

**BUCKINGHAM BROWNE & NICHOLS
LOWER SCHOOL**



**CURRICULUM OVERVIEW
GRADE SIX
2011-2012**

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GRADE SIX CURRICULUM OVERVIEW

Language Arts

The sixth grade curriculum focuses on specific skills for reading, writing, grammar and word study for a deeper understanding of and facility with the written word in a variety of contexts.

In sixth grade, students will:

- Use specific strategies for deeply engaging with literature, including: questioning, making connections, summarizing, drawing inferences, identifying evidence from the text to support ideas.
- Identify and examine authors; use of literary techniques, such as figurative language, plot structure, imagery and characterization.
- Engage in meaningful discussions with peers to practice articulating their ideas and opinions in literature circles.
- Learn and practice specific strategies to use before, during and after reading to focus and enrich understanding and critical thinking as well as identify stated and implied main ideas, supporting details, ask critical questions, and use methods of note taking (i.e.-in margins), highlighting, outlining and writing chapter summaries.
- Make comparisons among cultures and genres and apply their conclusions and insights based on their experiences.
- Practice extensive writing through writing journals and papers, by engaging in the writing process.
- Study genres of memoir, poetry, fiction (including historical, narrative, fantasy and realistic fiction); include the Six Traits of Writing - ideas, organization, voice, sentence fluency, word choice and conventions - in Writer's Workshop.
- Examine models of good writing in the above genres and identify authors' techniques; practice specific strategies and tools to develop their own writing in these genres.
- Work on writing in various forms, ranging from creative writing, poetry and well-structured persuasive paragraph writing to cohesive, analytical essays.
- Use graphic organizers to plan their writing; create clear thesis statements, use evidence from readings to support their ideas, write strong introductions and conclusions, build on word study skills for effective, quality writing.
- Receive guidance and feedback in regular teacher conferences; understand the role of rubrics in planning, evaluating and completing work
- Complete assessment/evaluations regularly - including standardized tests twice a year
- Receive support as needed in reading, writing, and study skills to meet the goals of the curriculum.

Social Studies

The social studies curriculum is designed to broaden the world view of students by focusing on a region of economic and political importance (Asia: India, Pakistan and Afghanistan), and beginning with a topic of historically national and international impact (Civil and Human rights). The idea is to teach students to reflect and become aware of common issues in any society. The goal is that students are able to make comparisons among the different cultures, give insights to their own experiences, share both sides of every story, and eventually apply their conclusions.

Students will begin to recognize the ways in which the struggle for human rights has influenced and shaped modern society. Each topic will also be viewed through multiple lenses so that students practice the habit of empathic study. Historical nonfiction and primary source readings in addition to a variety of materials support this journey. The essential questions examined include:

Civic Ideals and Practices: Human Rights-U.S. Civil to Global

- What is a civil right?
- Whose story gets told and by whom?
- What rights are guaranteed?
- When and how do individuals participate to make change?

Global Connections: Asia-India, Pakistan, Afghanistan

- How do the five factors of geography determine settlement?
- How did geographic location and neighbors shape the countries in Asia?
- What is the role of these countries in relation to current U.S. economic/political policy?
- What role does religion play in culture and society?
- What are the roles of women in these countries?

Culture; People, Places and Environment

- Compare/contrast religions in the area, their impact on culture and society.
- What are the family and social structures?

The Social Studies Units are:

- Civil Rights
 - Colonialism
 - Slavery
 - Civil War/Reconstruction
 - Jim Crow/Civil Rights Movement
- Geography
 - Absolute and Relative Locations
 - Climate
 - Physical Characteristics
 - Natural Resources
 - Population Size
- Human Rights
 - Religion and Society
 - Religion and Culture
 - Women's Rights

Mathematics

Students expand on the numerical, geometric, algebraic, and statistical understandings they developed in fifth grade, revisiting familiar concepts and acquiring new skills. They begin the year with a look at area and perimeter of polygons, building on the foundation in properties of polygons begun in fifth grade. Before winter break, students' studies shift to rational numbers as they practice applying the algorithms for addition, subtraction, multiplication, and division of fractions, decimals, and percents. They return to polygons in the winter, as they learn about similarity and apply that understanding of proportional relationship to geometry. The spring is divided into three smaller units: an exploration of integers and negative numbers, a mini unit strengthening understandings of ratios and rates, and an introduction to probability

Throughout the year, students compute in a variety of ways, using manipulative objects, calculators, computer programs, and standard algorithms. Students continue to develop strategies, both orally and in writing of monitoring their own thinking and communicating ideas to classmates and teachers. Multi-step word problems and investigations which require analysis, creativity and synthesis of ideas are at the heart of these studies. For this reason, the Connected Math Program is the framework for the math curriculum.

Content Standards

Rational Numbers [Fractions, Decimals, and Percents] (Number and Operations)

- Continue to build understanding of fractions, decimals, and percents, and the relationships among these concepts and their representations.
- Develop strategies for adding, subtracting, multiplying, and dividing fractions and decimals.
- Use strategies to estimate sums and products of fractions and decimals quickly.
- Use percent as an expression of frequency when a data set does not contain exactly 100 pieces of data.
- Use percents to compute taxes, tips, and discounts.
- Use area models to represent multiplication problems and products.
- Use context to help reason about the problems and choose the appropriate operations to solve them.

Integers

- Represent integers on a number line and model situations with integers.
- Develop strategies for adding, subtracting, multiplying, and dividing positive and negative integers.
- Use integers to model and solve real-world problems.
- Use the symbols =, <, and > to indicate whether one integer is greater than, less than, or equal to another integer .
- Graph in four quadrants.

Mathematics (continued)

2-D Measurement [Polygons] (Geometry & Measurement)

- Develop strategies and algorithms for finding areas and perimeters of regular and irregular shapes; Discover relationships between perimeter and area.
- Observe relationships between quadrilaterals and triangles, and connect these relationships to area formulas.
- Use tables to organize data, observe and reason from patterns in that data.
- Use multiple representations of data, including physical, pictorial, tabular, and symbolic.

Similarity and Proportion

- Enlarge and reduce figures using coordinate plotting and algebraic algorithms.
- Recognize similar figures based on scale factor.
- Understand how scale factor relates to 1-dimensional and 2-dimensional measurements.
- Recognize the relationship between similarity and equivalent fractions.
- Use the concept of similarity to solve real-world problems.
- Make connections between algebra and geometry; set up ratios and rates.

Probability

- Become acquainted with probability informally through experiments.
- Understand that probabilities are useful for predicting what will happen over time and for making decisions.
- Understand two ways to obtain probabilities: by gathering data from experiments (experimental probability) and by analyzing the possible equally likely outcomes (theoretical probability).
- Understand the concepts of equally likely and not equally likely.
- Critically interpret statements of probability.

Process Standards

Reasoning and Proof

Students are encouraged to look for patterns, make conjectures, provide evidence for their conjectures, refine their conjectures and strategies, connect their knowledge, and extend their findings. Sound deductive arguments gain importance as students begin the transition to middle school.

Communication

As students work on the problems, they must communicate ideas with others. Emphasis is placed on students' discussing problems in class, talking through their solutions, formalizing their conjectures, and strategies, and learning to communicate their ideas to a more general audience. Students learn to express their ideas, solutions, and strategies using written explanations, graphs, tables, and equations.

Representation

Students organize, record, and communicate information and ideas using words, pictures, graphs, tables, and symbols. They learn to choose appropriate representations for given situations and to translate among representations. Students also learn to interpret information presented in various forms.

Mathematics (continued)

Connections

In all units mathematical content is connected to other units, to other areas of mathematics, to other school subjects, and to applications in the real world. Connecting and building on prior knowledge is important for building and retaining new knowledge.

Science

The science program is a survey course in elementary human anatomy and physiology. In sixth grade, science classes include lectures, discussions, hands-on activities and labs. Listed below are the units of study and highlights of the content and skills covered.

Cells

- Discuss what it means for something to be alive
- Observe elodea and amoeba cells under a microscope
- Learn how cells carry out the basic processes of life

The Respiratory System

- Investigate how surface area to volume ratios affect oxygen absorption in the lungs
- Dissect and sketch sheep lungs
- Create a 3-D model of the respiratory system
- Write a story about the journey of an oxygen molecule through the respiratory system of a human

The Circulatory System

- Design and conduct a lab investigating the relationship between heart rate and exercise
- Learn about the ABO blood typing system
- Dissect and sketch sheep hearts

The Digestive System

- Observe how enzymes break down starches into sugars
- Work together in groups to model how peristalsis works using tennis balls and nylon stockings
- Create an emulsion and discuss the importance of bile in the small intestine

The Reproductive System

- Learn the structure, function and location of the various parts of the male and female reproductive systems
- Get answers to questions about sex and growing up with the help of the school nurse and resident doctor from Boston Children's Hospital.

French and Spanish

French and Spanish lessons concentrate on basic language skills:

- Speaking/oral communication
- Listening
- Written and aural comprehension
- Good pronunciation
- Building and growing a solid, working vocabulary

Students actively engage in the oral use of the language and encouraged to take on challenges on a daily basis. Students view and listen to traditional arts and literature which helps them to develop an ear for the language, and give students a taste of French or Spanish culture. Students also learn about French or Spanish art history through a technology and art collaborative ACTION project. Language classes build upon prior instruction as students learn to grow conversational skills, recognize proper grammar and develop reading skills in the target language. The goal is to create well rounded global citizens. Homework is assigned regularly and consists of learning new vocabulary which should be studied for each class, an essential step to ensure steady progress.

Information Science

Information Science begins with a review of how to access and use our catalog, reference tools, and the library website and how to borrow materials from the library. Students will learn strategies for using a variety of sources, including web searches, with an emphasis on critical thinking and problem solving. They will have opportunities to reflect on their learning style and try different approaches to collecting and organizing information. Skills they will be developing include, but not limited by the ability to:

- Formulate research strategies,
- Use search engines to explore topics
- Scan for information,
- Practice broadening and narrowing their focus,
- Compare sources
- Evaluate websites and other materials with emphasis on reliability and relevance.
- Understand the difference between recreational information and reliable Information
- Prepare a bibliography

Students also come to the library for storytelling (a part of their social studies curriculum), as well as book talks and individual help choosing books for independent reading.

Technology

Sixth grade technology students are exposed to various social studies, language arts, science, world languages, art, math, and problem-solving programs and projects that:

Technology (continued)

- are developmentally appropriate
- directly relate to classroom content
- offer new ways of looking at the traditional curriculum
- encourage thinking and stimulate inquiry
- foster collaboration, communication and creativity
- challenge and motivate a wide range of students

Sixth grade students, during their weekly technology classes, are exposed to both the Macintosh and Windows operating systems. Specifically, students are taught:

- keyboarding skills- Touch typing assessments for speed and accuracy are completed throughout the year.
- word processing- Sixth graders continue using the computer as a writing tool, as in-school assignments are sometimes completed on the computer, and students are encouraged to word process their homework assignments.
- presentation software- Students create a jeopardy game in PowerPoint using internal hyperlinks for a social studies project.
- spreadsheets and graphing review- Students make charts and graphs in Excel during an Internet safety unit.
- digital storytelling/programming- Students complete a unit of programming using MIT's "Scratch," and projects to support language arts writing assignments, social studies research projects, and the technology Internet Safety unit are completed throughout the year. Students work both individually and collaboratively in small groups to research, write and record scripts, add images, and create final scratch projects.

Sixth grade students at BB&N also complete the MFA ACTion (Arts, Culture, and Technology) project in which students visit the MFA and complete a master study of an impressionist artist, research their artist and write a script, scan their painting, and lastly record a script about their artist in both English and French or Spanish. The paintings are displayed on the walls at the MFA and in a virtual gallery of scratch projects on laptops.

Drama

The drama curriculum consists of three skills and goals:

1. Confidence building through improvisation, and group scene work.
2. Performance alone on stage through monologue and small group work.
3. Theater games that develop skills in the following areas: attention, imagination, physical awareness and narrative skills.

In addition, all sixth graders participate in a spring musical which involves intense acting, singing, dancing and scenic design skills. The music is rehearsed during the school day with two performances for the school to which parents and friends are invited to one.

Music

Sixth grade music class objectives are approached through experiences in movement, speech, song, listening, playing instruments and notation. Students move through many of the conceptual areas listed below:

Rhythm:

- Demonstrate pulse, echo
- Learn and use sixteenth, eighth, quarter, half and whole notes especially 2/16ths plus an eighth, and an eighth and 2/16ths.
- Question-Answer, improvisation;
- Multiple ostinati (body percussion/unpitched/ barred instruments)
- Experience different meters – simple, compound or mixed.

Melody:

- Demonstrate proper vocal technique and a repertoire of songs used for school traditions, concerts and assemblies (folk/seasonal/multi-cultural/2 and 3 part choral)
- Use treble clef lines and spaces
- Refer to written notation using notes C – A' on barred instruments
- Demonstrate improvisation and composition (G Major/e minor pentatonic) based on existing rhythm or melody
- Play countermelodies;
- Create melodies using music notation software.

Harmony:(reference to barred instruments)

- Demonstrate proper mallet technique
- Demonstrate canon/round
- Demonstrate and create melody with ostinati
- Label Major/minor
- Experience 12-bar blues and its I IV V chord progression.

Form:

- Demonstrate phrase
- Experience extended form, rondo and 12-bar blues poetry.

Timbre:

- Identify instruments based on folk, orchestral and jazz recordings.

Additional Information Students become familiar with a variety of composers, artists or cultures through recorded examples; identify instruments, use movement imitation, create movement pieces to represent form, learn standard folk dances.

Chorus/Musical All students participate in the Brick Building Chorus, a choral ensemble consisting of students in grades 5 and 6. Students perform at the December Winter Concert. Beginning in January, students rehearse in conjunction with the drama teacher towards performing a sixth grade class musical production in the spring.

Orchestra Students who study an orchestral instrument are *invited and encouraged* to play in the Lower School Orchestra which provides a valuable experience different from solo practice and lessons. The orchestra plays an important role in many of the school traditions for our community. Orchestra rehearses once a week before school on Friday mornings, and performs at Lower School concerts and designated assemblies.

Visual Art

Students' art goals for each trimester are introduced, defined and explored through discussions and examples. Students work on an ACTION Project for half of the trimester: Each student creates a master study of a French, Spanish, or American painting in class personally selected after examining images from a selected group of artists for this unit. Students' work, featured at the Museum of Fine Arts in the spring, is integrated with the French, Spanish, and technology classes. In art class, emphasis is placed on keen observation and the artist's expressive style. This helps students make comparisons of artists and works of art by closely examining the art and to learn from what they see.

Drawing/Painting materials - paper, colored pencils, pens, pastels, charcoal, acrylics, watercolors

- Discuss/explore values and opportunities of different materials and subject matter, and how many artists work
- Introduce/demonstrate color mixing, palettes, application, and manipulation
- Explore/emphasize composition, contour, proportion, tone, texture, positive/negative space, and light/shadow.

For the other half of the trimester, students use symbolic and realistic imagery as they learn the rules of pencil drawing and cut paper collage. Most importantly, students learn to use their eyes as an effective tool, especially as they become aware of and explore their environment through the artists' eyes. A portfolio of fine drawings culminates their major project, which may include:

- A value chart
- Spheres and ribbons in space
- A natural environmental landscape inspired by Ansel Adams' photography
- A half-face portrait from a reproduction
- A final illustration of any object of their choice

Physical Education

In sixth grade, students are introduced to an intramural athletic experience in a variety of team sports. For many, playing on a team is a new experience but the underlying values of participation, effort, enthusiasm, and individual growth remain the same. Before any games are played the group has a thorough review of skills, rules, and strategies. Classes are run as a team practice with skill development, drills, and a breakdown of situations and applications for use of the individual skills. Throughout the season the basic skills are reviewed and more advanced skills are introduced.

The games provide an opportunity for the student to play together as a team for a common goal, something that they have been working toward throughout the Lower School Physical Education Program. The idea that everyone plays and contributes is the major theme behind the team sport concept. Sports Offered:

Physical Education (continued)

<u>Fall:</u>	Boys: Cross Country, Soccer, flag football Girls: Cross Country, Field hockey and soccer
<u>Winter:</u>	Boys: Basketball, co-ed ice hockey or floor hockey One week of instructional wrestling and rowing Girls: Basketball, co-ed ice hockey or floor hockey One week of instructional volleyball and rowing
<u>Spring:</u>	Boys: Baseball, lacrosse and tennis Girls: Softball, lacrosse and tennis.

Health

Students are exposed to health related topics that offer and encourage positive healthy life styles among the Lower School community. Support comes many resources such as the Great Body Shop curricular guides; comprehensive, cohesive and age appropriate health strands which are integrated into many of the classroom settings. Topics include; community safety, personal touches, bullying, healthy nutrition and physical fitness.

The Responsive Classroom

The Lower School uses the social curricular practices of The Responsive Classroom. Sixth graders continue to mature their skills of building class and community rules and understand why they must be followed. Students practice affirming, positive community building skills and self control; develop flexibility in working in different teams, groups and partnerships. This includes inviting new friendships with sensitivity to students seeking inclusion and to positively support and affirm peers with different learning styles or pace. Students are expected to respect all students, faculty and staff. Sixth graders take an active role in class events, morning meeting or discussions with opportunities to strengthen listening skills and wait time for responses, such as speaking assertively and respectfully in morning meetings. The goal is for students to become leaders and role models of the LS community as well as to show good citizenship both at BB&N and the greater Boston area.

Homework

Please refer to the BB&N website, www.bbns.org/handbook, Lower School Policies and Procedures. Another resource, [HOMEWORK - A Guide for Lower School Parents](#), was first published and distributed to all LS parents in 1999, and is available for parents at Back-to-School Nights.

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