



Middle School Program of Studies

2019.20

Course Registration

The SDJA Program of Studies document is intended to be a guide for parents and students to prepare for 2019.20 course registration. Please read the program information carefully and discuss potential course options as a family.

In the weeks leading up to the 2019.20 registration period, there will be dedicated time during pod and specific grade level academic advisory sessions for students to dialogue with teachers, department chairpersons and administrators. The schedule for the advisory aspect of course registration is communicated out via email by the Dean of Academics.

Middle School Electives

In the course catalogue, you will see many opportunities for our students to challenge their minds and explore possibilities beyond the core academic program. The elective opportunities are categorized to reflect two distinct approaches to learning:

- a. *Challenging Minds* elective courses will be scheduled in the A/B block schedule and will meet every other day during 4th period. These courses are designed for students to delve deeper in an academic discipline that interests them.
- b. *Explorations* elective courses will meet once a week. These courses are designed so students can have an additional, though less intensive, opportunity to engage with a topic or activity that resonates with their interests or passion.

All middle school electives rotate on a trimester basis. With the exception of certain MS programs noted in the course description, students will register for three *Challenging Minds* courses and three *Explorations* courses. Students must also register for 2 alternate electives (indicated by an "x" on the online course registration form) in each of these categories, to indicate a range of which topics intrigue them most and to heighten the chances of being scheduled into as many electives of deepest interest as possible.

Athletics and Physical Education

Athletic Vision Statement

The San Diego Jewish Academy Athletic Department provides students the opportunities to learn and embody life lessons through participation in interscholastic sports. We support our students, coaches and teachers in creating experiences that will help to develop character traits such as commitment, a growth mindset and teamwork.

With specific regard to the physical education program in the middle school our vision at SDJA is to provide students with the education and tools to live an active healthy lifestyle. This includes but is not limited to classroom instruction on nutrition, strength and conditioning activities in the weight room as well as the teaching of both traditional and non-traditional physical education games.

Interscholastic Sports

Fall: volleyball, flag football, boys & girls cross country

Winter: boys basketball, girls soccer, boys soccer, sideline cheer?

Spring: coed tennis, girls basketball, baseball, boys & girls track and field

Athletic Electives - *Explorations*

Fall: Ultimate frisbee

Winter: Badminton

Spring: Fencing

ISPE

We recognize that some students pursue athletics and other non-CIF competitive activities at a high competitive level and to accommodate and support those students, SDJA offers ISPE as a way to earn athletic credit.

The ISPE program at SDJA is designed with two goals:

1. To provide exceptionally gifted athletes who compete at a high regional or national level an opportunity to earn SDJA athletic credit while pursuing their sport off campus.
2. To provide students who are pursuing an in-depth study of an athletic or competitive dance discipline not offered as part of the SDJA curriculum an opportunity to earn athletic credit.

Visual and Performing Arts

In the Visual and Performing Arts classroom we focus on developing creativity through engagement, trial and error, practice, and expression in the form of presentation and performance. The purpose of the Visual and Performing Arts Department is to provide a safe and nurturing environment of creativity, practice, and performance for developing artists and to give all students the opportunity to expand their awareness and appreciation of the arts.

Visual Art - *Challenging Minds*

Visual Art is a projects based class that provides a context for exploration and skill development in a variety of artistic media. Ceramics, painting, and drawing are all components of the class. The elements and principles of design are discussed, applied, and analyzed throughout the course. New projects will be presented.

Middle School Music - *Challenging Minds*

This active and engaging course is designed for students who play, or would like to learn to play, the flute, clarinet, saxophone, trombone, bass, guitar, or drums. More experienced instrumental students who would like to mentor and lead groups within this class are also encouraged to enroll. Areas of focus will include the learning of standard musical notation related to the repertoire, participation in historical/cultural lessons related to music, and group performance skills. Students taking this class are expected to have a regular practice routine and participate in an end of year concert. The school has a limited number of instruments for students to use; students are encouraged to rent or supply their own instruments.

Intermediate Music - *Challenging Minds*

This course is a one or two year performing ensemble for instrumental music students who have at least one year of experience playing an instrument and reading music. Students also read music notation relevant to the applied literature, listen to/analyze/describe music, learn the historical and cultural attributes of music relevant to the course, and critically examine selections of music from various genres. Students taking this class are expected to supply their own instrument (with some exceptions) and have a regular practice routine.

Stages - *Challenging Minds*

This course will provide middle school students an opportunity to study the art of theatre- including theatre history, acting, production techniques and technical design through improvisation, stage movement, voice/diction, and creating a character. The course will be taught in units that explore a different aspect of a single production from research through performance. No experience required, all skill levels are welcome and encouraged to enroll in this course. There will be opportunities to be on stage or behind the scenes with an end of year performance for school and community. This is a space for creative thinkers to explore, share and grow together.

Mobile Photography - *Explorations*

Most of us use our cell phones to capture images of the world around us; do you want to improve your photography skills? We will learn the basics of portraiture, sports,

landscapes, special effects and photo editing.

GarageBand/Computer Music - Explorations

In this class, students will create, mix, and edit music on computers and iPads. Many computers already have the tools to make great music, why not learn how to use and master those tools? We will create beats, riffs, and even recordings and then put it all together into cool songs.

Open Jam Session - Explorations

This course is for students who want extra time, above and beyond the regular music class time, to practice and improve their skills on their main instrument. This is guided practice and collaborative time for the serious music student.

Center for Innovation and Entrepreneurial Thinking (CIET)

Robots vs. Humans - Can We Coexist?, Challenging Minds - Year Long Course

In this course students will dive deep into the benefits and implications of our technology seized society! Can robots learn empathy? Can humans outsmart machines? Will we find a balance and coexist? In this year long course, student engineers will pioneer ideas and create prototypes. First, each student researcher will dive into artificial intelligence through coding, modeling and understanding personalized machines. Next, science and technology will collide as student engineers will imagine, build and test prototypes and remotely operated vehicles. Finally, student inventors will create solutions to real life problems by pitching their best ideas and experimental designs, while utilizing augmented and virtual reality. So, do you think we can coexist?

Finding Tools to Solve Real World Problems - Explorations

What if you could edit the genes of a baby before it was born? What if robots could read human emotions and respond? What if your computer could make your most important decisions for you? What if humans could bounce sunlight back into space? All of these “what if’s” are today’s realities. In this Explorations elective, we will dive into real world inventions, problems and solutions while learning and building using the technologies that have inspired invention! Imagine a world where Stranger Things meets Black Mirror collide, but this time - you decide how it ends.

Computer Science

Google CS First and Python - Challenging Minds

This middle school introductory computer science course is for students who have little to no background in computer science. This course introduces students to real-world uses of computer science and its impacts in the community, and is intended to spark a student's interest in pursuing future computer science course offerings. Students start-out participating in theme--based activities to learn core computer science concepts through Scratch, a block--based coding tool. Themes for projects include: storytelling, fashion, social media, sports, music, art, animation, and game design. Students then move on to coding in Python, a popular object oriented, high-level programming language able to run on a wide variety of systems. The class culminates in a final project intended to showcase progress students have made. This course is recommended for students who enjoy learning by doing and work well in a self--paced learning environment that emphasizes collaboration and creativity.

Drawing with Code - *Challenging Minds*

In this course, students will extend the skills and concepts learned in Google CS First & Python to explore the programming language called Processing. Built on Java, but simpler, Processing is a flexible software language for learning how to code within the context of the visual arts. The first programs all start with drawing; students new to programming find it incredibly satisfying to make something appear on their screen within moments of using the software. This motivating curriculum teaches students the basics of object-oriented programming and skills that can be built upon in the high school engineering and computer science classes.

Humanities

We teach and study the Humanities because we value the continued practice of deep thought about what it means to be human in terms of both the individual experience and the collective one. The goal of our English classes at SDJA is to develop critical thinking, reading and writing skills so students can ultimately communicate with an articulate and confident voice, both written and oral, who we are and where our responsibilities lie. The goal of our history classes at SDJA is to empower students to make sense of our world today through a broad study of the past. English texts complement the historical units. As a whole, our humanities classes provide continuing conversations and writing about what it means to be human in an ever changing world.

Core Courses

6th Grade Humanities (English 6 and History 6)

These two courses are designed to build reading, writing, and thinking skills while giving students a well-rounded understanding of the origins and relevance of Western ancient civilizations and their impact on our present culture. In addition to improving the comprehension and analysis skills which students have acquired in earlier grades, we will coach them in the habits of effective readers, which include questioning, making inferences, making connections with previous knowledge, using multi-sensory imaging, and summarizing. The literature we study will, in part, support the history and, in part, be

selected for the development of language skills. Students will learn organizational techniques and practice group work to engage with the material while exploring the theme “Where do we come from?”

7th Grade Humanities (English 7 and History 7)

These two courses strive to explore the question, “How do we see?” as students develop fluency as critical thinkers, readers, and writers while examining social, cultural, religious and technological change in literature and throughout the world, including Europe, Asia, Africa and the Civilizations of the Americas. We will mine historical, literary and personal experiences, shaping our perspectives into organized narratives and evidence-based response exacted through sensory details, strong word choice, and conventions that best serve the writing. Comprehension skills will continue to develop as readers focus on how characters’ perceive the world and how that perception impacts their reality and the conflicts they set out to resolve. Students will gain a sense of perspective and recognize the myriad experiences of characters and peoples across cultures and time.

8th Grade Humanities (English 8 and History 8)

These two courses prepare students for responsible citizenship by developing their understanding of the human struggle toward freedom and equality in America as they seek to answer the question, “How do we become?”. Students study the span of history from American colonial times to the present day with a focus on the U.S. Constitution and civil rights issues. Multicultural literature, non-fiction pieces, and primary source documents provide entry points for authentic response, evidence-based analysis, and models of effective writing from which students practice and make intentional choices about the organization, craft, and effectual use of grammar in their own composition. Students will delve into literary elements while noticing how those elements reflect personal, social, historical, cultural, and familial values. Through their vicarious experience of literary characters and various peoples in American history, students learn to express empathy, explore choices and consequences and generate their own voice in ways that help build a more confident sense of self as active members of society.

Electives

Book Club: Fantasy/Science Fiction Literature -*Challenging Minds*

What if you could see into the future? What if your best friend was a talking dragon? What if rode a flying bus to your school in the clouds? The fantasy genre includes books set in an imaginary world, often involving magic and magical creatures. There are quests and heroes, villains and obstacles. This genre also includes adventure stories and dystopian fiction. In this course we will explore the social and political structures that fantasy literature illuminates through reading and writing our own fantasy/sci fi. If you like reading and thinking about the issues that books like Inkheart, the Harry Potter series, The Hunger Games, The Maze Runner and The Giver reveal, you will enjoy this elective.

Book Club: Literature Made into Film -*Challenging Minds*

Put the Netflix down and slowly step away from your computer. In this course, we will be reading books and short stories that have been adapted into film. After reading the text, we will watch clips of movies to compare and contrast the written version to the film one. How does a producer depict the antagonist of the story? The protagonist? Can you take a scene from a novel and add music to foreshadow a future happening? Or manipulate lighting to create tone or symbolism? If you're interested in broadening your knowledge and understanding of how literary techniques are found in literature and film, welcome to this elective!

Book Club: The Graphic Novel -*Challenging Minds*

Did you know celebrities such as Ryan Reynolds, Olivia Munn, Kate Beckinsdale, and Eminem have described themselves at one point as graphic novel nerds? Graphic novels use images and words to tell a story. They are fast-paced, imaginative and use language in an impactful way. This literary genre dates back to prehistoric man and makes use of words and pictures to affect us visually, emotionally and ideologically. We will read graphic novels from various cultures and time periods, and learn to understand the importance of word choice, plot, character development and setting. If you want to describe yourself as a graphic novel nerd, this class is where it starts.

Current Events - *Explorations*

This course will expose students to local, national and global issues. Various media outlets will be used to cull events including internet, television news and the newspaper. Classroom discussion will be the cornerstone of how we internalize and make sense of current events. The goal is for students to have a heightened awareness of the issues that drive the news and the issues that are most relevant to their lives.

Public Speaking - *Explorations*

We are always engaged in speaking and debating, and yet there are proven ways to improve in both areas. This course will focus on three areas: Public Speaking – how to develop a public speaking style that will serve you in most situations; Debate – how to argue your point, and how to spot fallacies in other's arguments; Competition – being part of a debate team and engaging in (fun) competitions in class.

Judaic Studies

The goal of the Judaic Studies program in the Maimonides Upper School is to provide robust opportunities to study Jewish text, history, rituals, values, and connection to Israel in ways that are personally meaningful to each individual student. Our students come from a wide range of Jewish backgrounds, and we take pride in fostering each student's intellectual and emotional Jewish development. Judaic Studies students engage in learning through a variety of methods, including journaling, discussion,

debates, and projects that bring traditional ideas into modern-day relevance. We actively encourage critical thinking, reflection, and other skills that serve them well in all disciplines.

Core courses

6th Grade: Study of Torah

The Torah, comprised of the Five Books of Moses, represents the core of Jewish values, ethics, narratives, and beliefs. It tells the story of our beginnings as a family and how we evolved into a nation with a 'constitution' and a connection to G-d and the Land of Israel. Our 6th graders will review the Weekly torah portions, with whom they are already familiar, but now they will examine the text itself. They will hone their critical thinking skills as they examine the narratives of biblical events as well as the messages behind them. We will examine the text of the Torah through three different, overlapping lenses: P'shat (literal or simple meaning), D'rash (commentaries and rabbinic interpretations), and personal Midrash (giving the students a vehicle to apply their own understandings and world views to the text). We will focus on who we are as a people, how we view the universe, how we relate and interact with others, and how events shaped us. As students of Torah, they will be asked to engage in the Jewish exhortation: *hafoch ba v'hafoch ba, kulei ba*- turn the Torah over and over for everything is in it.

7th Grade: The Prophetic Voice

This course continues the students' two-year study of the Tanakh, the foundational work of the Jewish people. Students will examine many of the books that comprise the latter two parts of the Tanakh – Nevi'im (Prophets) and Ketuvim (Writings). Particular attention will be given to the historical narratives of Joshua through Kings as well as the narrative books within Ketuvim. The course will progress chronologically, and we will focus on many of the themes that persist throughout the Tanakh, including leadership models, tribal inter-relationships, and the role of prophecy. We will examine both cultural and literary applications as well as traditional rabbinic interpretation.

8th Grade: Jewish History

This required course will explore major events in Jewish History from the Biblical period of Abraham through the Holocaust and modern day Israel. Students will be challenged to weave together Jewish history as it was externally impacted by outside forces and Internally shaped as a result of these forces. This course is a survey course, which means that we explicitly only cover a small portion of the numerous possible avenues for study and learning. This class is designed to increase students' historical literacy and their ability to make meaning from historical events and the telling of those events. Assessments are designed to provide each student with the tools necessary to become an independent and aware critical reader.

Electives

The Jewish Journey - *Challenging Minds*

Part of what makes SDJA stand out, even from other Jewish day schools, is our rich cultural and ethnic diversity. Each member of the community has a different personal and family story, and these stories are woven together to form the rich tapestry that is the San Diego Jewish Academy community. In this elective, students will read biographies and watch programs about famous Jewish figures in history and pop culture. Students will identify common themes among the celebrities and utilize this analysis as a jumping off point to making sense of their own Jewish identities. At the end of the course, students will complete a project called “My Jewish Journey” that allows them to synthesize the myriad Jewish experiences in their lives.

Simulating the Knesset - *Challenging Minds*

How does the Knesset work? How are Israeli laws created, and how do those laws affect the future of the people living in Israel? What impact does Israeli law have on the global Jewish community? Using the framework of a Knesset simulation, students will explore key aspects of Israeli history, culture, politics, and current events. Students will also have the opportunity to come up with their own ideas about how to address real-world controversial issues. Students will develop a sense of empathy and appreciation for the cultural and religious diversity within the state of Israel.

Beit Midrash: Text Messages That Matter - *Challenging Minds*

In this course, middle-school students will experience the thrilling atmosphere and learning of a Beit Midrash in an SDJA classroom. Centered around developing middle-school students’ chavruta (paired learning) and critical reading skills, students in this course will engage with a variety of both famous and lesser-known texts from across the Jewish literary canon. Students will develop an understanding of and an appreciation for these timeless works. From the foundational texts of the Torah, to magical Midrashim and fantastical stories from the Talmud, students will encounter Jewish text in a new and authentic way.

Mathematics

Our math department strives to create a positive and nurturing environment where students are comfortable with the learning process where making mistakes, taking risks, communicating ideas and working collaboratively are encouraged. A strong emphasis is placed on the conceptual understanding of mathematics so students can explain why the math makes sense. Meaningful real-world applications are consistently incorporated to develop creative problem solving skills as well as an appreciation of math and its relationship to other disciplines.

Middle School Math Course Pathways

Pathway 1: Math 6 → Math 7 → Math 8

Pathway 2: Math 6 → Math 7H → Algebra I or Algebra I H

Pathway 3: Math 6H → Math 7 → Math 8

Pathway 4: Math 6H → Math 7H → Algebra I H

Core Courses

Math 6

This math course is a continuation of the Singapore based math program used in the Lower School. The Singapore approach focuses on problem solving while offering a balanced emphasis on conceptual understanding and procedural fluency. Students use concrete and pictorial representations to solve multi-step and non-routine problems. Topics in this course include positive and negative numbers and the number line; fractions; ratios; rates; percent; introduction to algebra: expressions, equations and inequalities; the coordinate plane; area and surface area; circumference; volume; and statistics.

Math 7

Prerequisite: Math 6 with passing grades both semesters

This course utilizes a hard copy text and computer- based program that includes an online textbook as well as additional multimedia resources designed to enhance student learning. The course emphasizes applications of mathematical concepts in the real world and balances conceptual understanding and procedural fluency. Unit topics include the number system; ratios and proportional relationship; expressions, equations, and inequalities; modeling geometric figures; circumference; area; volume; statistics; and probability.

Note: Please reference the early February email you received from your current math teacher stating which math course you qualify for in the 2019-2020 school year. If you have any questions regarding the math course you qualify for, please contact your math teacher or the math department chair.

Math 8

Prerequisite: Math 7 with passing grades both semesters

This course utilizes a hard copy text and computer based program that includes an online textbook as well as additional multimedia resources designed to enhance student learning. The course emphasizes applications of mathematical concepts in the real world and balances conceptual understanding and procedural fluency. Unit topics include real numbers, exponents, and scientific notation; proportional and nonproportional relationships and functions; solving equations and systems of equations; transformational geometry; measurement geometry; volume; and statistics. Students are introduced to the basic functions of the graphing calculator, which is required for this course.

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Honors

Math 6 Honors

Prerequisite: Departmental approval

This math course is a continuation of the Singapore based math program used in the Lower School. The Singapore approach focuses on problem solving while offering a balanced emphasis on conceptual understanding and procedural fluency. Students use concrete and pictorial representations to solve multi-step and non-routine problems. Topics in this course include positive and negative numbers and the number line; fractions; ratios; rates; percent; introduction to algebra: expressions, equations and inequalities; the coordinate plane; area and surface area; circumference; volume; and statistics.

Note: Parents of students who have qualified for this course will be notified by the math department chair via email. These students will then be enrolled in this course, unless the chair is notified otherwise.

Note: When both a middle school preparatory level and an honors level of the same class are offered, the honors class is characterized by a faster pace, greater depth of content (and in some cases, includes additional content and different textbooks), more rigorous problem sets, and expectations of high quality student work on challenging problems and projects.

Math 7 Honors

Prerequisite: Math 6 Honors with a minimum grade of B+ both semesters and departmental approval or Math 6 with a minimum grade of 97% and departmental approval.

This preparatory algebra course utilizes a hard copy text and a computer based program that includes an online textbook and additional multimedia resources designed to enhance student learning. The course emphasizes applications of mathematical concepts in the real world and balances conceptual understanding and procedural fluency. This course moves at a more advanced pace compared to Math 7 as topics from both Math 7 and Math 8 are studied. Unit topics include the number system; ratios and proportional relationships; expressions, equations and inequalities; geometry; statistics; probability; real numbers, exponents, and scientific notation; linear relationships and equations; transformational geometry; measurement geometry; the Pythagorean Theorem and the distance formula. One trimester of Math Studio is a required component of this course.

Note: When both a middle school preparatory level and an honors level of the same class are offered, the honors class is characterized by a faster pace, greater depth of content (and in some cases, includes additional content and different textbooks), more rigorous problem sets, and expectations of high quality student work on challenging problems and projects.

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have any questions regarding the math course you qualify for, please contact your math teacher or the math department chair.

Algebra I Honors

Prerequisites: Math 7 Honors with a minimum grade of B both semesters and departmental approval.

This course provides the basic building blocks necessary to all higher level mathematics courses, particularly Honors Algebra II. It utilizes a hard copy text and a computer based program that includes an online textbook as well as additional multimedia resources designed to enhance student learning. The course emphasizes applications of mathematical concepts in the real world and balances the importance of both conceptual understanding and procedural fluency. Students use the graphing calculator as a tool to enrich conceptual learning and problem solving. Unit topics covered in this course include the following: numbers and expressions; equations and functions; linear and exponential relationships; statistics and data; polynomial expressions and equations; and functions and modeling. One trimester of Math Studio is a required component of this course.

Note: When both a middle school preparatory level and an honors level of the same class are offered, the honors class is characterized by a faster pace, greater depth of content (and in some cases, includes additional content and different textbooks), more rigorous problem sets, and expectations of high quality student work on challenging problems and projects.

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Electives

Math Lab - Challenging Minds

Designed to supplement a middle school student's current math class, Math Lab provides a safe and fun space solely dedicated to building students' confidence and independence in math, attacking challenging math problems, and receiving coaching (instructional support) from a math teacher who is knowledgeable of the SDJA middle school math curriculum. The teacher will work with students and their math teachers to help each student reach his/her individualized learning goals. This course allows students the opportunity to spend more time on the concepts they do not understand than the concepts they have already mastered. The Math Lab experience is different for each student and can vary daily for an individual student. In Math Lab a student can expect to work on the problem of the day, math homework, math notebook, or enrichment activities. This could include solving supplemental challenging math problems that help grow their math knowledge and endurance, receiving tutorial support from a math teacher and/or high school instructional assistant, using outside resources to engage in additional practice on new or old math concepts, or receiving assistance in

preparing for a math exam. Successful Math Lab students come to class ready to learn and strengthen skills they need to grow as independent math learners so that they can find success in future math classes.

Math Problem Solving Studio - *Challenging Minds*
(Must be enrolled in Math 7 Honors or Algebra I Honors.)

Tackling real-world math problems takes time, collaboration, and creativity! It also involves a structure that is very different from solving textbook or curriculum driven math problems. MPS Studio provides students with the unique opportunity to explore the power, complexities, and beauty of mathematics in the world around them and hone new problem solving skills and perspectives. Each class students will be given an unconventional scenario and asked to come up with a solution. Students will determine and research the information needed to solve the problem and form a mathematical model to test.

Science

The mission of the science department at SDJA is to promote scientific literacy. We want our students to be curious about both the physical and living world. Classes are designed so that students focus on big ideas in science, and develop critical thinking skills, the ability to design an experiment, collect, analyze, and interpret data, and support a conclusion with scientific evidence. Through lab inquiry, scientific observation, reading scientific material, writing about science, and scientific problem solving, students come to understand science as a process for investigation and discovery.

Core Courses

Earth Science (Science 6)

Science 6 is an opportunity for students to experience Earth Science. The students will begin the school year growing plants in the local soil and by the end of the year they will be exploring outer space. In between, we will be engaging with our planet in space, its weather and atmosphere, plate tectonics, erosion, and rocks and minerals. Students will experience Earth Science through investigations, field trips, labs, and role-playing activities that will teach them to think like scientists. In their first upper school science class, students will expand their skills in the lab and develop their problem solving, critical thinking, and data analysis skills. Students will work both individually and in collaboration with their classmates and will develop written and oral communication skills. As an integrated part of 6th grade Earth Science, students will also participate in the LionScience project where they will work on a real world problem of their choice.

The curriculum will be enriched with the Issues and Earth Science textbook. The book was developed by SEPUP (Science Education for Public Understanding Program) in conjunction with the University of California at Berkeley and LAB-AIDS. Together, these

organizations developed a curriculum that is issue, inquiry and literacy based in order to provide students with the science, writing and communication skills necessary to be successful in STEM (Science, Technology, Engineering and Mathematics) courses in the future.

Life Science (Science 7)

What happens to our food after we swallow it? Why do we have the same eye color as our parents? How do scientists find cures for disease? These are just some of the questions students will explore in Life Science. This course is an inquiry based, hands on introduction to the life sciences. Students will experience life science through labs, investigations and role-playing activities that will expand their skills in the lab and develop their problem solving, critical thinking and data analysis skills. Students will work both individually and in collaboration with their classmates and will continue to improve their written and oral communication skills. Topics include how to study people, the human body, cell biology and disease, genetics, ecology, evolution and bioengineering. As an integrated part of Life Science, students will participate in the LionScience Project where they will work on real world problems of their choice.

Physical Science (Science 8)

In this Physical science course, students will explore concepts in chemistry and physics through hands-on, inquiry-based activities. During an introduction to chemistry, students will study the elements on the periodic table and how they interact with one another to create the world around us, even the air we breathe! Vehicle collisions and energy conservation will launch us into the exploration of physics concepts including energy, motion, and waves. Discovery is encouraged in this experiential laboratory environment. This class allows students to examine scientific issues in a societal context and gives students an understanding of science and technology in order to make informed personal and community decisions. In addition to the physical science curriculum, 8th grade students will work on a culminating middle school science research project and will submit their work to the Greater San Diego Science and Engineering Fair..

Electives

SDJA Crimestoppers - *Challenging Minds*

Step under the yellow tape and join the fascinating world of forensics, the application of science to solve crimes! In this hands-on, investigative course, students will learn about the many types of evidence, how it is gathered, how it is examined, and how to analyze what actually happened at the scene of a crime. Using skills drawn from scientific topics like biology, anatomy, chemistry and physics, students will study and analyze fingerprints, handwriting, hair and fibers, photographs, ballistics, DNA fingerprints and toxicology. All of the techniques and skills learned are drawn directly from actual crime scene investigators working in the field and in the laboratory. The final project will be the complete analysis of a crime scene using all of the skills you learned during the semester!

Make It - *Challenging Minds*

Themes for this class include junkyard wars, boat building and using electronics to create interactive objects that can work in the real world. Make It is a class to explore your own ideas with physical materials. Designed to introduce students who love to tinker, design, build, and create, the class will explore hands-on uses of different mechanical, electrical, and digital technologies. Throughout the course, students will work alone and in teams to create objects with a variety of components. Let's get our hands on some stuff, come up with an idea, and figure out how to make it happen!

Animal Discovery - Explorations

Humans share the planet with the most interesting animals. Come and discover these strange and wonderful creatures that also call planet earth their home. In this class we will learn about some of the more unusual animals that inhabit the planet. We will seek to understand how and why they have adapted to the unique environments in which they live. The class will also explore the local environment and look at some of the animals that live in our own SDJA backyard. As a final project, each student will take on a discovery project of their own and become an expert on an animal of their choice.

Cooking/ Chemistry of Food - Explorations

Have you ever wondered why bread rises, how cheese is made, or why cheetos are neon orange? Can you use applesauce instead of oil when baking muffins? What happens if you forget the baking powder in your cake? In this class you will find the answers to these questions and more while cooking in SDJA's kitchens. Cooking is chemistry and this class will explore the science of food.

World Languages

Hebrew

Ulpan Or's iHebrew interactive curriculum has been designed for students to gain significant conversational skills in the language. Utilizing a web based platform coupled with teacher guided classroom experiences, the program supports beginners up to advanced Hebrew speakers. It is based on unique second language acquisition approach.

Hebrew 1

Novice- Reading and writing acquisition. Level Curriculum: Acquaintance: related verbs. Basic Conversation and feelings. Numbers 1-19. Food. Directions.

Hebrew 2

Novice: Numbers up to 100, ages, Acquaintance- enhanced, Feelings and emotions, Nouns and Adjectives related to a visit to Israel.

Novice-mid: Acquaintance in Hebrew, In-depth Acquaintance in Hebrew, Nouns - In school and at work, Nouns - In the family

Hebrew 3

Novice-Mid: Numbers and belongings, Adjectives, Body parts, Colors, Family situation, Food and shopping in the market, Numbers and money (Texts from The Mahane Yehuda market, Meals and Kitchen, Directions, Places, Home, Apartment

Hebrew 4

Novice-Mid - Novice High: Places, home, apartment, On the plane part #1: Basic Acquaintance, On the plane part #2: continuing basic acquaintance, In the Family part #1: Family life, In the family part #2: more of family life, Food - part #1

Hebrew 5 Honors

Novice High - Intermediate-low: Food- part 2, At home - part 1, At home part 2, On the phone part 1, on the phone part 2, Daniel and Shira - Meeting people in Israel, Daniel and Shira: conversing about Israel, Daniel and the family: family in Israel

Spanish

Spanish 1 - *Challenging Minds*

Open to 8th grade only

Spanish 1 is a beginning Spanish course where students will begin to master the skills of listening, reading, writing, and speaking. Students will develop an understanding and knowledge of grammatical structures, build vocabulary, and begin writing as well as developing oral and auditory proficiency through the use of storytelling. The course work incorporates cultural literacy and appreciation of Spanish and Spanish-speaking cultures. Spanish 1 is a full year course and does not follow the trimester schedule.