



# MIDDLE SCHOOL

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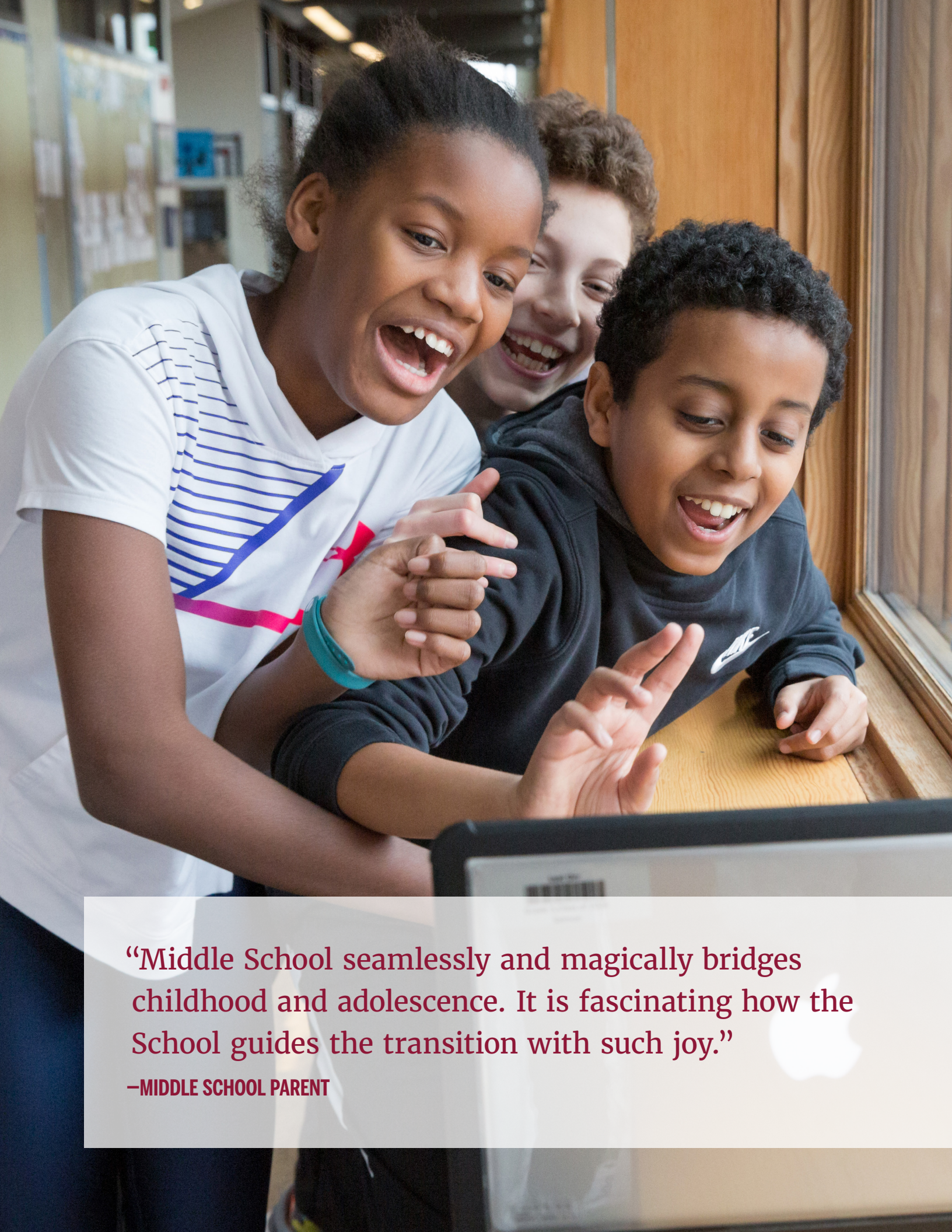
2023/24

## CURRICULUM GUIDE

GRADES 5-8







“Middle School seamlessly and magically bridges childhood and adolescence. It is fascinating how the School guides the transition with such joy.”

—MIDDLE SCHOOL PARENT



## Exploration and discovery take center stage in Middle School.

In Middle School, teaching and learning occur against the backdrop of students' incredible physical and social growth. Middle Schoolers take risks and try new things, learning through both successes and challenges. In keeping with the School's Quaker values, the Middle School faculty respect and honor students' emerging identities and interests, and they work hard to support students as they navigate these new experiences.

Middle School students deepen and strengthen their academic skills as they tackle larger questions about themselves and the world. Their classes and the School's unique 5/6 and 7/8 structures reflect this growing independence while still providing appropriate support. When students leave Middle School, they take with them the tools they need to communicate, analyze, question, critique, and interpret information and ideas as engaged community members and active citizens.

## Contents

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<b>2</b>	5/6 Life
<b>4</b>	7/8 Life
<b>6</b>	Academics, Arts, and Athletics
<b>12</b>	Special Programs
<b>14</b>	Clubs & Affinity Groups
<b>16</b>	A Green Building





# 5/6 LIFE





Entering Middle School is an important milestone in a child's education. In 5th and 6th grade, Sidwell Friends strives to ensure that each child feels supported and successful during this transition. With their own hallway and dedicated homeroom setting, 5th and 6th grade students feel known and cared for as they acclimate to new environments and expectations. Students' homeroom teachers oversee the whole-child experience, and they are the primary point of contact for students and parents. Teachers take a stepping-stone approach as they encourage greater independence and self-management. Students are "learning to learn" while building a foundation that will carry them through their education and life. Organization, study skills, and collaboration are fundamental parts of this process.

Classes meet regularly to study math, language arts, science, social studies, and Chinese or Spanish. Students experience variety in their daily School life through arts education in drama, chorus, and instrumental music; advisory lessons with the counselor; and service learning. Teachers collaborate with counselors, librarians, the academic-support coordinator, and technology staff to develop dynamic curricula that encourage a lifetime love of learning. Students have a 20-minute snack break each morning and take part in an hour of physical education each day.

Opportunities to practice and experience Quaker values occur throughout the day, as the School focuses on diversity, community, and finding "that of God" in everyone. Sidwell Friends aims for a healthy balance between academics and students' social and emotional needs. Whether 5th and 6th grade mark the beginning or the middle of a child's time at Sidwell Friends, all students should feel welcome and included as they discover new strengths and seek new challenges.



A group of students are standing on a rooftop garden, leaning over a metal railing. They are holding clipboards and looking down at the plants. The background shows a cityscape with buildings and a blue sky with clouds. The text "7/8 LIFE" is overlaid in the center of the image.

# 7/8 LIFE





In 7th and 8th grade, students have a separate floor and follow a separate schedule—one that addresses the particular needs of upper Middle School students. The 7th graders are assigned an advisor who remains with them through the end of 8th grade. Students meet with their advisory group each morning; this setting is a place for students to connect with peers and to think about their roles as individuals within a community. Advisors take the primary role in overseeing students' academic, social, and emotional well-being.

During the academic day, students take classes in arts, English, a modern or classical language, math, science, and social studies. In each of these courses, teachers expect and encourage students to analyze beyond factual knowledge and to reach deeper understandings by asking how and why certain phenomena exist.

As students gain new insights in content knowledge, faculty are also intentionally teaching essential student skills, such as organizing materials, managing time, planning projects, collaborating with peers, and thinking critically. Beyond the classroom, various after-school clubs and musical ensembles provide stimulating extracurricular enrichment.

All 7th and 8th grade students take part in athletics for at least one hour four afternoons each week and during each season (fall, winter, and spring). Sidwell Friends offers a wide range of individual and team athletic options, most of which provide the opportunity for competitive games against other local schools. Practices occur during the school day, though when students have athletic competitions, they will likely not finish until after the school day ends.

Academic classes explicitly teach the Quaker values of simplicity, peace, integrity, community, equality, and stewardship, which are more generally infused in advisory lessons, service in the community, and off-campus learning. Sidwell Friends expects 8th graders to graduate from the Middle School with a well-developed sense of service, a strong understanding of and commitment to global citizenship, honed organizational and reasoning skills, and the confidence to let their lives speak.



A young man with short dark hair and blue-rimmed glasses is sitting on a wooden bench outdoors. He is wearing a grey t-shirt and blue athletic pants, and is focused on a laptop computer resting on his lap. He is wearing black and white sneakers. A black backpack is on the ground next to him. The background shows green foliage and a brick building. The text 'ACADEMICS, ARTS, AND ATHLETICS' is overlaid in large white letters, with a horizontal line underneath the word 'ATHLETICS'.

# ACADEMICS, ARTS, AND ATHLETICS

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## ARTS

In the Middle School arts program, students develop and express their creative ideas and talents while discovering a fundamental place for the arts in their lives. Students study visual arts, drama, and vocal and instrumental music.

In both the visual and the performing arts, students have opportunities to explore themselves as individuals and as participants in a larger community. Through creating, presenting, and responding, students cultivate an appreciation for the power of the arts in national and international cultures.

## PERFORMING ARTS OVERVIEW

The Middle School Performing Arts program includes vocal music, instrumental music, and theatre arts. Vocal and instrumental music classes focus on music literacy and include theory, history, composition, technique, and performance units. Extracurricular theatre productions and music ensembles offer additional performance opportunities for students.

## THEATRE ARTS (GRADE 5)

In 5th grade Theatre Arts, students develop and practice new artistic ideas through the interpretation, creation, and presentation of the performing arts, including skits, monologues, and various theatre activities.

Students work individually or in groups to create characters and environments, and they explore the elements of creative drama, improv, pantomime, movement, and storytelling. Students experience acting by articulating and portraying characters during the process of developing theatrical productions. Through these performances, and reflection on the creative process, students relate artistic ideas to societal and cultural contexts.

## THEATRE ARTS (GRADES 6, 7, 8)

The Theatre Arts program is designed to give students a comprehensive view and an authentic opportunity to immerse themselves in the exploration and discovery of theatre from page to stage. Throughout the trimester (6th and 7th grade) and/or semester (8th grade), students explore acting technique through observation, memory development, improvisation, pantomime, vocal work, and movement; theatre history, elements of production, and arts appreciation; and all of the necessary tools for character development. The 7th grade theatre arts curriculum also includes opportunities for students to make connections between Quakerism and the arts.



## CHORAL ARTS (GRADES 5, 6, 7, 8)

The Choral Arts program focuses on building community and enhancing global citizenship through creating, performing, and responding to music. The Kodaly and Dalcroze teaching methods influence the curriculum, which embraces styles and inspirations from around the globe. Students develop choral and solo vocal techniques, sing in diverse languages and styles, study music theory and history, and collaborate with one another to create and present their work. Students not only develop their singing voices; they become conversant in diverse musical styles and broaden their notions of what they consider to be melodious and aesthetically exciting.

## INSTRUMENTAL MUSIC (GRADES 5, 6, 7, 8)

The Instrumental Music program provides the opportunity for students to learn how to play an instrument and to develop the skills necessary to play music with others. This nonperforming music class meets twice a week for one semester of the year and is designed to teach students about the ingredients of music, such as melody, harmony, notation, texture, style, rhythm, and form. Students will explore the basics of music, perform on classroom instruments, and listen to various examples of music from around the world. This academic- and performance-based program meets the needs of all students interested in studying and performing on a musical instrument.

## PRODUCTIONS AND PERFORMANCES (GRADES 5, 6, 7, 8)

The Middle School traditionally offers two theatre productions a year: a play and a musical. It also offers two annual concerts: one at the end of each semester. These extracurricular performance activities are open to all students.



# ACADEMICS, ARTS, AND ATHLETICS

## FOUNDATIONAL STUDIO ART (GRADES 5 AND 6)

In 5th and 6th grade Studio Art, students use different media and processes to develop their individual skills and techniques. Students learn the language and vocabulary of art by studying various techniques, such as acrylic painting, watercolors, and pencil-drawing. In addition to practicing these skills, students learn the fundamental elements and principles of art and are challenged to thoughtfully express themselves through visual media. As they learn the hard skills, students also develop an appreciation and understanding of the continuity of art throughout history as a reflection of the life and times of different peoples and cultures. Through their paintings, drawings, sculptures, and installations, students use a range of subjects, symbols, and ideas in their work. The goal is to help students gain an appreciation for art and to see the artistic process as a fun and exciting experience of self-examination and expression.

## FOUNDATIONAL STUDIO ART (GRADES 7 AND 8)

Sidwell Friends encourages 7th grade art students to experiment with the artistic styles of historically significant and contemporary artists. The opportunity to study the work of professional artists is a vital part of the School's art program: From the curriculum, to the classroom, to the art gallery, students witness the curatorial process as a feature of their own art education. Sam Gilliam, Lou Stovall, James Wells, Gene Davis, Nam June Paik, and Edward Hicks form the core of the Sidwell Friends growing art collection, which will serve as primary sources for students for generations to come. As student move into 8th grade, they begin to more deeply explore the representation of light in art, literally and metaphorically. From the flickering pixels of computer screens to the cave paintings of Lascaux, France, the perception of light and color has helped human beings relate to the world around them for millennia. Students

study James Turrell, a modern master who uses light to alter the perception of one's immediate environment, and they learn about Turrell's Skyspaces and his magnum opus, Roden Crater, within the context of historic and contemporary art movements.

## CLASSICAL AND MODERN LANGUAGES (GRADES 5, 6, 7, 8)

Students in 5th and 6th grade take a two-year sequence of either Chinese or Spanish, and in 7th and 8th grade, they choose one of four languages. Those 7th graders with previous experience may continue with Spanish or Chinese, or they may choose to begin Latin or French. The program promotes using language in meaningful and expressive ways, and it highlights underlying grammatical structures once students have already developed an intuitive sense of these rules and patterns. Students who are new to Middle School grades may be asked to take a placement test, depending on their grade and language of choice, so that the School can best place them in the appropriate class.

Latin students learn to write simple sentences in Latin and to translate more complex structures into English while expanding their knowledge of both Latin and English vocabulary. Teachers expect modern-language students to communicate in the target language. Chinese students also learn character writing. Assessments incorporate listening comprehension, oral and written components, as well as projects, skits, and presentations. The curriculum also emphasizes the cultures and geography of the countries where the languages are spoken. The majority of Middle School students continue to study the same language in Upper School and beyond.

## ENGLISH/LANGUAGE ARTS (GRADES 5, 6)

The 5th and 6th grade English/Language Arts program fosters a love of reading and writing while also developing a solid foundation in reading comprehension, literary elements, grammar, and vocabulary. Literature for the 5th grade program enhances a yearlong exploration of identity, while literature for 6th grade emphasizes fiction that is appealing to adolescents. Selections in both grades serve as windows and mirrors, giving students the opportunity to see themselves reflected in the literature while also providing insight into the lived experience of others. Discussions, group activities, and projects are designed to push students to develop a deeper understanding of the material they are reading. Students write regularly in a variety of ways, including journaling, poetry, short stories, personal expressive writing, book reviews, and commentaries. Students work through multiple drafts, and teachers provide direct instruction in proper sentence construction, correct word use, and parts of speech.







## ENGLISH/LANGUAGE ARTS (GRADES 7, 8)

The English/Language Arts program in 7th and 8th grade concentrates on developing the skills of close textual analysis and written expression. Students continue to work with the genres of the short story, the novel, drama, and poetry. In 7th grade, teachers choose from major texts, including *To Kill a Mockingbird*, *The Miracle Worker*, *A Raisin in the Sun*, *Twelve Angry Men*, *The Martian Chronicles*, and a Shakespeare play, as well as shorter works of prose and poetry by Edgar Allan Poe, O. Henry, Langston Hughes, Hernando Tellez, Naomi Shihab Nye, and others. In 8th grade, teachers construct thematic-based studies, choosing from major texts, including *Year of Impossible Goodbyes*, *So Far From the Bamboo Grove*, *Animal Farm*, *Heroes*, *Gods*, and *Monsters of the Greek Myths*, a Shakespeare play, *Purple Hibiscus*, *Things Fall Apart*, and *The Odyssey*, among other works of nonfiction, fiction, and poetry. Teachers supply sufficient scaffolding for students to come to terms with these challenging texts. In both 7th and 8th grades, teachers emphasize analytical and creative writing. By investing in the process of composition, students learn to plan, draft, evaluate, and revise paragraphs, essays, and imaginative pieces. A study of grammatical principles enables students to develop a structural understanding of their writing, and teachers address vocabulary within the literary context.

## MATH (GRADES 5, 6)

The Middle School Math program embodies a culture of enrichment, discovery, and joy. Sidwell Friends believes that students construct their own mathematical understanding by regularly grappling with challenging, nonroutine problems that require flexibility and deep conceptual mastery. To that end, teachers emphasize enriching students' understanding of the material they explore through rigorous and in-depth theoretical analysis rather than by covering many topics superficially.

In 5th grade, students are not put into math groups, but rather take math with their fellow homeroom classmates under the instruction of their homeroom teacher, who provides a differentiated learning environment to ensure that all students are both adequately supported and challenged. Starting in 6th grade, instructors place Middle School math students into one of three groupings based on their skill level, independence, and comfort with abstract ideas. However, the School remains committed to the goal of flexibility as students move from one year of math to the next, and parents who are anxious about their child's placement in a math group should be assured that choices remain open to students throughout the four-year program.

The 5th and 6th grade math curriculum uses Illustrative Math to build computational fluency with whole numbers, decimals, fractions, percentages, and signed numbers, as well as skills in proportional reasoning, statistical analysis, and the measurement of both two-dimensional figures and three-dimensional solids. Interdisciplinary projects in data analysis and design thinking give students exciting opportunities to apply numerical concepts to their daily lives.

## MATH (GRADES 7, 8)

The 7th grade Math program uses unique blend of abstract math concepts such as number theory, combinatorics, and geometric transformations, combined with algebraic fundamentals to help students develop the abstract-thinking skills necessary for a thorough mastery of algebraic concepts in their 8th grade Algebra I course. The course emphasizes abstract problem solving at all levels, ensuring appropriate challenge and mastery of fundamental skills.

The 8th grade Math program offers a comprehensive Algebra 1 course. The course is rigorous and analytical, developing concepts through exploration, problem solving and real world application, such as using systems of equations to determine a fair minimum wage.

The scope and sequence of both grade levels are guided by Fishtank Learning, a problem based online curriculum that uses rich tasks and promotes the ability to effectively communicate mathematical thinking. The curriculum is enriched with teacher generated resources and problem

To support and enrich the many students who love tackling mathematical challenges, the Middle School has a 5/6 Math Club for 5th and 6th graders and a MathCounts program for 6th, 7th, and 8th graders, both of which have weekly meetings. Students may also attend math meets with other local private schools and compete in the regional and national MathCounts competitions in the spring. Due to their extensive exposure to problem-solving challenges in the curriculum, student teams from Sidwell Friends routinely win local math meets and regional MathCounts competitions.



# ACADEMICS, ARTS, AND ATHLETICS



## PHYSICAL EDUCATION AND ATHLETICS (GRADES 5, 6)

The 5th and 6th grade Physical Education program provides an overview of the 7th and 8th grade interscholastic sports offerings while also including a fitness unit and a health unit. Each student participates in 12 different three- to four-week sports units through three trimesters: fall, winter, and spring. The classes are divided by grade level and taught by full-time physical education faculty. The program offers a variety of sports experiences with an emphasis on skill development, discipline, fair play, and a healthy respect for physical activity.

## PHYSICAL EDUCATION AND ATHLETICS (GRADES 7, 8)

The 7th and 8th grade Physical Education program focuses on skill development, game strategies, teamwork, discipline, commitment, and fair play. It also introduces interscholastic competition. For each season (fall, winter, spring), the students may participate on one team or take a dance class that culminates in a performance. Overall, the physical education opportunities emphasize the importance of physical-fitness levels while improving specific sports skills in practice and game settings.

## SCIENCE (GRADES 5, 6, 7, 8)

The Middle School Science curriculum focuses on the fundamental physical, biological, and chemical laws and processes in nature that interact to sustain us and all living things and that create the magnificent universe in which we live. Experimental investigations, inquiries, demonstrations, discussions, and group and independent projects help students construct their understanding and develop a

sense of wonder about the world in which they live. Guiding questions focus the curriculum and encourage students, as they practice the scientific process, to apply what they are learning to the great issues of the day, such as habitat loss, diminishing biodiversity, food security, and climate change. Students pay special attention to the lessons they can learn from the extraordinary LEED platinum Middle School building, which encourages them to consider how to “let your life speak” by applying scientific knowledge to make the world a better place.

## SOCIAL STUDIES/HISTORY (GRADES 5, 6)

The 5th grade social studies program immerses students in various global cultures of the Middle Ages. With a focus on close reading, research, use of primary documents, and critical thinking, teachers encourage students to ask thoughtful questions and examine various perspectives. As we travel the medieval globe, we make stops in the Byzantine Empire, the Islamic World, West Africa, Western Europe, and Japan. In addition to learning about the cultures, ideas, and issues of the past, teachers connect these important threads to the world we live in now with a focus on social justice.

The 6th grade Social Studies program centers on world geography, global issues, cultures, and current events. At the beginning of the year, teachers introduce map skills, themes of geography, and the connections among global issues. As students survey regions of the world, they discuss the importance of sustainability and culture. Students gain research skills through personal short reports and then write longer papers and complete larger projects.

## SOCIAL STUDIES/HISTORY (GRADES 7, 8)

The Social Studies program for both 7th and 8th grade gives students the tools to build critical-thinking skills, improve their analytical historical writing, and reinforce Quaker values. The emphasis on skill development prepares students for the rigors of the Upper School while they are learning about new content areas.

The 7th grade curriculum introduces the concept of historiography as the bedrock of historical study and tells the story of the United States by examining a diverse perspective of important events and turning points until the 1900s. In 8th grade, students begin a two-year study of world history. The 8th grade portion of the course examines the emergence of humans and a comparative study of ancient civilizations. Students also learn about major religions of the world in their historical context.



All 7th and 8th grade students complete an independent research project and paper each year. This project, over and above the content areas noted, allows students to dive deeper into a topic of their choice while adhering to the methodologies of historical research, writing, and citations. Instead of just reporting on a topic, research papers require 7th and 8th graders to prove a thesis using the evidence they collect from primary and secondary sources. Finally, classes in both 7th and 8th grade also include many interdisciplinary opportunities with educators from other departments and special guests from the broader Washington, DC, academic community.

## TECHNOLOGY & LIBRARY PROGRAMS

Students use technology during the school day for research, academic writing, video production, presentations, and various creative endeavors. The 5th and 6th graders are introduced to technology and research tools and skills in Library-Tech class once a week. During Library-Tech class, students explore how technology and information shape their communities and identities, and the world around them; students also connect technology and metaliteracy to their other academic class projects and beyond through the development of transferable skills.

## 1:1 PROGRAM & ACADEMIC TECHNOLOGY

All Middle School students receive a School-issued device to be used as an academic tool. In 5th and 6th grade, students receive an iPad with a case, keyboard, and crayon. In 7th and 8th grade, students receive a MacBook Air.

It is up to teachers to discern the right technological tool to reach curricular goals. Sidwell Friends equips each classroom with interactive whiteboards and Apple TVs for seamless technology integration.

## MIDDLE SCHOOL LIBRARY

The Middle School Library is a welcoming and inclusive space that encourages curiosity about the world around us. Librarians promote a lifelong love for reading and empower students to critically seek, evaluate, and use information responsibly. Librarians and technologists strive to foster good digital citizenship through the development of critical thinking and metaliteracy skills. The Library provides support and resources in a variety of formats for the entire school community.





# SPECIAL PROGRAMS

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# SPECIAL PROGRAMS

## MINIMESTER

For more than 30 years, Middle School students and teachers have spent the four days before spring break engaged in a concentrated exploration of an area of interest outside the classroom called “minimester.” Students participate in local programs, such as service projects with the School’s community partners, apprenticeships with professionals, and internships with Lower School teachers. Minimester exposes students and their peers to new ideas and experiences under the guidance of their teachers. Students at this age often thrive under this break in routine and enjoy the chance to try something new. At its core, minimester provides an opportunity for experiential learning that complements the education taking place every day in the classroom.

## EQUITY, JUSTICE, AND COMMUNITY

At Sidwell Friends, staff, teachers, and students work collectively to explore race and equality. The Equity, Justice, and Community program ensures that each student feels empowered to express themselves wholeheartedly on issues of importance to them. The Sidwell Friends community works diligently to deepen its understanding of current social-justice topics, both locally and globally.

The Equity, Justice, and Community (EJC) program has an all-School focus and is represented in various ways in the Middle School. In addition to affinity groups, teachers highlight themes related to EJC in their classes both in terms of content and in their pedagogical approaches. No matter the subject area, teachers work hard to make sure students can see themselves and others in the curriculum, to ensure students have a voice at the School, and to allow for spaces where students can express themselves and their identities. The Middle School has a divisional EJC coordinator who works with other divisions, the all-School EJC director, and various EJC committees to create student groups, including an EJC club and relevant programming.

## SERVICE LEARNING

Students in all grades investigate various ways in which society grapples with injustice and inequity through a combination of service projects and in-class service-learning lessons. A variety of service experiences gives them opportunities to partner with organizations that are addressing social issues such as homelessness, poverty, mental-health challenges, food insecurity, environmental degradation, protection of immigrant rights, and educational inequity. Before engaging in partnership with organizations, students research the systemic forces that amplify and perpetuate the social issues that the organizations address in order to gain a

deeper understanding of how these societal problems have arisen and what actions and strategies might be effective in working to solve them.

## ADVISORY

All Middle School students, 5th through 8th grade, participate in the Advisory program, which focuses on social and emotional learning (SEL). The Advisory curriculum is designed to develop students’ self-awareness, regulation, healthy decision-making, and an ability to understand others and manage relationships. Core topics at each grade level include areas such as identity, values, conflict resolution, popularity versus leadership, cliques, consent, smart choices around technology, setting goals, mindfulness, academic integrity, and equity and justice. In 5th and 6th grade, homeroom teachers provide these lessons; in 7th and 8th grade, the students’ advisors do. Monthly Community Dialogues, also facilitated by homeroom teachers and advisors, provide an opportunity for students to practice active listening, to learn from dialogue, and to broaden their perspectives about dilemmas the community may face. The Middle School counselor provides additional SEL programming around resilience, drugs/alcohol, and mental health and wellness.







# CLUBS AND AFFINITY GROUPS

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# CLUBS AND AFFINITY GROUPS



Outside of the required classes and athletic experiences that all students complete each year, there are also multiple optional clubs and affinity groups. These groups meet during the school day or directly after school.

Affinity groups provide spaces for students to connect with one another through shared aspects of their identity. They give students a chance to come together, exchange experiences, and celebrate their identities. Experiences are kept safe, and students should always feel the ability to speak their truth. These groups help tell students, “Your stories matter, and you are significant to Sidwell Friends.”

Clubs and affinity groups are published at the beginning of each year, as every year, there are new ideas from students about the types of activities they might find most engaging. In recent years, clubs have focused on topics such as:

- Environmental Stewardship
- Math
- Geography
- Coding
- Equity, Justice, and Community
- Community Voices (organized community activities)
- Sidwell News Network
- Reading and Literature
- Table Tennis

Additionally, students can choose to be part of Arts productions by opting into vocal or instrumental performance groups or by trying out for the drama performances (a play in the fall and a musical in the spring).

Affinity groups and alliances reflect various racial, ethnic, religious, and gender identities. In the fall of 2020, affinity groups included:

- Black Girls’ Affinity Group
- Black Boys’ Affinity Group
- Jewish Affinity Group
- Greater Middle Eastern Affinity Group
- Hispanic/Latinx Affinity Group
- Exploring Anti-Racism and Whiteness Group
- Rainbow Alliance
- Gender/Sexuality Alliance
- Girls’ Group
- Boys’ Group
- The Quiet Side

A few Auxiliary programs are also open to students, and although meetings for these programs do occur on campus, they have a fee associated with them, as individuals outside of the Sidwell Friends community run them. The School shares information with families over the summer to update them on offerings for the year to come. Some examples of those activities include Chess and Debate.





# A GREEN BUILDING



In September 2006, Middle School faculty and students walked into a newly renovated building with an addition that almost doubled the size of the original 50-year-old structure. Since then, the LEED Platinum building has attracted more than 10,000 visitors eager to see its innovative green technologies in action.

## CONSTRUCTED WETLAND

Constructed wetlands create habitats for plant and animal life while treating the water. After first flowing through a settling tank to remove solids, biological processes treat the wastewater. Aquatic plants, water, microorganisms, sun, soil, sand, and air filter and clean the water. The additional filtration of particulates and an ultraviolet filter complete the process. The constructed wetland behind the Middle School building treats wastewater to the same standards as the city's municipal system, but due to current health codes, the water is reused only in the toilets and urinals. Models show that the building uses 93 percent less District water by treating sewage in the wetland and reusing the water, as well as by creating water-efficient landscaping.

## BUILDING MATERIALS

Recycling provides another way to conserve natural resources and is a key part of the strategy to extend the life cycle of materials. Instead of sending unneeded materials to a landfill or incinerator, recycled materials can be manufactured into new products.

- 78 percent of the building's materials were manufactured regionally to reduce the amount of energy required to transport them to the job site during construction.
- 11 percent of the building's materials come from recycled sources. Wood from the Forest Stewardship Council's certified forests was also used.
- 60 percent of the waste generated during construction was diverted from landfills and recycled.

## ENERGY EFFICIENCY

The building is designed to use 60 percent less energy through energy efficiency and passive solar design, including ventilating and natural shading to reduce the air-conditioning load and managing the lights with occupancy sensors and photosensors. The roof also houses a photovoltaic array that was designed to generate 5 percent of the building's electrical load.

## GREEN ROOF

As rain passes through the green roof, pollutants are removed, creating cleaner water for reuse. Plants on the roof take in carbon dioxide and release oxygen into



the atmosphere. The green-top also protects the roof's sensitive waterproofing layer from the sun, extending the material's life. The sun's rays would eventually cause traditional roofing material to degrade. What's more, birds, insects, and other small creatures enjoy this space. The Middle School roof also reduces the "urban heat island effect," which occurs when dark surfaces convert sunlight to heat and raise the temperature of the local microclimate. Cool rooftops keep the building from heating up, reducing the demand for air conditioning.

## HEALTH AND PRODUCTIVITY

The optimal use of daylight in classrooms is thought to enhance the health, happiness, and ability of students to concentrate and learn. Sidwell Friends School is participating in a study of green buildings to confirm these findings. The School also uses low-VOC (volatile organic compounds) paints, glues, and adhesives to improve air quality.

## NATURAL VENTILATION

If windows are opened in certain classrooms, central heating and air-conditioning systems in those rooms shut down and are replaced with a system to enhance natural ventilation. Assisted by solar chimneys that heat and draw air through vertical shafts in the building, hot air rises through convection and is exhausted above the building roof. Wind chimes in the air shafts allow students to hear air moving through the vertical shafts.

## WATER-EFFICIENT LANDSCAPING

Using drought-resistant plant species that thrive naturally in the DC area eliminates the need to irrigate, saving both water and energy. Planting native species and noninvasive adaptive plant varieties preserves local biodiversity. Reintroducing natural pathways through the campus allows birds and other animals to move between the neighboring watersheds of Rock Creek Park to Glover-Archbold Park.



# Sidwell Friends

3825 Wisconsin Ave. NW | Washington, DC 20016

202-537-8100 | [sidwell.edu](http://sidwell.edu)

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