

# The Public Schools of Brookline

## GRADE ONE CURRICULUM OVERVIEW

Dear Parents and Guardians,

*High achievement for all* has been a core value in the Public Schools of Brookline for nearly two decades. There are many variables that contribute to a student's academic achievement and growth, one of the most important being a strong connection between the home and school. When families support their child's learning at home, express interest in their studies, and hold high expectations for achievement, the partnership between home and school is strengthened. We hope that this Curriculum Overview will be a useful tool for you as you support and encourage your child's academic success.

Curriculum Coordinators created this overview to highlight the concepts, skills, and knowledge central to each subject area in every grade level, K-8. This document is not intended to represent the entire curriculum for this grade; rather it provides the key elements taught to children across the eight K-8 Brookline schools in this grade. To learn more about the curriculum as outlined in our Learning Expectations, please visit the Public Schools of Brookline website ([www.brookline.k12.ma.us/domain/58](http://www.brookline.k12.ma.us/domain/58)).

Each year provides new learning opportunities and a window to the world around us. Your involvement and knowledge of your child's school experience will help to nurture his or her learning far beyond the four walls of the classroom. As your child begins a new year in the Public Schools of Brookline, please know that we welcome your involvement and value your support.

Respectfully,

Nicole Gittens, *Deputy Superintendent for Teaching and Learning*  
Nadine Ekstrom, *Teaching and Learning Senior Director for Elementary*  
Meg Maccini, *Teaching and Learning Senior Director for Programs*

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### PreK-8 Curriculum and Program Coordinators and Directors

Early Education – *Regina Watts and Barbara Maged*  
Educational Technology and Libraries – *Scott Moore*  
English Language Arts - *Joanna Lieberman*  
English Language Learner (ELL) Program – *Mindy Paulo*  
Enrichment and Challenge Support (ECS) – *Matthew Rosenthal*  
Mathematics – *Kathleen Hubbard*  
METCO – *Keith Lezama*  
Performing Arts - *Kenny Kozol*  
Physical Education and Health – *Tina Bozeman*  
Science and Health - *Janet MacNeil*  
Social Studies - *Geoff Tegnell*  
Special Education – *Emily Frank, Casey Ngo*  
Visual Arts - *Alicia Mitchell*  
World Language - *Tanya Alvarado*

*Updated 2017, Grade 1*

# The Public Schools of Brookline

## GRADE ONE CURRICULUM OVERVIEW

### *Goals of the Public Schools of Brookline*

#### **Goal 1: Every Student Achieving**

Ensure that every student meets or exceeds Brookline’s high standards and eliminate persistent gaps in student achievement by establishing educational equity across all classrooms, schools, and programs.

#### **Goal 2: Every Student Invested in Learning**

Increase every student’s ownership of his/her learning and achievement by using rigor, relevance, and relationships to foster a spirit of inquiry and the joy of learning.

#### **Goal 3: Every Student Prepared for Change and Challenge**

Instill in every student the habits of mind and life strategies critical for success in meeting the intellectual, civic, and social demands of life in a diverse, ever-changing, global environment.

#### **Goal 4: Every Educator Growing Professionally**

Foster dynamic professional learning communities that inspire inquiry, reflection, collaboration, and innovation, and use data to improve teaching, advance student learning, and refine the programs and practices of the Public Schools of Brookline.

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### **SOCIAL EMOTIONAL LEARNING & BULLYING PREVENTION/INTERVENTION**

The Public Schools of Brookline has created a comprehensive social emotional learning and bullying prevention and intervention program to nurture school culture and provide the knowledge, skills, procedures, and processes required to foster positive student behavior in support of learning. With the effective implementation of the comprehensive program, we envision all Brookline schools reflecting a safe, welcoming, respectful, and nurturing school culture that supports the development of all children through their preK-12 experiences.

The PSB Comprehensive Social Emotional Learning and Bullying Prevention and Intervention Program is characterized by the following program elements in the specified grade(s):

#### **Social Emotional Learning**

*Social Thinking* (K-12)  
*Responsive Classroom* (K-5)  
*Developmental Designs* (6-8)  
*Facing History and Ourselves* (8)  
*Brookline High School Advisory* (9-12)

#### **Bullying Prevention and Intervention**

*Understanding Disabilities* (4)  
*Second Step* (7-8)

# The Public Schools of Brookline

## GRADE ONE CURRICULUM OVERVIEW

### EDUCATIONAL TECHNOLOGY AND LIBRARIES

The Public Schools of Brookline encourages a culture of inquiry that regularly investigates and experiments with promising new practices that engage students as 21st century learners and prepares them for the evolving global society. The Educational Technology and Library staff works in collaboration with the entire school community to help students become:

- Enthusiastic, independent readers for information and pleasure
- Independent, skillful information users who know how to access, analyze and produce information in a variety of formats using a variety of tools
- Responsible digital-age citizens
- Skillful learners and innovators who use digital tools to develop the “Four Cs:”
  - critical thinking
  - communication
  - collaboration
  - creativity

The integration of these skills is typically addressed through classroom projects within the major curriculum units of study in the core subjects. School libraries are complex hubs of student learning and engagement, with the ability to enhance all curriculum areas. Emerging technologies and near ubiquitous access creates new opportunities to deepen and extend learning, often connecting with people, resources, and perspectives beyond the walls of our classrooms.

In first grade, students’ knowledge about books is reinforced and expanded as students explore a wide variety of picture books and beginner reader books. These shared reading experiences contribute to the development of a community of readers and provide opportunities to begin building essential critical thinking skills: compare and contrast, make connections, and analyze various elements of text and illustration. As students emerge as eager readers, emphasis is placed on responsible book borrowing and good citizenship.

Technology skills are often modeled and developed through daily tasks and special projects that provide students with opportunities to develop basic skills with hardware and software. Applications often include illustrating words, thoughts, and sentences in both individual and class projects.

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### ENGLISH LANGUAGE ARTS

Brookline’s Learning Expectations in ELA meet or exceed the standards outlined in the Massachusetts Frameworks. To reach these demanding standards, Brookline educators use the *Continuum of Literacy Learning PreK-8* (Heinemann, 2011) as their day-to-day guide when teaching specific behaviors in reading and writing. The description of the successful first grade reader and writer below comes primarily from the *Continuum*.

#### Reading

Students at the end of first grade will read texts that are mostly short (eight to sixteen pages), as well as some easy illustrated chapter books (forty to sixty pages) that require sustained attention and memory

*Updated 2017, Grade 1*

## The Public Schools of Brookline

### GRADE ONE CURRICULUM OVERVIEW

over time. They will notice characteristics of texts in various genres and will offer opinions about the quality of texts and illustrations. First grade students will read some long sentences of more than ten words that contain prepositional phrases, adjectives, and clauses, along with some compound and complex sentences. In addition to automatically recognizing a large number of words, the first grade reader will use word-solving strategies for complex spelling patterns, multi-syllable words, and many words with inflectional endings, plurals, contractions, and possessives. These students read many texts silently, following the text with their eyes and without pointing. In oral reading, they reflect appropriate rate, word stress, intonation, phrasing, and pausing. (*Continuum PreK-8*, pp. 284)

#### Writing

Students in first grade learn how to write in many different genres. They will learn to write narrative texts, both personal and fictional. They will also learn to write informational and persuasive texts about themselves and the world around them. First graders will write poetry, incorporating figurative language and deliberate word choice. Lastly, students will write in response to the many books they are exposed to on a daily basis, including read-aloud texts and books read independently.

Students learn the writing process during which they brainstorm ideas, plan their writing, compose a first draft, and meet with a teacher to plan revisions. First grade students apply this process to many pieces of their writing, thereby learning how to produce a polished final draft.

First graders learn how to form lower and uppercase letters correctly. They will learn to write sentences using appropriate spacing between words and ending punctuation. Spelling instruction is focused on two distinct areas: high frequency words that often do not follow predictable spelling patterns (i.e. the, want, etc.), and specific spelling patterns that can be used to decode many unknown words (i.e. \_\_at, \_\_ag, etc.). First graders learn to hear sounds in words in sequence and write the sounds they hear when they are trying to spell longer, more challenging words.

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## MATHEMATICS

Brookline’s Mathematics Learning Expectations, built on the MA Curriculum Frameworks for Mathematics, are comprised of two main components: the Standards for Mathematical Practice and Standards for Mathematical Content. To achieve mathematical understanding, students are engaged in mathematical experiences which balance mathematical procedures and conceptual understanding.

#### Mathematical Practices

Two of the mathematical practices that we will be highlighting this year involve making sense of problems and constructing mathematical arguments. Grade 1 mathematicians are involved in solving problems and discussing their process. Students explain to themselves the meaning of a problem and look for ways to solve it. They may use concrete objects or pictures to help conceptualize the problem and also check their thinking by asking themselves “Does this make sense?” Students may explore multiple strategies and approaches throughout their problem solving process.

First graders construct arguments concretely, for example, by using objects, pictures, drawings, and actions. They also practice their mathematical communication skills as they participate in mathematical discussions involving questions like “How did you get that?” “Can you explain your thinking?” and “Why

## The Public Schools of Brookline

### GRADE ONE CURRICULUM OVERVIEW

is that true?" They not only explain their own thinking, but listen to explanations provided by classmates and then decide if the explanations make sense.

#### **Mathematical Content**

In first grade mathematics instruction, we focus on these four critical areas:

**Whole Number Operations:** Developing understanding of addition, subtraction, and strategies for addition and subtraction within 20.

**Place Value:** Developing understanding of whole number relationships and place value, including grouping in tens and ones.

**Measurement:** Developing understanding of linear measurement and measuring lengths as iterating length units.

**Geometry:** Reasoning about attributes of, and composing and decomposing geometric shapes.

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### PERFORMING ARTS

First grade students have music class twice a week in which they joyfully create music while developing the following skills:

**Performing:** Students will develop skills in singing, reading music, playing instruments, movement and dramatization of music.

**Reading and Notating:** Students will learn to interpret and apply visual representations for the sounds they hear (musical notation).

**Listening and Appreciation:** Students will learn to critically respond with understanding when they describe, analyze and interpret music. Students will study music from different periods and locations.

**Creating:** Students will improvise and compose original works of music.

**Connecting:** Students will develop an understanding of artistic heritage through investigation of the historical and cultural contexts of music.

Students in first grade develop the skills that support their natural joy for creating music. Children become comfortable with their own voices as they learn to listen to and work with one another in an ensemble setting, interpret sounds and create music to express their feelings, ideas, and experiences. They develop skills in the following areas:

- Proper singing posture and use of voice, development of pitch and repertoire of songs
- Awareness of music elements and musical terms
- Awareness of space through movement to music and dances
- Composing simple rhythms, tonal passages and melodies for voices or instruments

The **Performing Arts Learning Expectations** meet the **National Standards for Arts Education** music learning outcomes that are integral to the comprehensive K-12 education of every student.

# The Public Schools of Brookline

## GRADE ONE CURRICULUM OVERVIEW

### PHYSICAL EDUCATION

The importance and value of regular physical activity is recognized for its long-term benefits as never before. Accompanying this recognition is the awareness that childhood is the time to begin the development of active and healthy lifestyles. Children need to be taught the skills, knowledge, attitudes, and behaviors that lead to regular and enjoyable participation in physical activity.

Quality physical education is both developmentally and instructionally suitable for the specific children being served. Although the grade levels are clustered in this document, our students will experience skill acquisition, physical fitness development, and social-emotional skill growth at their developmental levels. The K-2 Physical Education Curriculum was developed with the National Standards in mind; these standards describe the physically literate individual.

(<http://www.shapeamerica.org/standards/pe/index.cfm>)

In the K-2 grade span, students work on the skill progressions as follows:

**Motor Skills and Movement Patterns:** Develop static and dynamic balance, spatial awareness, travel, kicking, catching, throwing, and rhythms. Students experience the Skill Themes Approach, learning movement language and skills (such as pathways, levels, force) that continue throughout the grades.

**Physical Activity & Fitness:** Actively participate in a variety of activities, incorporating all components of physical fitness.

**Personal and Social Behavior:** Learn to follow directions and work cooperatively in a variety of Physical Education settings.

**Value of Physical Activity and Social Interactions:** Exposure to new skills, experiencing feelings of success and a sense of enjoyment through physical activity.

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### SCIENCE

In first grade science, students explore light and shadows, sound and insects. Science and engineering practices are woven throughout all of the science content, as well as the use of science notebooks and integration with the other curriculum areas.

**Light & Shadows:** In this unit, students explore sources of light and how important it is to us. They investigate how shadows are made outside and inside, focusing on how the shape and size of shadows can be changed. Inside shadow explorations include the use of shadow puppet theatre and investigating the formation of shadows using different materials. Students also begin to look at reflection using mirrors to redirect a light beam.

**Investigating Sound:** In this unit, students are introduced to the basic concepts of sound via hands-on, inquiry-based activities as they explore the question: “How is sound made?” After outdoor listening walks and an open exploration of making sound with different materials, they compare sounds and sort them by their characteristics. Next, students gather evidence about the connections between vibrations and sound using their voices and musical instruments. Building on previous discussions of “high” and

## The Public Schools of Brookline

### GRADE ONE CURRICULUM OVERVIEW

“low” sounds, students explore how the length of the object changes the sound (using Boomwhackers, cardboard tubes, and panpipes). Then, they are introduced to the basics of how sound creates vibrations that travel through the air to our ears so that we can hear. Engineering is woven into the unit as students brainstorm how we use sound to communicate, after which they design and build string telephones to solve an engineering problem using the Engineering Design Process. Finally, as a direct connection to the first grade Investigating Insects unit, students gather evidence and make claims about how and why animals make sounds.

**Insects:** Building on their nature experiences in Kindergarten, first graders explore insects, learning about scientists that study insects and what makes an insect an insect. They observe the structures and behaviors of many types of insects and begin to explain how those structures and behaviors help the insects survive. In addition, students investigate the types of insects that live near their school (and why they might live there—how are their needs met?) Finally they study the life cycles of different insects - mealworms and painted lady butterflies - comparing how they are similar and different, and they learn how insects are important.

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### SOCIAL STUDIES

In the first grade social studies course of study, Another World, students will listen to and read fiction (folk tales and legends) and age-appropriate nonfiction texts about China and Mexico to learn about different cultures while contrasting and comparing them with their own. They will read age-appropriate nonfiction books about presidents. They will learn about major historical events, figures, and symbols related to the United States of America and its national holidays and why they are important to Americans. They will be able to compare and contrast these holidays with those celebrated in China, Mexico, and countries that are represented in the classroom. As students study concepts in geography, civics, economics, and history, they also learn about each other’s families and neighborhoods. They will learn about the achievements of different people in different times and places in the United States.

**Community:** Students begin this unit by creating a common understanding of what a community is and what it means to be a community member. They will also learn about each other and create classroom community roles, jobs, and rules. Next, they will turn to investigating the school community by comparing classroom and school rules and identifying and interviewing school community helpers.

**Geography:** In this unit students continue to explore community by utilizing economic concepts and geographic skills to explore their own wants and needs, as well as the structures, streets, businesses, and safety features of their neighborhoods. Next, they are introduced to a variety of maps, inferring how maps display many kinds of spatial information, deciphering how maps depict landforms and bodies of water, interpreting map legends, and determining the differences between maps and globes.

**Culture Mini-Unit:** In this mini-unit students will learn that cultures are systems of knowledge and behavior that groups of people have created. They will investigate four main components of culture - Food, Housing, Clothing, and Celebrations. Developing cultural competency in students is an important aspect of Social Studies learning. This mini-unit is an exploration of both the diversity of cultures around the world and the common features of the human experience.

**Symbols of Freedom:** Students study important civic symbols and holidays such as the U.S. flag and

## The Public Schools of Brookline

### GRADE ONE CURRICULUM OVERVIEW

Presidents Day by employing the *Symbols of Freedom* resource books and materials. Students also learn about the democratic process and leadership by discussing the November elections and/or studying important U.S. presidents.

**China:** Students commence this unit by creating a map of China's landforms and landmarks. They then explore the significance of such symbols of China as the Chinese flag and the Giant Panda. Students learn about Chinese art and culture by means of such activities as using calligraphy to write Chinese characters, making kites, and creating *chop* stamps. Students also continue their investigation of Chinese cultural traditions by, for example, learning about the Chinese Zodiac or making dragon puppets for Chinese New Year.

**Mexico:** As an alternative or accompaniment to the China unit, students may also undertake the Mexico unit. In this unit students map Mexican landforms, cities, and landmarks. By researching families in Mexico, students may compare schools, homes, and work in rural and urban locales. They also delve into Mexican civic symbols by, for example, examining the Mexican national flag. By investigating marketplaces, students learn about Mexican food, money, and trades. They also explore traditional culture by examining Mexican holidays like the Day of the Dead.

**National and Massachusetts Holidays:** Students study important civic symbols and holidays such as the U.S. flag and Presidents Day by employing the National and Massachusetts Holidays and the *Symbols of Freedom/Holiday Histories* resource books and materials. Students also learn about the democratic process and leadership by discussing the November elections and/or studying important U.S. presidents.

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### VISUAL ARTS

Students in first grade freely and joyfully create artwork. They are curious as they begin their artistic journey in the classroom - exploring and discovering all the possibilities for art making that is at the heart of visual arts instruction. Students make sense of their world by creating artwork that expresses personal experiences, ideas, and feelings. Children want to communicate their ideas and tell their stories.

Art lessons are developed to engage students in rich tasks that develop their critical and creative thinking skills, and allow them to develop artistry through deliberate practice. Students develop their artistic skills in the following areas:

**Drawing:** Creating compositions using multiple tools through mark making, lines and forms that communicate the artists' intention.

**Painting:** Creating a composition using paint that tells a story, expresses an emotion, suggests a feeling, develops a pattern or illustrates the relationship of colors.

**Collage:** Creating a cohesive composition that communicates the artists' intention by gluing multiple pieces of paper/found materials together in one image.

**Printmaking:** Creating a composition that transfers images to other surfaces multiple times, using printmaking tools, stamps, stencils, and plates.

# The Public Schools of Brookline

## GRADE ONE CURRICULUM OVERVIEW

**3D Construction:** Building a form that has multiple sides, has structural integrity, and embodies the artists' vision.

Lessons have an array of beginning points: interdisciplinary work connected to grade specific themes in other curriculum studies, art history, contemporary art, and student generated curiosities. The work focuses on developing strong artistic habits of mind that develop skill and craftsmanship. The Visual Arts classes meet once a week throughout the year.

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### WORLD LANGUAGE

Students in grades one and two continue their journey as language learners, where they discover new words and cultures. Our K-5 world language program focuses on developing oral proficiency, with lessons conducted almost exclusively in Spanish or Chinese. This provides students with many opportunities to hear words in context and make meaning out of them without direct translation. This repetition, coupled with visual supports, first develops comprehension, followed by oral production.

Lessons incorporate songs, games, books, a calendar routine and other interactive activities that provide students opportunities to practice the language. Students in grades one and two comprehend far more than they can produce in the target language: they use isolated words, lists of words, or memorized phrases to respond to simple questions about the topics they are learning and convey minimal meaning to those experienced at dealing with foreigners. Students expand their vocabulary, building on the themes from kindergarten: school and community, family, and climate, with the cultural focus on the countries of the Andes. Lessons are twenty minutes, three times a week.

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### Enrichment and Challenge Support (ECS)

The Enrichment and Challenge Support program is designed to align with the district's Strategic Plan goals and to provide collaborative support to teachers in helping all students to:

- *Experience meaningful learning and growth (extension and challenge);*
- *Become invested in their own learning and be able to pursue their passions;*
- *Acquire the skills and habits of effective learners; and*
- *Utilize technology to create, collaborate, and communicate.*

ECS Specialists work together with classroom teachers to meet the needs of their students for challenge, enrichment, and extension across all disciplines, within the classroom, throughout the school day. To do this, ECS Specialists spend most of their time collaborating with classroom teachers in conjunction with other specialists. Collaboration among classroom teachers and ECS could include:

- *co-teaching a differentiated lesson;*
- *working in the classroom with small groups of students or stations;*
- *designing and implementing digital, inquiry-based, personalized, and project-based learning;*
- *assessing students and co-planning appropriate follow-up.*