technology curriculum begins in the third grade, 150 iPads and a class set of Chromebooks are integrated into classroom and specialist instruction throughout all classes in the Lower School. The Lower School Technology Integrator supports teachers in their use to engage students' creativity and imagination, in addition to technical and academic skill acquisition.

The Technology Integrator teaches third and fourth graders weekly in half-groups with a focussing on computer programming, digital citizenship, design thinking, computer history and hardware and software. Apps and design programs that support literacy instruction (Writing Wizard, Smart Notebook) Adobe Voice, Art Set), research writing and presentation (EasyBib, Aurasma,), Spanish (Google Classroom,Skype), math related projects (TinkerCAD) and creative expression (Adobe Voice, Art Set), are among many introduced. Design Thinking, 3D Printing and Coding are components of the program.

## **DANCE**

Students explore the elements of dance, build their movement vocabulary, and work together to create original dances. Dance units are often connected to science, social studies or language arts. The dance curriculum includes creative movement, body awareness, large motor skills, yoga, folk dance and cultural dance forms.

- Kindergartners learn fundamental locomotor movements and make dances based on poems, stories and nature.

- First graders discover movement creatively through explorations of time, space, shape and effort. They study the human skeleton and the movement of bones, muscles and joints.

- Second graders investigate the actions and qualities of the water cycle. Students create dances based on the body coordination of the ocean animals they are studying in their classrooms. In the spring, they become acrobats, lions, tamers and jugglers in the spectacular Second Grade Circus Dance.

- Third grade students explore mirror, shadow and group formations. In conjunction with their classroom study, students develop scenes and perform a dance play based on a Native American story. They also learn "Language of Dance" symbols, and use these building blocks to create dances.

- Fourth graders choreograph and perform the annual Halloween Dance. Trust and weight support are major themes throughout the year as students explore push, pull, and counterbalance with partners. The curriculum also includes a study of a cultural dance form.



## VISUAL ARTS

The program seeks to develop the student's innate creative abilities by encouraging self-expression and visual awareness. In class with the visual arts teacher, students explore design, shapes, color, textures, composition, balance, and abstract and representational themes through a variety of media, such as craypas, pencils, clay, papier maché, watercolor and tempera paint. Challenging, open-ended problems are presented by the teacher, and connections are made to art history and different cultures. The children learn how to analyze their own work and the works of others. They will explore various disciplines, including drawing, printmaking, collage, sculpture, and painting.

*Sample projects include:*

- Kindergarten: Collages, monoprints, printmaking, cardboard animal constructions
- First grade: Big People paintings, collage paintings, cardboard people
- Second grade: Craypas portraits, papier-maché animals, sea animal collagraphs
- Third grade: Imaginary creature collages, parent/child paintings, papier maché busts of famous people.
- Fourth grade: Paintings inspired by the work of famous artists, Calder-inspired abstract mobiles; African-inspired clay masks, stamp carving, and printing hand-bound sketchbooks.

## WOODWORKING

The woodworking program combines manual skills with visual arts concepts. Each class begins the year with a directed project, to learn and reinforce such skills as sawing, hammering, measuring, using a square accurately, understanding wood dimensions and increasingly complex mathematical concepts. Examples of projects are:

- Kindergarten: Animal shape toys or jewelry
- First grade: Animal bookends
- Second grade: Animal Stools
- Third grade: Animal lid boxes
- Fourth grade: Functional furniture

The directed project usually takes one-third of the school year, laying the groundwork for the following two-thirds where the students independently design their own projects. The design process leads them to pay attention to the mathematical and engineering aspects of design as well as the aesthetic ones. In addition, emphasis is placed on problem solving, cooperation, respect of materials and tools, and the ability to work independently.

## PHYSICAL EDUCATION

Lower School Physical Education aims to give children the best possible introduction to the wonderful world of sports and physical activity. We believe we have developed a unique, groundbreaking approach to children's sports based on a multi-skill philosophy. By helping children develop a firm foundation of fundamental movement skills (FMS), we empower children to have the confidence to access and enjoy any physical activity as they get older.

Our primary goal is for students to experience personal success in sports. Children competent in FMS are more likely to enjoy and have a positive attitude towards sports and physical activity. Important goals also include increased awareness of the health benefits and the increased self-confidence one can achieve through physical competency. Children are engaged in a wide variety of physical activities that benefit the healthy development of the whole child.

## HEALTH

Third and fourth graders have regularly scheduled health classes with the health teacher. Topics for third graders include medicine safety, the dangers of cigarettes and smoking, and interpreting and constructively demonstrating emotions. Fourth graders discuss nutrition, the dangers of tobacco and alcohol, decision-making skills, and puberty/ body changes.

## KINDERGARTEN

### Speaking and Listening

Kindergarten children see and use written and spoken language in concrete, meaningful ways. Students are encouraged to create individual stories and charts, share items from home, contribute to discussions during meeting times, describe their own work and ideas, plan concepts for extensive block-building and art projects, and use choice time to expand their communication skills. Listening skills are fostered through meeting and story times as children learn the many purposes of listening: for enjoyment, for directions, and to understand one another's feelings.

### Reading and Reading Readiness Skills

Children have frequent opportunities to develop a beginning sight word vocabulary. Beginning with reading the daily schedule, the children are engaged in activities including whole- or small-group games such as rhyming, letter sounds, and initial consonant recognition, which are used to teach readiness skills. Work time choices offer activities that reinforce readiness and reading skills, such as letter-sound correspondence games, sight word identification, and the matching of pictures with words.

Each kindergartner has an individual book basket of teacher-selected books to read independently throughout the week. Phonemic awareness, articulation stimulation, and discrimination through movement are taught through the highly engaging Sounds in Motion program.

Children expand their reading skills by using sound spelling to record their own ideas or stories and make labels and signs for classroom objects. They read their own stories and those of their peers. An extensive folktale unit is the premise for exploring setting, plot development, and character traits.

Writing is connected to all areas of the curriculum. When taking a field trip or completing a painting, a science project, or a math activity, students use writing to describe, label, and record. An age-appropriate research project focussed on an animal of the class's choosing culminates in individually created "research" books and detailed dioramas. The Handwriting Without Tears program addresses graphomotor skills and the careful formation of letters and numbers.

### Mathematics

Number concepts are explored extensively using mathematically rich manipulatives, as well as, common and found objects from everyday life. Children gain hands-on experience in mathematical problem-solving through projects that address:

- Counting meaningfully – determining the number of objects in a set through understanding of sequence, one-to-one correspondence, ordinality, and cardinality.
- Classification and sorting – grouping objects into sets according to properties and attributes
- Ordering – organizing materials into logical sequences, where size, quantity or numeral order is assessed
- Combining and separating – working with small quantities of numbers to explore addition and subtraction situations as relationships between parts and a whole

Other skills that are introduced and reinforced include:

- Recognizing and forming numerals
- Identifying and extending repeating patterns
- Collecting and interpreting data with graphs and surveys
- Comparing objects for linear measurement, using non-standard units
- Understanding the concepts of lesser, greater, equal to
- Recognizing and describing basic polygons

### **Social Studies**

Kindergarten children gradually expand their perception of themselves as they relate to others within the classroom and school. Teachers assist students in understanding daily schedules, routines, and the roles of teachers and students. Children learn to take responsibility for classroom jobs. The class becomes a community of learners as children work in small and large groups on common projects. Children expand their awareness of their similarities and differences through a study of family as community. They explore their school and interview workers to learn about their jobs. Block building, book making, creating murals and digital photography are used to deepen the students' understanding of how our school functions.

A winter animal research project culminates with an individually produced book and related art projects created by each child. These are shared with families in a classroom celebration.

### **Block-Building**

Blocks are an integral part of the curriculum as children build functional structures to create a "Block City" each week. Through their work with partners on block-building projects, students learn about mutual decision making. Imbedded in block play are math and science concepts such as symmetry, volume, area, stability, gravity and balance.

### **Science**

Science is directly connected to the daily life of a kindergartner. Natural objects found in the park, on the street, or at home often become incorporated into classroom exploration and discovery. Science topics are integrated throughout the curriculum. Students work with the Lower School Science Specialist in their classrooms and the Lower School Science Lab. Units of study include topics such as the five senses, plants and seeds, snails and simple machines.

### **Game Days**

Parents are invited in several Friday mornings throughout the year to spend time doing activities with their children and viewing some of their work. Classrooms are beautifully decorated to reflect the special theme of the morning. Themes include: Math Games, Halloween Arts and Crafts, Valentine's Day Writing and Art Projects, Animal Research Sharing, Alphabet Books Publishing Party and Music and Dance performances.

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## **FIRST GRADE**

### **Language Arts**

Teachers use a wide range of approaches to teaching reading. The classroom is a language-rich environment, where skills are introduced through sight words, the understanding of phonetic patterns, and beginning punctuation. The teachers use every opportunity to increase reading skills by incorporating these into the day's schedules, charts, poems, and activities. In addition to whole-

group instruction, students work in small groups and have time for independent reading experiences each day. Instruction is carefully designed to meet all readers where they are. Reading levels range from emergent readers to fluent chapter book readers as early as the start of the year.

The students develop skills in decoding, phonics, building a sight vocabulary, and using context to gain increased understanding, and increasing their ability to read longer texts.

Students receive daily instruction in the art of writing. Genres covered include personal narratives, fiction, poetry, and journal writing. Daily mini-lessons teach and demonstrate the writing craft and process – drafting, revising, editing and how to publish a piece of writing. Generally, children “publish” three significant books in the course of the year. These are shared with parents at delightful Publishing Parties. Other important aspects of the writing program include attention to proper letter formation, spacing, beginning punctuation and spelling.

## **Mathematics**

The first grade math curriculum connects beginning number concepts to everyday mathematical applications. Children develop their number sense and mathematical understanding through lessons and manipulatives that address:

- Reinforcement of basic concepts and skills of meaningful and accurate counting, comparison of quantities, and part-whole relationships
- Exploration and practice with combinations of numbers up to 20 to develop a firm foundation of facts and relationships in addition and subtraction
- Application of these concepts and skills to larger numbers up to 100
- Exploration of the concept of place value, by unitizing ten objects as a group of ten.
- Measurement with non-standard units to lay the groundwork for linear measurement with standard units
- Collection and organization of data

## **Social Studies**

The first grade social studies curriculum centers on community and systems within our immediate neighborhood.

### ***Neighborhood Study***

- What makes up a neighborhood?
- What kinds of systems does a neighborhood need to function?
- What kinds of institutions are in a neighborhood?
- What kind of jobs do people do?

### ***System Study***

Students explore and study the Post Office as a working system in our community. They are responsible for running and operating an in-school Post Office for a week. The goals of the study are:

- To provide knowledge about how mail is processed
- To provide the children with real-life experiences in which to apply basic skills such as writing a letter, addressing envelopes, and using the mail system
- To develop a sense of responsibility as a post office employee
- To unify the school through a student-centered communication system

## **Science**

First graders work with the science specialist weekly in the Lower School Science Lab. They build upon their observation and experimentation skills while they explore the following topics in the classroom and on field trips: garbage and recycling, magnets, physical change and life cycles.

## SECOND GRADE

### Language Arts

The second grade language arts curriculum is intended to develop a love of reading in all its forms. Second graders read increasingly sophisticated literature as they continue to develop their skills in decoding and comprehension. Second graders enter the school year at a wide range of reading levels. Teachers attend closely to each student's reading level as they progress. In addition to fiction and non-fiction, genres such as mystery, biography, and science writing are explored. Comprehension and fluency are supported in small, guided-reading groups through written, conversational, and dramatic activities. Teachers College Reader's Workshop is one of the platforms of the reading program.

The writing curriculum frequently links up reading with writing topics, overlapping with work in small reading groups, as well as, read-aloud books shared with the entire class. For instance, many high-quality "mentor text" picture books and memoir stories are read aloud before having students write their own. The classroom is also rich in non-fiction texts during the ocean animal research study, the change-makers unit and the study of the Brooklyn Bridge. Using a writer's workshop model, students share their work and participate in peer editing. Students are held increasingly accountable for their spelling, punctuation, and handwriting.

A primary goal is to cultivate motivated writers who are writing authentically interesting material to be shared with an audience.

### Mathematics

Second grade students build on their previous mathematical work as they apply their skills and strategies with greater sophistication, planning, and accuracy to larger numbers and more complex situations. In particular, a major goal is that students work toward automatic recall of the foundational addition and subtraction number facts for the end of the year. In their mathematical explorations second graders:

- Work with number concepts of "skip-counting" by 2s, 5s, and 10s, and with even and odd numbers
- Further develop their understanding of place value concepts and equivalency as they flexibly compose and decompose larger numbers into groups of tens and ones.
- Apply their knowledge of place value concepts to increasingly efficient solution strategies for addition and subtraction computation with two digit numbers
- Solve word problems involving addition, subtraction, time, money, and studies in other areas of the curriculum, such as the Brooklyn Bridge
- Communicate their mathematical ideas and solutions to others both on paper and aloud in math discussions
- Collect, organize and analyze data in bar graphs, Venn diagrams, and line plots
- Explore geometry concepts, including the attributes of rectangles and mirror symmetry
- Tell and understand time on analog and digital clocks to the 5 minute mark

### Social Studies

The second grade social studies curriculum mirrors the seven and eight-year old's increasing capacity to understand, question, and respond to the larger world. We begin the year studying family diversity and individual uniqueness. We build on what children know and notice about differences among each other to make sense of differences they observe in the broader community. Our ulti-

mate goal is in line with the core beliefs of the Religious Society of Friends – that we must acknowledge the dignity in each person and work towards cultivating peaceful and just communities.

Specifically the second graders bake dessert and serve at the Quaker Meeting House’s monthly community dinner. Through the citywide Penny Harvest, they collect, count, and donate money to local community organizations of their choosing.

They learn about civil rights and social justice, participate in culture shares, and undertake a study of the Brooklyn Bridge. The Change-Maker curriculum extensively integrates reading, writing and critical thinking skills as children learn about people who impacted significantly in the pursuit of gender and racial equity, worker’s rights, civil rights and LGBT rights. Examined are the life circumstances of each change-maker, the issue of concern for each, who his/her allies were and what change(s) each was ultimately able to affect.

The children then study the history of the construction of the Brooklyn Bridge and learn about the structural design details of this world-famous bridge, which is located just blocks from our school. Closely studied are the Roebling family (the bridge builders) and the enormity and specifics of the challenges faced in building the bridge. Kriss Roebling, great-great-great grandson of Washington and Emily and Roebling, has visited annually in recent years. After much research and math related work, the study culminates with an original play, with some music, written and performed by the second graders for their parents.

## **Science**

Second graders work with the science specialist weekly in the Lower School Science Lab. Through class projects and field trips, they explore a number of topics, including bridges, the properties of water, light, and ocean animals.

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# **THIRD GRADE**

## **Language Arts**

By third grade, students have internalized many reading strategies, and emphasis is placed on fluency, vocabulary, and comprehension. The reading program is predominantly literature-based. Students read chapter books both independently and in guided reading groups. Throughout these reading experiences, students engage in group discussions and extended projects.

In writing, students explore several genres including narrative fiction, poetry, and non-fiction writing. In creative writing, they follow the stages of the “Writers’ Workshop.” This begins with choosing a seed idea, writing a rough draft, conferencing with peers and teachers, revising, editing, and finally publishing their work. Crafting a trickster tale, persuasive writing, and scientific writing are significant unit studies.

Third grade writing closely reflects “standard spelling” as children strengthen spelling skills through weekly spelling patterns and personal word lists. Dictionary use is employed for spelling as well as for deducing the meaning of words. Writing mechanics are systematically taught and expected to be integrated more carefully into one’s writing. Cursive writing is systematically taught throughout the year.

## **Social Studies**

For much of the year, students study the Eastern Woodlands Haudenosaunee, centering on this nation’s housing, clothing, food, travel, spiritual and family life in both past and present times. Early

work is focused on Brooklyn's landscape prior to its settlement. Geography is explored through a variety of maps. What it means to "discover" a country is examined. Respect for diverse cultures is a key goal as students discover and deconstruct stereotypes of Native Americans.

Students engage in hands-on projects to demonstrate their understanding of the curriculum. This may include building model longhouses, cooking and preparing traditional dishes for a Haudenosaunee luncheon, telling legends and stories using felt pieces, performing the Great Law of Peace play, and holding a culminating celebration to share their work and understanding with others in the school community. Later in the year, students learn about other native people who settled in different geographic areas (i.e. the plains, tundra, desert,) throughout the United States. How geography influences culture is carefully and thoughtfully examined and researched.

## **Mathematics**

Building on their previous work with numbers and operations, third graders work on developing their computational accuracy and efficiency in larger number addition and subtraction, and explore in depth the operation of multiplication and the beginnings of division. They develop a greater ability to verbalize mathematical strategies and apply them to concrete problems in the real world. Mathematical manipulatives, tools, and contexts are integral to this work as students build understanding. By the end of the year, third graders are well on their way to quick recall of the fundamental multiplication facts, which is supported through classroom practice, games, and homework. Over the course of the third grade year, students explore:

- Place value up to the 1000's place
- Addition and subtraction using strategies based on number lines and landmark numbers, as well as the standard algorithms
- Multiplication and division situations and computation through skip-counting, repeated addition, and rectangular arrays
- Measurement in the metric system, including length, volume, and mass
- Elapsed time situations and problem solving
- 2-D geometry, including polygon attributes, spatial relationships, congruency, and area

## **Social Studies**

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Students engage in hands-on projects to demonstrate their understanding of the curriculum. This may include building model longhouses, cooking and preparing traditional dishes for a Haudenosaunee luncheon and telling legends and stories using felt pieces. Performing the Great Law of Peace play and showcasing their work in a classroom Haudenosaunee Museum are culminating celebrations.

Examining how environment shapes culture, other Native groups in North American regions are studied, including: Southwest, Florida, Arctic, Northwest Coast, Great Plains and California. Trips include the National Museum of the American Indian and the Native Flora Garden at the Brooklyn Botanic Garden.

## Science

Children continue to use the scientific method as they observe, hypothesize, test, and form their own conclusions. Third graders work with the science specialist weekly in the Lower School Science Lab, in addition to being involved in science learning in their classrooms and on numerous field trips. Topics include: botany, astronomy, simple machines, and ecology.

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## FOURTH GRADE

### Language Arts

As fourth graders are able to read independently and comprehend full chapter books, they strive to understand books at a more sophisticated level: What are the attributes of a great book? How do characters change over time? How does setting affect the story? What is symbolism, foreshadowing, plot? How does a writer convey tone, suspense, humor, point-of-view?

Students are expected to read a minimum of 25 books independently.

Novels, short stories, and poetry are explored in group discussions and debates, art projects, and research reports. Skills – factual recall, making inferences, and summarizing – are reinforced. Vocabulary understanding and fluency continue to be strengthened. Students keep individual reading journals that are periodically read and responded to by their teachers.

The books fourth graders read may include: *Bridge to Terabithia*, *The Wizard of Oz*, *Because of Winn-Dixie*, *The Watsons Go To Birmingham– 1963*, *Tuck Everlasting*, and *Love That Dog*. There is often an in-depth study of one author's work, followed by a visit with that author.

Fourth graders write frequently over the course of the year. Beginning with a "Memoir" students are empowered to take risks. In their Writer's Notebook, they brainstorm, experiment, and revise their writing thoughtfully and meaningfully. Since students write about their own lives, experiences, dreams, and thoughts, there is a sense of ownership in their work. Other genre studies include poetry, quest stories, persuasive writing and speech writing, each culminating with publication. A favorite yearly event is the Fourth Grade Poetry Slam.

Writing continues to be cross-curricular, as students communicate their ideas in mathematics, history, and science. Skill work focuses on self-editing skills. Students continue to develop research/report writing skills, mastery of the cursive alphabet, touch typing, the crafting of interview questions, and letter writing. The year culminates with a self-selected research topic thoroughly explored through texts, online and digital resources. Research reports are shared with one another and families.

### Mathematics

In fourth grade, students gain greater proficiency and confidence in using the language and relationships of mathematics to understand mathematical situations and solve multi-step and multi-operation problems. They further develop both their ability to explain their mathematical work on paper and to communicate aloud to their peers in group discussion and reflection. Fourth graders also refine their mental math skills to select and apply their number sense to appropriate strategies, as well as to use estimation to evaluate the reasonableness of their solutions. Mastery of the core math facts is expected to allow for the mental manipulation of increasingly more complex number problems. In summary, fourth graders explore and practice:

- Place value understanding to the millions place
- Efficient addition and subtraction strategies with large numbers



- Multiplication and division situations and relationships, including understanding of remainders in various scenarios
  - Multi-digit multiplication and division computation using rectangular array models, number lines, and standard algorithms
  - Rational numbers, including the naming, comparison, equivalency, and number line placement of fractions, decimals, and percents
  - Data collection, analysis, and probability
- 2D geometry, including area, perimeter, types of angles, and polygon attributes and nomenclature  
Measurement in the metric system

## **Social Studies**

The social studies curriculum focuses on American history from 1600-1720. Students strive to answer the questions: What is history? What is culture? What can we infer about cultures from historical artifacts? How were communities formed and structured?

Starting a comparison of the explorations of Marco Polo and Ibn Battuta, the travels, triumphs, and failures of numerous explorers are studied. Students learn about the voyages to the New York region by Hudson and Verrazano. They engage in an in-depth study of New Amsterdam, its history and culture. Daily life of the settlers is explored through research, films, trips, and readings, especially primary source material. Ship logs are carefully examined and interpreted. Each child writes a thoroughly researched and detailed report on the life of an explorer. The integration of Native Americans, African-Americans, Quakers, and Jews into the new settlements is examined and discussed.

Community governance, trade, customs, foods and religious practices are explored. Note-taking, outlining, and organization skills are taught. Geography and mapping skills are integrated into the study. Literature set in the time period and region is used, with an emphasis on literature as a learning resource.

Participation in discussions about current events occurs regularly. These discussions focus on examining values, as well as opportunities for service or social action, as students grasp how individuals can effect change in a culture, a political system, or the world.

## **Science**

Fourth graders work with the science specialist weekly in the science lab. As part of the integrated curriculum, they undertake a hands-on exploration of the ecosystems of rivers. Students learn how to differentiate streams, rivers, and tributaries. They learn about water formations and erosion, and they develop an awareness of indigenous marine life. There is an extensive study of the Hudson River and the environmental impact of people and the effects of pollution, culminating with a trip on the environmental sloop Clearwater. Other topics include: electricity, river systems, geology, and kitchen chemistry.

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# MIDDLE SCHOOL

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## INTRODUCTION

Early adolescence is a time of rapid growth, enthusiasm for learning, and increasing independence as students explore both their personal identities and their relationships to others and the world. The Brooklyn Friends Middle School provides a structured educational program that addresses all aspects of the maturing child: the academic, spiritual, moral, physical, emotional, and creative. It does so within the context of Quaker principles emphasizing integrity, service, peaceful resolution of conflict, and the that there is “that of God” or “the light” in each human being.

The curriculum provides students with opportunities to gain new experiences, learn more about their interests and strengths, and assume leadership roles. In most classes students are grouped heterogeneously so they can discover how to learn with and from those with diverse strengths, skills, and perspectives.

The program presents academic challenges that are developmentally appropriate. The BFS Middle School celebrates diversity and fosters each student’s sense of self; it also promotes a sense of responsibility for the concerns of the community and the world beyond.

A balance between group work and individual learning is maintained. Foundational skills and higher-level thinking skills are promoted. Successful work in analysis, synthesis, and critical thinking requires factual knowledge, organizational skills, as well as skills in reading, writing, and mathematics. While the program prepares students to understand and use the technology of the information age, it also seeks to develop the habit of exercising critical judgment in using the growing body of information that technology has made possible.

The Middle School program is informed by the belief that the best educated individual exhibits intellectual curiosity, integrity, self-discipline, and a concern for others. Such individuals are motivated to become the best they can be.

## THE ADVISORY PROGRAM AND SERVICE LEARNING

The Advisory program provides a system of support for students by designating one teacher as the advisor and regular contact person for families and teachers. An Advisor works in conjunction with the teachers, the family, and administrators to build toward each child’s success.

The Advisor monitors student progress and offers encouragement, support, and assistance on academic, behavioral and developmental issues. As the primary advocate for the student, the Advisor works to establish a close rapport with the student as they work together to determine strategies for strengthening skills or study habits, improving time management, and directing attention and energy appropriately. This eases efforts for resolving concerns or conflicts should they arise. Each student is also assigned to an Advisory Group. In grades 5 and 6, students have a Homeroom Advisory. In grades 7 and 8, each student is part of a Homeroom Advisory and a Small Group Advisory.

During the weekly Advisory period, the advisors lead discussions and facilitate activities on a variety of topics of special importance to students. This time serves as a forum for discussing learning strategies, social skills, and events in the larger community that have an impact on students. It is also dedicated time for our “Everyone’s an Ally” curriculum, a set of lesson plans for 5th through 8th graders in which students explore who they are in relation to others and utilize critical thinking and problem solving skills about social justice and equity.

Service Learning is an important part of the advisory program. Service encompasses learning, action, and reflection. Projects are planned and carried out in advisory groups; they include beauti-

fying neighborhood parks, running toy and book drives for homeless shelters, visiting with children in daycare facilities, and reading and playing math games with local kindergarten public school students. Eighth graders learn service entrepreneurship skills and take part in outreach programs at the Brooklyn Monthly Meeting of the Religious Society of Friends.

Quaker Meeting is at the heart of the Brooklyn Friends experience. Each week, teachers and students gather for Quaker Meeting at the meetinghouse on Schermerhorn Street; this is a time for silence, personal and group reflection, and the sharing of insights or concerns. A period of silence is also observed during morning advisory.

Collection, held once a week in the school meetinghouse, is a time for the entire middle school community to gather for announcements, special presentations, or performances from invited guests, students, or teachers.

## **ENGLISH/HUMANITIES AND HISTORY**

### **Fifth Grade Humanities**

The fifth grade humanities curriculum is a cross-disciplinary program incorporating English and history. Interdisciplinary projects are co-planned with science, art, and dance teachers.

The History program focuses on the ancient civilizations of Sumer, Egypt, China, India, Greece, and Rome. The curriculum aims to introduce students to methods of inquiry that can be applied broadly beyond our study of ancient civilizations. We expect students to reflect on their own cultures and to find similarities and differences between societies, both ancient and contemporary.

Through their studies, students learn how these early societies adapted and learned to control their physical environments; how their religious ideas, forms of government, literature, and understanding of natural events reveal their values and beliefs as a people; and how each civilization developed new ideas in technology, science, mathematics, and government.

Selections from the following books may be read and discussed: *Tales of Ancient Egypt*, *The Greek Gods*, and *The Ancient World*. Students complete research projects using trade publications and the Internet.

In addition to the readings related to the history curriculum, students explore a selection of contemporary literature with a focus on characters emerging from childhood into adolescence and assimilating the independence and responsibilities of increased autonomy. The class takes a multi-genre approach, with students reading novels, poetry, short stories, myths, and memoirs. There is an emphasis on reading for meaning, group discussion, the writing process, and skill development via frequent, varied assignments (creative stories, essays, book reports, poetry). Weekly grammar and vocabulary units are taught, with emphasis on writing mechanics, spelling, and spelling rules.

Among the works studied are *Red Scarf Girl* (Jiang Ji Li); *El Deafo* (Cece Bell); *Wonder* (R.J. Palacio); *The Lightning Thief* (Riordan), *Crash* (Spinelli), short stories, poetry, and Egyptian, Greek, and Roman myths.

A major part of the curriculum is the development of organizational skills such as creating a system for keeping track of homework assignments, learning various techniques for test-preparation, and strategies for test-taking.

### **Sixth Grade Humanities**

The development and spread of civilizations throughout the Middle Ages is the focus of this class. Students start with a study of stories from the Hebrew and Christian Testaments to establish

a cultural framework for their studies of Medieval Europe and the Islamic Empire. Students learn about these cultures and the African Empires of Ghana and Mali, learning how these societies passed from more segmented village life into more formalized, more cosmopolitan societies. Students focus on the social and political histories of these areas and their influence and impact on each other. At the beginning of the year, students work on a brief research project; at year's end, they spend several weeks on an extensive research project. Main texts include *The European World* and *The African and Middle Eastern World*. Supplemental texts include *Arabs of the Golden Age*; *The Royal Kingdoms of Ghana, Mali and Songhai*; and others.

In addition to their readings in history class, students read a variety of literary genres – novels, short stories, and poetry. There is an emphasis on frequent and wide-ranging writing assignments (five-paragraph thesis essay, research reports, journals, creative fiction, poetry); grammar; vocabulary; and spelling. Each student undertakes an Independent Reading Portfolio and Research Project.

Among the works studied are *Beowulf, A New Telling* (Nye); *Roll of Thunder, Hear My Cry* (Taylor); *Catherine, Called Birdy* (Karen Cushman); *The Giver* (Lowry); and others. Students read and analyze excerpts from short story and poetry collections and keep a portfolio of their independent reading. English Workshop (Second Course) is the grammar text.

Activities include a visit to the Cathedral of St. John the Divine, a Middle Eastern bazaar, and a trip to the Dance Africa Festival at the Brooklyn Academy of Music.

### **Seventh Grade English**

The literature read and analyzed in this class is multi-genre, with a focus on novels, poetry, and drama. The essential themes are the individual's relationship to larger society, point-of-view, identity, and power structures. There is an intensive focus on the writing process, which includes brainstorming, outlining, drafting, editing, and revising for a variety of purposes and audiences. Writing assignments may be analytical, narrative, or creative.

Among the works studied are: selected poetry; *The Outsiders* (Hinton); *Seedfolks* (Paul Fleischman); *Twelve Angry Men* (Rose); *Alice's Adventures in Wonderland* (Carroll); *American Born Chinese* (Luen Yang); *To Kill a Mockingbird* (Lee); and *Romeo and Juliet* (Shakespeare). Seventh grade has a strong focus on writing, grammar and usage, with students and teacher focusing on the topics of pre-writing, drafting, revising, and crediting the works of others. Creative writing units focus on poetry and short-short fiction.

### **Seventh Grade History**

Seventh grade history focuses on the history of the Americas beginning with the origins of Meso-America and moving to a study of North American Nations including the Iroquois. We then study the impact of European exploration and colonization, eventually looking at the founding of the United States. Other major curricular areas include African American history, the Age of Jackson, and the spread of Industrialization and its impact. The year concludes with a glimpse of the late antebellum period. Our approach is a social-historical one, recognizing the interplay between world events and individual experiences, as students examine the foundations of governance in diverse cultures.

A highlight of the school year is participation in the "Constitution Works" program. Students also write three or four research/thesis papers per year. Texts include *The American Nation*, *African American History*, and the *Constitution Works Student Workbook*.

## **Eighth Grade English**

In eighth grade, literature studies are integrated with the history curriculum focusing on the multicultural fabric of the United States. Through literature and history, students explore social and cultural issues of the past and present including issues of power, class, ethnicity, race, gender, and how language is used to define and persuade.

The works studied may include: *A Tree Grows in Brooklyn* (Smith); *The Absolutely True Diary of a Part-Time Indian* (Alexie); *The Narrative of The Life of Frederick Douglass*; *The House on Mango Street* (Cisneros); *Of Mice and Men* (Steinbeck); *A Midsummer Night's Dream* (Shakespeare); *Maus I and II* (Spiegelman); and selected poetry and modern short stories.

Vocabulary and literary devices, such as theme, irony, plot, dialect, symbolism, character development, and point of view, are studied in the context of the literature read. Students strengthen their grammar, vocabulary, and writing skills through frequent in-class writing and the creation of more advanced creative and analytical pieces.

## **Eighth Grade History**

Eighth Grade History focuses on the main events in the United States from the late antebellum period through the mid-1960's. Special emphasis is placed on the Civil War, Reconstruction, the New Immigration period, the Progressive Reform Era, World War I, the Great Depression, World War II and the Civil Rights Movement. The course uses a social-historical approach, recognizing the interplay between famous movements and individual experiences.

Throughout the course, students ponder the following essential questions: Who writes history and why? How is identity affected by ethnicity, race, gender, and class? What factors affect social mobility? Finally, when appropriate, the course looks at American history through the lens of New York City. It attempts to determine how New York both created, and reflected, trends seen throughout the nation.

## **MATHEMATICS**

The overall goals of the Mathematics program in the Middle School are to have students build confidence in their mathematical ability, develop problem-solving skills, learn the mathematical skills and concepts that they will need in later mathematics courses and subjects, and learn to communicate and reason mathematically as they gain an appreciation of the value of mathematics in their lives.

The curriculum expands students' knowledge of numbers, computation, estimation, measurement, geometry, statistics, probability, patterns and functions, and the fundamental concepts of algebra. The curriculum is spiral in nature; topics are revisited each year in order to deepen and extend the understanding of concepts and their application. In addition to making use of manipulatives, lessons are developed to promote cooperative learning and communication skills, the integration of mathematics with other subjects, and the development of critical-thinking skills and individualized learning. To maximize learning, the mathematics program offers extra support for students through the weekly math labs, as well as opportunities for students to participate in national math contests for enrichment.

## **Fifth Grade Mathematics**

Fifth grade mathematics is designed to foster an understanding of ideas and concepts in mathematics, to develop problem-solving strategies, and to strengthen and expand arithmetic skills, mental math, and estimation strategies. This course emphasizes cooperative problem solving, appropriate use of technology, open-ended problems, and multiple types of mathematical commu-

nication (verbal, written, and pictorial). Topics explored in fifth grade mathematics include patterns, different based number systems, whole number operations, fraction and decimal operations, and two and three-dimensional geometry.

### **Sixth Grade Mathematics**

Sixth grade mathematics combines arithmetic and geometry with an emphasis on real life mathematics. In this course students will be encouraged to make sense of the quantitative nature of our world. The course has three major components: the conceptual understanding of mathematics; the development of problem solving strategies, and the strengthening and expanding of basic skills, mental math, and estimation strategies.

This course emphasizes cooperative problem solving, appropriate use of technology, open ended problems, and effective mathematical communication (verbal, written, and pictorial). Topics explored in sixth grade mathematics include graphing and data analysis, integers, introduction to algebra, two-dimensional geometry, rational numbers, and proportional reasoning.

### **Seventh Grade Mathematics**

This is a pre-algebra course combining arithmetic and geometry with an emphasis on applied mathematics. Students are expected to generalize ideas, look for patterns, and move beyond a concrete interpretation of our world. There are three major components: understanding ideas, developing problem-solving strategies, and strengthening and expanding basic skills and mental math.

The focus is on the mathematical process of solving a problem. Technology is used as a tool to solve problems with a concentration in computer spreadsheets. There is an emphasis on cooperative learning, real-life projects, open-ended problems, and different types of communication (verbal, written, pictorial). Topics explored in seventh grade mathematics include linear equations, algebraic expressions, rational numbers, data analysis applications, proportional reasoning, special right triangles and the Pythagorean theorem, angle relationships, and 3-D geometry.

### **Eighth Grade Mathematics**

Eighth grade mathematics is an Algebra I curriculum – an intensive exploration of algebra that will expand upon students' previous understanding of arithmetic. Students study functional relationships, connections among ways of representing these relationships, and the use of representations of functions to solve problems. These relationships provide the basis for solving equations and inequalities. Students are introduced to coordinate geometry, polynomials, and quadratic functions. Topics explored in Algebra I include linear functions, equations and inequalities, absolute value equations and inequalities, rational expressions and equations, radical expressions and equations, systems of equations, proportional reasoning, and probability.

## **SCIENCE**

Developing scientifically literate individuals is the overall goal of the science program. Through the use of a hands-on, laboratory approach, students develop their analytical and reasoning skills, as they make hypotheses, conduct experiments, record observations, draw conclusions, and present findings. Class discussions, debates, oral reports, and formal lab and research projects further facilitate the mastery of content and the development of skills. The integration of environmental studies into course work helps students understand the role of science in dealing with the social as well as technological changes in the world. Seventh and eighth grade students develop analytical research presentations for a Virtual Science Fair.

### **Fifth Grade Science**

Fifth graders study general science, with a focus on life science: living things and cells, plants, ecology, and animals, with an emphasis on invertebrates. Important themes are biodiversity, adaptation, evolution, and the interconnectedness of everything in nature. An overnight trip to Nature's Classroom in New England is an integral part of the curriculum. A special emphasis is placed on connection to students' life experiences and the investigative nature of science. Students develop skills such as observation, classification, metric measurement, designing experiments, writing lab reports, and conducting research.

### **Sixth Grade Science**

Students study physics and chemistry. The course explores the physical and chemical properties of matter, energy, natural resources, and nuclear science. Students develop deductive and inductive reasoning skills and an appreciation of the importance of examining and recording data. Laboratory investigations and model-making activities challenge and develop students' thinking and reasoning skills. Scientific problems and questions provide students with ample opportunities to hone these skills as they work through and solve problems. Educational science trips also contribute to student learning.

### **Seventh Grade Science**

In seventh grade, students examine the life sciences. Topics include: life processes, the animal kingdom, human anatomy and physiology, the theory of evolution, and ecosystems. Students investigate concepts relating to biological science as they identify, examine, and compare the organizational structures of uni-cellular and multi-cellular organisms and interpret the function of various structures. Students also make evaluations and decisions based on evidence and proof. These concepts are reinforced through various role-playing activities and laboratory investigations in which students demonstrate and observe structure and function as well as cause and effect relationships.

### **Eighth Grade Science**

Eighth graders study earth science, focusing on astronomy, environmental science, and geology. In the astronomy component, students expand their perceptions of the world, looking beyond the Earth's formation to find out about the relationship between the Earth, the Sun and other planets, and the history of space travel and moon exploration. Students study natural resources, air and water pollution, and the environment. In geology, students study rocks, landforms, erosion, deposition, rivers, and glaciers. These concepts are covered in depth through a study of New York City's geology and through a study of the geology, ecology and marine biology of Cape Cod, Massachusetts. A field trip to Cape Cod allows the students the opportunity to experience the environment first-hand.

## **WORLD LANGUAGES**

The four world languages taught in the Middle School are Spanish, French, Latin, and Mandarin. In 5th grade, all students are enrolled in Spanish. In 6th grade, students can choose between Spanish or French and will continue this course of study throughout their Middle School years. The French and Spanish programs focus on the acquisition of the target language and the development of linguistic skills through the study of diverse oral and written materials related to the culture of the respective French- or Spanish- speaking countries. We use a communicative approach centered on the functional use of the language. The axis of the curriculum is centered on procedures designed to help students attain an effective oral and written communicative competency. Although

not exclusively, the target language is used as a means of communication in the classroom. Spanish or French will be used in contextualized situations and activities that correspond to the interests of the students to stimulate oral and written expression. The language will be taught in a natural manner and will be age appropriate.

*In addition to Spanish or French, in 7th grade, students are also enrolled in Latin. And in 8th grade students can choose to study either Latin or Mandarin in addition to their primary language of study (Spanish or French).*

### **Fifth and Sixth Grade Spanish**

The fifth and sixth grade Spanish program of study is a continuation and expansion of the Lower School World Language curriculum. The content can be divided into three areas:

The production and reception of written and oral Spanish;

The elements that constitute the Spanish linguistic system, its operation and interrelations;

The social and cultural dimension of the Spanish-speaking world. By the end of the sixth grade, students will be able to talk about future plans and past events, describe objects and their use, give advice and describe habits, people and things in the past.

### **Seventh and Eighth Grade Spanish**

In seventh and eighth grade, the students continue their exploration of Spanish as a means of communication. They continue to add words to their vocabulary and learn more grammar and sentence structures to help them express themselves clearly and effectively. By the end of eighth grade Spanish, the students will be able to understand and communicate in present, past, and future tenses. They will also have an increased understanding of the Spanish-speaking world: the geography, history, accomplishments, and challenges of Spanish-speaking countries and people. Further, they will learn to ask about and talk about typical life situations—attending the movies and theater, home life, food, plans for the future, give opinions, express likes or dislikes, and many more.

### **Sixth, Seventh and Eighth Grade Accelerated Spanish**

(for students with no prior knowledge of Spanish in 6th grade)

Sixth Grade Accelerated Spanish is the beginning of a 7-year program sequence that will take students from the basics of the Spanish language (like numbers and greetings) to reading and discussing classic Spanish Literature like *The House of Bernarda Alba* in the BFS International Baccalaureate Diploma Program.

The content is divided into three areas:

- The production and reception of written and oral language: Our linguistic model uses a variety of oral and written messages, daily expressions, phonetic and prosodic nuances from real communicative situations. We pay attention to the knowledge of linguistic elements as well as to the ability to use them to carry out communicative tasks.

- The elements that constitute the linguistic system, its operation and interrelations.

- The social and cultural dimension: We will learn about customs, social relationships, characteristics and peculiarities of different Spanish-speaking countries. We will promote the respect and interest for different social and cultural realities.

By the end of eighth grade, students will be able to talk about present, past and future events as well as describe things, people and situations in the present and past.



## **Sixth Grade French**

In the fifth grade, emphasis is placed on the four basic language skills: listening, speaking, reading and writing. The emphasis is on training students to listen, speak and understand at the beginning level. Writing and reading, the other important language skills, are also taught so that students begin to have a working knowledge of a foreign language. There is a focus on grammar, which is introduced in a formalized way with a textbook as a primary source as well as through teacher-led discussion. Classes will be conducted in the target language. This course also serves as an introduction to the language and culture of the francophone world. Students see videos, hear music, and look at the artwork of French-speaking people in order to broaden the base of their understanding of cultural diversity. This is the first of a three year program in which the students will follow a sequence that is completed at the end of eighth grade.

## **Seventh Grade French**

This course is designed to reinforce and increase the background material that is taught in the sixth grade. Seventh-grade students will continue the sequential study of their language. In addition to working on the basic skills of listening, reading, writing and speaking, students will be introduced to the culture of the corresponding countries. Technology will be integrated at this level as a learning tool. Students will be evaluated with tests, quizzes and projects. All classes will be conducted in the target language. The students use a textbook and workbook and complete the first half of a Level I course. In addition to the basal text, the language experience is enriched by collaborative activities and ancillary materials; these include movies, videos clips, newspapers and magazines, songs and dances, along with computer programs and the Internet.

## **Eighth Grade French**

Eighth grade French further develops students' oral, listening, reading and writing skills. Grammatical concepts encompass regular, irregular and reflexive verbs in the present, future and passé composé tenses, interrogative and negative expressions, irregular adjectives, comparative and superlative structures as well as prepositions and object pronouns. With this course, eighth-grade students will be expected to master the four skills at a more advanced level, in correspondence to the language that they have chosen and worked with since their entry in the sixth grade. Their vocabulary will continue to be expanded. Focus will be placed on writing compositions. Classes will be conducted in the target language and students will be required to express themselves on a daily basis in that language. Moreover, students enhance their proficiency and gain an awareness and appreciation of various aspects of French life via cultural vocabulary, dialogues and readings. Multimedia and collaborative ventures offer opportunities for reinforcement, self-expression and enrichment in both the French language and culture.

## **Seventh Grade Latin**

In Latin 7, students complete Unit 1 of the Cambridge Latin Course. The 12 stages of the book are built around the experiences of a family living in Pompeii in 67 C.E., the year in which Mt. Vesuvius erupted. The goals of the course are to learn the Latin language by reading it, to develop oral interpretation skills, and to build a familiarity with the cultural context in which the language was spoken and written.

Students are encouraged to use the Cambridge Latin Course online activities webpage for rapid translation practice and vocabulary review. Students practice conversation, write stories, and perform skits in Latin. Course instruction is supplemented by online activities accessible by Smartboard and personal computer. Students participate in the National Latin Exam.

## **Eighth Grade Latin**

This course, combining inductive and deductive instruction methods, teaches comprehension of Latin through reading the language and develops, through the readings, the student's understanding of the social and political history of the Romans. Cambridge Latin Course is the text. Students follow the fortunes of Quintus and Clemens, survivors of the destruction of Pompeii, at the court of King Cogidubnus in the Roman province of Brittania and in the Egyptian city of Alexandria.

Grammatical highlights of this class are the following: the present, perfect, imperfect and pluperfect tenses; irregular verbs; present and perfect participles; infinitive constructions; adverbial and relative clauses in varied positions; and demonstrative pronouns. The course encompasses the study of English derivatives.

Cultural topics include Caesar's invasion of Britain, the British tribal system, life in Roman Britain, the Celts, the palace of Cogidubnus at Fishbourne, the Roman baths at Aquae Sulis (Bath), medicine, science and technology, glassmaking, Alexandria, and the worship of Isis. These topics are expanded in research projects. Students practice conversation, write stories, and perform skits in Latin.

Course instruction is supplemented by online activities accessible by Smartboard and personal computer. Students participate in the National Latin Exam.

## **Eighth Grade Mandarin**

No Prerequisites: For students with little or no exposure to the language.

In introductory Mandarin courses, students are introduced to the phonetic tones and pronunciation rules of spoken Chinese and become familiar with the Pin Yin Romanization system. Emphasis is placed on listening and speaking skills with side-by-side introduction to simplified version of Chinese characters. Using the age-appropriate textbook and workbook series, "Far East Chinese for Youth", students progress quickly into basic skills such as counting, greetings, self-introduction and talking about likes and dislikes as well as the use of simple structures in conversation and presentation as they develop basic competency across all the four language skills – listening, speaking, reading and writing. This Mandarin program is designed to build confidence through interesting, real-life situational use of the language and to provide familiarity with Chinese cultural customs and traditions by introducing and practicing the art of Chinese calligraphy and paper-cutting, celebrating major Chinese festivals – Spring Festival, Mid-Autumn festival with moon cakes, etc. CDs, CD-Roms, games, songs and movies and clips will assist learning in a fun, lively and motivating way.

## **VISUAL ARTS**

The visual arts curriculum continues and expands on the work explored in previous grades. In fifth and sixth grades, all students take Art Studio for one semester twice a week, and Ceramics for one semester twice a week. Seventh and eighth graders take semester elective classes twice a week.

### **Fifth and Sixth Grade Art Studio**

Students explore imaginary realms and sharpen their visual awareness of the world through the use of various materials and techniques. Art concepts such as composition, color, form, line and pattern are discussed and applied. The history of art and cultural connections are discussed for most projects, using resources such as books, prints, slides and videos.

Students work in a variety of media including tempera paint, watercolor, pastel, charcoal, craypas, pen and ink, collage, printmaking, and cardboard construction. During the semester, one of the art projects relates directly to another area of the grade-level curriculum. Fifth grade projects have included plaster carvings of Egyptian gods, mosaics in the style of ancient Greece and Rome, extended

image paintings, drawing from observation and imagination, and sculptures of cakes and pastries. Sixth grade projects have included tempera paintings from observation, stained glass rose windows, drawings, stained glass and tile niches with Islamic inspired patterning, and pen and ink drawings.

### **Fifth and Sixth Grade Ceramics**

Ceramics classes are flexibly designed to address the needs of students at different skill levels. All basic hand-building techniques are explored. Students learn slab techniques, pinch pots, sculpture, jewelry making, wheel throwing, and glaze chemistry. All glazes are non-lead and safe for students to use in class.

## **SEVENTH AND EIGHTH GRADE ARTS ELECTIVES**

### **Ceramics (Throwing)**

This class focuses primarily on wheel work. Students will continue to perfect centering and creation of functional pieces on the potter's wheel. Bowls, cups, and other vessels will be formed. Students will study and be inspired by the work of Korean and Japanese potters, including the master potter, Hamada. Hand building and sculptural pieces will be made during the semester, in addition to work on the wheel.

### **Drawing**

Students work with a variety of drawing media to expand their drawing vocabulary and their ability to see as an artist does. Through assignments, students add to their knowledge of composition, observation, contour, value and shading, and perspective. Subjects are selected from portrait, figure, still life, and interior and exterior views. Experimental drawing, automatic drawing, and outdoor drawing may occur. The scale of work ranges from pen and ink miniatures to wall-size charcoal drawings. Styles of famous artists from the Renaissance to the present are used for inspiration.

### **Painting I**

Students work with acrylic paints. Assignments focus first on painting from observation. Complex scenes and other still-life set-ups are arranged to work from. Emphasis is placed on composition as well as color mixing and matching. Students discover how to depict form, representing light and shadow on objects with paint. Students learn to paint in the style of well-known artists such as Georgia O'Keeffe and Roy Lichtenstein.

### **Painting II**

*Prerequisite: Painting I* Students in this class continue to explore and develop techniques of acrylic painting. Assignments vary from Painting I and may include further attention to work from observation, color and composition and/or developing individual themes and concepts in paint. Reference is made to Art History and the current New York art scene.

### **Sculpture**

Students explore three-dimensionality from relief to sculptural environments. Projects may include: texture transformations, sculptures of common objects that are realistic but on a large scale, clay carvings, mobiles/hanging sculptures, self-portrait treasure boxes. For some of the projects students have the opportunity to choose how to interpret the assignment: what materials to use, whether the sculpture is realistic or abstract, etc. Students look at the work of professional sculptors and draw inspiration from the history of art.

## **Video Production**

Students form production teams to script, storyboard, film and edit short films. Cinematic techniques such as mis-én-scène and b-roll are discussed within the context of historical films, then applied in student work. Emphasis is placed on organization and communicative strategies used by working producers and directors. Films are edited in iMovie and scored in Garageband. Projects include narrative films, documentaries, and PSAs.

## **Digital Photography**

In this course, students learn to balance the technical aspects of digital cameras with creative methods to develop individual photographic practices. Through in-class photo shoots and excursions throughout the neighborhood, students experiment with light and composition to create still life, portrait and street photographs. Students strengthen use of visual language by discussing photographs by artists in history, their peers and themselves. Topics practiced include shutter speed, aperture, sensitivity, tripod use, and lighting. Photographs are edited using Adobe Photoshop.

## **Animation**

This course introduces students to methods of animation and sequential art. Students take a critical look at the history of moving images in different cultures to draw inspiration. Students first develop ideas for compositions using storyboarding methods. Final animations are executed using a range of methods including comics, digital cel-animation, stop-motion animation, and 3D animation.

## **Wood Design**

Students are introduced to wood sculpture. They discover and develop a variety of methods of working with wood using hand and power tools and are asked to examine, discuss and produce work that requires them to apply wood building applications while engaging with autobiographical and social justice issues. Students review and discuss the work of a variety of artists work that emphasize similar themes and medium. Students take into account: design, composition, color, size, scale, proportion, structure, and function. Students build primarily with hand tools but can use power tools after they are familiar with hand tools. Students use their developing understanding of geometry, measurement, and fractions to solve building problems and make calculations.

## **Mixed Media**

This course is intended for students interested in working in a variety of media (sculpture, printmaking, drawing, painting, stop motion animation and video) and combining them to create art work. Each medium is introduced and explored so students are comfortable using and merging them to create works that show their artistic intentions. Students review and discuss the art of a variety of artists (both historical and contemporary) that emphasize similar themes and media. The students work independently and collaboratively to reflect upon their own and their peers' projects.

## **Printmaking**

This course is intended to introduce and explore the basics of printmaking in art. Students learn about a variety of materials and techniques including relief, intaglio and silkscreen printmaking. Students engage in the process of creating their own editions of prints as well as looking at and discussing the print-based work of living and historical artists. Additionally, students keep a printmaking sketchbook which includes their research, brainstorming and homework assignments.

## PERFORMING ARTS

The performing arts curriculum recognizes potential in every individual and seeks to build skills for lifelong enjoyment of the arts. In dance, drama, and music courses, students actively participate in non-competitive classroom environments that encourage collaboration. Self-assessment, peer critique and audience skills are developed throughout the creative process. Course work includes experiential exercises, rehearsal, performance, observation and analysis. In fifth grade students take dance and either chorus, orchestra or jazz band. Sixth graders take dance and drama and have a choice of chorus, orchestra or jazz band. Seventh and eighth graders choose among the class offerings in dance, drama, chorus, orchestra, and jazz band.

### **Fifth Grade Dance** year-long

Students continue to develop basic dance skills gained in Lower School through the innovative use of actions, energies, space and time in choreography that balances both abstract and literal concepts. Students discuss and understand the role of dance in society through doing social dances, religious dances, and martial arts from cultures and societies studied in the Humanities curriculum. In the spring, the fifth grade creates and performs an original production based on a myth.

### **Sixth Grade Dance** semester-long

Dance students debate what dance is through studying American Modern & post-Modern dance history. They learn the influences on American dance forms, including indigenous, West African, European folk dance and Ballet. Students explore various inspirations and strategies for dance-making, creating and performing their own short dances.

### **Sixth Grade Drama** semester-long

Drama students are introduced to the basic skills of performance and learn how the body and voice are used as a dramatic instrument. Students develop their teamwork skills through ensemble work, group games and improvisation. The course culminates in an informal performance where students share their learning through a group presentation.

### **Fifth and Sixth Grade Chorus** 5th grade semester-long, 6th year-long

Chorus students learn the process of singing together as they explore different choral techniques, voice parts and repertoire. Lessons include vocal and physical warm-ups, as well as rhythm and solfege exercises. Students sing music in a range of styles and gain appreciation of the cultural context of music. This course culminates in performances in the winter and spring music concerts.

### **Fifth and Sixth Grade Jazz Band** 5th grade semester-long, 6th year-long

Jazz Band teaches students to play jazz on wind instruments that include: trumpet, trombone, flute, clarinet and saxophone. No previous experience is necessary and all are welcome. Those who already have experience on their instrument will be given more challenging parts. The curriculum includes ear training and aural awareness, through listening and rhythm games. Students learn jazz repertoire, as they work on improvisation and music reading. This course culminates in performances in the winter and spring music concerts.

**Fifth and Sixth Grade Orchestra** year-long

Orchestra is open to students who are interested in learning to play the violin, viola or cello. Basic technical skills are taught and reinforced in this multi-level string ensemble. Students study a variety of repertoire and arrangements, music theory and music history. This course culminates in performances in the winter and spring music concerts.

**Seventh/Eighth Grade Dance** semester or year-long

Students develop their self-expression, confidence, and clarity through movement, build strong dance ensemble work, and explore the connection between dance and social change/activism. The curriculum includes various dance techniques (such as Hip-Hop, Jazz, Modern and Ballroom), improvisation, composition, dance mentoring with younger students and partnerships with students at Brooklyn International High School public school. Students discuss the role of dance in society and its cultural meanings. Dance students perform their original choreography in the annual Spring Dance Concert.

**Seventh/Eighth Grade Drama** semester

Drama students develop the key skills of drama: the actor's use of voice, body and mind. The curriculum includes pantomime, projection, articulation, expression and interpretation. Students work both as individuals and as ensemble members, to hone their rehearsal and performance skills through theatre games, improvisation, scripted performance and original work. Throughout the semester students evaluate, analyze and reflect on both their own work and the work of others. This course culminates in a presentation of monologues, scenes or narrative adaptation.

**Seventh/Eighth Grade Chorus** semester or year-long

Chorus students learn the process of singing together as they explore different choral techniques, voice parts and repertoire. Lessons include vocal and physical warm-ups, as well as rhythm and solfege exercises. Students sing music in a wide range of styles and gain appreciation of the cultural context of music. This class culminates in performances in the winter and spring music concerts.

**Seventh/Eighth Grade Jazz Band** year-long

Jazz Band is for instrumentalists with some previous experience on their instruments, though jazz experience is not necessary. The class includes wind/brass players and a limited number of students on bass, piano and drums. In addition to reading songs by jazz masters, students improvise, learn songs by ear, listen to jazz and study the colorful figures in the history of jazz. The class incorporates music theory and encourages self-expression through improvisation. The band performs in the winter and spring concerts.

**Seventh/Eighth Grade Orchestra** year-long

Orchestra is open to students who successfully completed orchestra the previous year, and to new students who have experience playing the violin, viola or cello. Students learn sight-reading, performance, technique, musicality, and the fundamentals of music theory and history. This course culminates in performances in the winter and spring music concerts.

## PHYSICAL EDUCATION

The Middle School Physical Education Program is grounded in the following goals:

- We want every child to grow into a competent and confident mover who is able to move effectively in a wide range of activities.
- We want all young people to be empowered with the knowledge, skills and understanding to be able to enjoy health-promoting physical activity for the rest of their adult lives.
- We recognize all young people's abilities and provide a meaningful and enjoyable learning environment to support and meet their needs.
- We encourage each student to nurture the athlete within; we do not adhere to concepts of "natural athleticism."

Physical education classes encourage students to develop a range of skills and the ability to use tactics, strategies and compositional ideas to perform successfully. When students are performing, they think about what they are doing, analyze the situation, and make decisions. They also reflect on their own and others' performances and find ways to improve them. As a result, they develop the confidence to take part in different physical activities and learn about the value of healthy, active lifestyles.

Discovering what they like to do, what their aptitudes are, and how and where to get involved in physical activity helps students make informed choices about lifelong physical activity.

Physical Education teachers collect self-assessed information from each student to build a holistic "learner profile." With this information, we create a broad and balanced PE program in which learners can meet their specific needs through a variety of activities. This flows into assessment for learning, with the students' understanding their achievements and how to improve as individuals and as a community of learners.

### 8th Grade Physical Education

Eighth grade students participate in the PE Pathway program. The concept of "pathways", not "electives", originated from electives appearing like a patchwork quilt of activities with no real consistent link. In the PE Pathway program, 8th grade students choose three different modules (one each for the season) for Fall, Winter, and Spring from the following pathways: General PE, Advanced General PE, Yoga, Dance PE, Swimming, Climbing, Functional Fitness, Cycling, and Boxing.

## TECHNOLOGY

Middle School Technology is a combination of exposure to age-appropriate technology and education on how to manage and handle the opportunities technology affords. All Middle School students are issued a Google Chromebook for use in all of their classes at school. They use Gmail, Google Docs, Blogger, and other cloud-based technologies to showcase their work in their classes; they also connect with their teachers through an online learning management system called Haiku. There are also multiple carts of the newest generation of iPads for students to use to deepen their learning.

Students take designated Technology classes in 5th through 8th grade and classes become more advanced as the middle years progress. The Technology curriculum addresses broad skills including: STEM, Game Design, Computer Programming, Digital Citizenship, 3D Printing and Design Thinking, Computer History, Hardware and Software. Students also work to develop an understanding of the role of technology in society, as consumers and creators, as well as essential skills of inquiry and self-expression.

## **HEALTH AND LIFE SKILLS**

The rapidity of physical growth, the changing perceptions of self and others, alternate feelings of self-confidence and self-consciousness, independence, peer pressure, concern with physical appearance, and changes in social relationships are areas of great importance to the early adolescent. The Middle School addresses these issues through health classes and the advisory program.

The health classroom is designed to be a safe environment that allows students the opportunity to share and discuss in an open, trusting surrounding. Students study a wide range of physical, social and emotional issues which affect them both as adolescents, and as members of society.

Health classes include activities that educate and empower students as they learn accurate and current information about various topics. Units of study include: growth and physical health, drugs (including alcohol), gender issues, the physiological and emotional aspects of human sexuality, and many others. Students continue to develop the social and emotional skills they may need to manage this information. A primary goal is to equip students with stronger factual, emotional, and social processing skills, so that they will be ready to make healthy decisions throughout their lives.

## **ORGANIZATIONAL AND STUDY SKILLS CLASSES**

These classes focus on organization, note-taking skills, test-taking skills, and study skills. Students are taught how to organize and maintain a notebook, how to highlight, how to take notes from a textbook and a lecture, and how to prepare for a test. Specific steps are taught for writing a research paper. As students move through the grades, they are expected to become increasingly independent in applying these strategies and skills.

We have slightly different mechanisms in place for study skills classes for 5th and 6th graders than we do for 7th and 8th graders. All 5th and 6th graders have study skills classes built into their schedules, but while some work with the humanities teachers for this class, others are chosen to work with the learning specialist for extra support. This decision is made by grade level teachers through careful observation of reading and writing progress on grade level projects and assignments, and may also be based upon recommendations from educational testing.

When students are observed to be performing below grade level or exhibiting gaps or weaknesses in reading skills (comprehension, synthesizing information, identifying the main ideas and supporting facts, etc.) or writing skills (meeting grammar and sentence structure expectations, vocabulary usage, organization of ideas, synthesizing information and explaining it in one's own words, etc.), they are identified as candidates for our learning specialist's group. The study skills classes taught by humanities teachers and the ones taught by the learning specialist all cover the same material, but the learning specialist's classes have fewer students to allow for more individualized attention and focus.

In 7th and 8th grades, students who continue to need extra language skill building move into Language Lab class, which has the same structure as 5th and 6th grade study skills classes, but are taught in place of the second world language, Latin. This means that while some 7th and 8th graders are taking Latin as a second world language, others are getting more help with English language skills through the Language Lab classes taught by the learning specialist.

One of the great benefits of Language Lab is that, in addition to shoring up reading and writing skills, the students in this class are able to get ongoing help with homework and assignments. They are asked to bring their work to Language Lab class, and they work on skills development while getting assignments accomplished. Although Language Lab students will not be able to enroll in Middle School Latin classes, it should be noted that the 9th grade Latin I class will offer a chance for students to learn the language when they begin upper school.



## **LIBRARY MEDIA CENTER**

The Library is staffed by professionals who are dedicated to supporting the mission of Brooklyn Friends School while integrating current technologies with inquiry based research and literary activities. Librarians collaborate with technology integrators and other faculty to provide print and digital resources to support MS curricula in full classes, as well as on an individual basis. The library subscribes to multiple databases, streaming videos platforms, and eBooks as well as maintaining a current and relevant print collection which reflects the BFS commitment to diversity and social justice. Multiple devices such as Chromebooks, iMacs, iPads, and Kindles are available for student use. In addition, enrichment activities take place in the form of book and targeted activity groups. Students have supported access to the library both before and after school hours and during lunch recess. The opportunity for students to become 21st Century learners and active contributors to the community is inherent to the goals of library program.

## **EXTENDED TRIPS AND OUTDOOR EDUCATION**

All Middle Schoolers take part in overnight trips designed to enhance both academic and social skills. Fifth and sixth graders spend three days during the fall at Nature's Classroom in Connecticut, exploring the natural environment, participating in trust and community-building exercises, and engaging in recreational activities.

Towards the end of the school year, seventh graders have a three-day overnight trip to an historic, East-coast city as an integral part of their study of United States history. Eighth graders begin with an overnight trip to Clearpool Environmental Center in upstate New York to establish group and individual goals with a focus on leadership. The eighth grade class also takes a three-day trip in the spring to Cape Cod, an experience which represents the culmination of their yearlong study of Earth Science.

## **MIDDLE SCHOOL ACTIVITIES**

There are abundant choices for students to be on the move, to discover new interests, and to expand their horizons at BFS. Seventh and eighth graders represent the school interscholastically in volleyball, soccer, cross country, track, basketball, baseball and softball. The extra-curricular activities of the performing arts program include a fall musical, a dance concert, and a spring play. Students participate in numerous school-sponsored activities, such as Student Council, Math Counts, Chess Club, and Debate Club. In addition, all students choose a weekly activity sponsored by faculty; these range from recycling to film studies and student journalism. There also is an organized Afterschool program, which offers specialized classes, study hall, and other exciting activities.

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# UPPER SCHOOL

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The Brooklyn Friends Upper School offers an intellectually challenging academic program that develops students' critical and creative thinking abilities. Our small class sizes and dedicated, experienced faculty ensure that students receive individualized attention, giving them the support, challenge, and encouragement they need to reach their fullest potential.

Our 9th and 10th grade program emphasizes intellectual challenge, community building, positive study habits, effective time management, and strong communication skills. Rigorous and engaging courses in English, Mathematics, Science, History, World Languages, and the Visual and Performing Arts are complemented by classes in Health, Study Skills, and Service Learning, as well as introductions to Quakerism and Ethics. In both 9th and 10th grades, students choose from a wide array of offerings in the Visual and Performing Arts, and have the opportunity to perform in the school musical, play, dance concert, and musical ensembles. All 9th and 10th graders follow the same program in English and Science, while World Language placements are based on students' previous experience in those subjects. All 9th graders take the same math course, and in 10th grade students take either an Honors or Standard Math 10 course that focuses on preparing them for their 11th grade IB curriculum. In History, the 9th grade Western Civilization course leads into our Intensive Studies program in 10th grade, in which students choose two semester-long courses in an area of special interest.

With the close guidance of the Upper School academic administration, students design a customized program of study for 11th and 12th grades, choosing from an array of International Baccalaureate and other courses. The flexibility of our offerings means that students can follow individualized courses of study that meet their needs, respond to their interests, and stretch their abilities, preparing them for college-level study in a wide variety of fields. Despite our small size, we are able to offer at least two course or level options in each academic subject, including an especially broad menu of electives in the arts.

## **The International Baccalaureate Diploma Program**

Brooklyn Friends is proud to be an International Baccalaureate (IB) World School, offering the Diploma Program for students in 11th and 12th grades. This internationally recognized curriculum consists of challenging two-year courses in English, Mathematics, History, Science, World Languages, and the Arts; in all IB courses, the focus is on developing critical thinking skills, and emphasis is placed on how students learn. IB courses are active, thought-provoking, and move far beyond memorization of content, preparing students extremely well for college-level study. Supported by a comprehensive and creative assessment program, the IB Diploma Program is held in high regard by colleges and universities, and our students have been admitted to some of the most prestigious institutions in the United States and around the world.

Student choice is central to the design of Brooklyn Friends School's IB program: students can opt to take individual IB courses as part of their individualized curriculum, or they can choose to take IB courses in every subject and become candidates for the IB Diploma, in addition to their Brooklyn Friends School diploma.

According to the International Baccalaureate Organization, the Diploma Program prepares students for effective participation in a rapidly evolving and increasingly global society as they acquire breadth and depth of knowledge and understanding, studying courses from 6 subject groups; develop physically, intellectually, emotionally, and ethically; and develop a positive attitude toward learning that will prepare them for higher education. In addition to the six major subject areas, core

components of the Diploma Program encourage students to make connections across traditional academic disciplines and explore the nature of knowledge through a unique Theory of Knowledge course, undertake in-depth research into an area of interest through the lens of one or more academic disciplines in the Extended Essay, and enhance their personal and interpersonal development through the co-curricular Creativity, Action and Service program.

## **GRADUATION REQUIREMENTS**

English – 4 years

Mathematics – 4 years

History – 4 years

Science – at least 3 years (Physics, Chemistry, and Biology or Environmental Systems)

World Languages – at least 3 years

Visual and Performing Arts – at least 3 years

Physical Education – 4 years

Health – 1 semester

Study Skills – 1 semester

Ethics – 1 semester

11th/12th grade Philosophy course – at least 1 semester

## **UPPER SCHOOL CURRICULUM BY DISCIPLINES**

### **ENGLISH**

Course Offerings:

9: Youth in Society

10: US Literature

11/12: IB English Literature SL or IB English Literature HL

### **Grade 9: Youth In Society**

Youth In Society is a foundational survey course designed to build the essential language skills of reading, writing, speaking, and listening. Students are introduced to short fiction, non-fiction, drama, and poetry featuring diverse classical and contemporary voices. Many of the stories center on the opportunities and challenges young people face, as well as on the distinguishing virtues of heroes, in different societies and time periods. Readings include Greek and Roman mythology and Homer’s *Odyssey*, excerpts from the Bible (“Genesis” and “Exodus”), a Shakespeare play, Coleridge’s “Rime of The Ancient Mariner,” and Mary Shelley’s *Frankenstein*. Short stories and poetry include voices from around the globe, bridging the classical and contemporary eras.

The 9th grade English curriculum addresses a range of fundamental writing skills through a workshop format. Students produce myriad writing assignments, including expository essays, commentaries, and journal reflections in response to major works, as well as persuasive and creative writing that includes opinion pieces, letters, character sketches, poems, and personal essays. There is intensive attention to writing mechanics, grammar, structure, and important usage conventions that enhance effective expression, and students are introduced to the conventions of good scholarship with an overview of MLA (Modern Language Association) documentation.

Vocabulary development and the study of grammar and usage are addressed in the context of student writing, the literature we read, and by using a grammar reference and a supplemental vocabulary text. Students are given a diagnostic usage and writing assessment at the outset of the year to help identify strengths and areas for improvement.

## **Grade 10: United States Literature**

This course adopts a thematic approach to studying literature of the United States of America, examining and interpreting the literary development of what has been termed the “American Dream.” We will discuss what makes an “American” and how different writers have imagined and re-imagined American identity. In addition, we will investigate how this dream differs from person to person and how it has changed as our nation has evolved.

Writers may include: John Steinbeck, Maxine Hong Kingston, Henry David Thoreau, Ralph Waldo Emerson, Walt Whitman, Emily Dickinson, Nathaniel Hawthorne, Mark Twain, Arthur Miller, F. Scott Fitzgerald, Tim O’Brien, Toni Morrison, Langston Hughes, and other writers of American poetry and fiction. Student writing takes the form of personal and analytical essays, creative projects, oral commentaries, and presentations. Students also continue to develop their speaking and listening skills, and work on grammar, usage and vocabulary to enhance their writing.

## **Grades 11 and 12: IB English Literature SL or IB English Literature HL**

Literature addresses problems of the human heart, the nexus of human concerns that unite writers across the globe. The two-year IB English course prepares students to discuss, compare, contrast, and write with sensitivity and sophistication about a global variety of literary works and genres. Focusing primarily on the themes of desire, power, and alienation, reading works from different cultures, periods, and styles, students will study the rhetorical strategies and effects that distinguish and connect the works, their themes, and their historical and geographic contexts.

IB English is offered at both Standard Level (SL) and Higher Level (HL). Both courses include the study of drama, poetry, novels, and non-fiction by authors such as Albert Camus, Richard Wright, Franz Kafka, Gabriel Garcia-Marquez, Jean Rhys, John Keats, William Wordsworth, Toni Morrison, Chinua Achebe, Annie Proulx, Henrik, Tennessee Williams, and Suzan-Lori Parks.

Both courses emphasize close textual reading, independent work, class discussion, frequent analytical writing, and oral commentary and presentation that hone students’ critical thinking skills, including the ability to appreciate diverse points of view, write persuasively, speak articulately, and listen respectfully in order to be more informed, globally aware citizens and leaders. Additionally, students are encouraged to pursue an array of independent enrichment reading from different lenses of literary criticism, field experience (e.g. local lectures, performances, exhibits) and other multidisciplinary approaches (e.g. the rendering of a theme in a work of art) to enhance their appreciation of the artistic and historical distinctiveness of each work. Assessments include quizzes, oral commentaries, presentations, and recitations, journal reflections, written commentaries, and essays, as well as final, externally evaluated IB examinations at the end of 12th grade.

## **HISTORY**

Course Offerings:

9: Western Civilization

10: Intensive Studies

11: IB History of the Americas SL/HL

12: IB 20th Century World History SL/HL

## **Grade 9: Western Civilization**

This course is an exploration of the major political, cultural, philosophical, social, and economic developments of European history that make up what is also called Western Civilization. We begin with an examination of both the Judeo-Christian and Greco-Roman legacies on Western Civiliza-

tion. The historical narrative begins with the Middle Ages and moves into the 19th Century. Some of the major themes that we focus on throughout the course include the critical tradition (questioning of beliefs and authority), the development of the rule of law, the struggle for representative government, the notion of progress in history, the rise of individualism, the rise of nationalism, negative and positive aspects of technological development, and the temptation of totalitarian ideologies.

### **Grade 10: Intensive Studies**

Students take two semester-long Intensive Studies courses. Offerings vary from year to year.

#### *Fall Semester:*

### **Art History I**

Throughout the history of humankind there has been a constant dialogue between the artist, the philosopher, the scientist, and the politician. The role of the artist as both interpreter and creator of culture is indispensable to any society. This course focuses on the interrelation of Western art and Western thought from the ancient world through the Middle Ages as we explore the artistic achievements of Egypt and the Near East, Greece, Rome, and the Early Christian, Byzantine, early Medieval, Romanesque and Gothic eras. We pay special attention to the influences of the Greek enlightenment, Judaic monotheism, and the Christian worldview on the evolution of culture and art.

### **Modern African History**

This course examines major political, social, cultural and economic developments on the continent of Africa from the end of the World War II to the present day. It will begin with an overview of the colonial period and examine Western myths and stereotypes about African society and how Eurocentric biases justified colonial expansion in Africa. After investigating the effects of colonialism on the people of various nations, the course judges the relative successes of African independence movements, and how centuries of exploitation have affected post-colonial life throughout the continent. Particular attention is paid to civil wars and intra-state conflicts in nations such as Rwanda, Sudan, Angola, and Sierra Leone, but also more optimistic post-colonial events such as the rise of Pan-Africanism, Nelson Mandela's successful quest to end Apartheid in South Africa, and that nation's hosting of the World Cup finals in 2010. If time allows, the course concludes with a study of contemporary issues in Africa such as HIV/AIDS, access to clean drinking water, and political struggles in Ghana and Zimbabwe, and how these issues are affected by Western foreign policy.

### **World War I**

This course focuses primarily on the causes, progress and outcomes of the first World War, spanning a period from about 1850-1918. A significant portion of the class will be spent studying the major global trends of the 19th century that helped, both directly and indirectly, to precipitate the war. This course also seeks to review this time period from a global perspective, and as such, significant time will be devoted to studying American, European, African, and Asian nations that impacted the war. We will read from textbooks, narrative histories and primary sources, including many examples of literature created by soldiers in the war.

### **The Islamic Empire 600-1300**

The Islamic faith emerged from the deserts of the Arabian peninsula in the 7th century and spread across the world into Europe, Asia and Africa in an incredibly short period of time. This course will investigate the origin of the religion, beginning with the life of the prophet Mohammad, his revelations in the desert and his gathering of followers. We will investigate the growth of Islam

over the next 700 years, from the conquest of Mecca until the fall of the Abbasid Caliphate to the Mongols in 1248. This course will focus on the political realities of the Islamic empire, life under the Caliphs, the experiences of minority groups and women, the intellectual achievements of Islamic scholars and the place of the Islamic Empire as the gateway between Europe and Asia. We will investigate this history through primary sources, selected readings from religious texts, and more recent historical investigations of the period. This course will focus on undoing stereotypes about Islam and investigating a rich and varied history that will help students understand the world we live in today. Assessment for semester will be based on quizzes, short, take-home papers, three tests, as well as a longer research based assignment, and a final exam. It will also be based on classwork and class participation.

### *Spring Semester:*

#### **Art History II**

Art History I is not a prerequisite for this course. This course explores the art of the modern era from the Renaissance to the present with an emphasis on humanism and the rise of secularism. Beginning with the Renaissance in Italy and Northern Europe, we continue on to the Baroque, Rococo, and Enlightenment. The course concludes with a look at the 19th and 20th centuries as a time of rapid social change, focusing on such milestones as the Industrial Revolution, the emergence of a middle class, the world wars, communism and the Cold War, the shift in global power, feminism and multiculturalism.

#### **Latin America**

This course examines the political, economic and social developments of Latin America in the second half of the 20th Century. A primary aim of the course is to investigate the internal and international obstacles countries experienced in modernizing their societies, comparing various nations' attempts to become economically prosperous and politically stable. Figures such as Fidel Castro, Salvador Allende, Rafael Trujillo, and Alberto Fujimori, and key events such as the Guatemalan genocide, the Cuban Missile Crisis, the Falklands War, and the Iran-Contra Affair are highlighted. The recent rise of the Brazilian, Venezuelan and Bolivian economies also receive considerable attention.

#### **The Great Depression and World War II**

This course focuses on two of the most devastating events in modern world history: the Great Depression and World War II. The course begins with a review of World War I and an in-depth study of the causes of the Great Depression. While the Depression is most famous for its role in the United States, we look at the global impact of this economic ordeal. The course then tracks the rise of militarism in Europe and Asia, paying particular attention to Nazi Germany and Japan. Finally, the course focuses on the causes, progress and outcomes of the second World War, including an in-depth study of the Holocaust.

#### **Modern India**

This course will focus on the culture, politics and economics of the Indian subcontinent from the birth of the independent India in 1947 up to the most recent, controversial election. It will begin with a short introduction to the culture and history of the Indian sub-continent, and continue with a discussion of the rise of the modern Indian nation, and the incredible contrast of wealth and poverty that characterizes the nation today. This course will use primary sources, textbooks and

scholarly articles by both British and Indian authors. It will also investigate some of the standout political figures from this period of Indian history, such as Jawaharlal Nehru and Sonia Gandhi. Assessment for semester will be based on quizzes, short, take-home papers, tests, as well as a longer research based assignment, and a final exam. It will also be based on classwork and class participation.

### **Grade 11: IB History of the Americas SL/HL**

*SL and HL sections are taught together. There is no difference between the courses, with the exception of the final IB exam at the end of 12th grade: HL students are tested on content from both 11th and 12th grades, while SL students are tested on content from 12th grade only.*

IB History of the Americas (HOTA) takes a subject-based, rather than survey, approach to the study of the United States and its neighbors. It begins with a brief exploration of how America was “conceived in liberty” but also steeped in slavery, a situation historian Edmund Morgan calls the “central paradox” of its founding. The class then focuses on three major topics of study: the causes and effects of the American Civil War and Reconstruction; the development of the Civil Rights, Women’s and Gay Rights Movements; and the origins and legacies of the Cold War. When possible, this course will examine the interplay between events in the US and its neighbors to the South, particularly the US’s efforts to stop the spread of Communism in Latin America. IB History of the Americas (HOTA) is the first half of a two-year sequence.

### **Grade 12: IB 20th Century World History SL/HL**

*SL and HL sections are taught together. There is no difference between the courses, with the exception of the final IB exam at the end of 12th grade: HL students are tested on content from both 11th and 12th grades, while SL students are tested on content from 12th grade only.*

In this course, students gain an understanding of global history since 1945 and how the major events in Europe affected the rest of the world, and vice versa. A primary aim of this course is breadth and depth in the study of the interplay among political, social, economic, religious, technological, and cultural developments. Considerable attention is also devoted to the rise and fall of the USSR, nationalist and independence movements, decolonization and challenges facing new states, the rise and rule of single-party states, and the state and its relationship with religion and minority groups. 20th Century World History is the second half of the two-year IB History sequence.

## **MATHEMATICS**

Course Offerings:

9: Math 9

10: Math 10 Standard or Math 10 Honors

11: IB Mathematics SL or IB Mathematics HL

12: IB Mathematical Studies SL or IB Mathematics SL or IB Mathematics HL

Placement in Mathematics courses is coordinated by the department and is based on completion of prerequisites (including summer work) and faculty recommendations. There is no set path through the Mathematics curriculum; instead, student performance, interest, and motivation are taken into account when the department makes placement recommendations for the following year.

### **Grade 9:**

#### **Math 9**

No prerequisites. Math 9 is an exploration of geometry and the concept of functions. The first semester’s emphasis is on geometry. Students will study the language, models, and logic of geometry. Students will work with angle theorems, transformations, congruency and similarity, and circle

theorems. Vectors and the application of radicals will also be explored during the first semester. Geometry concludes with students writing a paper exploring a topic that was outside the scope of the work done in class. Second semester is a study of functions. Students will study a wide variety of functions, including quadratic, cubic, exponential, piece-wise, absolute value, and rational functions. Probability, an introduction to set theory and using math to make financial decisions will also be explored.

### **Grade 10:**

#### **Math 10/Math 10 Honors**

Prerequisite: Math 9 or equivalent, faculty recommendation is required for honors. These courses focus on advanced algebra and trigonometry. Problem solving and real-life applications are emphasized throughout the course to promote the growth of each student's ability to solve non-routine problems. Topics include quadratic functions, complex numbers, study of different types of functions, probability and statistics, series, and matrices. The Honors section moves more quickly and covers additional topics.

### **Grade 11:**

#### **IB Mathematics SL, Year 1**

Prerequisite: Math 10 or equivalent. For most students, Math SL is a two-year course, students explore a wide range of topics to gain both abstract mathematical skill and understanding of the many uses of mathematics in our world. The application of mathematics to real-world problems is a major focus of each unit. Topics include the study of different types of functions, probability, sets and Venn diagrams, statistics, financial mathematics, sequences and series, logic, two and three-dimensional geometry, right and non-right triangle trigonometry, and introductory calculus, learning how to differentiate functions and utilize these derivatives.

#### **IB Mathematics HL, Year 1**

Prerequisites: Math 10 or equivalent and faculty recommendation. IB Mathematics HL covers much of the same content as the SL course; please see above for details. The HL course explores those core topics in greater depth, as well as additional topics such as complex numbers, polynomial functions, and vector products. This course is more abstract and challenging than IB Mathematics SL, and is most appropriate for students with a strong interest in pursuing advanced mathematics at the college level.

### **Grade 12:**

#### **IB Mathematical Studies SL**

##### **Prerequisite: Math SL, Year 1**

Some students will move from Math SL to this course in twelfth grade and will build off of their experiences in 11th grade. It concentrates on mathematics that can be applied to common real-world issues and to topics that relate to science, social studies, daily life, and work. The course is designed to build confidence and encourage an appreciation of mathematics. Students explore a wide range of abstract and applied mathematical topics, and solving real-world problems is a major focus of each unit. Students will be required to independently conduct a research project on a topic of their choosing. Topics include different types of functions (linear, quadratic, rational, trigonometric, and exponential), logic, probability, descriptive and two-variable statistics, financial mathematics, two and three-dimensional geometry, trigonometry, and introductory calculus. Mathematical Studies is offered only at Standard Level (SL).



## **IB Mathematics SL, Year 2**

Prerequisite: Math SL, Year 1. In this two-year course, students explore a wide range of topics to gain both abstract mathematical skill and understanding of the many uses of mathematics in our world. The application of mathematics to real-world problems is a major focus of each unit. Topics include the study of different types of functions, probability, sets and Venn diagrams, statistics, financial mathematics, sequences and series, logic, two and three-dimensional geometry, right and non-right triangle trigonometry, and introductory calculus, learning how to differentiate functions and utilize these derivatives. Students produce an exploration, focusing on a topic that is of interest to them, that offers them an opportunity to develop independence in their mathematical learning.

## **IB Mathematics HL, Year 2**

Prerequisites: Math HL, Year 1. IB Mathematics HL covers much of the same content as the SL course; please see above for details. The HL course explores those core topics in greater depth, as well as additional topics such as complex numbers, polynomial functions, and vector products. During this second year, students also choose an area for in-depth study from among four college-level options, such as Discrete Mathematics or Series and Differential Equations. Students produce an exploration, focusing on a topic that is of interest to them, that offers them an opportunity to develop independence in their mathematical learning. This course is more abstract and challenging than IB Mathematics SL, and is most appropriate for students with a strong interest in pursuing advanced mathematics at the college level.

## **SCIENCE**

Course Offerings:

9: Conceptual Physics

10: General Chemistry or Honors Chemistry

*Three years of science are required for graduation. All students take Physics and Chemistry in 9th and 10th grades, and then choose from General Biology, IB Biology, and IB Environmental Systems and Societies in 11th grade:*

11/12: IB Environmental Systems and Societies SL or IB Biology SL or IB Biology HL

or

11: General Biology

12: Electives in Science

Students in 11th and 12th grades may also choose to take IB Physics as a second science, in addition to General Biology, IB Biology, or IB Environmental Systems and Societies.

11/12: IB Physics SL

### **Grade 9:**

#### **Conceptual Physics**

This course focuses on understanding fundamental concepts of physics through experimentation and problem solving. Laboratory experiments and investigative demonstrations play a large part in daily activities. Students use analog measuring techniques as well as computers to collect and analyze physical data, and apply a range of skills to write and present formal lab reports. Topics include graphing physical data, accelerated motion and forces, energy, waves, light and sound, electricity, and magnetism.

**Grade 10:****General Chemistry or Honors Chemistry**

Placement based on teacher/department recommendation. General Chemistry investigates the properties of matter and the laws governing chemical reactions. Topics covered include the properties and structure of matter, atomic theory, chemical reactions, stoichiometry, kinetic theory, and gas laws. Hands-on experience in the lab and weekly lab reports are central to the course. In the Honors section, the curriculum is expanded to include an introduction to organic chemistry and biochemistry concepts and processes, which are studied further in the IB Biology and IB Environmental Systems and Societies courses in 11th and 12th grades. In both courses, frequent inquiry-based lab work emphasizes the importance of discovery and problem solving in science. Students develop key critical thinking skills as they work to solve real world problems and design and refine individual experiments.

**Grade 11:****General Biology**

This course investigates life on the microscopic as well as the macroscopic level. A molecular approach is used to study topics in cell biology, molecular biology, biochemistry (with emphasis on organic chemistry), reproduction, energy in living systems, genetics, transport, respiration and photosynthesis, evolution, and ecology. The course has a required weekly laboratory component in which the emphasis is on quantitative and qualitative analysis of derived data. Students develop a global and interdisciplinary perspective for analysis of biological issues such as emerging diseases and global ecology.

**Grades 11 and 12:****IB Environmental Systems and Societies SL**

The two-year IB Environmental Systems and Societies (ESS) course brings environmental science to life by connecting measurable natural events to the concepts of ecological interaction. It covers ecological systems, people and the environment, energy resources, pollution, and the management of human impacts. Field activities emphasize how environmental science issues presented in the classroom can become part of the wider community and environment. Students complete many “real issue” labs with formal reports and compose various position papers. Environmental activism and international issues are incorporated into the curriculum. IB ESS is offered at Standard Level (SL).

**IB Biology SL**

This two-year course is designed to be the equivalent of an introductory-level college biology course, and aims to provide students with the conceptual framework and analytical skills necessary to deal critically with the changing science of biology. The major topics for the SL section include cells, the chemistry of life, genetics, ecology, evolution, anatomy and physiology.

**IB Biology HL**

Like IB Biology SL, this two-year course is equivalent to an introductory-level college biology course and covers the topics listed above, with the aim of providing students with the conceptual framework and analytical skills necessary to deal critically with the changing science of biology. The HL section meets more frequently than the SL section, and studies additional topics including nucleic acids, proteins, cellular respiration, photosynthesis, population genetics, human reproduction, human evolution, infectious diseases, muscles and movement, neurobiology, and plant science.

## **IB Physics SL**

The two-year IB Physics course is designed to further students' understanding of the physical world and advance their problem-solving strategies. Our aim is to develop in each student a "need to know" that will lead to the questioning and ultimately the understanding of the 'whys' and 'hows' of phenomena. Students learn how the world was examined and described by the early philosophers and refine that understanding as we progress from the Macroworld to the Microworld, from observable experiments to thought experiments, from the mechanics of motion to the study of electromagnetism to an introduction to relativity and contemporary physics. IB Physics is offered only at Standard Level (SL).

## **Grade 12: Electives**

There is a choice of several semester-long elective courses. Offerings vary from year to year.

### **Environmental Science**

This course makes environmental science personally relevant to students by connecting newsworthy topics to the concepts of ecological processes. The course covers ecological interactions, people and the environment, energy resource conservation and exploitation, pollution, and the management of human impact on the natural world. Field activities emphasize how environmental science issues studied in the classroom can become part of the wider community and environment. Students are assigned classroom lab work and associated lab reports, and they also compose position papers derived from personal research on topical issues.

### **Science Now**

Students in this class investigate current scientific issues and new research, methods and discoveries in the areas of earth, life, physical and space sciences. The New York Times Science Section is required reading each week. Asynchronous learning and other technologically-enhanced teaching techniques are utilized during the course, and students in this course should possess some comfort with and interest in using internet-based technology.

### **Forensics: Chemistry and Crime**

This course uses a case-oriented approach to explore selected topics in forensic science. Techniques such as carbon dating, analysis of trace evidence (i.e. gunpowder), bullet fragment analysis, toxicology and pharmacology, characterization of blood and bodily fluids, and other forensic techniques are introduced. We also explore the handling of evidence and admissibility of scientific evidence. The cases which stimulate the exploration of these areas may include: the John and Robert Kennedy assassinations, the Jeffrey MacDonald case (Fatal Vision), the Wayne Williams case, the deaths of celebrities Marilyn Monroe, John Belushi, and Janis Joplin, the authenticity of the Shroud of Turin, the Lindberg baby kidnapping, the O.J. Simpson case, the Tylenol poisonings, and the identity of Anastasia.

### **Optics: Light, Color and Art**

This course follows the development of optical science since the Renaissance, and its influence on painting. During labs, students work with lenses, mirrors, prisms and cameras and explore interactions of color with both pigments and digital technology; they recreate classic experiments on the nature of light by Alhazen, Newton, and Young. We look at images and discuss readings on theories of perspective and color by artists such as Alberti, Josef Albers and David Hockney. We also examine the influence of optical tools, from concave mirrors to iPhones, on how artists have depicted the world. Students respond in writing to the images we view and complete a research project.

## WORLD LANGUAGES

Course Offerings:

*All 9th and 10th grade students must take French or Spanish as their primary language.*

9: Spanish/French 1 or Spanish/French 2

10: Spanish/French 2 or Spanish/French 3

*If they wish, 9th and 10th grade students may take a 'secondary' language (Latin or Mandarin) as an elective in addition to Spanish or French. Course offerings in Mandarin vary from year to year depending on student interest, scheduling constraints, and faculty availability. We make every effort to place students in the appropriate level, although this may sometimes be an After 3 (afterschool) course.*

9: Latin 1 or Latin 2 or Mandarin

10: Latin 2 or Latin 3 or Mandarin

*In addition to studying French or Spanish as their primary language, students with native or near-native proficiency in French or Spanish can also study this language as an elective course in the 9th and 10th grade. In 11th grade, students may continue into IB courses in Spanish, French or Latin, or may choose to study Mandarin Chinese if they have successfully completed the pre-requisite courses Mandarin 1 and 2 or the equivalent.*

11/12: IB Spanish/French Ab Initio SL or IB Spanish/French/Latin B SL/HL

or IB Mandarin Ab Initio SL

### **Grades 9 and 10:**

#### **French 1**

No prerequisites; for students with little or no exposure to the language. French 1 is an introductory course; focus is first on vocabulary and conversation and proceeds to grammar and structure. In addition to developing the four language skills (reading, writing, listening, and speaking), students learn about the culture and traditions of the French-speaking world. In addition to the textbook, students use the Internet and beginning level readers to enrich their exposure to the language. The course is conducted entirely in French, and students are expected to communicate in French more and more as the year progresses. Assessments are varied and include oral and written presentations as well as listening and reading comprehension exercises.

#### **French 2**

Prerequisites: French 1 or placement exam. This course builds on the skills students developed in French 1. Activities focus on broadening communication skills and practicing them in meaningful and realistic situations. The study of the cultures of French-speaking places is continued through reading selections, conversations, short stories, narratives, and discussions. In addition to the text and workbooks, film, videos, the Internet, and music are used to enrich students' exposure to the language. The course is conducted entirely in French, and students are expected to communicate in French more and more as the year progresses.

#### **French 3**

Prerequisites: French 2 or placement exam. This course continues to provide a balanced focus on speaking, listening, reading and writing skills. The introduction of new themes, grammatical concepts and vocabulary is built upon the solid foundation of previous years' study. In addition to the text and workbooks, students work with authentic reading selections, film, music, and the Internet to enhance their study of the language and cultures of the French-speaking world. The course is conducted entirely in French.

## **Spanish 1**

No prerequisites; for students with little or no exposure to the language. Spanish 1 is an introductory course; focus is first on vocabulary and conversation and proceeds to grammar and structure. In addition to developing the four language skills (reading, writing, listening, and speaking), students learn about the culture and traditions of the Spanish-speaking world. In addition to the textbook, students use the Internet and beginning level readers to enrich their exposure to the language. The course is conducted entirely in Spanish, and students are expected to communicate in Spanish more and more as the year progresses. Assessments are varied and include oral and written presentations as well as listening and reading comprehension exercises.

## **Spanish 2**

Prerequisites: Spanish 1 or placement exam. This course builds on the skills students developed in Spanish 1. New material includes the further use of tenses, noun-verb and noun-adjective agreement, object pronouns, etc. Activities focus on broadening communication skills and practicing them in meaningful and realistic situations. The study of the cultures of Spanish-speaking places is continued through reading selections, conversations, short stories, narratives, and discussions. In addition to the text and workbooks, students read different types of texts from magazines and newspapers published in Spanish speaking countries. The course is conducted entirely in Spanish, and students are expected to communicate in Spanish.

## **Spanish 3**

Prerequisites: Spanish 2 or placement exam. With a continuation of an audio-lingual and visual approach, this course builds on the grammatical and syntactical skills that students have learned in previous years. One of the goals is to begin to develop fluid and grammatically correct conversation. In addition to the text and workbooks, students read selections by noted Latino and Hispanic authors, discuss newspaper and magazine articles, and read stories and legends from the various Latin American countries. The course is conducted entirely in Spanish.

## **ELECTIVE SECOND WORLD LANGUAGE COURSES**

### **Latin 1**

No prerequisites; for students with little or no exposure to the language. Latin 1 is an introduction to Latin language and letters and their influence, Roman culture, and the arts of the spoken and written word in prose and verse. From the very first class, introduction to vocabulary and grammar is accompanied by readings of sentences and short paragraphs from Roman authors. Students gain a sense of the main outlines of Roman literary history and how it impacted the subsequent development of European language, thought and culture, a development that extends to our own times.

### **Latin 2**

Prerequisites: Latin 1 or placement exam. In Latin 2, students read well into the 3rd unit of the Cambridge Latin Course (Stages 21-29) and begin to read continuous passages of adapted and unadapted Latin prose and poetry of increasing complexity. Students also take into account the historical, social and cultural contexts of Latin literature. The use of online resources offers further resources for exploring Roman culture and the Latin language. Students sit for the National Latin Exam in the spring.

### **Latin 3**

Prerequisites: Latin 2 or placement exam. Latin 3 is the embarkation point for advanced Latin language and literature studies. Students complete the 3rd unit of the Cambridge Latin Course and read selected stages of Unit 4, which introduces them to continuous passages of unadapted Latin prose and poetry, many of which (Vergil, Ovid, Catullus, Cicero) are also included in the IB curriculum. Students complete their study of all the main forms and constructions of the Latin language and extend their vocabulary to 1500-2000 words. Students are also introduced to rhetorical/stylistic figures and basic elements of prosody. Students sit for the National Latin Exam in the spring.

### **Mandarin 1**

No prerequisites; for students with little or no exposure to the language. In introductory Mandarin courses, students are introduced to the phonetic tones and pronunciation rules of spoken Chinese and become familiar with the Pinyin Romanization system. Emphasis is placed on early mastery of tonal accuracy through visualization and interactive classroom exercises. Within the first weeks of class students begin the study of Chinese characters as well, with side-by-side presentation of traditional and simplified versions for future fluency across the full range of Chinese cultural areas. To enliven the study of characters, the origins of the writing system and the art of Chinese calligraphy will be introduced. Using an age-appropriate text and workbook series, students progress quickly into basic skills such as counting, greetings, and the use of simple grammatical structures in conversation and presentation as they develop basic competency across all four language skills (reading, writing, listening, and speaking). As the courses progress, instruction switches predominantly to Chinese and students are expected to speak Chinese as much as possible in the classroom. The Mandarin program is designed to build confidence through fun, real-life situational use and to provide familiarity with day-to-day Chinese cultural customs and traditions.

### **Mandarin 2**

For students who have completed Mandarin 1 or have some knowledge about the language. Mandarin Chinese, Level 2 begins with a review of material covered in Mandarin 1. The foundation of tonal pronunciation built in Mandarin 1 is reinforced through drilling and practice while students progress into the acquisition of new vocabulary and grammar, including a continuation of their study of Chinese characters. Thematic lessons in an age-appropriate text and workbook series provide incremental introduction of new words, sentence building blocks, key structures, conversational models, and spoken presentations. Lessons are organized around topics including animals, birthdays and calendars, speaking and studying Chinese, and food and drink in China. All four language skills (reading, writing, listening, and speaking) continue to be emphasized, with a gradual shift from reading and writing with the Pinyin Romanization system to reading and writing with Chinese characters. Like Mandarin 1, the course is designed to continue to build confidence through real-life situational use and to provide familiarity with day-to-day Chinese cultural customs and traditions.

### **Grades 11 and 12:**

#### **IB French Ab Initio SL**

Prerequisites: French 2 or placement exam. Ab Initio French is an intensive two-year IB language program designed for students in the 11th and 12th grades. The course is organized into three themes: the individual and society; leisure time and work; and the urban and rural environments. These themes comprise topics that provide students with many opportunities to practice and explore the language and to develop intercultural understanding. Through the development of read-

ing, writing, listening and speaking skills, students learn to respond and interact appropriately in a wide range of everyday, authentic situations. Assessments vary and include projects, unit tests and quizzes, and, at the end of the two years, both internally and externally moderated IB exams. IB Ab Initio language courses are offered only at Standard Level (SL).

### **IB French B SL/HL**

Prerequisites: French 3 or placement exam. This two-year course is conducted entirely in French and emphasizes language acquisition and intercultural understanding. Students explore the culture, history, traditions, current affairs and the inner world of French-speaking countries using a thematic approach focusing on Social Relations, Communication & Media, Global Issues, Health, Leisure, Cultural Diversity, and Science & Technology. In addition to these thematic units, students registered for the class at Higher Level (HL) meet for additional class time and read several literary works in French. Serving as a complement to our class text, "Le monde en français," students will also study these themes by way of authentic written and oral texts (i.e. newspaper and magazine articles, video, radio programs and song) selected from a wide range of francophone countries. Assessments vary and include projects, oral and written presentations, unit tests and quizzes, and, at the end of the two years, both internally and externally moderated IB exams.

### **IB Spanish Ab Initio SL**

Prerequisites: Spanish 2 or placement exam. IB Spanish Ab Initio is a two-year course intended for students who have completed Spanish 2. The course is organized into three themes: the individual and society; leisure time and work; and the urban and rural environments. These themes comprise topics that provide students with many opportunities to practice and explore the language and to develop intercultural understanding. Through the development of reading, writing, listening and speaking skills, students learn to interact appropriately in a wide range of everyday, authentic situations. Assessments vary and include projects, oral and written presentations, unit tests and quizzes, and, at the end of the two years, both internally and externally moderated IB exams. IB Ab Initio language courses are offered only at Standard Level (SL).

### **IB Spanish B SL/HL**

Prerequisites: Spanish 3 or placement exam. This two-year course is conducted entirely in Spanish and emphasizes language acquisition and intercultural understanding. Students explore the culture, history, traditions, current affairs and the inner world of Spanish-speaking countries using a thematic approach focusing on: Communication and Media, Global Issues, Social Relations, and Health and Leisure. In addition to these thematic units, students registered for the class at Higher Level (HL) meet for additional class time and read several literary works in Spanish. To the extent possible, the teaching of language structures, idiomatic expressions, vocabulary, and grammar takes place in the context of other activities, for example oral activities or the reading of texts. Students can expect to learn from authentic written texts and oral prompts, such as video and song, selected from a wide range of Spanish-speaking countries. Assessments vary and include projects, oral and written presentations, unit tests and quizzes, and, at the end of the two years, both internally and externally moderated IB exams.

### **IB Latin B SL/HL**

Prerequisites: Latin 3 or placement exam. This two-year intensive language course introduces students to the languages, literatures and culture of ancient Rome through a close reading of selected works of Late Republican, Augustan "Golden" and early Imperial "Silver" writers. The syl-

labus may include selections from Ovid's *Metamorphoses*, Catullan elegy and polymetrics, Latin lyric and elegiac poetry, Vergil's *Aeneid* (epic), and Cicero (speeches). Students take note of stylistic, poetic and rhetorical nuances, in addition to grammatical and syntactical points. They are also expected to consider these texts within their historical, political and cultural contexts. At the end of the second year students sit for two exams (an Ovid or Cicero sight translation and a syllabus-based literature exam) and submit a research dossier. Students registered for the class at Higher Level (HL) meet for additional class time and read more works.

### **IB Mandarin Ab Initio SL**

Prerequisite: Mandarin 1 and 2, or departmental permission. IB Mandarin Ab Initio is a two-year introductory course intended for students who have completed Mandarin 1 and 2. The course is organized into three themes: the individual and society; leisure time and work; and the urban and rural environments. These themes provide students with many opportunities to practice and explore the language and to develop intercultural understanding. Through the development of reading, writing, listening and speaking skills, students learn to interact appropriately in a wide range of everyday, authentic situations. Assessments vary and include projects, tests and quizzes. IB Ab Initio language courses are offered only at Standard Level (SL).

## **RELIGION, PHILOSOPHY, AND ETHICS**

Course Offerings:

9: Quakerism 1

11/12: IB Theory of Knowledge or Philosophy

10/11/12: Quakerism 2

### **9th Grade: Quakerism 1**

Fall semester only. This course offers a brief introduction to Quaker traditions, social values, approaches to decision making, and other practices. Its goals are to help students gain a familiarity with Quaker history and its relation to Quaker faith and practice today, to provide students with an understanding of the context of the Quaker education they are receiving while providing them information necessary for a critical evaluation of that context, and to promote a school-wide sense of community that reflects the school's Quaker heritage. The second half of this course focuses on the Quaker concept of "witness." Enabling students to reflectively examine social and ethical issues and the moral and spiritual dimensions in their own lives is a central element of this course. Students develop an outline for a social action project on a topic of their choosing.

### **Grades 11 and 12:**

#### **Religion, Ethics, and Culture**

Required for students not enrolled in the IB Diploma Program. This one-semester course looks critically at different ways that religion impacts culture. Students explore the paradoxical role of religion in major events, such as the fights for and against slavery and the woman's suffrage movement. We also look at the complex role of religion in the Civil Rights Movement. The critical skills developed early in the course will be applied to current issues, such as the conflicts between Israel and Palestine, conflicts between portions of Islam and the West, and between "liberals" and "conservatives." In addition, we will examine new interfaith movements.



## **IB Theory of Knowledge**

Required for students enrolled in the IB Diploma Program. The three-semester Theory of Knowledge (TOK) course is a central element of the International Baccalaureate Diploma Program and is intended to stimulate critical reflection on knowledge and experience gained inside and outside the classroom. TOK challenges students to question the bases of knowledge, to be aware of subjective and ideological biases, to consider the different cognitive tools humanity has developed to comprehend the world, and to consider and question the foundations on which their academic subjects rest. TOK activities and discussions aim to help students discover and express their views on knowledge issues, and encourage them to share ideas with others and to listen to and learn from what others think. In this process, students' thinking and their understanding of knowledge as a human construction are shaped, enriched, and deepened. Connections are made among different IB subjects, CAS experience, and Extended Essay research. Assessments include a 1,600 word essay and a formally evaluated oral presentation involving a "real life" example of the knowledge issues explored in the course.

## **Grades 10, 11 and 12: Quakerism 2**

Required for students who enter Brooklyn Friends after fall of 9th grade. This one-semester is open as an elective to students in grades 10-12, but must be taken to satisfy the Quakerism course requirement when the student enters BFS after 9th grade. The course covers some of the foundational themes of Quakerism I and continues into a deeper exploration of the Quaker Testimonies as lived by prominent leaders in the tradition. Along with academic work, students choose one of the Testimonies to explore in their own lives, and design a personal project around this experience.

## **SERVICE LEARNING**

### **Grade 10: Service and Justice Seminar: Exploring Parallel Struggles with C.A.R.E.**

Required Course for 10th Graders. This student-centered, collaborative course provides a foundation for students' service experiences in 10th-12th grades, introducing key elements of service learning for social justice and developing students' skills. Students will take leadership in identifying a range of social justice issues and selecting areas of focus. They will explore the intersectionality of race, class, gender, sexual orientation, ability, age, religion, and nationality. They will investigate multiple perspectives, examine root causes, appreciate differences, understand power dynamics, and connect systemic issues to their lives.

The course will culminate in an immersion trip to New Orleans. In preparation, students will learn about the historical context and organizing efforts in New Orleans before, during, and after Hurricane Katrina. Delving into the concepts of C.A.R.E. - community, accountability, reciprocity, and equity - students will learn to break down barriers and mobilize around the parallel struggles of New Orleans and their own communities, working in solidarity with those most affected by the inequities in both New Orleans and New York. Ultimately, students will build on their experiences in this course to plan and implement their personal Creativity Activity and Service (C.A.S.) programs for the 11th and 12th grade years, taking action to address community needs.

## THE ARTS

Course Offerings:

*Students in grades 9 and 10 choose ONE arts course each year. Students who opt for a Visual Arts course in 9th grade must take a Performing Arts course in 10th grade, and vice versa. (Exceptions may be made by the departments on a case-by-case basis.) One year of Visual or Performing Arts in 11th or 12th grade is required for graduation.*

9: Visual or Performing Arts elective

10: Visual or Performing Arts elective

11/12: IB Visual Art SL/HL or IB Theatre SL/HL or IB Music SL/HL or IB Dance SL/HL

or

11: Visual or Performing Arts elective

12: Visual or Performing Arts elective

### VISUAL ARTS ELECTIVES FOR GRADES 9 AND 10

#### **Arts Workshop: 2-D**

This introductory art course covers a variety of projects in different media. Students have the opportunity to gain skill and confidence in expressing themselves with different art materials. Students practice drawing and painting from observation as well as translate their individual visual concepts and imagery with printmaking and collage. Flexibly structured lessons allow students to work in their own zone of development. Students look at the works and techniques of different artists to discuss the content of their imagery for motivation and inspiration. Students learn about key elements in effective design, composition and color interaction. Students keep an art journal with regularly assigned homework.

#### **Arts Workshop: 3-D**

In this introductory course, students work on short and long-term projects as they explore the possibilities of creating in three dimensions. Attention is given to problem-solving, learning techniques and making aesthetic decisions. Projects may include relief sculptures as well as “in the round” pieces. Styles and focus range from abstract planes in space, assemblage, and realistic rendering in clay. Influences include modern and contemporary sculptors as well as objects from many traditions and cultures. Students are expected to keep sketchbooks. Students explore the history and philosophy of art through homework and class discussion related to classroom projects.

#### **Introduction to Ceramics**

This course takes students through the wheel throwing and glaze making process and allows the students to appreciate and understand the technical and creative skills necessary to learn the potter’s wheel. Discussions on the history of ceramics and its role in societies and the Asian influences on our Western culture are part of the curriculum. By the end of the year, each student is expected to complete a dinnerware set in a glaze (color) of his/her own choosing.

#### **Darkroom Photography**

This course is an exploration into traditional fine art photography, and takes the student through two distinct levels of learning: technical proficiency and creativity. Each area of study is dependent on the other for the development of a successful photographer. The first semester is devoted to mastering a wide range of technical information: the theory and use of a camera; control of the light gathering process; knowledge of light-sensitive materials such as films and papers; the

proper and safe use of various chemicals and their effects in the photographic process; proper procedures and habits of working in the darkroom. Once a sufficient amount of technical expertise is obtained, the creative process of photography begins. This part of the course entails using the technical knowledge to visually manipulate the world in a personal way that can tell a story or convey a feeling. Varied photography subjects and projects are to be completed in gallery form. These projects are designed to both stimulate and challenge the subjective visions of each student and advance a specific technical procedure.

### **Printmaking and Alternative Processes**

In this course, students are introduced to modes of art making outside of the traditional drawing/painting cannon. Lessons include and explore a variety of printmaking techniques, collage, artists' books, assemblage and digital technology. Additionally, students learn about artists and artistic movements that incorporated these methods such as Surrealism, Dada, Pop Art, Mail Art, Postmodernism, Street Art, and other elements of visual culture.

## PERFORMING ARTS ELECTIVES FOR GRADES 9 AND 10

### **Theatre 1**

In this course students develop an understanding of the theatre by investigating and experiencing the roles of actor, director, designer, playwright and dramaturg. Students participate in vocal and physical exercises, scene work and play analysis. Students are required to read and discuss texts, conduct research, memorize scenes, create original pieces and reflect on their theatre experiences through writing and group discussion. This course exposes students to multiple world theatre traditions.

### **Chamber Ensemble 1**

By audition and/or departmental approval. This course is open to experienced string, wind and piano instrumentalists. The Chamber Ensemble studies and performs repertoire from a broad range of musical styles. Students also learn sight reading, dictation, music history, theory and composition. Participants must maintain a consistent practice schedule of at least 45 minutes per day. The Chamber Ensemble performs in the Winter and Spring Orchestra Concerts.

### **Chorus 1**

This course in vocal performance and technique is for singers of all levels. Students learn choral repertoire in a variety of musical styles and vocal approaches. Classes include music theory, aural skills, and critical analysis of music in a cultural and historical context. Students perform in the Winter and Spring Chorus Concerts.

### **Jazz Band 1**

By audition and/or departmental approval. This course is open to brass, woodwind and rhythm section (bass, drums or piano) instrumentalists with an interest in exploring jazz styles. Students learn jazz repertoire in addition to experimenting with group improvisation, composition, and arranging. The curriculum includes music theory, ensemble awareness, ear training, and general instrumental fluency. Participants must have experience on their instrument and maintain a regular practice schedule of at least 40 minutes daily, but familiarity with jazz is not required. Students are challenged to expand their listening horizons, broaden their technique, and use their full intellec-

tual and musical capacity in improvisation. The Jazz Band performs in a variety of settings throughout the year, and in the Winter and Spring Jazz Concerts.

### **Dance 1**

Please note: All students who plan to choreograph for the Dance Concert must register for either Dance 1, IB Dance or PE Dance. In Dance 1, students develop self-expression and empowerment through dance in three aspects: dancers/performers, choreographers/creators, and theorists/historians. As dancers/performers, they study a variety of dance techniques: Modern and post-modern techniques including Dunham, Bartenieff, Horton, Cunningham, Improvisation, and African Diasporic forms. They also work with a guest artist and perform in the Dance Concert. As choreographers/creators, they develop skills in improvisation, and explore the relationship between dance, music, site, and media, creating group works, a solo and a dance video. As dance theorists/historians, they learn the cultural and historical contexts of the techniques they study and the choreographic approaches we use, and develop vocabulary for providing strong artistic feedback to each other. We also attend two dance performances at theaters in New York City.

## VISUAL ARTS COURSES FOR GRADES 11 AND 12

### **IB Visual Arts SL/HL**

The focus of this two-year course is to develop a serious body of work that is individually meaningful. Students integrate the techniques and processes of art, the visual elements and the principles of design, and the continued acquisition of knowledge of artists and art movements as they work on evolving connections and themes in their own art. Students explore and study the art of other cultures and follow threads that bring out the similarities and differences in the art of other traditions. Class time includes work in a variety of media and forms including drawing and painting, printmaking, sculpture, and installation. Various techniques and approaches to working are introduced or reviewed. Students keep an Investigation Workbook, which is a continuing, essential means to initiate ideas, research, reflect, expand knowledge, discover and acknowledge connections, both visually and verbally. The conclusion of the course is as an installed public exhibition of student work.

### **Concepts in Clay**

This ceramics course covers a variety of ceramic skills, taking students through the wheel throwing and glaze making process. Discussions of the history of ceramics, its role in societies, and the Asian influences on Western culture are part of the curriculum. In addition to the creation of sculptural pieces, one of the goals for this course is to allow the students to appreciate and understand the technical and creative skills necessary to learn the potter's wheel. Another goal is for the class to learn the Japanese method of "throwing off the hump," and to make altered pots.

### **Advanced Digital Photography**

Prerequisite: Darkroom Photography or permission from the instructor. Advanced Digital Photography students are challenged with an immersion in the world of digital capture photography. The use of computer technology and the intense exploration and use of Adobe Photoshop for image enhancement and manipulation are designed to push students' creative limits. The course seeks to combine technical skills with artistic appreciation and gives students the opportunity to demonstrate their creativity by using modern digital technology to achieve what cannot be done in the tra-

ditional darkroom environment. Basic digital skills such as file management, resolutions, cropping, resizing, and selections are quickly mastered; the more advanced areas of study include color theory, color correction, printer color management, masks, layers, channels, retouching, montage, gradients, clipping paths, and more. Student work is channeled towards a final project incorporating elements of text, photographs, and other images.

### **Advanced 2-D Art**

In this course students begin by exploring a variety of ways of drawing. Emphasis is placed on learning to observe more carefully and closely. Students develop contour drawings of objects, hands and eventually figures, and explore many other aspects of drawing using a variety of materials such as pencils, graphite, ink, and charcoal. We then move into printmaking, where students have the opportunity to learn about several techniques, creating stamps, linoleum cuts, and collagraphs. Collage and painting techniques are also explored. Students use sketchbooks for their homework and as a place to explore thoughts and ideas.

### **Design**

In this course students learn what Design entails and how designers of all kinds work to combine form and function to improve people's lives and the world around us. Fields such as architecture; graphic design; fashion and textile design; landscape, exterior, and interior design; lighting; and product, industrial, toy, and transportation design are explored. Problem solving and the development of a personal design vision are emphasized, and a variety of projects will be taken from concept to execution.

## PERFORMING ARTS COURSES FOR GRADES 11 AND 12

### **IB Theatre SL/HL (two years)**

#### **Theatre 2 (one year)**

Students who wish to take a one-year theatre elective in 11th or 12th grade may register for Theatre 2, which meets in the same section as the first year of IB Theatre.

IB Theatre students investigate the histories and texts of various theatrical traditions from around the world and strive to understand the historical and cultural contexts that produced these traditions. Students also engage the writings and practices of theatre theorists, delving into the question of why we make theatre. In class, students experience the theater through the roles of actor, director, dramaturge, designer, and spectator. Students will devise new work and stage written play texts individually and in small groups. Throughout the course, students reflect on their own work and the work of their peers in writing.

### **IB Dance SL/HL (two years)**

#### **Dance 2 (one year)**

Students who wish to take a one-year dance elective in 11th or 12th grade may register for Dance 2, which meets in the same section as the first year of IB Dance. Please note: All students who plan to choreograph for the Dance Concert must register for either Dance 2, IB Dance or PE Dance.

In IB Dance, students build upon their foundation in a variety of dance techniques by studying Yoga, Limón Modern, Haitian and Cuban Folkloric. They also develop their skills in partnering through contact improvisation, and learn choreography from a guest artist for the Dance Concert. Students define their own artistic voices, aesthetic preferences, leadership and decision-making skills, gaining expertise in choreographic structure, craft and the use of compositional elements.

After choreographing solos on themselves, the dancers then create solos or duets for each other, learning how to direct other dancers. Through reflection and discussion, they develop sophisticated means for analyzing dance as they complete an in-depth exploration and comparison of two dance styles: one familiar and one unfamiliar to them. The class attends three dance performances in New York City.

### **IB Music SL/HL**

IB Music is open to students with a performance focus in Chorus, Chamber Ensemble or Jazz Band. Prerequisite: audition and/or departmental approval. IB Music students learn performance and technical skills in one of the performance-based music classes, Chorus 2, Jazz Band 2, or Chamber Ensemble 2 (see descriptions below). They are scheduled for an additional 3 periods of IB Music per 10-day cycle, in which they study music in Western society, international music, musical literacy, and music theory. The IB Music curriculum explores the elements of music and the music of various cultures and eras. Instrumental students are expected to take private lessons and to maintain a regular practice schedule of at least 45 minutes daily. IB Music students perform in a variety of settings throughout the year, and in the Winter and Spring Chorus, Jazz, or Orchestra Concerts.

### **Jazz Band 2**

This course includes both non-IB and IB Music Jazz students. (IB students register for IB Music.) Prerequisite: audition and/or departmental approval. This course is open to brass, woodwind and rhythm section (bass, drums or piano) instrumentalists with an interest in exploring jazz styles. Students learn jazz repertoire in addition to experimenting with group improvisation, composition, and arranging. Throughout the curriculum, we will explore music theory, ensemble awareness, ear training, and instrumental fluency. Participants must have experience on their instrument and maintain a regular practice schedule of at least 45 minutes daily, but experience with jazz is not required. Repertoire and pace of learning will be more challenging than in Jazz Band 1, and students are encouraged to take private lessons or extra coaching to help them learn the demanding material. Students will be challenged to expand their listening horizons, broaden their technique, and use their full intellectual and musical capacity in improvisation. Students will have research and listening assignments on significant topics in jazz, culminating in oral and written presentations. The Jazz Band performs in a variety of settings throughout the year, and in the Winter and Spring Jazz Concerts.

### **Chamber Ensemble 2**

This course includes both non-IB and IB Music Chamber Ensemble students. (IB students register for IB Music.) Prerequisite: audition and/or departmental approval. This course is open to experienced string, wind and piano instrumentalists. The Chamber Ensemble studies and performs repertoire from a broad range of musical styles. Repertoire is more advanced than for Chamber Ensemble 1. Students learn music history and theory and complete research and listening assignments. Participants must be proficient on their instrument, maintain a consistent practice schedule of at least 45 minutes per day, and take private lessons. The Chamber Ensemble performs in the Winter and Spring Orchestra Concerts.

### **Chorus 2**

This course includes both non-IB and IB Music Chorus students. (IB students register for IB Music.) The class includes challenging music, but is open to singers of all levels. Students learn choral repertoire in a variety of musical styles and vocal approaches. Topics include music theory, aural skills, and critical analysis, as well as composition and arrangement. Students perform in the Winter and Spring Chorus Concerts.

## **TECHNOLOGY**

Course Offerings:

All 9th grade students take a semester of Technology. In addition, students may choose:

9: Introduction to Programming

10: Computer Programming Elective

### **Grade 9: Introduction to Programming**

In this semester long course, students explore and practice applications of technology in their everyday lives as scholars, designers, and stewards. Students develop fluency in information technology, media production, and algorithmic thinking. By making use of the iterative design process, students build a portfolio of technology based projects including data visualizations, podcasts, and wireframes. Discussions about technology within historical and social justice contexts provide additional considerations for students to be responsible and innovative technologists in the Upper School.

### **Grade 10: Computer Programming Elective**

In this year long elective course, students study, apply and experiment with fundamental principles of computer programming. Students will design, write, and debug computer programs using concepts such as control structures, iterative structures and functions. Students will also explore contexts around computer science including the evolution of the field, issues in equity and the influence of science fiction. No prior programming experience is required.

## **HEALTH**

### **Grade 9: Health**

This required one-semester course covers the following topics: sex and sexuality, intimate relationships and friendships, communication, relationships with parents, conflict resolution, drugs and drug use, stress management, and the media. Class is discussion-based, and students do most of the talking and facilitating. The course meets twice a week, and sections may be separated by gender for some or all classes.

## **STUDY SKILLS**

### **Grade 9: Study Skills**

This required yearlong course is designed to support students in their transition to high school. It focuses on study skills and technology strategies to promote success in all content areas. In the first semester students review concepts such as learning styles, information processing theory, note taking, test taking, vocabulary development, textbook study, and researching. Students analyze their own study habits, with the goal of improving their efficiency as learners.

## COLLEGE COUNSELING

Course Offerings:

11: Junior Seminar

12: Senior Seminar

### **Grade 11: Junior Seminar**

Junior Seminar is a non-graded but required course that meets weekly during the spring semester of 11th grade. In small groups of five to eight students, students learn about the variety of educational options available to them after graduation, from small colleges to large universities, from liberal arts programs to schools of fine arts and engineering, and everything in between. They reflect on their aptitudes, interests, and dreams, and begin to research and plan visits to colleges and universities that they may wish to attend, with the goal of compiling a thoughtful, appropriate preliminary college list by May. Students also learn about the application process: what information, test scores, and materials are required, how to assemble applications that highlight their strengths, and how college admissions offices evaluate applications. Students visit colleges on their own and on school-organized trips, and attend a major college fair. Students begin drafting a personal essay that can be used as part of their college applications, and request recommendation letters from teachers. The goal of the Junior Seminar is that students be knowledgeable about their options, and enter 12th grade prepared to apply to colleges where they can be happy and successful.

### **Grade 12: Senior Seminar**

Senior Seminar meets once a week during the fall semester of 12th grade, picking up where Junior Seminar left off. Students meet in small groups with their college counselor, to ask questions, discuss the progress of their college search and application process, learn about financial aid and scholarship options, and share information with their classmates. Some sessions are devoted to individual meetings between the students and their counselor; in these meetings, application lists are honed, essays and other application components are reviewed and edited, and the students are kept on a steady course. Students also use the time reserved for Senior Seminar to use the resources available in the College Counseling Office to research colleges and to work on the various parts of their applications. By the end of December, students will have put together compelling applications that capture their strengths and accomplishments, and will have the knowledge and information necessary to make good choices about their educational futures.

## PHYSICAL EDUCATION

Course Offerings:

Grades 9-12 Physical Education Pathways

*11th & 12th Grade students can earn exemption from PE class for the season when participating on an athletic team.*

The Physical Education (PE) curriculum enables students to enjoy and succeed in many kinds of physical activity. After choosing a pathway to follow for the academic year, they develop a wide range of skills and the ability to use tactics, strategies and compositional ideas to perform successfully. They think about what they are doing, analyze the situation, and make decisions. They also reflect on their own and others' performances and find ways to improve. As a result, they develop the confidence to take part in different physical activities and learn about the value of healthy, active lifestyles. Discovering what they like to do, what their aptitudes are, and how and where to get involved in physical activity helps them make informed choices about lifelong physical activity. Com-



petence, performance, creativity, and healthy, active lifestyles are key concepts that underpin the study of PE. The goal is for students to be able to move effectively in a range of activities, empowered with the knowledge, skills and understanding to be able to enjoy health-promoting physical activities. The PE Department strives to allow each student to nurture the athlete within, not only for a high school career, but for a lifetime.

The concept of "pathways", not "electives", originated from electives appearing like a patchwork quilt of activities with no real consistent link. In our PE Pathways program a student enters in 9th grade and for their upper school academic years will be guided through a pathway in:

### **General PE & Advanced General PE**

General PE introduces a wide spectrum of sports, games and activities. Each activity is categorized into one of four areas of content: **Outwitting Opponents:** This includes activities in which the concept of success is to overcome an opponent or opponents in a face-to-face competition. For example: Invasion games (eg basketball, soccer, netball, rugby, American football, lacrosse, ultimate frisbee and hockey) **Net/wall games** (eg volleyball, badminton, tennis, and table tennis), **Striking/fielding games** (eg softball, baseball, and cricket). **Accurate Replication:** This includes activities in which success is judged on the ability to repeat actions, phrases and sequences of movement as perfectly as possible. Examples include: gymnastics and skateboarding. **Performing at Maximum:** This includes activities in which success is measured by personal best scores or times, and in competition by direct comparison with others scores or times. Examples include racing in a track event or on a skateboard, or having a low score in golf or a high score in archery. **Identifying & Solving Problems:** This includes activities in which success is judged on how collaboratively, efficiently and safely challenges are overcome. Eg. orienteering.

### **Yoga**

In yoga class, the students learn the postures of hatha and vinyasa yoga. We begin with Suriya Namaskar A and B and slowly learn to embody a variety of standing and seated postures including: triangle, extended side angle and warrior poses. As students gain more body awareness, strength and endurance, we learn to perform more advanced postures and become accustomed to the Sanskrit names for these poses. We express this wide variety of postures through themed classes such as chest opening, hip opening, back bending, inversions, arm balancing and forward folding. In addition to the cardiovascular stimulation, each class explores a message and focus meant to teach the arts of concentration, introspection and self reflection.

### **Swimming**

Swimming lessons are held at St. Francis College's competition-sized pool. Students develop and refine their stroke and breathing techniques to increase stamina and speed in all four strokes. In addition, students will practice starts and turns, individual medleys and focus on creating a personalized practice regime with appropriate terminology. This class is not suitable for students that have difficulty swimming.

### **Climbing**

Held at Everyday Athlete, this pathway teaches students how to be better climbers. Students build confidence and skills in a progressive and systematic way by learning a solid foundation of basic climbing techniques and movements, including but limited to: climbing movements, balance and mobility, injury prevention, conditioning, core training, and strength training. Students learn basic rope techniques including knots, and are taught belaying and other techniques used in climbing.

## **Functional Fitness**

In this course, students learn and apply various training methods and principles to a Personal Exercise Program (PEP) using the new BFS Fitness Center. The development of the PEP underpins the study of weight training in PE. The PEP is a series of exercises put together for each individual student. The exercise sessions follow all the guidelines for the principles of training to make them safe and suitable for the performer. Students also explore skill-related fitness and the components that define 'fitness'. The PEP will be performed regularly and modified when the activities become too easy to have an effect on the performer. The PEP is submitted as coursework.

## **Cycling (Fall & Spring Only)**

The cycling curriculum introduces the competitive "sport of bicycling"; bicycle traffic safety; project work encouraging bicycling to school; create and track cycle routes in the neighborhood and understanding the environmental benefits of cycling. Students will also learn and maintain physical fitness strategies by improving health and performance including basic knowledge of psychological and sociological concepts, bicycle motor skills, principles and strategies applied to competition will also be covered. Owning your own bicycle and being comfortable cycling is preferable.

## **Volleyball (Winter Only)**

Offered by Girls & Boys Varsity Volleyball coach Felix Alberto, students will participate in a Volleyball module focused on developing serving, passing, setting, spiking, and blocking technique, and then applying those techniques as skills in a game-based approach. This unit is ideal for students enthusiastic about the sport of volleyball with a willingness to develop their technique, game understanding, decision making, and analytical skill.

## **CREATIVITY, ACTIVITY, SERVICE (CAS)**

Creativity, Activity, Service (CAS) is a core component of the Upper School program. This service-based program, developed by the International Baccalaureate Organization, encourages students to share their energies and talents while developing awareness, concern and the ability to work with others within the school community and beyond. Students are encouraged to become involved in projects that allow them to share their talents and energies while at the same time reflecting on the experience. CAS has a broad focus: it includes service learning as well as participation in athletics, the arts, civic organizations, school committees, and extra-curricular activities. All 11th and 12th graders are required to complete meaningful and sustained CAS activities.

Students in the 9th and 10th grades are encouraged to participate in service learning projects both in and out of school. They are introduced to CAS and are encouraged to begin their service projects and volunteerism early in their Upper School careers; all students must complete and document meaningful service by the end of 10th grade.