



Léman Manhattan Preparatory
School

Lower School
Curriculum Guide 2016-2017

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MISSION STATEMENT

Léman Manhattan Preparatory School is an international learning community committed to educating, empowering and inspiring students from early childhood through 12th Grade to be confident, independent critical thinkers.

We equip young minds with the knowledge and skills they need to evaluate, compare and make thoughtful choices so they can become informed and engaged citizens of the world.

Léman Manhattan Prep is enriched by our vibrant downtown location and the proven academic resources afforded us as an affiliate school of Nord Anglia Education.

VISION

We develop each child's potential through:

- Personalized instruction that addresses each student's unique learning style
- Differentiated instruction, curriculum and assessment
- Fostering meaningful student-teacher relationships
- Promoting ongoing collaboration among community members, both locally and globally
- Cultivating independent thought that builds character and confidence

CORE VALUES

Core values are the essential and enduring tenets of our school. These guiding principles have a profound impact on how everyone thinks and acts. And they are the soul of who we are — the values that guide all of our actions.

We believe equally in the value of:

- Thinking critically and working collaboratively
- Achieving academic excellence
- Personalized learning
- Nurturing creativity
- Modeling and promoting resiliency
- Promoting healthy minds and bodies
- Respecting one's self and others
- Serving the local and global community
- Encouraging open minds and international-mindedness

Portrait of a Léman Manhattan Learner

Léman Manhattan Preparatory School is an international learning community committed to educating, empowering and inspiring students from early childhood through 12th Grade to be confident, independent critical thinkers. The Portrait of a Léman Manhattan Learner includes the IB Learner Profile as well as additional unique attributes that draw from the Léman Manhattan Mission Statement.

AS LÉMAN MANHATTAN LEARNERS, WE STRIVE TO BE:

- INQUIRERS**
 - We nurture our curiosity, developing skills for inquiry and research.
 - We know how to learn independently and with others.
 - We learn with enthusiasm and sustain our love of learning throughout life.
- KNOWLEDGEABLE**
 - We develop and use conceptual understanding, exploring knowledge across a range of disciplines.
 - We engage with issues and ideas that have local and global significance.
- THINKERS**
 - We use critical and creative thinking skills to analyze and take responsible action on complex problems.
 - We exercise initiative in making reasoned, ethical decisions.
- COMMUNICATORS**
 - We express ourselves confidently and creatively in more than one language and in many ways.
 - We collaborate effectively, listening carefully to the perspectives of other individuals and groups.
- PRINCIPLED**
 - We act with integrity and honesty, with a strong sense of fairness and justice, and with respect for the dignity and rights of people everywhere.
 - We take responsibility for our actions and their consequences.
- OPEN-MINDED**
 - We critically appreciate our own cultures and personal histories, as well as the values and traditions of others.
 - We seek and evaluate a range of points of view, and we are willing to grow from the experience.
- CARING**
 - We show empathy, compassion and respect.
 - We have commitment to service, and we act to make a positive difference in the lives of others and in the world around us.
- RISK-TAKERS**
 - We approach uncertainty with forethought and determination.
 - We work independently and cooperatively to explore new ideas and innovative strategies.
 - We are resourceful and resilient in the face of challenges and change.
- BALANCED**
 - We understand the importance of balancing different aspects of our lives – intellectual, physical, and emotional – to achieve well-being for ourselves and others.
 - We recognize our interdependence with other people and with the world in which we live.
- REFLECTIVE**
 - We thoughtfully consider the world and our own ideas and experience.
 - We work to understand our strengths and weaknesses in order to support our learning and personal development.

The ten attributes and descriptors above are called the 'IB Learner Profile.' They are valued by all IB World Schools.

- COLLABORATORS**
 - We form cultural, academic and social partnerships globally and locally.
 - We maximize opportunities to share our learning within our own community and beyond.
- GLOBAL CITIZENS**
 - We mindfully cultivate individuality and embrace diversity.
 - We are advocates for peace and stewards of the planet.

These additional descriptors represent unique attributes valued at Léman Manhattan.

LOWER SCHOOL PROGRAM

In Léman’s Lower School, students find their passions. As a result, they become independent thinkers and competent decision makers who are excited to learn. We offer a diverse program that encourages students to reach their academic, social, and emotional potential in a challenging yet supportive environment.

In addition to emphasizing proficiency in reading, writing, and mathematics, our Lower School program focuses on the humanities, science, world languages, and physical education. Music and visual arts are an integral part of our curriculum as they help to develop creativity, open-ended thinking, and collaboration.

Using Teachers College Reading and Writing Workshop as the backbone of our literacy curriculum, students in the Lower School gain the skills needed to read, write, analyze, compare, and discuss text across a variety of genres.

Our rigorous math curriculum builds conceptual understanding utilizing varied instructional practices such as hands-on activities, games, fact practice, and daily routines. Students connect mathematical concepts to everyday situations with an emphasis on problem solving, critical thinking, and exploration of multiple strategies. The curriculum provides repeated exposure to mathematical concepts to build skills.

Students engage in the scientific process through observation and hypothesis, doing the work of real scientists in the Lab and the outside world. They develop an analytical mindset through inquiry, and test their understandings through designing, conducting, and reflecting on experimental investigations.

A cornerstone of arts education in the Lower School is our signature Strings Program, which introduces the violin in kindergarten and continues through the 3rd Grade. In the 4th Grade, students apply their musical knowledge to new concepts through performance-based ensembles in Band or Chorus. They develop musical literacy, hone musicianship skills, and work together to achieve the common goal of performing as an ensemble.

We have high expectations of our students’ work, and Léman teachers are skilled at challenging children to consistently set and reach new goals. Faculty confer with students individually and in small groups, helping them to find their voice and advocate for themselves as they prepare for the transition to Middle School.

Our teachers provide thoughtful attention to each child’s academic, social, and emotional development, and focus on building classroom communities in which children are inspired to explore, create, and grow as learners and young citizens of the world.

PERSONALIZED LEARNING PLANS (PLPs)

Personalized Learning Plans uniquely demonstrate Léman Manhattan's commitment to the growth and development of each and every student. Léman Manhattan believes that education is a partnership among the student, home and school. In keeping with our Léman Learner profile, we want our students to be knowledgeable, curious and reflective thinkers. Léman understands that in order to maintain a high level of engagement and motivation in their education, students must have a sense of ownership for their schooling and an understanding of the qualities that make for a successful life long learner. The PLP is one way of achieving this as it provides students with an individual goal that is driven by their passions, interests and aspirations while incorporating academic and HAL (Habits and Attitudes of Learning) components.

Building the PLP is a collaborative process to which all partners (teachers, parents and students) contribute. It is a call to action by the teacher, the student and the family with everyone in agreement of his or her role in the achievement of the plan. Work on the passion-driven project will occur both at school and at home. We teach our students that the process is as important and meaningful as the product. We will also provide students with the tools to organize and persevere with a long-term goal. Students and teachers will document progress and provide personal reflections on their PLP each trimester on Haiku, Léman's learning management system. Projects will be presented at the end of the academic year.

HABITS AND ATTITUDES OF LEARNING (HAL)

Community citizenship, ownership and independence, work habits, critical thinking, and engagement are the Habits and Attitudes of Learning at Léman. Following a Responsive Classroom approach, each year students work within their homeroom to create class practices aimed at providing an environment where all children can achieve their hopes and dreams. Each day begins with a morning meeting, setting the tone for the day and welcoming all students as members of the class and school community. Throughout daily interactions with peers, they work together to achieve common goals and learn to listen to others with understanding and empathy.

Community Citizenship

- Listens with understanding and empathy
- Follows classroom and community rules
- Contributes during morning meeting
- Works with others towards a common goal

Ownership and Independence

- Manages impulsivity
- Takes responsible risks
- Follows routines
- Exhibits resourcefulness

Work Habits

- Strives for accuracy and neatness
- Thinks and communicates with clarity
- Completes work in a timely manner
- Perseveres through challenges

Critical Thinking

- Thinks flexibly
- Solves problems
- Reflects on learning and is goal oriented
- Asks meaningful, thoughtful, relevant questions

Engagement

- Remains open to learning
- Finds, uses, and appreciates humor when learning
- Demonstrates eagerness for learning
- Participates in activities and discussions

STUDENT SUPPORT

The Student Services Department employs a nurturing and holistic approach to the social-emotional development, health, and well-being of our students. Our counselors, psychologist, health educator and nurses provide on-going teacher, family and student support for social-emotional, academic, behavioral, and health concerns both in and outside of the classroom. This may include individual and small group work, or whole class education with students. The members of our department consult and collaborate with the entire Léman community and appropriate outside providers when necessary to best support academic success. We strive to be proactive in our personal/social-emotional education and possess age-appropriate understandings of the necessary components that lead to a healthy, well-adjusted, and productive lifestyle. The counselors in the Upper School assist all students in the preparations for college and the application process, and provide safe spaces to grow and take risks. We aim to prepare and support our students for college and life beyond Léman Manhattan.

LEARNING SUPPORT SERVICES

The role of the Learning Support Services team is to ensure Léman Manhattan provides an inclusive PK3 through Grade 12 multidisciplinary student support system that respects learner differences, facilitates attainment of Léman Manhattan's high educational standards, and promotes the development of lifelong learners. The provision of inclusive education is based on three complementary principles:

1. Curriculum is provided equitably to all students and is provided in an inclusive, common learning environment shared among age-appropriate peers.
2. The success of each student depends on the degree to which the education is based on the student's best interests and responds to his/her strengths and needs.
3. The service to students is flexible and responsive to change.

Under these guidelines, we believe:

- Students build self-confidence and better prepare themselves to be lifelong learners by developing self-advocacy skills and by understanding their learning needs.
- It is important to work with the whole student (intellectually, socially, emotionally, and physically) from a position based on the student's strengths in an effort to address areas of concern.
- Learning issues may change as the child grows and developmental differences

need to be considered; resources should be allocated as needed.

- An effective student support program requires a team approach with all team members sharing responsibility for the student's learning. Teams may include students, parents, teachers, student support personnel, and administrators.
- Staying current with research and best practices helps the team determine how to address student needs.

ENGLISH FOR SPEAKERS OF OTHER LANGUAGES (ESOL) PROGRAM

Our mission is to help students acquire proficiency in the English language, to ensure academic success, and to confidently participate and integrate as an active member of the Léman Manhattan Preparatory School (LMPS) community.

We believe that all students should have equal access to the curriculum and should be immersed into the mainstream classrooms whenever possible. The ESOL Department believes that high academic standards help promote language development for non-native English speakers. A culture of school-wide collaboration is adopted such that classroom content is made accessible and comprehensible for English language learners. Students are strongly encouraged to maintain their mother tongue, enhancing both cognitive development and English language acquisition.

The faculty of LMPS believes and practices the following:

- English is the primary medium of instruction, and teachers work collaboratively to provide a program of English language learning for all students to address their academic needs.
- All staff members are language teachers and are responsible for addressing and meeting the needs of all students of diverse linguistic and cultural backgrounds.
- At Léman Manhattan, we believe that ELL students are best educated in a sheltered instruction environment. Our ELL students are instructed in a mainstream classroom setting with ELL push-in and pull-out support when possible.

TECHNOLOGY, LIBRARY, AND INFORMATION CONNECTIONS

Léman Manhattan combines technology and library support into the Technology, Library, and Information Connections (TLIC) department. Educational Technology (EdTech) Coaches and Library faculty work as a team to collaborate on information literacy instruction goals for each grade level. They support successful and ongoing integration across the curriculum in the Early Childhood, Lower, and Upper Schools, collaborating with faculty to plan, execute, and evaluate curriculum units that engage and challenge students.

TECHNOLOGY

Technology empowers teachers to personalize instruction and engages students to become confident, independent critical thinkers. The role of our EdTech Coaches is to help facilitate this by mentoring, collaborating, and training faculty and staff on best practices for integrating technology in the classroom, our community, and the world. As an international learning community, technology supports our commitment to educating, empowering and inspiring students to make thoughtful choices and global connections as informed and engaged citizens of the world.

We believe that technology...

- Is an essential part of a student’s life at Léman
- Should be integrated throughout the standards-based curriculum
- Supports students’ path to digital responsibility and global citizenship in the 21st century
- Empowers teachers to personalize instruction
- Enables learning “anytime, anyplace, at any pace” as our students become the innovators of tomorrow

We have adopted the International Society for Technology in Education (ISTE) Standards that guide our practice and goals for learning here at Léman. Our students will become:

- *Empowered Learners* who leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.

- *Digital Citizens* who recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical.
- *Constructors of Knowledge* who critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences for themselves and others.
- *Innovative Designers* who use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.
- *Computational Thinkers* who develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
- *Creative Communicators* who communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.
- *Global Collaborators* who use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally. (<http://www.iste.org>)

LIBRARY

The mission of the school library program is to ensure that students and staff are effective users of ideas and information; students are empowered to be critical thinkers, enthusiastic readers, skillful researchers, and ethical users of information. (<http://www.ala.org/aasl/standards/guidelines/outline>)

Both librarians hold ALA accredited Master's degrees in Library and Information Science.

Our libraries are the cultural and intellectual centers of the school, hosting book discussions, creative writing clubs, displays of student artwork, and author visits throughout the year. They are also physical, programmatic, and virtual entities.

- *Physical:* Both libraries are home to a wide assortment of fiction and nonfiction titles in print for research, curriculum support, or the pursuit of interests and leisure reading. These collections represent the best there is in both classic and contemporary literature. The diversity of their culture, thought, and experiences reflect our school's commitment to and celebration of international-mindedness.
- *Virtual:* Our learning space includes a virtual space that includes access to ebooks and research databases. For research and homework needs, students have remote access to more than 20 subscription databases - available on--campus and from home - covering all disciplines of our PreK-12 curriculum and beyond. These digital resources range from generalized databases, containing

both scholarly and magazine articles, to more subject specific databases, containing primary source documents, visual and audio resources, biographies, and streaming video.

- *Programmatic:*
 - Early Childhood and Lower School students have scheduled time in the library, where words and pictures are the central inspiration for expression. Answering questions becomes a natural part of each program, and a vibrant story program captures the varied interests of children at different ages and reading levels. The librarian, in collaboration with teachers and the educational technology coach, provides information literacy instruction both in the library and in the classrooms, connecting the needed skills to the curriculum.
 - The Upper School librarian collaborates with Middle and High School faculty to integrate information literacy skills into their curriculum. The library sponsors independent reading programs throughout the year. The librarian is embedded into the Research and Writing classes and works with IB students both in groups and one-on-one, helping them to not only understand the research process; but, also helps them find the information they need to have a successful Extended Essay.

STANDARDIZED TESTING

ERB/COMPREHENSIVE TESTING PROGRAM 4th EDITION (CTP-4)

The CTP-4 test is administered to students in Grades 2-9 in the spring. The test is designed to collect information about student achievement in key areas: listening, reading, vocabulary, writing, and mathematics. The CTP-4 Verbal tests assess students in the following areas: Word Analysis, Auditory Comprehension, Reading Comprehension, Writing Mechanics, Writing Concepts and Skills, Verbal Reasoning, and Vocabulary. The CTP-4 Mathematics tests includes questions that assess students' understanding and application of a variety of content and process areas in mathematics, including five main categories: Number and Operations, Algebra, Geometry, Measurement, and Data Analysis and Probability.

Auditory Comprehension

The CTP-4 *Auditory Comprehension* test assesses pre-reading vocabulary and comprehension or orally presented material, understanding of stated information, the ability to determine the gist of short passages, and the ability to infer information based on these passages. Administered to grades 2-3

Mathematics

The CTP-4 *Mathematics* test assesses conceptual understanding of mathematics, application of mathematical knowledge to solve problems, and the ability to compute or estimate solutions. Administered to grades 2-9

Quantitative Reasoning

The CTP-4 *Quantitative Reasoning* test assesses the ability to analyze mathematical concepts and principles, to make generalizations, and to compare quantities mathematically. Administered to grades 3-9

Reading Comprehension

The CTP-4 *Reading Comprehension* test assesses comprehension of written material, including recall of information, identifying of main ideas, and hypothesizing using information from passages. Administered to grades 2-9

Verbal Reasoning

The CTP-4 *Verbal Reasoning* test assesses the ability to analyze information and draw logical inferences, to recognize analogical verbal relationships, and to generalize verbal categorical attributes. Administered to Grades 3-9

Vocabulary

The CTP-4 *Vocabulary* test assesses recognition and understanding of a wide range of grade-appropriate vocabulary and use of context clues to determine meaning. Administered to grades 4-9

Writing Concepts and Skills

The CTP-4 *Writing Concepts and Skills* test assesses understanding of the components of effective written composition. Administered to grades 2-9

Writing Mechanics

The CTP-4 *Writing Mechanics* test assesses understanding of spelling, capitalization, punctuation, and usage conventions. Administered to grades 2-9

ERB/WRITING ASSESSMENT PROGRAM (WrAP)

The WrAP test is administered to students in Grades 3-10 in the winter. The test is designed to provide a direct assessment of writing through a writing sample submitted by each student. The test mirrors formal classroom writing practice to inform learning and instruction.

EXTRACURRICULAR ACTIVITIES, CLUBS, AND ATHLETICS

LÉMAN PLUS AFTER SCHOOL PROGRAM

In addition to the school day curriculum, Lower School students are presented with a variety of after school class options in subject areas that may or may not be available during their school day. Classes are offered in athletics, visual and performing arts, STEM, financial literacy, and more. The L+ class offerings change each semester and other than a couple of exceptions, carry an additional fee. All of these programs are optional. Many programs are offered on multiple days and repeat each semester. Here is a sample of classes that have been offered this past school year.

Academic Support

HOMEWORK CLUB (2nd – 4th) & STUDY HALL (5th) (*No fee*)

Faculty will ensure a quiet and conducive environment in which students can do their homework and receive extra academic support. Children must be picked up at 4 pm unless they are enrolled for a Session B Léman Plus class.

Business Offerings

MY FIRST LEMONADE STAND (K-2nd)

The proverbial lemonade stand can be a highly effective introduction to entrepreneurship and business for the young student. This class empowers students with an entrepreneurial mind-set for their first small business start-up, drawing from such disciplines as marketing, finance, operations and strategy, in a supporting, collaborative setting fostering team work.

MONEY MATTERS: PERSONAL FINANCE FODS KIDS (K-5th)

This innovative class introduces students to critical finance and business concepts, including the stock market, investments, budgeting, profitability, taxes, credit cards, bank loans, entrepreneurship, and more. Class materials include kid-friendly case studies on popular companies like Apple, Facebook and Nike. An emphasis on promoting critical thinking through guided discovery in a dynamic learning environment will be the focus throughout the class. Participants will walk away with a valuable foundation of knowledge about important financial concepts.

THE BUSINESS OF SPORTS (3rd-5th)

For the sports lover, future team general manager or team owner, ESPN analyst or coach, this unique class will “show you the money” in sports! Students will learn about the business side of sports and actively discuss and analyze a different “sports money” topic every class, including how leagues and teams make money, endorsements, salaries and collective bargaining agreements, and sports stats and analytics. This innovative class will use the world of sports as an avenue to gaining financial literacy.

Chess Offerings

WELCOME TO CHESS (PK4-K)

Geared to students who are brand new to chess, this class will be an excellent introduction for young students. Children will receive basic instruction and eventually work their way towards supervised game play. We will also stress good sportsmanship as well as respect for the game and other players.

BEGINNER & INTERMEDIATE CHESS (K-5th)

Children will receive instruction and supervised game play. Instruction will include piece movement, pawn promotion, castling, basic opening strategies, basic checkmate patterns, master games analysis, and basic tactics (pins, forks, discoveries). Teachers will stress good sportsmanship as well as respect for the game and other players.

LÉMAN CHESS CLUB (90 minutes, 2nd-5th) *(This is an extended class that ends at 5:00)*

This class is designed as the most challenging of all offered at L+. Students possessing a foundation of chess knowledge can up their game with the eventual goal of competing in weekend tournaments with other Léman students. Join Lenny Kadishev, a chess master, who will offer a sophisticated instructional workshop followed by simulated tournament play in this 90-minute class. Students will be challenged and pushed in this class for those willing to work hard to improve their skills in the wonderful game of chess!

Cooking Offerings

JUNIOR CHEFS OF LÉMAN (PK4-2nd)

Students will learn basic cooking methods and techniques while learning to create recipes on their own. We will explore international foods through both sweet and savory seasonal recipes. Students will bring home their culinary creations each week to share with their family (if they don't eat it first!).

ADVANCED CULINARY SKILLS & TECHNIQUES (3rd-5th)

Broaden your kitchen skills and awaken your taste buds in this L+ class, which seeks to further inspire young chefs who will learn hands-on techniques such as knife skills, poultry, meats, and fish. Students will come away with good kitchen sense and great food to share.

Dance Offerings

BALLET WITH CHILDREN'S WAREHOUSE (1st-5th)

Children learn balance, coordination and flexibility through petite variations. They learn pre-position exercises and basic knowledge of turn out as an introduction to the barre. Students who register for the full ballet year will also perform in the end of the year ballet recital, which consists of a fairy tale ballet. Students may also train twice a week for proper classical ballet technique.

HIP HOP WITH CHILDREN'S WAREHOUSE (1st-5th)

This exciting and dynamic class will teach children basic hip hop techniques of isolations, contractions, and identifying differences in movement quality to enhance their understanding of musicality. Students will work on building confidence while learning popular dance moves from their favorite music videos through bold and energetic exercises and choreography! All Hip Hop students will perform in an end-of-the-year performance.

Drama Offerings

MUSICAL THEATRE WITH DRAMAZONE (PK4-4th)

Come join Aladdin, Jasmine and the Genie on this imaginative journey! Taught by the pros at the DramaZone® all classes include instruction in Singing, Dancing, and Acting. Classes include age appropriate choreography, technical stretching and strengthening exercises, and theatre games designed to improve speech and confidence. This class culminates in a show for friends and family! Come join the fun!

MAGIC & CIRCUS ARTS WITH AFTERSCHOOL MAGIC (K-5th)

Join the phenomenal magician and educator Harrison Kramer, who entertained and led workshops at Camp Léman this past summer. No red noses or silly rabbits here... After School Magic students will learn mysterious and incredible skills ranging from top-secret sleight of hand and misdirection methods to ancient Chinese YoYo and juggling techniques. Each class will introduce new and exciting, yet challenging activities that you can master and add to your repertoire. Build your confidence, be creative, and amaze everyone with your new talents. And don't forget the fun you had learning it all!

FILM MAKING (2nd-5th)

Lights, camera, action! Learn how to make films from scratch with Take Two Film Academy. Students work together to write, act, shoot and edit their own short films. Every student is invited to participate in all aspects or just their areas of interest. At the end of the term we will have made at least one film, put it on DVD and posted it online. Professional equipment, cameras, audio and editing software are provided.

FILM ACTING (2nd-5th)

Learn how to act in front of the camera with Take Two Film Academy. This course allows students to watch and learn from their performances in real time. We focus on the difference between stage and film acting, subtlety and behavior, improvisation

techniques and most importantly provide video experience. Students learn how to interact with one another on camera and come away with scene or monologue on DVD.

Music Offerings

LÉMAN CONSERVATORY PRIVATE MUSIC LESSONS (K-5th)

The Léman Conservatory offers private music lessons and acting coaching during after school hours for students in grades K through 12. Our outstanding artist-faculty are experienced teachers and performers affiliated with such prestigious institutions as Lincoln Center, Carnegie Hall and Broadway, as well as a variety of prominent NYC jazz clubs and renowned recording artists. Our world-class teachers inspire and challenge our students to reach their true potential as a musician or actor.

LÉMAN STRINGS ENSEMBLE (4th and 5th only) (*No fee*)

4th grade students who love playing the violin and would like to build on the foundation from music class can continue their studies by joining this fun ensemble! Students will learn and perform exciting arrangements of music in different styles and continue to develop musicianship and violin performance skills. The Lower School violin teacher directs the ensemble.

PIANO WORKSHOP (K-2nd)

Children will be encouraged to learn music and piano skills through listening, singing, clapping, followed by note reading and writing, music theory, history, piano/keyboard skills, and more. During these small group classes children also learn social skills about learning music together in a very positive and friendly environment. Students continuing into the Spring Semester will participate in the Piano School of NY's recital.

LÉMAN VIOLIN CLUB (1st-5th)

Students who love playing the violin and would like to continue their studies outside of their daytime violin class are invited to be part of this after-school group! Participants will build musicianship, develop violin performance skills, and learn repertoire in a variety of genres from folk music to popular music.

THE LÉMAN SINGERS (3rd-5th)

Students who love to sing are invited to be a part of this exciting choral group (which is distinct from the 4th and 5th grade day-time chorus classes). Students will work together to learn, play, and grow through a fun and engaging choral experience. By exploring a range of styles, genres, and activities, *The Léman Singers* is sure to be a joy for participants and audiences alike.

Science Offerings

SILLY SCIENCE (PK4-2nd)

Welcome to the Léman Science Lab where all kinds of fun will ensue as we engage in hands-on experiments to fascinate students and teach them something amazing about chemistry, physics, and other sciences, all while keeping smiles on the students' faces.

AMAZING ANIMALS (K-3rd)

If it walks, crawls, swims or flies we'll study it. From raising and observing our very own animals to exploring what makes bigger life forms tick, we'll learn not just about the animal kingdom, but about our own biology as well. Adventurous activities will include animal handling and care, hands-on demonstrations, experiments and outrageous games that incite both curiosity and giggles. We'll even create model collections of bugs, fossils and animal anatomy to keep.

JUNIOR DETECTIVES: SPY KIDS! (K-2nd)

Learn all about crime scene investigation and forensic work. Take fingerprints, decode secret messages, search for clues, and so much more! Explore the fascinating world of solving mysteries and develop observation and reasoning skills!

Sports Offerings

ATHLETICS PROGRAM (5th) (*No fee*)

5th graders can elect to join various athletics teams seasonally, including soccer/futsal, cross country and pre-season swimming (fall); basketball and swimming (winter); track & field (spring).

POP FIT KIDS (PK4-1st)

Through energizing circuits, action-packed drills, dynamic movements, partner games, nutrition challenges and more, each PopFit fitness adventure will hit on cardio, strength, flexibility, endurance, and balance.

BASKETBALL STARS OF NY (K-5th)

Work with some of the most talented and experienced instructors in New York! Children learn essential skills such as passing, shooting and defense as well as the basic rules of the game. Children also engage in improving fundamental skills essential to the game. Every day the children will have evenly matched games and competitions making for a fun and inclusive day of hoops.

GILSPORTS FOR KIDS (K-5th) (*OFF-SITE PROGRAM*)

GilSports offers children the opportunity to learn and improve in a fun-filled environment. Baseball and ice-skating rotate seasonally. GilSports includes transportation from school to the program, and then to home at the program's conclusion.

IMAGINE SWIMMING (PK4-2nd)

Whether dealing with a child's first experiences in the pool or teaching advanced stroke technique, Imagine creates aquatic classrooms where fear turns to joy, and a lifetime love of swimming is born. Lessons are 40 minutes with a maximum of four students.

LÉMAN IMAGINE SWIMMING PRE-TEAM (3rd-4th)

The Pre-Team is intended for skilled swimmers who are proficient at freestyle and backstroke, can swim four laps of freestyle, and are excited to practice and be part of a

team. Lap swimming, advanced stroke technique, and racing skills will all be a part of the pre-team practices.

SOCCKER WITH MANHATTAN KICKERS FC (PK-4th)

This well-established Manhattan-based Soccer School specializes in the key ages for soccer development. Professional international coaches with years of experience will help develop individual skills and instill passion and respect for the game.

JUNIOR TENNIS WITH CATS (PK-2nd)

Children will learn and develop tennis skills and fundamentals using the USTA Quick Start approach. Low teacher-student ratio and groupings based on age and level will ensure a great learning environment.

TENNIS AT CITY VIEW (K-5th) (*OFF-SITE PROGRAM*)

Students will be picked up afterschool and transported to CityView (in Long Island City) for their 90-minute lesson. Students return home after their lesson by CityView.

URBAN GOLF ACADEMY (PK4-2nd)

Using a dynamic variety of methods, LPGA's Kate Tempesta and her Urban Golf Academy work with SNAG (Starting New at Golf) training tools, which were developed by PGA professionals to create a learning environment that is interactive, exciting and lively, even off the golf course. The mission is to make learning fun and to have that joy carry over into every facet of a child's life. Various golf skills will be taught with this fantastic method, which has proven to be a perfect entry into the sport.

MODERN MARTIAL ARTS (K-5th)

In this class children develop respect and discipline in a fun environment. Through a combination of martial arts techniques, mental exercises, and fitness-inspired games, students will have the opportunity to grow while building self-confidence, self-awareness, and focus in a class designed for students at all levels. A karate uniform is recommended.

TUMBLING & SOCIAL CIRCUS (K-2nd)

Join Camp Léman's popular Ruthie in this new L+ class! Through the physical mediums of circus, tumbling, and movement young people will develop physical and spatial awareness. Participants will cultivate foundations in flexibility, acro-balance, partner movement, strength training, and tumbling. Song, dance, and games are incorporated into every warm up, for fun and easy transitions from "school readiness" to "after school engagement."

Technology Offerings

MARVELOUS MACHINES! (1st-5th)

Calling all young inventors! Come explore the wondrous world of machines and build some of your very own! Learn all about the principles of science and physics while planning and building our own original mechanical marvels. Create things that move, make noise, fly through the air or race across the ground. Build our own Rube Goldberg

Machines (think of the “Mousetrap” game, only bigger and better) to keep. Industrious inventors will learn critical thinking and creative problem solving skills while gaining a mastery of mechanics. So join us and stretch your imagination... if you can dream it, you can build it!

ROBOT BUILDING WORKSHOP! (2nd-5th)

Build 5 awesome robots to take home including the Insectoid, the Brush Robot, and the Table Top Robot! Learn engineering principles such as gears, wheels, and axles as you design amazing robots to battle against others in becoming the Battle-Bot Champion!

ROCKET SCIENCE & AUTO MECHANICS (2nd-5th)

Blast off! As we explore the Universe, launch Seltzer Rockets, Business Card Boomerangs, Water Bottle Blasters, and more! Our dynamic launches will take us to Titan, Mars, Orion, and a Galactic Cluster or two! In our second unit, we will build 3 awesome cars to take home: the Propeller Racer, the Electric Dragster, and the Camaro Concept Car! Gain knowledge of motors and gears to create super cool vehicles such as Solar Powered Racers, Balloon Buggies, and Fold-N-Roll Racers!

CODING IN OUTER SPACE (2nd-4th)

Do you want to be an astronaut? Learn about coding and space exploration in this amazing new class! Use code to create space ships and space stations, defeat aliens, and craft your own planet filled with trees and animals -- all using "Scratch" blocks and Javascript. Parallel to the coding adventure will be the investigation of exciting space exploration programs from NASA and Space X and learning some of the math and science that makes the magic happen.

WEARABLE TECHNOLOGY (2nd-4th)

What do Batman, Ironman and Rey from Star Wars have in common? In addition to being awesome, they all have WEARABLE TECHNOLOGY! Make gear you can wear that lights up, pulses to a beat, talks, and responds to all kinds of data like sound, pressure, your heart rate, and even the weather! Combine your technology skills and fashion creativity in this amazing new class. *(Class cost includes the BlinkBlink Possibilities Kit, the best wearable tech kit on the market, which your child will keep and continue to use after the end of the class).*

CODING GAMES & APPS WITH PYTHON (2nd-5th) *(This is an extended class that ends at 4:30pm)*

A fun introduction to one of the most powerful programming languages on the planet -- Python! Students will make the jump from Scratch to Python and create a series of exciting puzzles, games and applications using graphics, sound, and animation. Learn the same language and object oriented computer science concepts used to create Spotify, Instagram and Pinterest!

3-D PRINTING DESIGN (3rd-5th)

Léman is one of the first elementary schools in NYC with a 3-D printer! The printer uses plastic filament to construct a 3-dimensional object based on design software. The best part is the open-ended opportunities that arise from this emerging technology! This

class will allow students to design and create their own ideas using child-friendly software called Tinkercad. Students can invent or innovate new ideas and even create plastic "art". Our Lower School Science teacher will teach students how to use the software, brainstorm and build their ideas, and troubleshoot problems that arise.

Visual Arts Offerings

LEGO LOUNGE (PK4-2nd)

Surrounded by thousands and thousands of Lego pieces inspires students to express themselves creatively while working together in partnerships and teams to make cities, scenes, buildings, and other imaginative works.

ART & CULTURE: A 21st CENTURY PORTRAIT (1st-5th)

Students will engage in hands-on dialogue with materials and new media as part of the creative process. Art movements such as Cubism, Renaissance, Abstract Expressionism, and Post-Modernism will be discussed weekly. Additionally, students will engage in individual projects, experimenting with different techniques and mediums in the process.

CLAY MODELING WITH CLAY WORLD (K-5th)

Using special modeling clay, instructors from Miami Beach's Clay World will help students create figurines of animals, people, monsters, and more! All creations built during class can be taken home. You can go to clayworld.org to see examples of the creative projects to come!

WOODWORKING (K-5th)

Students will draw, design, saw, build, and paint all kinds of fun and exciting projects! We will use the tools of the shop to construct projects that have doors that open, lids that close, and wheels that go! All students will work cooperatively and learn to safely handle and use the tools of the trade including saws, hammers, files, glue, screwdrivers, and more!

JEMZ JUNIOR (PK4-2nd)

Jemz joined L+ in 2014-15, and became an instant classic for our older students. This offering returns as an introduction for younger students to the world of fabrics, textiles, and crafts while experimenting with the many ways we can use fibers to bring our ideas to life. Students will be making everything from stuffed creatures to dream catchers to fabric sculptures.

DIY WORKSHOP WITH JEMZ! (2nd-5th)

Students will learn basic sewing skills while experimenting and creating their own designs. Participants will make everything from clothes to stuffed creatures to giant dream catchers! Following the popular DIY (do it yourself) movement, children will learn how to make and bring their designs and ideas to life. They will pick out materials from Jemz's extensive collection of amazing fabrics to make projects uniquely their own. Jemz's supportive staff will focus on what each child hopes to work on and build on pushing them in a direction that works individually for each student.

CURRICULUM PHILOSOPHIES

The following curriculum philosophies were created by members of the PK-12 Department/Vertical Teams. For more grade-specific information, please refer to the grade-level descriptions.

ENGLISH

The study of the human experience is central to English Language Arts. At Léman Manhattan, we recognize the power of literature to unlock empathy and international-mindedness. The invitation to analyze a text, whether visual or written, is a call to hone one's critical thinking and interpretive sensitivity. Our students develop a keen awareness of purpose and audience as they explore different modes of writing, develop their own unique voices as writers, and articulate ideas with clarity and expression.

WORLD LANGUAGES

The World Languages Department believes in developing students' global awareness by offering the chance to communicate in a variety of languages and allowing students to have a deeper understanding and appreciation of other cultures. Léman Manhattan provides rigorous courses in Mandarin, Spanish, French, and Arabic (in High School). All courses ensure development in the core modalities of language learning: listening, speaking, reading, and writing. Students are exposed to a variety of instructional strategies and authentic contexts in which to practice using these core skills for learning a new language. Total Physical Response (TPR) is often used to challenge students to figure out the meaning of words and phrases in context.

SOCIAL STUDIES

The Social Studies Department at Léman Manhattan Preparatory School promotes critical thinking skills, research, reading and writing abilities, international mindedness, and collaborative learning. As students learn how the past informs the present, they spend a great deal of time analyzing primary and secondary historical sources to generate the types of work done by historians and other social scientists. Learning is structured by deriving understanding from a variety of perspectives, organized into eight core historical lenses: time, continuity, and change; connections and conflict; geography; culture; society and identity; government; economics; and science and technology.

SCIENCE

The Science Department at Léman Manhattan provides an experience for every student that allows them to investigate and explore the scientific principles of the world around

them so that they discover the complexities and beauty of science through the scientific method. While exploring the various disciplines of science, our students' natural curiosity is engaged. They learn to not only ask questions, but how to seek answers.

The science curriculum at Léman is designed to promote and develop an analytical mindset in our students through inquiry. Our students test their own understandings through designing, conducting and reflecting on experimental investigations. We teach science as a collaborative process to foster cooperation even as we hone our students' individual abilities as learners.

MATHEMATICS

The Mathematics Department at Léman Manhattan strives for students to think critically, communicate effectively, and to apply mathematics in a variety of contexts and disciplines. We want our students to enjoy mathematics. To that end, our math department utilizes a variety of resources and teaching strategies to meet the needs of each of our students. These are drawn from best practice in the field and are supported by research. We differentiate at a variety of levels to meet students' needs and abilities. Students at Léman Manhattan are provided with a strong base in mathematical skills and knowledge that will enable them to be successful in future studies.

FINE ARTS

We believe that artistic experiences enrich students' lives, cultivate creative and inventive thought, and provide unique opportunities for self-discovery and reflection. It is through consistent involvement in the Arts that skills are refined, appreciations are formed, and creativity is enhanced.

Whether in the classroom, studio, or on the stage, our artists, musicians, and actors are challenged to achieve their best work as they develop both artistic and life skills. Through rigorous and creative class experiences, as well as a variety of extra-curricular opportunities, our students are inspired as they actively participate in the creative process as individuals and collaborators. As a result of their Fine Arts experiences, we hope that Léman Manhattan graduates will be lifelong learners who value the Arts as a dynamic contributing force, enriching not only their own lives, but also the lives of the greater community.

PHYSICAL EDUCATION

Physical Education is an essential part of the Léman Manhattan curriculum and is structured to promote lifetime fitness through participation in cooperative activities and team sports. The program inspires students to adopt lifelong physical skills gaining knowledge of movement and sports. Our diverse curriculum promotes creativity while fostering teamwork and provides students with the building blocks to live a healthy life.

LOWER SCHOOL CURRICULAR PROGRAM

FIRST GRADE

READING

Reading is implemented through a balanced literacy approach, which is comprised of guided reading, independent reading, shared reading and phonics. In the classroom, students observe teachers demonstrating how to utilize key skills and specific strategies. Following the mini-lesson, students independently select books at their instructional level and have the opportunity to practice these skills. Students confer one-on-one with a teacher in order to receive feedback and establish individual goals. Areas of study include building good reading habits, applying appropriate decoding strategies, fostering comprehension, analyzing character traits, exploring nonfiction and reading across genres.

Throughout the year, students continue to build upon reading for meaning and understanding. Reading skills introduced and reinforced include building sight word awareness, using clues to determine the meaning of a word or phrase, reading with expression and intonation, drawing connections, making accurate predictions, and identifying story elements. To further promote critical thinking skills, students learn to draw literal and inferential conclusions based upon evidence in the text.

WRITING

Students develop their unique voice during Writing Workshop as they learn the writing process, including generating ideas, drafting, revising, editing and publishing. Writing Workshop begins with a mini-lesson, is followed by extensive independent writing time and concludes with sharing of student work. Areas of study include personal narratives, informational books, opinion pieces, realistic fiction, poetry and writing like a scientist. Spelling is integrated through the explicit instruction of patterns and high-frequency words using a multisensory approach.

Over the course of the year, students develop the skills necessary to support their growth as authors across various genres. These skills include the ability to generate ideas independently, organize their writing sequentially and include descriptive language. Throughout writing units of study, students learn strategies for supporting their ideas with evidence from their lives and text. Students also discover how to strengthen their writing through the revision and editing process including applying appropriate conventions.

MATHEMATICS

Large group, small group and individual work affords students many opportunities for rich math learning. Our rigorous curriculum utilizes balanced instruction through hands-on activities, games, fact practice, and daily routines. Students connect mathematical concepts to everyday situations with an emphasis on problem solving, critical thinking and exploration of multiple strategies. The curriculum provides repeated exposure to mathematical concepts and skills to increase mastery. Topics of study include patterns in counting, place value, addition, subtraction, measurement, data and graphing, money, and geometry.

Skills reinforced throughout the year include reading, writing and representing numbers, as well as comparing and ordering numbers. Students learn to apply strategies and use mathematical tools in order to solve equations, number stories, and justify their thinking.

SOCIAL STUDIES

Students spend the first six weeks of school understanding the role of a first grader and learning how to be a member of a school community. Through a project-based approach, students study the five boroughs of New York City. Throughout the year students learn map skills, research landmarks and explore important places in our great city. The history of transportation in New York City is enhanced with related field trips and extensive hands-on experiences. Units of study also include the history of transportation, the architecture, form and function of bridges, as well as the waterways that connect them. The year concludes with an integrated study of the Hudson River, beginning with where water comes from, and learning about the environmental issues that impact our great river.

Students practice various skills during these units of study that reinforce the concepts learned. During the map unit of study, students demonstrate their knowledge of geography through the creation of a neighborhood 3-D map. Through collaboration and discovery, students compare and contrast old and modern day New York. Students evaluate how the infrastructure, including bridges and transportation, meets people's needs. Students conduct experiments in order to analyze the health and properties of the Hudson as they learn about the creatures that inhabit the river.

SCIENCE

Students study the five senses and how to make observations. They learn about the structures of the eye, ear, and nose, experimenting with depth perception, sound waves, and "scent boxes." Students then study recycling and composting. They explore "Recycle City", an interactive program that teaches a variety of methods of reducing, reusing, and recycling. They discover what goods are compostable and what are not, and learn the process that is done on the roof to create soil. We trek to Battery Park to fill up homemade compost containers made of two-liter bottles. Afterwards, students record their observations by drawing the containers and observing the changes in the containers as the materials decompose. Next, 1st graders explore the vast regions of space. They model the Big Bang Theory and study constellations. They also use gigantic

inflatable planets to represent our solar system and Oreo cookies to model the phases of the moon.

In the spring, students study food groups and nutrition. In addition to sorting their own daily diets according to the rules of the food pyramid, students learn the roles of the different food groups in maintaining their physical health. We compare and evaluate the differences between myPlate and myPyramid, two healthy eating representations. Afterwards, 1st graders study the major systems of the human body. Students make models of our body systems, and they use stethoscopes to listen to their active and resting heartbeats. As classes learn about the Hudson River following their riverboat field trips, the students examine food webs in rivers and streams and learn how animals adapt for survival in the river.

MANDARIN

We begin 1st grade by reviewing topics that were covered in previous grades and build upon those themes. Students are exposed to the sounds and words of Chinese Mandarin and learn to have basic conversations about themselves including their name, age, feelings, likes and dislikes. Aural and oral skills are the main focus in 1st grade. The goal is for students to feel comfortable speaking and hearing Mandarin. By the end of the year, students will be able to construct sentence segments and simple sentences, as well as to give short responses to questions asked. As part of our cultural learning, students celebrate holidays by learning about the stories behind them and demonstrate their knowledge through arts and crafts.

SPANISH

We begin 1st grade by reviewing topics that students covered in Kindergarten and building on those themes. The goal for students is to feel comfortable speaking and hearing Spanish. Students learn how to have basic conversations about themselves including their name, age, feelings, likes and dislikes. They study vocabulary related to colors, numbers, classroom objects, weather and clothing, food, places to go, and animals. As part of our cultural learning, students celebrate holidays and listen to music from different Spanish speaking countries.

FRENCH

We begin 1st grade by reviewing topics that students covered in Kindergarten and building on those themes. The goal for students is to feel comfortable speaking and hearing French. Students learn how to have basic conversations about themselves including their name, age, feelings, likes and dislikes. They study vocabulary related to colors, numbers, classroom objects, weather and clothing, food, places to go, and animals. As part of our cultural learning, students celebrate holidays and listen to music from different Francophone countries.

VISUAL ART

Students are encouraged to explore the qualities of the materials used, to experiment and problem solve, to express their own ideas, and to reflect on finished work.

Our focus in 1st grade is *cityscapes*. We begin our theme of urban landscape by looking at Romare Bearden's *The Block* and create mixed-media street collages. We think about how the city is built down, as well as up, look at David Macaulay's *Underground*, and make above ground/underground drawings. We continue this idea during our printing project, creating two printing plates, one for above ground and one for underground, and joining the two to create a single two-color print.

We then work in three-dimensions to create a ceramic building using slabs of clay. We learn to score and slip the clay in order to attach any details and to join the edges of the building.

WOODWORKING

The woodworking curriculum is centered on four main principles: the practice of individual safety and awareness of others, teamwork and cooperation between students, the development of tool usage, and a lasting sense of accomplishment and success. The overall goal of the program is for students to increase motor skills and tool usage, as well as develop a strong sense of personal accomplishment, success, and ownership by completing meaningful projects. Students learn how to use straight and coping saws, safety goggles, files, c-clamps, hammers and wood glue to build their projects. Once the project is assembled, students further design their project with paint and ink to give it a finished quality and promote ownership and achievement.

The first project in Woodworking for 1st Grade students is an "Animal Box". Each student builds a four-sided box in which two sides are cut into the shape of two different animals of his or her choosing. The "Animal Box" is a utilitarian object that combines personal choice and design while expanding each student's proficiency and personal tool usage.

Next, to coincide with the classroom studies of New York City, students design a project that depicts a specific building, park, bridge, or other unique architectural structure. The goal is for students to consider the concept of "place" and to create a work that is meaningful to him or her.

MUSIC

In 1st grade, students build on the skills and concepts introduced in Kindergarten, developing foundational musicianship skills and instrumental technique on the violin. Throughout the semester, students use their singing voice to match pitches in tonal patterns and repertoire. Each class begins with a "hello" greeting, sung on words or solfège with accompanying solfège hand signs. Students echo solfège tonal patterns independently and together in addition to performing folk songs. Throughout the year, students develop violin technique and posture while they practice keeping their violin up and covering their left shoulder while playing. Students develop left hand position and learn how to put their fingers down in the correct spots to play the notes. They practice setting up a good bowhold and keeping their fingers flexible with a curved pinky and bent thumb.

Students think critically and demonstrate their understanding of how to make a

beautiful sound on the violin. They focus on playing with a light bow, keeping the bow in “bow country” between the bridge and the fingerboard, and making sure that the bow only touches one string at a time. Students perform as a full class, in small groups, and individually to maximize their learning. In music literacy development, students read and perform four-beat rhythm patterns and demonstrate an understanding of written melodic contour in repertoire. Singing on solfège and utilizing the accompanying hand signs helps students to build their audiation, or “inner hearing”, an important part of developing music literacy. Students perform a wide variety of repertoire from different genres as well as benchmark songs including “The Monkey Song”, “Hot Cross Buns”, “Mary Had a Little Lamb”, “Twinkle, Twinkle Little Star” and “Violin Pro.” Differentiated parts including bass line, melody, upper octave and harmony are provided to help students to progress at their own level.

PHYSICAL EDUCATION

In 1st grade, students participate in both competitive and cooperative activities. Our curriculum offers a balance that allows each student to be successful throughout the school year.

Through warm-up games and activities students strengthen their spatial and body awareness, locomotive skills such as skipping, galloping and running. Students will participate in a variety of beginner team sport units which include soccer, basketball, pillow polo hockey, kickball, and tennis, focusing on developing eye-hand and, eye-foot coordination. Our cooperative units include parachute manipulation, bowling and short jump rope. The highlight of our year is the circus arts unit, which incorporates all of the above skills. Students learn the beginning steps of juggling scarfs, plate spinning and stilt walking. The culmination of the school year is our Lower School Field Day. On this day students compete in relay races and activities, displaying good sportsmanship and respect for classmates.

SWIM

Students spend the first few weeks of school learning about water safety, which includes our pool rules and routines. We discuss the importance of following the rules and how they can help us become more productive swimmers.

Throughout the year students learn skills that are essential to swimming and lifesaving. Students review exhaling underwater, floating (supine and prone floating), streamline ready position, flutter kicking and diving. Differentiated instruction is crucial to the swimming development of each student, and students often work in small skills-based groups to ensure each student receives the attention they require to progress. Students are also taught to combine skills, such as how to streamline off the wall and glide while exhaling from their nose as they begin a flutter kick. These are the beginning steps to learning the front crawl stroke, and they are drills that will help them to improve their technique and endurance. With practice, students will be challenged to complete up to a 50-yard swim.

SECOND GRADE

READING

The year begins with students developing an independent reading life through the study of fiction. Students learn how to choose books at their independent reading level, applying decoding strategies, finding meaning of words, and developing reading comprehension skills. Then students turn their attention to reading non-fiction, using text features to further develop their understanding of informational texts. As students read realistic fiction they distinguish multiple character traits, motivations, actions, and feelings. Additionally, students compare, contrast, and make connections to characters, themselves, others, and the world. They generate predictions based on implicit and explicit information from a text. As we wrap up the year, students eagerly await the excitement of engaging in book club conversations for the first time and responding to text through writing, partnership talks, and conferring.

Students build upon their foundational reading skills and become fluent readers who demonstrate understanding of what they read. Reading Workshop provides opportunities for students to learn, develop, and apply reading comprehension strategies. Students establish reading routines by selecting books at their independent reading levels and from a variety of genres. Students independently apply new reading strategies and behaviors. Each student has one-on-one conferences with the teacher working on specific decoding or comprehension strategies, based on individual needs. Key concepts covered in the curriculum include making connections to the world, to other texts, and to themselves, questioning the text, making inferences, and answering questions.

WRITING

Writing Workshop provides a framework in which students learn to cultivate and understand narrative, expository, and opinion writing. Students travel through the writing process by drafting, revising, editing, and publishing. Students build independence through teacher and author mentorship throughout the writing process. During one-on-one conferences, students work to develop the skills needed to enhance his or her skills as a writer.

Writing across many genres fosters the students' ability to independently apply a variety of writing skills. Throughout the narrative units students learn to generate ideas independently, write sequentially, and include details to describe actions, thoughts, and feelings. When studying expository writing, students learn to introduce a topic and use facts and definitions to develop points. Opinion writing provides students an opportunity to supply reasons to support an opinion and use linking words to connect opinion and reasons. Second graders understand their writing benefits from planning, revising, and editing. Upon finishing a draft, students go back through their work to revise and make their writing stronger. During the editing process students are

expected to check spelling, punctuation, and capitalization.

MATHEMATICS

In 2nd grade, students are exposed to everyday math situations. A balanced approach to instruction provides students a foundation through hands-on activities, games, fact practice, and daily routines. A focus on problem solving enables students to achieve true proficiency as they use and share multiple strategies...and explain their mathematical thinking. Repeated exposure to mathematical concepts and skills increases mastery.

Skills reinforced throughout the year include place value, addition and subtraction of whole numbers, and foundational skills for multiplication and division. Students also learn and apply their understanding of money, measurement, time, data and graphing, and geometry.

SOCIAL STUDIES

Second graders journey around the world as they explore traditions and customs of various cultures. Students study basic needs and how they are met within a community. They develop their cultural awareness and analyze what makes them unique. From there, students investigate the cultural themes of: communication, games, food, the arts, and celebrations. Students connect these themes to their own ancestry as they learn about immigration, specifically the Underground Railroad and European immigration. As a way to bridge immigration to our location, students explore and compare the various neighborhoods around New York City.

Performances, field trips, and real-life simulations support students' growth throughout our units of study. Throughout the year they will build upon their map skills, understand multiple perspectives, compare and contrast the past and present, and find importance in global citizenship.

SCIENCE

Students begin by studying flight and aerodynamics. They test Bernoulli's Principle and learn about lift, thrust and drag by building and modifying paper airplanes. They make parachutes and experiment with whether a paperclip will fall faster with or without one attached. Next, they explore what kinds of objects are magnetic, and test the strength of different magnets. They also observe magnetic fields, using iron filings and simple bar magnets to examine the magnets' North and South poles. They bridge their study by using batteries and wires to examine the connection between electricity and magnetism. Next, the students use balloons and other materials to examine static electricity and current electricity. They model electricity with snap circuits and describe the similarities and differences between parallel and series circuits. This leads into a study of light and color, where students use prisms to separate white light into the colors of the spectrum. They also explore the color cycle, reflection and absorption.

In the spring, 2nd graders take part in the hatching of chicken eggs. They model and explore the parts of an egg, turn and candle the chick eggs to evaluate progress, and finally care for the hatched chicks. During the rest of the school year, students study weather. They learn about the major causes of winds and movements of air masses,

using pinwheels to observe onshore winds. They study the formations of clouds and create their own clouds inside bottles, as well as comic strip stories about their journey through the water cycle. Students also learn about the forces at work behind tornadoes and hurricanes, capping this unit of study with a hurricane-tracking exercise of Hurricane Katrina. Throughout the year, 2nd graders collaborate with 9th graders. They come together to perform experiments, study science topics and discuss findings.

MANDARIN

In 2nd grade, we review topics that we covered in 1st grade and build on the themes with additional vocabulary. Students practice greetings, basic classroom routines, and courtesies in Mandarin, using increasingly complex phrases. Students also work on projects to reinforce the material we have covered in class. In addition to developing aural and oral skills, students are introduced to simple Chinese characters, with an emphasis on character recognitions. In an effort to enhance the students' comprehension of and facility with Mandarin vocabulary, the class explores a number of aspects of the Chinese culture.

SPANISH

In 2nd grade, we review topics that we covered in 1st grade and build upon those themes. Students practice greetings, basic classroom routines, and courtesies in Spanish, using increasingly complex phrases. They continue to focus on practicing the skills students have learned and introduced new vocabulary items and themes, reinforcing this work through class projects. In an effort to enhance the students' comprehension of and facility with Spanish vocabulary, the class explores a number of cultural topics from the Spanish-speaking world.

FRENCH

In 2nd grade, we review topics previously covered in 1st grade and build upon those themes. Students practice greetings, basic classroom routines, and courtesies in French, using increasingly complex phrases. New vocabulary items and themes are also introduced. Students work on projects to reinforce the material we have covered in class. In an effort to enhance comprehension of and facility with French vocabulary, the class explores a number of cultural topics from the Francophone world.

VISUAL ART

Students are encouraged to develop their ability to create and respond to meaning in visual imagery, to experiment and problem solve, to express their own ideas and to reflect on their finished work and works in progress.

Our focus in 2nd grade is *Objects in Art*. We start the semester by looking at and creating art in which objects are central in one way or another. We look at Hanna Hoch's collages and *The Bicycle Wheel* by Marcel Duchamp, *Soup Cans* by Andy Warhol, and the large-scale object sculptures by Oldenburg and Van Brughan. We make Dada-inspired collages by cutting up found images and mixing them up. We make large-scale sculptures of everyday objects and create our own series of soup can drawings.

We then look at artists who seem to abandon objects all together and focus on line or shape. We step into Jackson Pollock's boots and drip, drop, and splatter paint on large canvas. We make primary color grid collages after looking at Mondrian's work, and create bold, wavy paper collages after looking at Matisse's paper cutouts.

WOODWORKING

The woodworking curriculum is centered on four main principles: the practice of individual safety and awareness of others, teamwork and cooperation between students, the development of tool usage, and a lasting sense of accomplishment and success. The overall goal of the program is for students to increase motor skills and tool usage, as well as develop a strong sense of personal accomplishment, success, and ownership by completing meaningful projects. Students learn how to use straight and coping saws, safety goggles, files, c-clamps, hammers and wood glue to build their projects. Once the project is assembled, students design their project with paint and ink to give it a finished quality and promote ownership and achievement.

Students in 2nd grade create "Moving Animals" in Woodworking. Each student draws and designs a moving figure, such as a lion, alligator, elephant, insect, or dragon that he or she would like to create. Based on their drawings and using reference materials, students then cut and shape the individual parts and assemble them together. Legs, arms, tails, wings, and heads move according to the shape and representation of each chosen figure. Once the entire class has completed their creatures, we work together to make a stop motion film utilizing these figures.

The next project entails students designing a tool or a musical instrument from wood. The project is completed when it is painted and creatively adorned with found materials in the classroom.

MUSIC

In 2nd Grade, students build on previous knowledge and skill development and continue to develop foundational musicianship skills and violin technique. Students continue to develop vocal technique and sing the repertoire they play on words, finger numbers and solfège. Students strive to meet violin posture and instrumental technique benchmarks including keeping their violin up and covering their left shoulder, demonstrating correct left hand position, making sure their fingers are placed in the correct spots to match pitch when playing the violin, and performing with a correct and flexible bow grip. They think critically and continue to address Essential Questions, including, "How do I make a beautiful sound on the violin?". In addition to utilizing a light bow and staying on one string, they work to keep their bow in "Lane 3" or "bow country" between the bridge and fingerboard.

Students continue to develop music literacy by reading and performing rhythm patterns and following the melodic contour of song notation. Students connect the solfège they sing to the notes they play, echoing and creating tonal patterns in D Major. Students play the G, D, and A Major scales in varied meters with accompanying arpeggios. They learn how to use a "low 2nd finger" to perform tonal patterns and repertoire in minor tonalities. They perform a wide variety of repertoire from different

genres as well as benchmark songs including “Violin Song”, “Sad Monkey”, and “Lean on Me.” Differentiated parts including bass line, melody, upper octave and harmony are provided to help students to progress at their own level. Throughout the spring, students learn songs, which relate to their study about immigration. They perform these songs at assemblies.

PHYSICAL EDUCATION

In 2nd grade, students participate in both competitive and cooperative activities. Our curriculum offers a balance that allows each student to be successful throughout the school year.

Through warm-up games and activities, students strengthen their spatial and body awareness, locomotive skills such as skipping, galloping and running. Students will participate in a variety of team sport units, which include soccer, basketball, pillow polo hockey, kickball, and tennis. Students will be introduced to basic team sports concepts such as offense and defense. Our cooperative units include scooter games, bowling and short/long jump rope. The highlight of our year is the circus arts unit, which incorporates all of the above skills. Students learn the beginning steps of juggling scarfs, plate spinning and stilt walking. The culmination of the school year is our Lower School Field Day. On this day students compete in relay races and activities, displaying good sportsmanship and respect for classmates.

SWIM

Students spend the first few weeks of school discussing the importance of water safety, which includes our pool rules and routines. Throughout the year students review skills learned previously and build upon those skills to enhance their stroke development. Each lesson allows for practice of these skills and the time to develop the endurance needed to be a capable swimmer.

The first stroke we break down into phases is the front crawl. Students work on mastering the flutter kick, working on technique and endurance. We then break down the pull phase, teaching students to breathe to the side. Eventually, we combine both arms and legs to have a complete stroke. Students also learn backstroke and breaststroke in the same manner. The highlight of the year is our junior lifeguarding unit. During this unit students learn the very basics of being a junior lifeguard, including how to assess a scene, do a reaching assist and most importantly, how to keep safe while helping others.

THIRD GRADE

READING

In Reading Workshop, students begin the year by continuing to build a reading life at school and at home. Students practice daily reading routines such as strategies for selecting ‘just-right’ books, talking about reading with a partner, and writing about their reading. Through an exploration of fiction, students follow through the story to build theories and are exposed to various story elements. Students read nonfiction texts, using text features to gain information about a topic and recount the details that support the main idea. Students then turn their attention from expository nonfiction to narrative nonfiction, including biographies. Diving deep into a mystery unit, they learn how to cite specific evidence from a text to help them collect clues and solve mysteries. The school year ends with a book club unit where students engage in in-depth conversations, comparing the stories to real life.

Across all units, students are challenged to interpret their reading to reach their highest potential towards more sophisticated reading work. They continue to practice strategies such as making connections, predictions, and inferences, with an emphasis on interpretation. They show their comprehension by citing evidence from texts and supporting their conclusions through speaking and writing. While exploring a variety of genres and applying learned skills to all books they read, students work on reading fluently, reading with expression, and using context clues to find the meaning of unknown words. They also determine the main idea of a book and recount key details to identify the purpose of a text.

WRITING

In Writing Workshop, students focus on qualities of good writing, including ideas, organization, sentence fluency, conventions, voice, and word choice. They produce three modes of writing (narrative, informational, and opinion) throughout the year and practice these modes through a variety of writing projects. Students begin the year collecting ideas and write pieces about a ‘small moment’ in their own lives with an emphasis on thoughts, feelings, and actions. Next, students write an opinion piece about a topic they care deeply about in our world. While reading nonfiction, the students write informational pieces on a topic they are interested in or feel they know like an expert. The students later return to narrative writing, using what they learned from their ‘small moment’ piece and incorporating more descriptive language and detail. Students partake in an in-depth research project that coincides with the social studies unit of study on explorers. They learn how to identify important information in an article or book and paraphrase it into their own words. Students return to opinion writing by sharing their views on a global issue that is explored throughout the year. To wrap up the year, the students study poetry and craft a variety of poems.

Across all units, students generate ideas and focus on organizing their pieces so their writing is clear, coherent, and sequenced logically, with the reader in mind. As growing

authors, students work to connect their ideas using descriptive words, and integrate dialogue and actions to enhance meaning. They develop, organize, and strengthen their writing pieces by planning, revising, and editing. Students apply grammar rules to their sentences and paragraphs, using correct punctuation, capitalization, and spelling of high-frequency words. Students also learn and practice spelling rules and letter patterns. They become proofreaders as they take mental pictures of words and learn to identify misspelled words within their own writing. Students strive for accuracy and neatness when presenting their work.

MATHEMATICS

Students explore mathematical concepts through a balanced program that is rich in real-world problem solving and hands-on learning opportunities. Addition and subtraction fact knowledge is expanded to larger numbers, multiplication, and division as the children explore various algorithms for solving problems. Students use their knowledge of patterns and functions to help them represent various rules for solving problems and demonstrate the importance of order of operations. Developing an understanding of the uses and representations of whole numbers, decimals, and fractions, they learn to compare and find equivalencies. As students collect and represent data, they analyze and draw conclusions. Basic concepts of probability are applied as students learn to represent likelihood of events in both words and fractions. Systems of measuring are examined as the children learn to measure accurately with various tools. Prior knowledge of two-dimensional shapes progresses to three-dimensional figures as students compare and contrast various geometric elements. Throughout every unit of study, students are challenged to not only solve problems, but also understand why their strategies work and explain how they arrive at a solution.

During the year, skills are covered in a spiraling fashion, giving students the opportunity to demonstrate their mastery of new information on multiple occasions. Students use their knowledge of place value to read, write, compare, and order whole numbers up to one million, decimals through hundredths, and fractions, representing these numbers in a variety of ways. Through repeated practice, students build their automaticity with addition and subtraction facts through 20 and multiplication facts through 10×10 . Various strategies, including estimation, are used to help children solve problems in all four operations. Students tell, write, and calculate elapsed time to the nearest minute. When comparing two- and three-dimensional figures, students use geometric terms to describe their observations. Students estimate and measure length and apply this information to calculate perimeter and area. Third-grade mathematical skills are continually reviewed so that as students demonstrate proficiency, they can then apply these skills to more challenging, critical-thinking tasks.

SOCIAL STUDIES

The year launches with students connecting to the members of their community. Students investigate the systems of governance in and outside of school and expand their views to city, state, country, and the world. Students learn to interpret and analyze different kinds of maps and continue to practice map skills as they begin their study of Mannahatta. As students analyze its various habitats to present-day

Manhattan, students apply their understanding of the habitats to interpret information and create two- and three-dimensional landforms. They embrace the study of the Lenape people, the first residents of Mannahatta, through storytelling and contrasting between their own culture and the Lenape culture. The unit on exploration begins with making inferences from photographs of famous explorers and their expeditions. Students ask questions, share ideas and role-play life as an explorer. They work collaboratively, evaluating tools of exploration and examine how they have changed over time. In conjunction with our nonfiction reading and writing units, students make a thoughtful choice to investigate an explorer for their cumulative research project. The dual themes of individuality and community, which have been investigated throughout the year, appear again in our country study. The 3rd grade curriculum is a meaningful journey of self, exploration and discovery of being an empathetic and engaged citizen of our classroom, community and world.

The 3rd grade social studies curriculum is a comprehensive study of people and places from the past and present. Students recognize themselves within the context of the world's history, and analyze the roles of the individual and community across time. Throughout the curriculum students are developing their critical thinking and higher reasoning skills through exploration, research, hands-on projects and field trips.

SCIENCE

Students begin with a study of biomes and habitats, where they learn about rain and temperate forests, deserts, oceans, tundra, taiga, and grasslands. Next, 3rd graders embark on a study of architecture and structural engineering. They build towers out of newspaper and straws to learn about force and load, and create trusses to test the relative strengths of various shapes. Using what they learned, the students then build and test simple paper bridges. They apply their knowledge of shape strength to design their own skyscrapers using CAD software, which are built using the 3D printer. The students cap off their study by using the video "Caine's Arcade" as inspiration to build their own creative structure out of cardboard and other materials. Over the winter, students learn about states of matter. They melt ice and use the triple beam balances to determine that mass stays the same when changing states. They also mix vinegar and baking soda to determine that gas has mass, and they make oobleck, a material that has both liquid and solid properties. Afterwards, students study owls and biology. They work in pairs to dissect an owl pellet and to reassemble skeletons they found inside. The students use the bones they found to learn about the anatomy of small mammals and the structure of various joints. Finally, they make connections between rodent bones and the human skeleton.

In the spring, students learn about plants and botany. They engage in a dissection of a lima bean plant, as well as sprouting their own peas and beans. The central piece of this unit of study is an experiment that involves independent and dependent variables. Students work in small groups to develop their own hypothesis about plant growth, and then design an experiment to test that hypothesis. Classes also go on weekly visits to the Battery Park Urban Farm, where they plant, cultivate, and harvest several kinds of delicious vegetables.

MANDARIN

In 3rd grade, students start with a review on the themes they have worked on previously. Pinyin is introduced to students this year, as a tool to support their development in reading Chinese characters. Students also learn to use Pinyin to write and type in Chinese, which will build on the simple characters students have learned to recognize in 2nd grade. They will also be expected to recognize characters of the vocabulary taught in each thematic unit. During the year, students will work on projects related to the material covered in class. Students also learn about cultural holidays that the Chinese celebrate more in depth, and there will be opportunities to demonstrate knowledge through arts and crafts.

SPANISH

In 3rd grade, students start with a review on the themes they have worked on through 2nd grade. Through practicing basic dialogues, students learn the use of simple verbs such as “to have” and “to be”, food likes and dislikes, and the use of verbs “to eat” and “to drink”. Through conversations, students learn how to describe others, and they practice communicating in complete sentences using the vocabulary they have studied. During the year, students work on individual and group projects related to the material we have covered in class. They are exposed to some of the main celebrations and cultural topics in the Spanish-speaking world.

FRENCH

In 3rd grade, students start with a review on the themes they have worked on through 2nd grade. Through practicing basic dialogues, students learn the use of simple verbs such as “to have” and “to be,” food likes and dislikes, and the use of verbs like “to eat” and “to drink.” Through conversations, students learn how to describe others, and they practice communicating in complete sentences using the vocabulary they have studied. During the year, students work on individual and group projects related to the material we have covered in class. Students are exposed to some of the main celebrations and cultural topics in the Francophone world.

VISUAL ART

In 3rd grade, students develop their ability to create and respond to visual imagery, to experiment and problem solve using different mediums, to express their ideas, and to reflect on their finished work and works in progress.

Our focus in third grade is *Emotion in Art*. We start the semester by looking at facial expressions. Students study facial proportions and create a self-portrait, which expresses an emotional state. We continue with the theme of emotion when approaching our ceramic unit and think about how to express emotion through a three-dimensional form. For our printing project we look at prints by the German Expressionist, Kathe Kollwitz and paintings by Edvard Munch. Students then create a print that captures sadness or sorrow.

WOODWORKING

The woodworking curriculum is centered on four main principles: the practice of individual safety and awareness of others, teamwork and cooperation between

students, the development of tool usage, and a lasting sense of accomplishment and success. The overall goal of the program is for students to increase motor skills and tool usage, as well as develop a strong sense of personal accomplishment, success, and ownership by completing meaningful projects. Students learn how to use straight and coping saws, safety goggles, files, c-clamps, hammers and wood glue to build their projects. Once the project is assembled, students design their project with paint and ink to give it a finished quality and promote ownership and achievement.

The first woodworking project in 3rd grade is a transporter. Students draw, design, and build a unique vehicle. The goal is for each student to choose the form of a vehicle and to construct it in such a way that it clearly uses the three criteria given: it needs to be able to carry something, it must have four wheels and there must be a way to pull the wagon.

Next, students create 3-dimensional sculptures from 2-dimensional drawings. Each student creates a drawing and then, based on the image the students cut and shape the individual elements of the drawing out of wood. These individual pieces are subsequently filed, sanded and attached onto a “background” piece, creating a three-dimensional picture entirely out of wood. The creation of these projects places the student in the role of artist, designer, and builder. The process of creating this work promotes personal choice, creativity, and command of the materials as artistic expression.

MUSIC

In 3rd grade, students build on the skills and knowledge cultivated in previous years and continue to develop as musicians and instrumentalists. They are invited to take more ownership of their technical development; continuing to set goals and self-assess their progress. Elements of violin technique including violin posture, left hand position, bow grip, bow contact point, and sound quality continue to be important points of focus during each class. Students sing throughout each class and continue to build ensemble skills in preparation for their involvement in Band or Chorus during 4th grade.

Students are introduced to the keys of C and E while continuing to play repertoire in D, A, and G Major. They practice scales, arpeggios, and song repertoire in these new keys. Students continue to build music literacy by making the connection between the notes they play on the violin and their location on the five line musical staff. Students identify the four open strings, read tonal patterns, and read and write melodies on the staff. Students combine melodies and rhythm patterns into an individual composition project synthesizing their knowledge. Students continue to build their repertoire of songs, adding many folk songs in varied genres including “This Land is Your Land”, “C Monkey”, and “Old Joe Clark.” They practice playing songs in many parts such as “The Instrument Song.” Differentiated repertoire continues to be an important component of the curriculum and includes bassline, melody, upper octave and harmony parts.

PHYSICAL EDUCATION

Third grade students participate in both competitive and cooperative activities. Our curriculum offers a balance that allows each student to be successful throughout the school year.

Through warm-up games and activities, students practice jogging and basic fitness concepts. Students will participate in a variety of team sport units, including soccer, basketball, floor hockey, diamond games, and badminton. Students are introduced to positions for each team sport and how to play those positions. Our cooperative units include jump bands, adventure and strategy games as well as fun fitness. The highlight of our year is the circus arts unit, which incorporates all of the above skills. Students learn the beginning steps of juggling balls, learning to manipulate devil sticks and yoyos, and how to walk/balance on a slackline. The culmination of the school year is our Lower School Field Day. On this day students compete in relay races and activities, displaying good sportsmanship and respect for classmates.

SWIM

Students spend the first few weeks of school discussing the importance of water safety, which includes our pool rules and routines. Throughout the year students review skills learned previously and build upon those skills to enhance their stroke development. Each lesson allows for practice of these skills and the time to develop the endurance needed to be a capable swimmer.

The first stroke we break down into phases is the front crawl. Students work on mastering the flutter kick, working on technique and endurance. We then break down the pull phase, teaching the students to breathe to the side. Eventually we combine both arm and leg movements to have a complete stroke. Students also learn backstroke and breaststroke in the same manner. The highlight of the year is our junior lifeguarding unit. During this unit, students learn the very basics of being a junior lifeguard, which includes treading water, surface diving, assessing a scene, performing a reaching assist and most importantly, learning how to keep safe while helping others.

FOURTH GRADE

READING

Reading Workshop strives to continue developing students into avid and skilled readers. In building a reading life, students review the routines of the reading workshop and previously learned comprehension strategies with the required summer reading books. Using realistic fiction novels that are all themed around fourth grade social issues, students are challenged to think deeply about characters—making inferences, building theories, and learning life lessons. A short-story unit further develops these skills as students learn to identify literary elements, including plot, characters, setting, problem and solution, and themes. During a study of nonfiction, students apply their prior knowledge of nonfiction features to extract information from expository, narrative, and hybrid texts. In their study of narrative nonfiction, students highlight the main ideas and supporting details within a biographical text about a historical figure from the 1700s related to the social studies curriculum. As the genre of poetry is explored, students develop an appreciation for figurative language, studying how poets purposefully craft their words to make meaning for their readers. Students then delve into the genre of fantasy, focusing on making inferences and predictions about characters, plot, and theme. The culminating unit for the year is an exploration of historical fiction, through the use of literature circles, or book clubs. Students collaborate with peers as they read a shared text and participate in book club discussions.

Exposure to a variety of genres throughout fourth grade enables students to develop the reading skills they need to become independent readers. Students make meaning of literature by reading and comprehending grade-level texts with fluency and expression. As they read, students demonstrate their understanding by making connections and describing characters' traits, motivations, actions, and feelings. These details help to illuminate the theme of a text and how point of view affects the voice and context of each piece. Students are encouraged to use context clues to understand the meaning of unknown words. They also learn to use both explicit and implicit information from the text to make predictions and logical inferences. As increasingly sophisticated readers, students identify details from a passage to summarize a story and to answer questions about the text. When reading nonfiction, students describe the overall structure of a nonfiction text and determine whether the information they read consists of fact or opinion. Information is integrated from multiple texts on the same topic in order to write or speak about the subject knowledgeably.

WRITING

The writing workshop provides a framework in which students learn to develop longer narratives, essays, and an informational research piece. In the narrative realm, students publish a personal narrative, a realistic fiction story, and a memoir. Students write a

personal essay about a topic of interest from their lives and a persuasive essay on a more universal subject. In tandem with our nonfiction unit in reading, students apply their social studies knowledge and nonfiction skills to write an informational text project on one topic consisting of an introductory piece, an expository essay, a memoir, and a persuasive essay. Throughout the year, students create multi-paragraph writing pieces and edit them critically through the five-step writing process: idea generation, drafting, revising, editing, and publishing. In addition, students respond to texts in the form of discussion, summaries, and journal entries. They also engage in learning vocabulary, spelling rules, the purposes of writing, sentence structure, the parts of speech, punctuation, and capitalization.

The writing curriculum fosters the development of a variety of essential writing skills. As they practice the five-step process and produce writing pieces, students learn how to generate topics for their compositions as well as the ideas and details needed to craft them. Students learn to structure their writing with topic sentences, supporting details, conclusions, and logical sequences that include effective transitions between ideas, sentences, and paragraphs. They also learn to adjust the tone of their writing to match different genres such as realistic fiction or memoir. In composing narratives, students use dialogue and description to bring their stories to life. In students' informative pieces, they generate thesis statements that are supported with reasons and evidence and include facts, definitions, concrete details, quotations, and examples. To collect the material they need for a nonfiction piece, students learn how to gather relevant information from experiences and print or digital sources and to take notes, categorize information, and provide a list of sources. Throughout the year, students come to an understanding that their writing benefits from planning, revision, and editing. As part of the editing process, they check spelling, punctuation, capitalization, grammar, and spelling, consulting references as needed.

MATHEMATICS

The curriculum provides students with a balanced approach that is rich in real-world problem solving opportunities. The fourth grade structure emphasizes content within six major strands: number and numeration, operations and computation, data and chance, measurement and reference frames, geometry, and patterns, functions, and algebra. Students develop an understanding of the meanings, uses, and representations of numbers, finding commonalities of and differences among whole numbers, fractions, decimals, and percentiles. Students review facts in addition, subtraction, multiplication, and division, as well as develop procedures and models for these operations. Analysis and interpretation of data is essential in selecting and creating appropriate graphical representations and applying basic concepts of probability. An exploration of customary and metric systems is conducted as students learn to measure length, weight, angles, area, perimeter, and capacity. Students investigate characteristics and properties of two- and three- dimensional geometric shapes and apply transformations and symmetry. As an understanding of patterns and functions is developed, students use algebraic notation to read, write, and solve number sentences and learn the properties of the arithmetic operations.

Fourth graders are given numerous methods for skills practice and review and are encouraged to explain and discuss their thinking in their own words. Students use place value to read, write, and compare whole numbers and decimals. Additionally, they estimate and perform arithmetic operations on whole numbers, fractions, decimals, and percentiles. These concrete skills are further developed when solving word problems involving all four operations, money, elapsed time, calendars, temperature, capacity, weight, and distance. As students analyze numerical quantities in various forms, they compare sizes, recognize patterns, and show alternative ways to solve problems. Conventional notation is utilized when writing algebraic expressions and number sentences. Students recognize size in customary and metric units, describe the relationships between units of measurement within the same system, and use appropriate units and tools of measurement. Geometric language is used when identifying, comparing, and creating lines, angles, and plane and solid figures. As data is collected, students are expected to represent this information with a variety of charts and graphs and analyze the data. Throughout all units of study, students formulate conclusions based on observation and mathematical judgment and explain their thoughts and strategies to further develop their understanding of these concepts.

SOCIAL STUDIES

Through the use of primary documents and nonfiction texts, students develop an understanding of the formation of the United States. The initial geography unit, which includes map-reading skills and topography, provides the students with a foundation for the year's concepts. The study of U.S. history begins with Colonial America and some of the aspects of life during that time period. Students explore why people moved to the British colonies and how the colonies acted as individual communities. Through the investigation of the individual colonies, students learn the history and culture of each. From there, the students learn the causes of the American Revolution, engaging in a discussion reflective of both sides of the conflict. Through mock situations, students experience some of the challenges faced during that tumultuous time. Students then investigate the Declaration of Independence, learning about the development of the document and how its key components relate to the end of the Revolutionary War. Next, the students study the Constitution, identifying the structures of our government and the concepts in the Bill of Rights. Once they understand the formation of the new nation, students explore the idea of westward expansion. Through a study of the Louisiana Purchase, students trace the events that led to this deal and learn about its significance for the expansion of the country. The students then follow the Lewis and Clark expedition, studying the topography of the journey, the plant and animal life found along the way, and the Native American tribes that the explorers encountered. While researching the Oregon Trail, students form an understanding of the challenges and forces that created this great migration of pioneers and expanded our country's borders.

Over the course of the year, students develop an array of skills to help them demonstrate a deep understanding of this content. Students are expected to describe political, social, and cultural changes in society and how cultural contributions from various groups form a national identity. With the identification of the different causes

and effects of conflict and cooperation among individuals, groups, societies, and nations related to politics, economics, geography, ethnicity/race/gender, and culture, students recognize the impact of major historical events. By identifying the elements of major political systems, students can compare and contrast a monarchy and a democracy. Students then describe the organization and major responsibilities of the various levels of government, explaining how citizens can monitor, evaluate, and influence actions of their government. The idea of commerce, such as the ways people satisfy their basic needs and wants through the production of goods and services, allows students to realize its importance throughout history. Geography concepts, such as location, distance, direction, scale, movement, and region, are intertwined with the skills of each unit.

SCIENCE

Students begin with studying density and buoyancy. They test and compare the densities of an assortment of everyday objects, then compare the densities of those objects to the calculated density of water. “Density towers” are created with multiple liquids that form layers. The students also examine buoyancy by designing and 3D printing their own boats using CAD software. Next, the 4th grade studies physics, force, and simple machines. We start by studying the forces of push and pull, demonstrating Newton’s First Law of Inertia. Using a simple machines kit, they build and replicate pulleys, levers, inclined planes, and wheels. They apply their knowledge of simple machines to plan their own Rube Goldberg-style creations and then make posters. Afterwards, the 4th graders moved onto a unit on inventions and innovations. They study the history of inventors and patents, using Leonardo da Vinci’s inspiration to come up with futuristic ideas. Next, they use computers to research a specific invention and look up similar creations in the U.S. Patent Database. This leads to their capstone project, which is to build a prototype or a working invention and to explain its function. Some students made their own creations using building supplies, while others designed their inventions so that they could be made on the 3D printer.

Finally, 4th graders move into a study of forensic science, focusing heavily on developing a solid set of lab skills. The students learn how to use microscopes, examining plant and animal cells, including cells from their own cheeks. Students practice many methods of measurement, developing precise and accurate data collection skills while separating qualitative and quantitative observations. These skills are reinforced when students solve Léman-based Whodunnit mysteries, using observation to collect clues and study fingerprints.

MANDARIN

Continuing from 3rd grade, students begin the year by reviewing Pinyin and characters learned previously and building upon their aural and oral skills by learning new topics. As students advance in these first two areas of language, reading and writing is a new focus. Students learn to recognize and write more characters, and begin to be able to understand short written paragraphs. Discussions on topics continue as part of our cultural learning experience, including customs and mannerisms, and these conversations enhance the learning in the classroom.

SPANISH

Students begin the year going over previously taught themes and review basic verbs like “to have” and “to be” in order to expand on their different uses. Students begin to develop basic writing and speaking skills. They are introduced to new vocabulary items and themes, such as ordering food and how to connect action verbs with daily activities and places they like to go. Students engage in basic conversations and learn to read and understand short paragraphs. Discussions that cover some of the main Hispanic culture celebrations take place in class to enhance students’ cultural understanding.

FRENCH

Students begin the year reviewing topics in order to build from them, such as basic verbs like “to have” and “to be.” They then begin to develop basic writing and speaking skills through the introduction of new vocabulary words and themes, such as ordering food and how to connect action verbs with daily activities and places they like to go. Students engage in basic conversations and learn to read and understand short paragraphs. Classroom discussion covering some of the main Francophone cultural celebrations take place each month.

VISUAL ART

Students in 4th grade are encouraged to develop their ability to create and respond to meaning in visual imagery, to experiment and problem solve, to express their own ideas and to reflect on their finished work and works in progress.

Our focus in fourth grade is *Self*. Our first project is a self-portrait relief print. Students used their understanding of facial proportions to create and stylize their facial features for their print. They continue to think about *Self* while working on a ceramic sculpture of themselves as “supers” by creating a ceramic super-self. We then move on to a backpack study, which includes an observational drawing and a painting of their backpack or school bag. Students explore how belongings can be an extension of personal expression.

WOODWORKING

The woodworking curriculum is centered on four main principles: the practice of individual safety and awareness of others, teamwork and cooperation between students, the development of tool usage, and a lasting sense of accomplishment and success. The overall goal of the program is for students to increase motor skills and tool usage, as well as develop a strong sense of personal accomplishment, success, and ownership by completing meaningful projects. Students learn how to use straight and coping saws, safety goggles, files, c-clamps, hammers and wood glue to build their projects. Once the project is assembled, students design their project with paint and ink to give it a finished quality and promote ownership and achievement.

Fourth grade students begin by creating a freestanding sculpture or a “personal totem” based on totems made by Northwestern Native Americans. Each student draws, designs, and builds a sculpture that consists of shaped wood pieces that represent themselves. These shapes are then assembled and painted to stand vertically from the

base. The goal of the project is for students to be self-directed with their creative decisions in Woodworking and to successfully design and build a sculptural art object.

For the next project, students build a pop art project. Motivated by different pop artists and their stimulus from everyday common products in our culture, the assignment asks them to use this information as a source for inspiration. Each student chooses a product design they find appealing. Once their drawing is complete, pieces are cut out, filed and sanded smooth. All of the parts are then assembled to complete the product form. If time permits, the use of chisels is introduced to further enhance the design. Lastly, students use a combination of ink and paint to carefully decorate the box to emphasize the graphic and eye-catching quality of the product's design.

MUSIC

In 4th grade, students apply their knowledge from their previous musical experiences to new concepts and ideas through performance-based ensembles in either Band or Chorus. They develop their musical literacy, hone their musicianship skills, and work together to achieve the common goal of performing as an ensemble. Students explore and explain how our contributions as individuals help our community to excel as a whole.

BAND

The 4th grade Band serves as the introductory ensemble in our 4th-12th grade Band program. The Léman Manhattan Band program utilizes Concert Band instrumentation and students can choose between the following instruments: flute, oboe, clarinet, saxophone, trumpet, french horn, trombone, euphonium or percussion. In addition to whole group ensemble instruction, each Band student will take a weekly lesson (choice of group lessons at no charge or private lessons for a fee) on his/her specific instrument.

In the 4th grade Beginning Band, students learn how to assemble their instruments, how to utilize proper instrument carriage and hand placement, and how to produce a sound. During rehearsals and weekly lessons, students learn how to read written notation and learn instrument-specific skills. Ear training, listening skills, ensemble skills, and a basic music vocabulary of musical terms/symbols are also emphasized. Attention will be given to equipment care and maintenance, as well as effective practice habits. In addition to beginning level folk songs, rhythmic exercises and the concert Bb scale, this class prepares grade 1 Concert Band literature in a variety of genres. The performance component of the class involves participation in the winter and spring concerts.

CHORUS

Lower School students begin their choral music experience in the 4th grade. It is the beginning level ensemble in our 4th-12th grade Chorus program. A primary focus of the class is developing healthy vocal technique. Students begin class each day with a physical warm-up and a variety of vocal warm-up exercises. They think critically about the ways that posture and breathing impacts their singing. Students demonstrate the ability to maintain their own independent part while singing a variety of rounds and

folk songs. They prepare for performances by matching intonation and diction, singing in unison, and singing in multiple parts as they rehearse a wide variety of elementary choral repertoire. They develop music literacy by reading, writing, and dictating tonal patterns, identifying notes on the staff, reading melodies and describing different types of intervals. In addition, Chorus students work on developing ensemble skills and collaborate to create a productive work environment. The 4th grade Chorus performs twice per year in the winter and spring concerts.

PHYSICAL EDUCATION

Fourth grade students participate in both competitive and cooperative activities. Our curriculum offers a balance that allows each student to be successful throughout the school year.

Through warm up games and activities, students practice jogging and basic fitness concepts. Students participate in a variety of team sport units including soccer, basketball, floor hockey, diamond games, and badminton. During these units, students review the rules of the game, are reintroduced to positions and how to play them, and discuss offensive and defensive strategies. Small-sided games are played so that students can apply those strategies to a real situation. Fitness concepts are introduced and added to each unit so that they build upon previously taught skills, thus allowing students to make deeper connections between how their body works and the activities in class. Our cooperative units include Tininkling, scooter and adventure/strategy games. The highlight of our year is the circus arts unit, which incorporates eye-hand coordination, balance and manipulation. Students practice juggling balls, manipulating devil sticks and yoyos, walking and balancing on a slackline and stilt walking. The culmination of the school year is our Lower School Field Day. On this day, students compete in relay races and activities, displaying good sportsmanship and respect for classmates.

SWIM

The year begins with a quick review of pool safety rules and routines. Once in the pool, students review skills learned previously and build upon those skills to enhance their stroke development, endurance and strength needed for lap swimming. Each lesson allows for practice of these skills and the time to develop the endurance needed to be a capable swimmer.

The first stroke we break down into phases is the front crawl. Students participate in drill sets to help develop technique. Lessons include pull buoys and kickboards to help strengthen both the pulling and kicking phases of each stroke. Students also learn backstroke, breaststroke and butterfly in the same manner. We emphasize the value of long, relaxed strokes as well as patterns and rhythms. We also promote swimming not only as a competitive sport, but also as a lifetime sport.

Fourth graders love our junior lifeguard unit. Students learn the basics of being a junior lifeguard which includes treading water, surface diving, stride and compact jumping, assessing a scene, performing a reaching assist and most importantly, learning how to

keep themselves safe while helping others. Our last unit of the year is games and activities, which includes relay racing and water polo.

FIFTH GRADE

READING

Once the students have reached 5th grade, they are skilled at interpreting texts from a reader's point of view and have begun to simultaneously consider the author's point of view and impact on a text. Reading Workshop continues to build students' reading stamina while teaching them to move from concrete reading practices to more abstract analyses. The units of study expose them to a variety of fiction and informational genres while giving them the tools they need to navigate more complex structures and examine themes and point of view. Using the workshop model, students listen to a read aloud story that demonstrates comprehension strategies that they then apply to their independent reading lives. Extending their work in 4th grade, students investigate the ways in which an author uses characters to convey universal themes. This character analysis then becomes a means for understanding the biographical subjects and perspectives in narrative nonfiction. In studying expository and hybrid nonfiction, students examine the different text structures authors use to convey ideas and how writers communicate main ideas and supporting details. Gathering in book clubs for an historical fiction unit, students collectively confront and discuss challenging themes presented in books during a historical time period, while analyzing how authors' perspectives affect style, structure and other literary elements. Students then read and compare nonfiction text sets, using both articles and opinion pieces, about a debatable issue. At the conclusion of the year, students dive into the world of fantasy, analyzing the use of symbols and the struggle between good and evil.

As the children continue to develop as readers and their stamina builds, they learn to go beyond the concrete storyline and appreciate text on an increasingly abstract level. In their study of various genres, students develop the skills to comprehend increasingly complex texts and to recognize and contemplate the larger ideas communicated through literature. Students learn to summarize the main points of what they have read and use textual evidence to make logical predictions and insightful inferences. As they read, students are able to recognize the structure of a text and to understand the relationship of different parts of the text to each other and to the whole. They identify main ideas and are able to synthesize multiple ideas to arrive at original thinking. In addition, students learn to describe the theme or the author's purpose and to cite supporting evidence in their explanations. They are also able to show how an author chooses information and employs a certain style and tone to serve his point of view. Students learn how an author uses specific reasons and evidence to support each idea in a text and precise words to create tone. When reading narratives, students pay special attention to how and why individuals, events and ideas change. Students learn to compare and integrate information from multiple sources. Throughout the year,

students continue to use decoding and context clues to read and understand unfamiliar words.

WRITING

The Writing Workshop aims to teach students to communicate their ideas in a variety of written forms. In all units of study, the students follow the writing process of idea generation, planning, drafting, revising, and editing. They begin the year by writing a personal narrative from another point of view, using descriptive and dramatic details, and now requiring the development of a theme. Turning their focus to nonfiction, students choose a topic of interest to help them create an article of expertise. A literary essay unit teaches students how to create a theory about a work of literature and use evidence from the book to prove their thesis. They then work on a second essay in which they compare two books on a similar topic. Building on their persuasive essay writing skills, students develop a research-based argument essay on a topic of their choice. Students write a memoir about one event that happened to them at school during their time at the Lower School. For the year's final project, students take the lessons learned about fantasy to create a fantasy short story.

In 5th grade, students build on their experience writing narratives and research reports to produce more complex and varied compositions. In their narrative writing, students enhance their writing with rich details that enliven the story while also conveying point of view and theme. Research skills take a major role during the year, as students focus on expressing ideas that they support with evidence. In writing opinion pieces, they hone their ability to express a view in a thesis statement and support it with solid reasons and evidence. In addition to printed texts, students independently use technology to conduct research on the Internet. Seeking out multiple sources on a topic, they learn to assess the reliability of each one and work on taking effective notes. Then they either paraphrase or quote the information, always citing their sources. When planning and drafting, students learn to always keep their purpose and audience in mind. Finally, they strengthen the potency and clarity of their writing through revision and editing. They place particular emphasis on sentence fluency, word choice, grammar, punctuation and spelling.

MATHEMATICS

Throughout the year, students become fluent with formulas, algorithms, and problem-solving strategies through teamwork and self-exploration. The overarching themes of 5th grade math include fluency with numbers and numeration, operations and computation, data, measurement, geometry, and algebra. They develop an understanding of formulas and algorithms to solve problems involving whole numbers, fractions, and decimals using the four operations. Measurement concepts involving data, capacity, area, volume, and coordinate systems, as well as geometry concepts, including finding surface area, perimeter, density, and volume are explored throughout the year. Students are introduced to the concepts of variables, equations, and expressions as well as plotting functions on a four-quadrant coordinate plane.

Students are encouraged to apply a variety of strategies to solve problems as they practice problem-solving skills in independent, small group, and large group configurations. Throughout the course of study, students demonstrate their ability to read and write whole numbers and decimals, identify place value, and use expanded notation. Students also learn multiple strategies to multiply and divide whole numbers, decimals, and fractions. After developing an understanding of fractions, they begin to discover the relationships among fractions, percentiles, decimals, rates, and ratios. They solve equations with one variable, and move away from basic input/output charts to begin using function charts to graph basic equations. Students investigate geometric properties to describe, compare, and classify plane and solid figures and apply formulas to find surface area, circumference, area, and perimeter of both regular and irregular shapes.

SCIENCE

The fifth grade Science curriculum at Léman explores science through a collaborative discovery and a process based on fact and support for concepts involving the earth. In addition, the curriculum has an emphasis on nonfiction reading in the sciences, and writing to record and analyze experimental observations. Students begin the year exploring meteorology, during which they learn the forces that form our weather systems. This is followed by a study of astronomy, where students learn about the basic components of our solar system to help them create an outer space travel expo. The curriculum then dives into the center of the earth with units that include an exploration of the forces that shape the earth, with an in-depth look at plate tectonics, earthquakes, volcanoes, rock and mineral properties and identification, and the rock cycle.

Students reinforce the basic principles of the scientific method while following the IB lab report when completing experiments. Students learn all aspects of experimentation by collaborating with lab partners, reading and following instructions, using proper safety procedures, recording data, and cleaning up materials appropriately. They organize their data and develop the proper technique for drawing conclusions. In the meteorology unit, students explain and analyze different weather patterns in order to create a weather report. In astronomy, students explain the qualities and components of our solar system, in order to create a brochure about a planet. Students investigate the theories of plate tectonics to explain the effect the movement has on the formation of earthquakes and volcanoes. Students study rocks and minerals in order to compare them based on their properties and characteristics.

SOCIAL STUDIES

Students gain a deeper understanding of the forces that shape countries physically and culturally by creating their own country from scratch. During their exploration of the five themes of geography the students divide themselves into small groups. Each of these “countries” then selects an absolute location on which to build their country, draws an outline for their continent, and fills it with a variety of landforms. They then come to discover how the absolute location and physical geography of a landmass determine their climate zone. The groups are then tasked with discovering the natural, human, and capital resources that are available based on the climate and landforms.

This information affects the goods and services they are able to offer and impacts the industry and jobs upon which their country relies. Once the countries have determined what is available naturally on their continent, they create a travel brochure to describe the culture of their country, describing the cultural characteristics that define the people, their beliefs, shelter, clothing, and traditions. Up until this point the students have learned the ways in which countries are able to meet the needs of their citizens using the resources available within their own country, but now they have the opportunity to explore the potential for trade. They create catalogs for advertising their goods and services, order forms to assist with bartering, and maps and shipping manifestos to dictate trade routes. Invariably the students learn the difficulties of doing business with other countries, and so they discover the need for laws and governing bodies. We then explore some of the major forms of government that have existed throughout history, and the groups decide on the form that best suits their needs. They also choose an economic system to match that will help their country to prosper. The unit ends as the students reflect on the process, citing in particular the way in which each decision they made was influenced by previous decisions that had come before.

Once the students have experienced this development of culture for themselves, the second half of the year is spent analyzing cultures from the ancient world by the same principles. These cultures may include Ancient Mesopotamia, the Aztecs, Inca, and Maya, Ancient Egypt, Ancient China, Ancient Africa, Ancient Korea, and Ancient Japan. Each year one or two cultures are selected for study by the class as a whole, and then students select one or two cultures to focus on independently. They explore how their climate, resources, and geographical location have influenced events in their history, and characteristics of their culture. The students explore how an individual's identity is shaped by these characteristics, and the impact that different factors can have on that identity. They also delve into conflicts that have arisen, their causes, and the effects that these have had on the world since.

MANDARIN

The main focus of this year is on developing confidence in communicative skills for students, while helping them to advance their reading and writing. Students should feel more comfortable speaking in the target language. As a class, we work on reading and constructing dialogues; interactions and conversations between classmates are encouraged and are part of the classroom experience. Students in 5th grade think critically comparing customs and mannerisms between the United States and Mandarin speaking places, as more cultural mannerisms are presented.

SPANISH

Students begin the semester reviewing previous themes and basic verbs and begin to conjugate regular and irregular verbs like "to be" and "to go." The main focus this year is on developing confidence in communication skills, often achieved through role-play to encourage each student's self expression. Students become more familiar with the particular structures, expressions, and vocabulary in various types of conversation and develop more complex writing and verbal skills to reinforce their communication abilities. Students spend the majority of each class interacting with a partner in Spanish and participating in a variety of activities. They learn about the culture, food, and

traditions of Spanish-speaking daily life researching on the internet and by watching interactive learning series.

FRENCH

Students begin the semester reviewing themes that they worked on in 4th grade and basic verbs. They begin to conjugate regular and irregular verbs like “to be” and “to go” this year as well. The main focus in 5th grade is on developing confidence in communication skills through role-play to encourage students to express themselves freely. As students become more familiar with the particular structures, expressions, and vocabulary in various types of conversation, they develop more complex writing and verbal skills to reinforce their communication abilities. Interacting with a partner and participating in a variety of activities in French is the basis for each class meeting. Students also learn about the culture, food, and traditions of people in Francophone-speaking countries using the internet and by watching interactive learning series.

VISUAL ART

Students in 5th grade Art are encouraged to develop their ability to create and respond to meaning in visual imagery, to experiment and problem solve, to express their own ideas, and to reflect on their finished work and works in progress.

Our focus in 5th grade is *Public Art*. This unit begins with contemplating the definition of public art. The students explore public art throughout civilization, ancient labyrinths, medieval gargoyles, 20th century artists, Louise Nevelson and Alexander Calder. An example of a project for this unit involves creating artwork for our school elevators. This project was inspired by the MTA’s *Poetry in Motion*. Students create an artwork and a poem for the riders of the elevators.

Each year the 5th graders are inspired in different ways and students work out methods to spread art throughout the public spaces of Léman Manhattan. Past projects have included a Matisse inspired paper cut out mural and hidden sculptures throughout the building.

MUSIC

Our 5th grade musicians continue to progress in either Band or Chorus class. Within these ensembles, the students work to refine their musical literacy, musicianship skills, and collaborative skills in preparation for their continued studies in Upper School Music.

BAND

While most students in the 5th grade Band will be second year players, new students with no experience are also welcome. With differentiated instruction and a commitment to practicing, beginners can be very successful in the 5th grade Band. Instruments offered for instruction are: flute, oboe, clarinet, saxophone, trumpet, french horn, trombone, euphonium and percussion. This course encompasses ensemble rehearsals as well as weekly group (no charge) or private (for a fee) lessons.

In this class, students review and reinforce prior musical knowledge and technique through familiar tunes and basic sight-reading. They learn new rhythmic ideas and notes through new scales including Eb Major, F Major, and C Major in different patterns. Band members also learn basic conducting patterns in 4/4 time, the terms “up-beat” and “down-beat” in relation to conducting and the ensemble skill of following the conductor. The students in this class are able to distinguish between melody, harmony, and bass line and define the role each part plays in music. Fifth grade Band students also begin to identify tuning problems and their solutions, and discuss how tuning is related to harmony in music. They learn and define different musical styles in preparation for challenging new repertoire. The 5th grade Band studies and performs grade 1–1.5 concert band literature and performs at least twice per year.

CHORUS

Students continue to develop their vocal range utilizing healthy vocal techniques from their previous year of training. However, new students are welcome in this class regardless of prior choral music experience. With differentiated instruction, beginners can be very successful. In 5th grade Chorus, students learn new physical warm-ups and more complex vocal warm-up exercises. They strengthen their aural skills by critically assessing their vocal performance as a group and identifying areas for improvement. Students demonstrate the ability to maintain their own independent part while singing in 2-part harmony. Fifth grade Chorus members also complete a song-writing unit creating original lyrics and melodies. They continue to read, write, and dictate tonal patterns, identify notes on the staff, read melodies and describe different types of advanced intervals.

PHYSICAL EDUCATION

Fifth grade students participate in both competitive and cooperative activities. Our curriculum offers a balance that allows each student to be successful throughout the school year.

Warm-up games and activities allow students to work on basic fitness concepts both individually or in a small group setting. Students participate in a variety of team sport units, which include soccer, basketball, floor hockey, diamond games, and pickle ball. During these units, students review the rules of the game and discuss offensive and defensive strategies. Students are reintroduced to positions for each team sport and how to play those positions. Small-sided games are played so that students can discuss and apply those strategies with their teammates. Fifth graders also participate in an extensive fitness unit that promotes strength and endurance. Basic fitness concepts are introduced throughout the unit, including taking and monitoring your heart rate through and after an activity. Our cooperative units include Tinikling, scooter and adventure/strategy games. The highlight of our year is the circus arts unit, which incorporates eye-hand coordination, balance and manipulation. Students practice juggling balls, manipulating devil sticks and yoyos, walking and balancing on a slackline and stilt walking. The culmination of the school year is our Lower School Field Day. On this day, students compete in relay races and activities, displaying good sportsmanship and respect for classmates.

SWIM

The year begins with a quick review of pool safety rules and routines. Once in the pool, students review skills learned previously and build upon those skills to enhance their stroke development, endurance and strength needed for lap swimming. Each lesson allows for practice of these skills and the time to develop the endurance needed to be a capable swimmer.

Each class lesson includes elements of distance and drill work that helps improve coordination and strength. The first stroke we break down into phases is the front crawl. Students participate in drill sets to help develop technique. Lessons include pull buoys and kickboards to help strengthen both the pulling and kicking phases of each stroke. Students also learn backstroke, breaststroke and butterfly in the same manner. We emphasize the value of long, relaxed strokes as well as patterns and rhythms. Swimming is promoted not only as a competitive sport, but also as a lifetime sport.

Fifth graders love our junior lifeguard unit. Students learn the basics of being a junior lifeguard which includes treading water, surface diving, stride and compact jumping, assessing a scene, performing a reaching assist and most importantly, learning how to keep themselves safe while helping others. Our last unit of the year is games and activities, which includes relay racing and water polo.