

Eighth Grade

כיתה ח

ADVISORY

In the eighth grade, much of the year's advisory curriculum is devoted to three topics: preparing for high school, preparing for the Israel study tour, and preparing for graduation.

The high school preparation program picks up where it left off at the end of seventh grade. Students are helped, in class and in individual sessions with their parents, to finalize their choices of which schools to apply to and then guided in completing applications and the other steps of the application process. In particular, students are coached in their interviewing skills and familiarized with the entrance exams they will be taking. As a group, they also go on school visits. Later in the year, they receive support in coping with waiting to hear, with rejection, and in deciding among schools to which they have been admitted.

Preparation for the Israel trip is a yearlong process that includes orientation to the trip for the students, and for the students and their parents, and a program of study topics on the history and geography of modern Israel.

Preparing for graduation takes the form of a structured reflection on experiences students have had over their school years and beliefs and values they have developed as a result. Working closely with an individual advisor, they produce a reflective paper and a creative project examining who they were, who they are, and who they expect to be in high school and beyond. They then make an oral presentation to members of the wider school community and defend it in response to “warm” and “cool” questions from teachers, peers, parents, and others.

As in previous years, advisory time is devoted to the functioning of the class community, social and academic challenges for individual students and for the class as a whole, current events, community service (volunteering at a local elementary public school), working on one’s portfolio, and values education. Other emphases during the year include participation in sessions on self-understanding, self-reflection, and coming of age in connection with the graduation exhibition. The eighth grade health education unit focuses on making good choices as teenagers grow and change.

ART

The eighth grade art curriculum starts with a lesson in two point perspective, focusing on buildings. The students then embark on a series based on an artist of their choice, creating three pieces inspired by their artist and writing an informational paragraph about their artist’s life and work.

In the spring, eighth grade students work on several simultaneous projects: designing a shirt for their Israel trip and a class project to present to the school in honor of their graduation. Previous projects have included an Omer counter, an ark, *parochet* and Torah cover. When they return from their Israel trip, they choose two of their photos from the trip to draw and paint. The last project is an independent assignment, where students plan and create artwork of their own choosing. The last day of class - they receive the shoe portfolios, drawing from Gan - 8th grade.

עברית HEBREW

Hebrew is taught on different levels in the Middle School. The beginners' curriculum – *Bishvil Ha'Ivrit* book 1 is designed for students with no or very little knowledge of Hebrew. In this program, students learn to speak in short dialogues about daily life; write paragraph-length personal narratives, memos, and assertions of opinion; and read stories, folk tales, and descriptive or informational non-fiction texts. The language structures that they learn to recognize and use include singular and plural forms; masculine and feminine forms; present tense and infinitives; four of the seven verb patterns (*binyanim*); the basic possessive forms; prepositions; nominal clauses; and word order in sentences.

The intermediate curriculum – *Bishvil Ha'Ivrit* books 2-3 is a two/three-year sequence that is typically studied by students entering seventh and eighth grade in Jewish day schools. In this program, students learn to speak in longer dialogues about a wide range of subjects and in interviews; write letters; and read longer short stories, non-fiction

texts, essays, and simple songs, poems, and biblical passages. The language structures that they learn to recognize and use include the basic future tense; all seven verb patterns (*binyanim*); declension of several prepositions; noun-adjective agreement in gender and number; nominal, verbal, and object clauses; parts of speech; and word order.

The advanced curriculum – *Bishvil Ha'Ivrit* books 4-5 is a two/three-year sequence that is typically studied by students entering ninth and tenth grade in Jewish day schools. In this program, students learn to speak freely in conversation on any topic; read news articles in easy Hebrew, full-length short stories partially adapted to easy Hebrew, and poetry, songs, biblical verses, and *midrashim*; write multi-paragraph narratives, reports, and essays; and understand TV or radio news items. The language structures that they learn to recognize and use include the future tense in four *binyanim* (verb patterns), declension of prepositions, gerunds, past participles, possessives, suffixes, and conditional clauses.

HUMANITIES

In the eighth grade, the humanities theme is “The American Experience.” At the outset, students review the foundational documents that they studied in depth the previous year: the Declaration of Independence, the Constitution, and the Bill of Rights. These documents are analyzed from a new perspective, with an eye to deriving from them the ideals they set forth. Throughout the year, these ideals are revisited as criteria by which one may assess the social realities of American history and contemporary life: to what

extent are the ideals realized? Where are there gaps between the ideals and the realities? What might be needed to achieve a closer fit between realities and ideals?

The focus shifts next to Native and African American history, with an emphasis on highlighting differences in the American experience. By reading and responding to primary documents, historical fiction, and investigative journalism, students reconstruct the events that have shaped the experiences of African Americans, Native Americans, and others, with special emphasis on slavery, emancipation, discrimination, and the Civil Rights Movement. In connection with their study, they write poetry and research papers.

In a culminating exhibition, students interview an individual in the community to examine how their experience compares and contrasts with the American ideals that emerged from their studies. Students produce a written paper, a creative product, an oral presentation, and respond to “warm” and “cool” questions; these reflect their growing ability to relate the realities of American society to the ideals enshrined in America’s foundational documents and popular culture.

The eighth grade Holocaust unit focuses on the extermination of the Jews in concentration camps and death camps as well as the resistance; this unit of study incorporates non-fiction reading, including survivor accounts such as excerpts from *Night* by Elie Wiesel and *Maus I and II* by Art Spiegelman , historical literature, and analytical written responses.

As the students approach graduation, they work in committees to produce a school yearbook, with tasks including fundraising, writing copy, design and computer layout, organization, and printing of a full-color publication that reflects their years at Schechter Manhattan.

As the final unit of the year, students study the concept of utopia, read dystopian literature, and choose their own social issues for which to propose solutions. Students write proposals and create three-dimensional models to present their ideas of a utopian society.

Other experiences with literature complement the thematic organization of the curriculum: poetry, Shakespeare, nonfiction, an American novel: *To Kill a Mockingbird*, biography, and autobiography, each student's own independent reading, newspaper and magazine articles.. The students' writing experiences, both in connection with the theme and independent of it, take the form of a writing workshop, in which students approach writing as a recursive process, completing multiple drafts of each assignment, sharing through a formalized published anthology.. Grammar, spelling, conciseness, transitions, and active verb and varied word choice are taught directly and reinforced continuously in the writing workshop. Among the research skills that students refine throughout the year are note taking, paraphrasing, and MLA citation.

JEWISH STUDIES

In eighth grade, the *Tanach* program completes the narrative sequence of the Torah that students began studying in second grade, concluding with the death of Moshe in the final chapter of *D'varim* (Deuteronomy). The students then embark on an interdisciplinary survey of two themes that encompass the entire range of biblical literature: Torah, *Nevi'im* (prophets), and *Ketuvim* (writings); narratives, legal codes, and poetry. The topics explored in these extended studies are "The Nature of Man" and "The Land of Israel." In addition to the skills learned in previous years, eighth graders learn to analyze characteristics of biblical poetry, to situate biblical law within the scope of the Jewish (rabbinic) legal tradition, to use and interpret biblical maps and a biblical atlas, and to follow the threads of biblical thought through a variety of texts, genres, and styles.

In the third year of Talmud study, eighth graders explore some classic *sugyot* in *N'zikin* (the Order of Civil and Criminal Law). The passages range up to a full side of a page; students continue to develop their familiarity with Aramaic vocabulary and language patterns, their ability to follow increasingly complex logical arguments and *sugyah* structures, and their skill in thinking along with the text, posing relevant questions, and suggesting novel solutions.

Beginning in January, students study Zionist thought and history intensively in preparation for their Israel study tour after *Pesach*. This extended study incorporates three emphases: rabbinic perspectives on the land of Israel; nineteenth century Zionist thinkers; and a first-person documentary history of the *Yishuv* from 1882 through 1948.

The eighth grade *t'filah* program represents a culmination of nine years of study and practice. The survey of prayer services throughout the calendar concludes with the study of the *shacharit* prayer for *shalosh r'galim* (the festivals), and *shirat hayam* is added to the weekday prayer service. Two additional features become more prominent this year than in the past. First, students are active in leadership roles in the service, not only as *chazanim* and *ba'alei k'riah* (Torah readers), but also as *gabaim*. In these capacities, they ensure not only the smooth running of the services and the fair distribution of responsibilities and honors, but also work to enhance the spiritual dimension of the group prayer experience. Second, in an attempt to help students enrich their own approach and style as pray-ers, much of the time and emphasis on *iyun t'filah* (prayer inquiry) focuses on the prayer experience in its totality, exploring a variety of ways to enrich one's personal spiritual experience and empowering students to give voice to their theological dilemmas and to work through them in a supportive setting.

In eighth grade, the focus of study prior to the *chagim* (Jewish holidays) shifts to the *Shulchan Aruch*, Rabbi Joseph Karo's classic Code of Jewish Law, and the *Mishnah B'rurah* commentary on it. In some cases, the focus of the inquiry is primarily to resolve a practical dilemma, such as the characteristics of the candles to be used on *Chanukah* to prevent their being extinguished; and the laws of reading the *m'gilah* at night and during the day. Other selections reveal theoretical or philosophical implications of certain practices, such as the reasons for sounding the *shofar* 100 times; the laws of *s'chach* (the covering of the *sukkah*); and different aspects of guarding the *matzah* from fermentation.

MATH

Two math courses are taught in the eighth grade, Algebra and Honors Algebra. Students are placed into either course based on a number of assessments: a cumulative test at the end of seventh grade, based on our math curriculum and designed to assess proficiency with the math concepts and skills from grades 6 and 7; performance on the math sections of the CTP4 standardized test given in the spring of 7th grade; and teacher recommendation.

ALGEBRA

The eighth grade math course hones pre-algebra skills and introduces concepts in algebra to prepare students for high school math. Students work within four main components of mathematics that address focal points set forth by the National Council of Teachers of Mathematics. First, students practice operations on all rational numbers and solve linear equations. They simplify expressions using order of operations, place rational and irrational numbers on a number line and justify the placement of the numbers, and use the arithmetic of rational numbers as they formulate and solve linear equations with one variable.

Second, students explore the Pythagorean Theorem and its practical applications. Irrational numbers and square roots are also introduced in this connection, moving the students into the realm of theoretical math.

Third, students investigate exponential growth and apply growth factors to solve classic puzzles. They then delve into quadratic expressions and equations. Identifying and solving quadratic equations in word problems helps to add some real-world experience.

ADVANCED ALGEBRA

The Advanced Algebra I course moves at the fast pace required to master the material required for placement into higher level high school math classes. Algebra builds upon the fundamentals of linear algebraic relationships that were studied in seventh grade. Exponential relationships are introduced and the differences between them and linear relationships are explored. Students learn to write, graph, and solve inverse, exponential, quadratic and rational equations. They apply their understanding of nonlinear relationships to patterns of exponential growth and decay in a variety of scientific contexts, representing them in equations, in graphs, and in tables, and solving problems. They also develop their symbolic reasoning by finding equivalent forms of many kinds of equations, including factoring simple quadratic equations; solving equations for variables and using the solution to find specific values of functions; and solving systems of equations by graphing, substitution, and combining equations. The geometry strand of the algebra program equips students to understand and apply the Pythagorean Theorem; and represent geometric relationships algebraically, and vice versa.

Key focal points for the year include: Analyzing and representing linear functions and solving linear equations and systems of linear equations; Analyzing two- and

three-dimensional space and figures and performing operations with radicals; Writing, interpreting, and using mathematical expressions and equations.

The following topics are studied in Honors Algebra:

- Exponential and quadratic relationships
- Properties of exponents
- Writing and graphing linear, inverse, exponential, and quadratic equations
- Equivalent expressions
- Multiple equivalencies and systems of equations
- Discovery and application of the Pythagorean Theorem
- Representing geometric relationships algebraically
- Systems of inequalities
- Solving quadratic equations by factoring, completing the square, and the quadratic formula
- Rational equations

CODING

Students in eighth grade use physical and computer-based tools to explore the world of functional coding. The coding curriculum teaches students how to access and use the

main elements and structures of code, such as sequence, conditionals, variables, and loops, and functions. Students develop and rehearse their skills through “unplugged” activities and computer-based exercises. From there, students explore practical applications for computer programming, such as website building, game design, and programming microcontrollers (MicroBits and Arduino boards). Students learn how to connect lights, motors, and sensors to these devices and program them to create electronic projects and robots that respond to real world problems. Students use both block based and text based-programming and explore languages such as HTML, CSS, JavaScript, and C++.

SCIENCE

The eighth grade science curriculum consists of several units that focus around the question: What forces shape our environment? In each of the 3 units, students use the scientific method to design and carry-out experiments to test their hypotheses and deepen their understanding of the topics of study. In addition, they also complete a variety of STEAM and engineering challenges to explore these topics through different lenses.

In the life science unit, students explore evolutionary change. They are introduced to organism adaptations, speciation, and natural selection. Students look at timelines of organisms on Earth alongside data about the climate and environments, and try to determine the factors that led to extinction or survival. Students also learn about technologies that scientists use to analyze fossil findings. As a culminating activity,

students learn about how biomimicry (the imitation of natural biological designs or processes in engineering or invention) is used in designing sustainable communities and then create plans for a sustainable desert community.

The environmental science unit, students learn about the different factors that influence climate and weather. Through reading, research, and hands-on experimentation, students study how different surfaces (land v. water) impact heat absorption and capacity, the greenhouse effect, and how different natural and human-made processes impact climate. Following this, students learn about energy conservation and the competing interests that influence our society's energy choices. Students distinguish between renewable and nonrenewable energy sources and look at the implications, benefits, and challenges that come with each.

In the physical science unit, students explore different types of energy, starting with a hands-on investigation of the six simple machines. This section of the unit culminates with a Rube Goldberg project, in which students design and build their own wacky machine and explain the physical properties that the machine utilizes. Following this, students learn about how mechanical or kinetic energy can be used to generate electricity. Circling back to the previous unit on climate change, students design an interest-based demonstration, experiment, or project relating to wind, solar, or hydropower energy.

Each unit encourages active learning through observation, deductive reasoning based on observation, experiment, research, hypothesis formation and testing, and scientific writing.

In addition to the content, skills, and processes addressed in these units of study, students also participate in a long-term interdisciplinary STEAM (science, technology, engineering, art, and math) project. Throughout the process, students are asked to identify real world problems, and then research, plan, build, test, and revise their solutions. Skills and values addressed through this project are empathy, the engineering design process, and designing with a client in mind.

MUSIC

In the eighth grade, the balanced emphases of the music program continue, with units on ukulele, music theory, music appreciation, and singing. Highlights of the year include composition exercises, singing and accompanying on the ukulele, preparing for an instrumental arrangement with the ukulele, the study of chords and the role of harmony in music theory. Finally, eighth graders have a number of performance opportunities: in addition to the Zimriyah and the school concert, they sing at their own graduation ceremony.

PHYSICAL EDUCATION

There is a great difference between middle school and high school athletics; therefore, the eighth grade curriculum focuses on preparing them for high school team sports.

We explore the difference in rules and set up as well as the level of play and expectations. There is also a greater emphasis on fitness level and developing “healthy habits.” Students will leave Schechter Manhattan with a greater affinity for sport and have the skills to participate in leisure sports for a lifetime.