



Brookside School

Grade 4-8 Course Guide
2024-2025 School Year





Allendale Public Schools

Dear Brookside Parents and Students,

Welcome to the 2024-2025 school year!

This Course Guide has been designed to provide you with information about the courses offered at Brookside School. In this guide, you will find a summary of the courses offered at each grade level, the topics explored in each content area, and how content and skills are aligned with students' developmental milestones.

If you have any questions about any of the programming or structures included within, please feel free to contact us.

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Grade 4 Program of Study

Overview: Fourth graders at Brookside School follow an elementary schedule. This means that, for the majority of the instructional day, students stay with their homeroom class for all subjects and work primarily with their homeroom teacher. Academically, students are mastering foundational skills content and skills in reading, writing, and mathematics.

One of the most exciting components of fourth grade is our week-long Kinetic Sculpture experience. During this week, students learn about science, art, engineering and creativity through guided experiences in creating a kinetic sculpture. The children culminate the week with a museum in which they build kinetic sculptures and explain the science and art elements that make them work.

English Language Arts

Reading

Using a Reader's Workshop model, fourth grade students will be analyzing more complex texts and attending to details in order to gain deeper understanding when they read. Students will closely read a variety of genres (narrative, informational, and opinion) while developing skills such as inferencing, interpretation, comparing and contrasting within and across texts, evaluating sources, and supporting reasoning with evidence.

Students will be supported in reading texts at their independent learning level, which will be reassessed regularly throughout the school year. Writing about reading is an important part of Reader's Workshop and, therefore, students are regularly using writing to respond to reading in the ways listed above.

Grade Four Reading Units Include: (1) *Characters are Complex: An Introduction to Character Analysis*; (2) *Informational Research*; (3) *Preparing for My Future Reading*; (4) *Interpretation Book Clubs: Learning Lessons Through Reading*; and (5) *Historical Fiction Book Clubs*.

Writing

Though writing is an important part of learning in all curricular areas, there is a distinct emphasis on teaching students to strategically utilize technical skill, craft, and organization to communicate ideas in Writer's Workshop. Students are taught the writing process through several different forms of writing.

Students engage in 4-6 week-long units of study focused on the styles of narrative, opinion, and informational writing. Instruction in grammar and mechanics is delivered through minilessons connected to these units of study.

Grade Four Writing Units Include: (1) *Creating Strong and Complex Characters in Realistic Fiction*, (2) *Writing to Teach Others*, (3) *Literary Essay*, (4) *Historical Fiction Stories*, and (5) *Persuasive Essay*.

Mathematics

Primary Resource: *Everyday Math* (McGraw-Hill)

The fourth grade program is aligned with the New Jersey State Standards and employs the *Everyday Math* text as a resource to support instruction. In Grade 4, students will learn about multi-digit multiplication, multi-digit division, comparing fractions, adding, subtracting, and multiplying fractions, and analyzing/classifying geometric figures.

Additionally, students will learn and apply a variety of mathematical practices, including problem solving, constructing arguments, using models to express abstract thinking, and noticing patterns and consistent structures. They will also reinforce their foundational knowledge with formal algorithms and basic facts.

Social Studies

Social Studies units include *We The People, Using Government Structure to Impact Change*, and *American Dream: Immigration and Citizenship*. Students will explore the content and themes of history through the study of primary source documents, historical artifacts, and a variety of text types. Students will synthesize their learning in a variety of ways, including projects, group activities, and discussion.

Science

The study of science involves a combination of hands-on exploration, building scientific content knowledge, developing, testing, and verifying theories, considering multiple solutions to problems, and synthesizing content and processes to understand scientific phenomena. Units of study include: *Energy, Structure, Function and Information Processing, Waves and Information, and Earth's Systems*.

Students also engage in a week-long *Kinetic Sculpture* unit, where they utilize hands-on activities to integrate creativity skills as they learn about properties of science.

Specials

Spanish

In grade 4 Spanish, students begin to build a foundational understanding of the language, including common conversational phrases, identifying everyday objects, and simple verbs. Through the study of a variety of texts, including children's literature, games, songs, and video media, students will also develop their appreciation of a variety of Spanish and Latin-American cultures.

Art

Students in fourth grade meet once a week for art for the entire school year. They will review continue to explore the elements of design (color, line, shape, form, value, texture, space) through the creation of both 2- and 3-dimensional art assignments. They will study a variety of artists, masterpieces, and the artistic practices of various cultures.

Performing Arts

In this performance-based course, students learn the basics of rhythm and note reading, including quarter notes, half notes, whole notes, and rests, and apply these skills to music reading. Students sing songs in one- and two-part harmonies, and develop dance and drama steps in correlation with the songs. Composition and music history are also introduced both vocally and through the introduction of guitar. Fourth graders participate in two mandatory evening concerts during the year.

Wellness (Physical Education)

This course provides an introduction to sports, cooperative games, and independent physical fitness with a focus on basic skills and movements. Units include world games, large and small group games, volleyball, basketball, physical fitness, and movement education. Ultimately, the goal is for students to learn how they can improve their own physical and mental well-being through exercise.

Robotics

Fourth graders work in pairs to learn the basics of coding and robotics by building and programming LEGO robots. Following the instructional phase of the class, students program their robot to navigate one of four obstacle courses.

Band

Band in the fourth grade is voluntary. Students are scheduled for lessons once every five school days on a rotating schedule. Musicians will learn to collaborate during morning band every Tuesday from 7:45 to 8:30. Students are expected to be at the early morning rehearsals and at the two band concerts, as well as to practice their instruments at home.

Grade 5 Program of Study

Overview: One of the primary goals of fifth grade is to bridge the transition between elementary and middle school. The fifth grade utilizes a departmental structure to scaffold this transition. Students will move from classroom to classroom for each subject. This allows students to learn and utilize executive functioning and self-management skills with increasing independence.

The fifth grade capstone project is called *Journey to Mars*. This year-long unit of study asks students to engage in interdisciplinary research, collaborative problem solving, and design thinking processes to envision how to travel to and create a sustainable colony on Mars. The project culminates in a museum event where students share their designs.

English Language Arts

Reading

Using a Reader's Workshop model, students will read short stories, essays, and novels in a variety of genres. Students will engage in increasingly sophisticated interpretation work while developing skills such as comparing and contrasting within and across texts, analyzing character development across texts, evaluating sources, and supporting reasoning with evidence.

Students will be supported in reading texts at their independent learning level, which will be reassessed regularly throughout the school year. Writing about reading is an important part of Reader's Workshop and, therefore, students are regularly using writing to respond to reading in the ways listed above.

Grade Five Reading Units Include: (1) *Tackling Trouble* (an interpretation unit), (2) *Literary Essay* (3) *Science Fiction Genre Study*, (4) *Reading like a Researcher*, (5) *Reading and Writing Like a Fan*.

Writing

Using a Writer's Workshop model, students will write in a variety of genres, including narrative, informational, and argument. Students will learn to identify the ways in which authors utilize craft, organization, text structure, word choice, and language conventions to communicate ideas to an audience, and to use those in their own writing.

Grade Five Writing Units Include: (1) *Personal Narrative*, (2) *Research-Based Argument Essay*, (3) *Feature Article*, (4) *Science Fiction*, and (5) *Public Speaking*.

Word Study

Primary Resource: *Words Their Way* (Pearson)

In fifth grade, word study moves from the deep study of spelling rules in fourth grade to etymological studies in fifth grade. Students will study word meaning through the study of affixes and root words.

Mathematics

Primary Resource: *Everyday Math* (McGraw-Hill)

The fifth grade mathematics program is aligned with the New Jersey State Standards and employs the *Everyday Math* text as a resource to support instruction. Students will learn about multiplying and dividing fractions, analyzing mathematical patterns and relationships, performing operations with decimals, converting units of measurement, analyzing and interpreting data, and defining coordinate systems.

Additionally, students will learn and apply a variety of mathematical practices, including problem solving, constructing arguments, using models to express abstract thinking, and noticing patterns and consistent structures.

Social Studies

In fifth grade, social studies content is focused on early American history. Units include *Does Where You Live Matter*, *Three Worlds Meet*, and *Colonization*. Students will explore the content and themes of history through the study of maps, primary source documents, historical artifacts, and a variety of text types. Students will synthesize their learning in a variety of ways, including projects, group activities, and discussion.

Science

Fifth grade students will first investigate earth's structure, geologic history, and materials. Simultaneously, students will be using their study of scientific content, experimentation, and the engineering design project for the Journey to Mars project.

Grade Five Science Units Include: *Matter and Hydroponics*, *Structures and Properties of Matter*, *Earth's Systems*, and *Space Systems*.

Specials

Spanish

In grade 5 Spanish, students continue to build a foundational understanding of the language, including common conversational phrases, identifying everyday objects, and simple verbs. Through the study of a variety of texts, including children's literature, games, songs, and video media, students will also develop their appreciation of a variety of Spanish and Latin-American cultures.

Art

Students in fifth grade meet once a week for art for the entire school year. Students engage in a more in-depth study of the elements of design as they apply to their own personal creations, as well as the art of their peers and famous artists and cultures. The

principles of design are introduced and explored, including movement, balance, rhythm, emphasis, and contrast unity.

Wellness (Physical Education)

In fifth grade physical education, students will learn how they can improve their own physical and mental well-being through exercise. This course builds on sport skills through a combination of competitive, cooperative, and independent physical fitness activities. Students will set data-informed goals to track the improvement of their health over time.

Computers

Fifth grade students will learn to utilize advanced features of Google Apps with a concentration on using Sheets for budgeting, charting, and data collection/analysis. Students will also create multimedia presentations using WeVideo and other digital storytelling platforms. Fifth graders will continue developing coding skills using code.org's block-based platform. This course also emphasizes digital citizenship through online tutorials and activities.

Performing Arts

In this performance-based course, students learn the basics of rhythm and note reading, including quarter notes, half notes, whole notes, and rests, and apply these skills to music reading. Students sing songs in one- and two-part harmonies, and develop dance and drama steps in correlation with the songs. Composition and music history are also introduced both vocally and through the introduction of guitar. Fifth graders participate in two mandatory evening concerts during the year.

Robotics

Fifth graders work in pairs to apply the basics of coding and robotics to building and programming LEGO robots. Following the instructional phase of the class, students program their robot to use external sensors to compete in a "robot wars" competition.

Band

Band in the fifth grade is voluntary. Students are scheduled for lessons once every five school days on a rotating schedule. Musicians will learn to collaborate during morning band every Tuesday from 7:45 to 8:30. Students are expected to be at the early morning rehearsals and at the two band concerts, as well as to practice their instruments at home.

Grade 6 Program of Study

Overview: Sixth grade is the first year of a true departmental structure at Brookside School. Students rotate among the six core teachers for their main subjects, and are also given the responsibility to choose electives. Teachers work closely with administration and school counselors to support each child's academic and social growth.

A highlight of the sixth grade year are the experiential education trips. These trips run concurrently. Parents/students can choose to participate in a three-day trip to Walt Disney World, or take part in three local experiences. Both trips focus on marketing, science, and art as outlined in the Disney book *One Little Spark*. The culminating activity involves a collaborative design project to create an immersive experience using the data collected from the field trips.

English Language Arts

The sixth grade English Language Arts course includes integrated reading, writing, speaking, listening, vocabulary, and grammar content.

In Reader's Workshop, students will read a variety of genres for multiple purposes. Book clubs, reading partnerships, independent reading as well as whole class discussions will give students an opportunity to grow as a community of readers. Units of study include Introduction to Workshop in Middle School, Exploring Character Struggles, Tapping into the Power of Narrative Nonfiction, and Genre Study.

In Writer's Workshop, students will compose argumentative, informational, and narrative writing pieces. In argument writing, students will learn how to present a claim and defend their position with supporting researched evidence. In informational writing, students will learn how to communicate information using text elements and domain-specific vocabulary. In narrative writing, students will refine their skills of developing a sequential piece of writing and learn new strategies for effective storytelling. Units of study include Introduction to Workshop in Middle School, Working Through Character Struggles and Overcoming Adversity, Using Words to Make a Change, and Genre Study.

Mathematics

Primary Resource: Connected Math (Pearson)

Connected Math is a conceptually and algorithmically-based program aligned with the New Jersey State Standards. In addition to traditional computational skills, students focus on pattern recognition, real -world applications, collaboration, and perseverance in problem solving.

Sixth grade mathematics placement is heterogeneous, and student performance from this year will be used for placement in seventh grade. Sixth grade units include *Factors and Multiples, Ratios, Rational Numbers and Equivalence, Understanding Fraction Operations, Two-Dimensional Measurement, Computing with Decimals and Percents, Variables and Patterns, Statistics and Data Analysis.*

Social Studies

In sixth grade, students will survey early world history, which includes the study of various regions, civilizations, and developments. Students will learn world history about Ancient: Mesopotamia, Egypt, China, Greece, Rome, the Byzantine Empire, West Africa, Western Europe, and the Meso-American empires of the Olmec, Maya, Aztecs, and Incans.

The course is designed for students to make connections between geographic, governmental, economic, and cultural factors across eras and regions. Writing skills, including cause and effect and content research skills are integrated into the curriculum from a historical viewpoint.

Science

Sixth grade science is a STEM-based course. Students build on their fifth grade knowledge of laboratory investigation, including isolating controls, determining variables, collecting data, and drawing conclusions to create and support claims. Units include *Forces and Interactions, Types and Relationships of Energy, Waves and Their Interactions, Earth's Systems, and Earth's Place in the Universe.*

Science and engineering practices, modeling, scientific research and argumentation, and application of science to the real world are all emphasized.

Spanish

Spanish 6 emphasizes vocabulary, foundational grammar, conversation and presentational skill development. Units of study include *Myself and My Family, At Home, Communication Through Fine Art, and Cultural Identity.* Culture is interwoven throughout the year's units of study.

Wellness (Health and Physical Education)

Health and Physical Education is a comprehensive wellness program. Modules include topics on physical fitness, sports, project adventure, drug awareness and human anatomy.

- **Gym Activities:** These activities take place on the fields or in the gym. They are primarily games and skill development for sports. Sports include, but are not limited to: basketball, badminton, football and handball. Students will have this rotation twice in a semester.

- **Physical Fitness:** These activities will take place in the fitness room, and focus on lifelong fitness skills. Aerobic, strength and endurance skills will be taught. Students will have the opportunity to set goals and measure their growth towards these goals.
- **Health:** This class focuses on healthy living, and includes personal growth and development, social and emotional development, puberty, hygiene, and stress management.
- **Project Adventure:** Students work collaboratively to accomplish physically-based challenges.

Cycle Courses

Cycle courses are activity-based programming for all students. Students will rotate through the three courses listed below:

Art

Sixth grade students meet every other day for one trimester. They will explore and utilize art elements and principles using a variety of 2-D and 3-D media. Various materials and techniques will be introduced through a variety of projects with an emphasis on helping students learn to communicate through art. Art history is incorporated through a study of artists and time periods with each project. Personal expression and style will be fostered through their work.

Computers

The focus of this course is data collection and analysis using digital platforms. Students will explore the world of technology and digital citizenship by searching the web for reliable resources, and creating spreadsheets and graphs to analyze the data. Students will work through an online portal, Everfi, to discover and debate issues in technology today including texting and driving, cyberbullying, online safety, and creating informative digital publishing content. Students will also engage in guided activities to become exposed to various formulas and formatting in Google Sheets with a focus on cyber safety. The cycle will culminate with code.org's self-paced Express Course to learn basic computer science concepts.

STEM (Science, Technology, Engineering, and Mathematics)

Students will explore the field of engineering through the application of design processes. Students will learn how to use technical language and drawings to express their ideas and designs. They will identify a problem and use scientific research and data to develop possible solutions to that problem. The focus activity for this grade level is the mechanical engineering project of a magnetic levitation car. A prototype will be constructed to be tested and evaluated. When the final presentation is made, students will explain what they would change in the redesign process.

Electives

Sixth grade students choose ONE of the following electives for the year:

Band

Band 6 is a performance-based course. Students utilize the skills learned in fourth and fifth grade to perform concerts in both the fall and the spring. Students also receive small group lessons in order to improve their facility and technique with their instruments.

Chorus

Chorus 6 is a performance-based course. Students learn proper vocal technique and methodology for a three-part chorus, and also learn the basics of reading music. Students perform in concerts in both fall and spring.

Band/Chorus

This course allows students to participate in both band and chorus. Students are responsible to fulfill the obligations of both courses.

Music Explorations

In this course, students learn the history and fundamentals of music. Music types include, but are not limited to: classical, jazz, blues, rock, and rap. Students also learn the technical aspects of music development, including composing original pieces.

Grade 7 Program of Study

Overview: As seventh graders, students at Brookside School have developed experience with a departmental structure and are ready to take more responsibility for their own learning. To help them with their development, students are given more choices in their program and more responsibility for homework and class work. Teachers work closely with administrators and the guidance counselor to monitor development and to offer support when needed. Academically, students in seventh grade utilize higher-order critical thinking and problem solving strategies with increasing independence.

English Language Arts

In seventh grade, English Language Arts is an integrated course combining the skills of reading, writing, speaking, and active listening. Writer's Workshop will give students the opportunity to write in a variety of forms, for and multiple purposes, and for a variety of audiences. There will be a focus on essay structure, expository writing, narrative stories, interpretive writing, and playwriting.

Literature studies are thematic, and include the use of short stories, novels, poetry, and drama. Highlights of the curriculum are the Dystopian Literature Genre Study guided by Lois Lowry's novel *The Giver*, and a Suspense Unit of Study where students will both read and construct suspense/mystery stories. Through use of book clubs, students will discuss social issues as portrayed in literature and investigate how an author's view on social issues may influence, change, or add to their view on an issue. Finally, students will dive into the historic John Scopes Trial through a study of the the drama *Inherit the Wind*. Students will synthesize elements of theater and make critical judgments based on independent thinking.

Vocabulary will be infused into the class through novel studies. Specific grammar instruction is infused into each unit, and will be ongoing throughout the year. The focus on grammar is aligned with pragmatic applications in writing.

Mathematics

Primary Resource: Connected Math (Pearson)

Mathematics at the seventh grade level is grouped based on ability levels. Students are divided into two groups: Math 7 and Math 7A. Both levels utilize the same books in the *Connected Math* series, but the Math 7A class will incorporate higher-level analysis and more pre-algebra concepts to prepare students for Algebra in eighth grade. Students in Math 7A will also complete one more unit than the students in Math 7. In addition to traditional computational skills, students in both levels focus on collaboration, pattern recognition, real-world applications, and perseverance in problem solving.

Seventh grade units include: *Two-Dimensional Geometry, Integers and Rational Numbers, Similarity, Ratio, Rates, Percents and Proportions, Linear Relationships, Probability, Three-Dimensional Measurement and Data Analysis.*

Social Studies: US History I

This course focuses on the study of the people, events, and ideas that forged the United States, from the Colonial Era to Reconstruction. Emphasis is placed on the Constitution, and how its impact guides our nation to this day. Units of study include *Power and Conflict in Colonial America, Creating a New Government, A New Nation, Westward Expansion, and Civil War and Reconstruction.*

Science

Seventh grade science begins with a study of matter and its interactions. From here, students will learn about major topics in life science, including cell structure and function, as well as the cellular processes of respiration, photosynthesis, and cell division. Human body systems are also investigated. As part of this study, specialized cells found in each system are used to help reinforce our understanding of cells and cell processes. In addition, we examine the transfer of energy in food webs and investigate how the removal or addition of an organism can affect a food web.

The final unit of the year focuses on genetics, specifically how traits are passed from parents to offspring. Science and engineering practices, modeling, scientific research and argumentation, and application of science to the real world are all emphasized.

Spanish

Following a brief review and reinforcement of material learned, students are introduced to a variety of new concepts. Emphasis is placed on communication skills, both oral and written. Students are assessed on listening and reading comprehension and speaking and writing skills. Units include food, music, social media, and soccer. Projects are part of the end of unit assessment.

Wellness (Health and Physical Education)

Health and Physical Education is a comprehensive wellness program. Modules include topics on physical and emotional health, sportsmanship/team dynamics, and setting goals for improving one's health.

- **Project Adventure:** Students work collaboratively to accomplish physical challenges. Students will get the opportunity to use the climbing center, practicing strategic movement and improving muscle strength, balance, and cardiovascular health.

- **Gym Activities:** These activities take place on the fields or in the gym. They are primarily games and skill development for sports. Sports include, but are not limited to, basketball, badminton, football, and handball. Students will have this rotation twice in a semester.
- **Physical Fitness:** These activities will take place in the fitness room, and focus on lifelong fitness skills. Aerobic, strength and endurance skills will be taught. Students will have the opportunity to set fitness goals and measure their growth during this class.
- **Health:** This class focuses on healthy living, and includes units on body image, male and female reproductive systems, nutrition, decision-making and bullying.

Cycle Courses

Cycle courses are activity-based programming for all students. Students will rotate through the three courses listed below:

Art

Seventh grade students meet every other day for one trimester. They will explore more advanced concepts in art focusing on and utilizing the elements and principles of design. This is the year they are tasked with creating an acrylic canvas painting to be displayed throughout the campus for their eighth grade year. In addition, students will explore media and ideas in art with a focus of communicating ideas through personal expression. A study of art history is incorporated in each project through a study of various traditional and contemporary artists and techniques and world cultures.

Computers

This course focuses on exposing students to the basics of computer science. Students engage in a series of basic coding activities to build a foundation of computational thinking. For the first part of the course, students will learn to code using *Code.org* and *Scratch*. Some students will have an opportunity to explore the MIT App Builder.

STEM (Science, Technology, Engineering, and Mathematics)

Students will explore the field of engineering through the design process. Students will learn how to use technical language and drawings to express their ideas and designs. The focus project in this unit is the development of a hydraulic arm. This encompasses mechanical and biomedical engineering ideas. When the final presentation is made, students will explain what they would change in the redesign process.

Electives

Band

Band 7 is a performance-based course. Students utilize the skills learned in previous grades to perform in combined seventh and eighth grade concerts in the fall and spring. Students also receive small-group lessons on their instruments in order to improve facility and technique with their instruments.

Chorus

Chorus 7 is performance-based. Students learn proper vocal technique and methodology for a three-part chorus, and also expand upon their ability to read music. Students perform in combined seventh and eighth grade concerts in the fall and spring.

Band/Chorus

Band/chorus is for students who play a band instrument and also enjoy singing. Students alternate classes in order to take part in both courses.

Media Productions

In this class, students will work as digital journalists. Students will learn about investigative journalism, as well as the process of video production, including design, digital music/audio creation, visual techniques, and editing. Students will also create content for BTV. The final project will be creating a documentary which may be shown on BTV.

Grade 8 Program of Study

Overview: A significant consideration for eighth grade is preparing students for high school. With this in mind, teachers structure opportunities for students to practice independence and decision-making. Academically, the focus is on applying skills and drawing conclusions from prior knowledge and research. A variety of social events and activities serve to bring a positive closure to the students' career at Brookside School.

Eighth grade is full of highlight moments! Two favorites are the BEST and civics showcases. In the BEST showcase, students show off their capstone projects from their mechanical engineering unit, creating the most effective *and* efficient wind turbine mode possible. The civics showcase provides the students an opportunity to educate the public about the importance of civic engagement, a project that is so important to the students.

The eighth grade year closes with several activities that celebrate their graduation from Brookside School.

English Language Arts

In eighth grade, students explore the human condition by reading, discussing, and writing about a rich variety of fiction and nonfiction texts. Students begin the year reading young adult realistic fiction. By reading about teens who experience the same types of day-to-day struggles that they face, students are able to explore archetypes and stereotypes, internal conflicts, and universal themes.

Students learn to critically read and annotate nonfiction articles and book excerpts about issues that are relevant to their generation, including social media usage, censorship, and mental health. Through critical analysis of these texts, students gain the skills to conduct their own research on a topic about which they are deeply passionate.

To bridge the gap between middle and high school, students read *The Crucible* by Arthur Miller. They "disrupt" this classic play by examining the ways in which its relevance holds true in today's society with regard to modern witch hunts, groupthink, and mob mentality.

The Crucible unit transitions into a unit about fairness and equality. Students learn about the Holocaust. Students then create their own thesis about fairness and equality in society.

The highlight of the year is when students are able to present their findings through TED Talks. Reading, writing, grammar, and vocabulary instruction are woven throughout each unit for the duration of the year.

Mathematics

Primary Resource: Connected Math (Pearson)

Mathematics at the eighth grade level is grouped based on ability levels. Students are divided into two groups; Math 8 and Algebra. Both levels utilize the *Connected Math* series, but the Algebra classes will have two additional units and will also receive additional instruction and practice on Algebra 1 material. In addition to traditional computational skills, students focus on collaboration, pattern recognition, real world applications, and perseverance in problem solving.

Eighth grade units include: *Linear and Inverse Variation, The Pythagorean Theorem, Exponential Functions, Quadratic Functions (Algebra only), Symmetry and Transformations, Making Sense of Symbols, Systems of Linear Equations, and Function Families (Algebra only).*

Social Studies

This course focuses on civics and citizenship education. Students will first explore the various roles and meanings of citizenship at the local, national, and global level. The course will then shift to studying various applications of government organization, law, justice, and economics. Students will learn to identify key public issues, and they will engage in thorough research, deliberation, and analysis of contemporary issues relevant to their lives.

Students will apply their knowledge to an experience outside of their classroom in a service-learning project.

Science

Eighth grade science is organized thematically. Units include *Mechanical Engineering, Earth's History, Biological Evolution, Our Earth & Human Impact, and Solutions for Maintaining a Biodiverse & Sustainable Earth*. A major activity includes the development of a model wind turbine during the *Mechanical Engineering* unit. Science and engineering practices, modeling, scientific research and arguments, collaboration, and application of science to the real world are emphasized.

Spanish

Following a brief review and reinforcement of previously-learned content, students are introduced to a variety of new oral and written skills. Emphasis is placed on acquiring new language through a variety of interpretive, presentational, and interpersonal activities. Tests and quizzes are given at regular intervals. Units include spending and saving, living as a foreign exchange student, and the environment.

BTV

BTV produces the school newscast, which involves journalistic storytelling using video, movie-making software, and editorial writing. Students will select stories that will most engage our school and learn how to tell them in a journalistic style.

Students will learn how to conduct interviews, research, and write informative, newsworthy stories. This course will promote a positive school climate by delivering good news, conducting purposeful interviews, and producing quality content from around the school community.

Wellness (Health and Physical Education)

Health and Physical Education is a comprehensive wellness program. In eighth grade, students are given the opportunity to choose their physical education units. Health is required. Students will provide input within the following areas of physical education:

- **Gym Activities (two units):** These activities take place on the fields or in the gym. They are primarily games and skill development for sports. Sports include, but are not limited to: basketball, badminton, football, and handball. Students will have this rotation twice in a semester.
- **Project Adventure:** Students work collaboratively to accomplish physical challenges. Students will get the opportunity to use the climbing center, practicing strategic movement and improving muscle strength, balance, and cardiovascular health.
- **Physical Fitness:** These activities will take place in the fitness room, and focus on lifelong fitness skills. Aerobic, strength and endurance skills will be taught. Students will have the opportunity to set goals and measure their growth during this class.
- **Health:** This class focuses on healthy living, and includes units on drug prevention, values, teenage pregnancy, birth control and sexually transmitted diseases.

Electives

Students in eighth grade are encouraged to explore their particular interests by self-selecting their electives. Students will participate in six units of electives. BTV is assigned to each student, and counts as one of the six units.

Band (three units)

Band 8 is a performance-based course. Students utilize the skills learned in previous grades to perform combined seventh and eighth grade concerts in both the fall and the spring. Students also receive small group lessons on their instruments in order to improve facility and technique with their instruments.

Chorus (three units)

Chorus 8 is a performance-based course. Students learn proper vocal technique and methodology for a three-part chorus, and also expand upon their ability to read music. Students perform in combined seventh and eighth grade concerts in both the fall and the spring.

Band/Chorus (three units)

Band/Chorus is for students who play a band instrument and enjoy singing. Students alternate classes in order to take part in both courses.

2-D Art (one unit)

This elective course will explore advanced techniques using the principles and elements of two-dimensional design. Through direct experience with the art making process, you will solve visual problems, improve your ability to discuss and critique artwork, and gain a better understanding of how to manipulate design elements and principles to create unified and meaningful art pieces. The importance of presentation and craftsmanship is emphasized through the use of various art media.

3-D Art (one unit)

This elective course will explore three dimensional form using a variety of art media. Art elements and principles form, space, emphasis, unity & balance will be focused on through the exploration of decorative, utilitarian, and expressive approaches to sculpture. The study of sculptural form in a variety of media during various historical and cultural periods will guide the development of the student's ability to make personal aesthetic and critical judgments while creating.

Studio Art (one unit)

This course is for students with a strong interest in art. Students will have the opportunity to investigate their own interests through self-selected media. Students will document their observations of the world around them, develop ideas for projects, and hone their design skills via the self-management of a sketchbook. The class culminates with a presentation and critique of their individual portfolio, which reflects students' interpretation of the world around them.

Digital Arts (one unit)

This unit focuses on digital art. Students will utilize Adobe Studio to manipulate images and create art. Students will have a final project that utilizes the skills they have learned to make a digital art show.

Making and Coding (one unit)

In this course, students explore electrical engineering, coding, and computer science through making and design. The course is project-based with a maker philosophy that provides a context for learning coding through the act of making physical objects. Students will code using the Arduino. The projects may include wearable technology like a fitness tracker, watch, softball/baseball pitch counter, wearable clothing/shoe accessories, games, toys and more!

MIT APP Builder (one unit)

This course focuses on exposing students to the basics of computer science. . Students will create their own apps using MIT App Builder, following the design process as they explore ideas for apps they would like to create.

Engineering and Design (one unit)

Students will draw on previous experience with the engineering design process from their STEM cycles in prior grades. This elective fosters critical thinking and creativity skills by providing students with an open-ended design challenge. Through the use of an Engineer's Notebook, students will design and construct a fully-functional miniature golf course aligned with design constraints. Concepts that will be addressed include circuitry, simple machines, technical drawing, and computer-aided design. This course provides access to the use of Innovation Lab tools, machinery, and resources in order to enable you to bring designs to fruition. The course culminates in a round of miniature golf!

Introduction to Marketing (one unit)

This class combines the basics of marketing with creative design. In addition to learning about the 4 Ps of marketing (Product, Price, Place, and Promotion), students will design a product, a logo, and an advertisement to promote their product. This class concludes with students developing and presenting their marketing campaign to an audience.

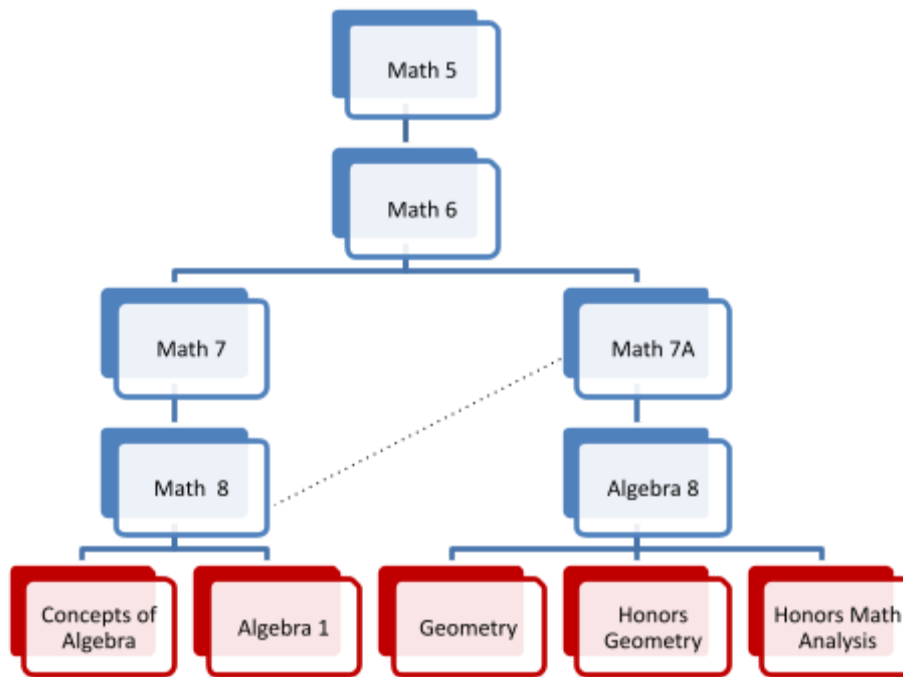
Personal Wellness (one unit)

In this course, students will explore research-based practices on personal wellness and how to set a strong foundation for a lifetime of healthy living. They will discover ways to support a happiness mindset, including the study of their behaviors, thoughts, and feelings. Students will also investigate how to put happiness tips into practice, addressing the ways in which situations and people can affect them. They will discuss how to implement better habits and hack the habits that they already have in place. At the end of the course, students will then have an opportunity to engage in a deeper study of one of the pillars listed above. The course culminates with a Community Service project, where they educate younger students on the importance of personal wellness within their focus area.

Eighth Grade Project (one unit)

In this elective, students will investigate a topic and create a project of their own choosing under the direction of a teacher. This is the perfect class for students who want to explore content not currently offered in an elective at Brookside School.

Brookside Middle School Math Scope and Sequence



(Courses in **RED** are offered at Northern Highlands)

The guidelines listed below are intended to provide a general overview of how students are placed in grade 7 and 8 mathematics courses.

Placement for Grade 7

It is important to note that Math 7 and Math 8 are on-level mathematics classes, and the advanced classes are meant to be more rigorous and challenging. Students who earn a final grade of 90% or above in Math 6 will be placed in Math 7A. Students whose final grade is between 80% and 89% will be reviewed using secondary criteria which includes, but is not limited to, sixth grade final exam score, fifth grade NJSLA scores, LinkIt scores, and teacher recommendation.

Placement for Grade 8

Math 8 is an introduction to Algebra course, whereas Algebra 8 is equivalent to an honor- level high school math course.

Students who take Math 7 are generally placed into Math 8. However, students in Math 7 who score above a 95% do have the option to take the 7A test for consideration for the Algebra course.

Students in Math 7A's eligibility for Algebra is based on test grades, the final exam, and teacher recommendation.

Placement for Grade 9

Please note that all placement decisions for Northern Highlands are based on Regional Placement Criteria.

Supplemental Programs

Reading Academic Support Program (Grades 4 and 5)

Reading Academic Support is a supplemental small-group instructional program that supports students' development of skills such as comprehension, accurate and efficient decoding, spelling, and writing about reading. Program eligibility is determined using multiple criteria including NJSLA scores, Teachers College Running Records, and LinkIt benchmark scores.

Mathematics Academic Support Program (Grades 4 and 5)

The Mathematics Academic Support program provides students with small-group, targeted intervention support *in areas of individual need*. Students receive additional support with foundational math concepts. Program eligibility is determined using multiple criteria including NJSLA scores, LinkIt benchmark scores, and teacher recommendation.

Academic Support (Grades 6-8)

Academic Support in grades 6, 7 and 8 provides eligible students with foundational support in reading and/or mathematics. Program eligibility is determined using multiple criteria, including Teacher's College Running Records (for reading), LinkIt benchmark scores, and NJSLA scores (for reading and math).

Multisensory Reading (Grades 4-8)

This is a support program for students who are identified as requiring intensive, systematic support with decoding, phonics, and phonemic awareness. Instruction is provided by a special education teacher or district Reading Specialist in very small groups to address decoding deficits. Instruction includes a mix of methodologies shown to be effective in addressing decoding challenges.

Study Skills (Grades 6-8)

Study Skills is a general education course, but is eligible only for students with specific educational plans. The course is taught by the grade-level Resource Room teachers (who are also the in-class support teachers for special education students). The purpose of this course is to help children succeed in their core courses. Generally, this course takes the place of Spanish.

The course has four areas of focus: pre-teaching to maximize participation in core classes, study skills to help children prepare for assessments/classroom instruction, organizational skills, and remediation. This class is not designated for completing

homework. Rather, the purpose of the course is to support students in improving independence, organization, and effective learning skills.

Resource Room (All Grades)

The Resource Room is for classified students who require a substantially modified curriculum. This program is a special education program and is designed as part of an Individualized Education Program (IEP). This class is taught by a special education teacher, and replaces the regular education class of the same name.

ESL (All Grades)

English as a Second Language (ESL) is designed to increase the English language proficiency of English Language Learners. Students are provided with instruction and support to support communication in the domains of speaking, listening, reading and writing. Eligibility is determined based on ACCESS (a state-administered assessment of English proficiency) scores.

Gifted and Talented Program (For Eligible Students)

The Gifted and Talented program was designed to maximize creativity and independence while being cognizant of children's developmental abilities:

- **Exposure** (Grades K-2): At a young age, all students will have the opportunity to expand their content knowledge, stimulate their intellectual curiosity, and identify areas of personal interest to explore. A specialist will work closely with classroom teachers to provide enrichment opportunities within the general education classroom.
- **Exploration** (Grades 3-4): Students in the intermediate elementary grades develop intellectual abilities and interests at varying degrees. Students identified as "gifted and talented" will experience enrichment education from a specialist outside of the general education classroom. Students will cultivate the important intellectual habits of inquiry, problem-solving, and independent thinking.
- **Divergence and Convergence** (Grades 5-6): Building on exploration, students identified as "gifted and talented" will be guided by an enrichment specialist outside of the general education classroom. Instructional experiences will first foster divergent thinking in each academic area and then move toward convergence, involving peer dialogue and collaboration in a variety of areas of study.
- **Independence** (Grades 7-8): Students identified as "gifted and talented" will engage in independent inquiries with support from an enrichment specialist. Accessing the important habits of mind acquired earlier, students will pursue,

develop, and get feedback on their work through inquiries taking place in pullout classroom settings and/or credible online venues.