

MCDS High School Newsletter



Special events in the High School

- Homecoming Week: October 27th – 31st
- College Visits:
 - Iowa State: Sept. 22nd
 - Beloit College: Sept. 24th
 - Knox College: Oct. 28th
- PLAN test: October 7th
- PSAT test: October 15th

"It is the supreme art of the teacher to awaken joy in creative expression and knowledge."

Albert Einstein



Studying outside with friends and enjoying the crisp weather!



MCDS High School: A global education.

Welcome to fall from the MCDS High School !

Welcome to fall and the first edition of our high school newsletter! My hope is that this monthly communication will serve to update you on high school events and coursework in a format that is both easy to read and reference. Please feel free to let me know if this layout is working for you!

I wanted to take this opportunity to praise your children for the responsibility they take in building our community. During the first few weeks of school our high school students have continued to develop both their leadership skills and an understanding of what it takes to build and sustain lasting communities.

I would like to begin by sharing with you some related anecdotes from the first few weeks of school that exemplify our student's leadership roles in their community.

1.) During the last two morning assemblies, high school students have made exceptional presentations to the MCDS school community about the geography, culture, and language of Ecuador to help prepare students for the arrival of the exchange students in October.

- 2.) This past week several high school students served as positive role models for 8th graders when they sat on a student panel discussing the merits of an MCDS high school education. Their answers were honest, passionate, and positive!
- 3.) On a recent trip to APT, the high school students had the unique opportunity for backstage interviews. Both staff and actors commented on our students' positive community and the thoughtful depth of their questions.
- 4.) This fall the HS students have been working together in the recently formed "Student Guild." Through their leadership work in this collaborative student government, they have begun to plan our 1st Homecoming week! In their efforts they have been continually reflecting on their responsibility as positive role models in the MCDS community and as productive citizens of the local Madison area. More information regarding Homecoming spirit events will follow in subsequent communication!



Mischa volunteers an answer during a morning assembly trivia game. (Do you remember the name of the former MCDS resident pheasant?)

English Course Updates:

English 9: Students in 9th grade English recently completed reading of Shakespeare's *Henry IV-Pt I* in preparation for a field trip to see the APT performance on September 16th. Students were recently assigned a 500 word essay, in which they must analyze the use of power by the main characters in *Henry IV-Pt I*.

English 10: Students read Shakespeare's *Henry IV, parts I & II*, discussing the play in class as well as attending a performance of the plays at American Players Theater. Additionally, students were introduced to rhetorical concepts and asked to analyze a number of arguments. Students will analyze arguments in increasingly sophisticated manner in order to achieve the first trimester objective of understanding rhetoric.

English 11: Students read Shakespeare's *Henry IV, parts I & II*, discussing the play in class as well as attending a performance of the plays at American Players Theater. Seminar discussion focused on analyzing the characters and their relationships. Students have been making increasingly lengthy and sophisticated presentations in order to prepare for IB English oral presentations later this year.

English 12: Students began our study of modernity in literature by reading Shakespeare's *Hamlet* by analyzing the play for examples of Hamlet's individuality. Students began focusing on effective writing by articulating the elements of distinctive voice, as seen in various samples of strong writing. Students also worked on developing their ideas, using grammar for rhetorical effect, and varying sentence length, using these skills to write college admissions essays.

History Course Updates:

History 9: Students are studying the ancient Greek civilization, and analyzing primary sources such as Tyrtaeus, Herodotus and Thucydides. Students recently completed comparative analyses of Sparta and Athens and are currently studying the effects of the Persian wars on Greek culture.

History 10: Students are studying the history of the Indian subcontinent. Students have read primary source selections from the ancient Sanskrit texts of The Vedas and The Upanishads, and are participating in classroom discussions on the varying worldviews of Indian culture. A unit test on India will occur on September 24th.

History 11/12: We began the year discussing nationalism, globalization, militarism, and imperialism, important concepts in 19th and 20th century world history. We have been studying the Civil War through discussion of textbook readings and primary sources. Our next topic is Reconstruction. Both are part of the History HL curriculum regional option: History of the Americas. Throughout this year and next, it will be important that students organize and keep their handouts for review before IB exams. In addition, they should be making and keeping summary sheets for each unit. The information on these sheets will be drawn from class discussions, readings, and notes.

Theory of Knowledge: Students began TOK with an introduction to the course's core concepts. Discussion of "knowledge issues" flowed into a series of discussions, readings and exercises on decision-making. Students read an excerpt from Malcolm Gladwell's *Blink* and Edward Tufte's booklet "Visual and Statistical Thinking: Displays of Evidence for Making Decisions." Students have been asked to draw general conclusions from our readings and discussions and apply their findings to personal and academic life.



Julian and Nick playing a rousing game of "Ten-ocky" (an amusing combination of tennis and hockey) during their after lunch break.

Julian explains, "We are releasing our creative juices in preparation for class!"

Mathematics Course Updates:

Mathematics 9: We began the year with a review of square roots. Building on the skills developed in eighth grade, we compared the value of expressions involving square roots, proved that the square root of two is irrational, and investigated the question, "How many times greater does a number become if its square root is increased by a factor of ten or one hundred, or by one-tenth or one-hundredth?" We also reviewed multiplication of polynomials and factoring trinomials with a leading coefficient of one. We then learned how to factor polynomials of the form $ax^2 + bx + c$. We reviewed how to solve a quadratic equation by factoring, including examples more difficult than those encountered in grade eight. We will work on solving quadratic equations by completing the square and by using the quadratic formula. The test on this material will be October 1.

Algebra II: We have been working with two textbooks, Lial's Intermediate Algebra, and Mathematics for the International Student: Mathematical Studies SL. We have worked through the first chapter of each book, reviewing concepts in number theory, set theory, and algebra. We have had one assessment, on September 8; another is scheduled for September 22. In general, we will have an assessment about every two weeks, and each one will include a few problems from previous units in order to refine and maintain students' skills. Our next two topics will be measurement, followed by descriptive statistics. Students are learning to use graphing calculators in preparation for the International Baccalaureate Mathematical Studies SL exam, which they will take in their senior year. If your student does not have a graphing calculator, I recommend the TI-84 Plus. The Silver Edition is not necessary; its "extras" are fashion- rather than mathematics-oriented. Students should be careful to keep the user's guide that comes with the calculator. It is an absolutely indispensable resource.

Calculus II : We began September by revisiting the application of the Riemann integral to finding the volume of solids of revolution and certain other selected solids. Following this, we took up the problems of finding the length of a plane curve and the area of a surface of revolution. We considered the application of the integral to topics in physics that included work and computing the center of gravity of an object. The highlight of October will be defining the natural logarithm; consequently, students, for the first time in their mathematics, will be able to meaningfully work with exponential functions of irrational numbers and expressions whose exponent is an irrational number.

Calculus I: The idea of limit provides the immediate foundation of calculus. We spent considerable time and effort on the idea of limit, including discussing some of the intellectual history concerning the discovery of its correct definition. We considered first the limit of an infinite sequence and then the limit of a function at a point. Our approach was at first informal and graphical, then quite formal. Students wrote epsilon-delta proofs that certain functions had certain limits at given points. We will next discuss continuity. In October students will differentiate a variety of functions and composed functions and they will learn the technique of implicit differentiation. Students will apply the ideas and skills they learn to problems taken from physics.

Advanced Algebra and Trigonometry: In the first part of September we considered two dimensional vectors both geometrically and algebraically. Students learned that an arbitrary vector can be written as a linear combination of orthogonal basic vectors and practiced doing so in the plane. We defined the dot product and derived the other important expression for it. Students used the dot product to show that vectors were or were not perpendicular. In the latter part of September, students learned to write vector equations of the straight line and of the circle; they also wrote parametric equations of the straight line in both in vector form and in component form. Students used vector methods to work a variety of problems drawn from geometry and physics. In October, we will study matrices and some basic ideas of linear algebra. Writing proofs was stressed throughout September and will be stressed throughout the year.

Algebra III and Analytic Geometry: In September, students reviewed factoring polynomial expressions, then learned and practiced additional techniques that broadened kinds of expressions that they could factor. Students learned to recognize and factor such as the difference of squares and the sum and difference of cubes. We considered rational expressions and practiced dividing a polynomial by a polynomial. The idea that a polynomial could be written as a product of polynomials plus a remainder of certain degree was introduced and discussed. The similarity of this idea to division with integers, a topic familiar to students for several years, was discussed. During the balance of September, students will be introduced to the complex numbers and they will solve equations whose solutions are complex numbers. Students will learn the relationship of the roots of a quadratic equation. They will have many opportunities to write proofs.

Science & PE Course Updates:

Chemistry: We dove into chemistry in September, developing our inquiry skills and building community. Through laboratory work, we have studied topics such as the SI system, significant figures, dimensional analysis, and characteristic properties. In the coming month, we will be studying classification and properties of matter and the development of modern atomic theory.

IB Biology 1: This past month students have been studying the characteristics of life and the history of cell study. Additionally they have begun refining their inquiry skills through laboratory work. October will begin with the student's first comprehensive unit exam (Oct. 1st) on Cell Theory, Microscopy and Prokaryotic organisms. This exam is written to reflect the structure of, and prepare students for the IB exam. October will see the continuation of our exploratory study of cell structure and function through laboratories and independent microscopy work.

Capstone Research: Students began their coursework by reviewing how to read and interpret scientific journal articles. They studied the difference between pseudo-scientific, proto-scientific, and scientific research and applied this knowledge to their interpretation of the text, "The Mismeasure of Man" by S.J. Gould. Seniors are currently working on their research proposals for their independent inquiry projects and will begin October by compiling background research from scientific journals, interviewing professionals in their chosen field, and writing their literature reviews.

9-12 PE: We are currently finishing up our fitness testing unit. If the weather cooperates our next unit will be track and field. If not, we will begin fall with an indoor bowling unit.

"It must be remembered that the purpose of education is not to fill the minds of students with facts... it is to teach them to think, and always to think for themselves."

- Robert Hutchins

Please feel free to contact me with
Questions or Concerns!

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Madison Country Day
School

~The future is made today.

Language Course Updates:

Spanish 3: This month we covered the preliminary unit and unit 1, etapa 1 of our textbook. Topics included present tense verbs, preterit and imperfect tenses, difference between *ser* and *estar*, and describing people. We discussed the experience of different groups of immigrants in the United States. We read a poem about a Cuban immigrant and heard a song by Gloria Estefan. On Friday, Sept. 19 the students had a Unidad 1, etapa 1 quiz. Each week the students will have a vocab quiz.

Spanish 4: This month we covered unidad 1 where we talked about stereotypes. We reviewed grammatical topics such as gender and number of nouns, adjective agreement, *ser* and *estar*, present indicative conjugations, and direct objects. We read the story called "Sombras del pasado", as well as cultural readings that analyzed the existent stereotypes related to Latin Americans and Spaniards. We are currently working on unidad 2, learning about passive constructions in Spanish.

Spanish 5: This month we covered unidad 8 where the main topic was **Beliefs and Ideologies**. We read "Espuma y nada más" and discussed the roles of the characters in the story. We also practiced subjunctive with adverbial clauses, "por" and "para", and "se" to indicate a process. In unit 9 the general topic was **Hispanics in the United States**. We learned about Mexican Americans, Puerto Ricans, and Cubans. We also practiced the use of passive voice.

Spanish 2: We began with much review to reinforce what the students have previously learned. We've reviewed verb tenses such as the: present, preterit, imperfect, present perfect and past perfect tenses. We've studied the differences between the verbs *ser* and *estar* and the differences between the preterit and imperfect verb forms. Our first exam covered the review unit, and I'm very happy to say that all the students did well! Currently we are working on a lesson about Ecuador that includes a "travel brochure for Ecuador" project. All of the 9th grade Spanish students will be traveling to Ecuador this spring so it's very important to prepare them for that. In October we will be receiving six exchange students from Ecuador. We're happy to have them here and feel as though their presence will give our students many opportunities to prepare for their journey to Ecuador.

Japanese I: This year, most of our time has been devoted to covering basic concepts such as hiragana characters, numbers, days of the week, and class commands. At the beginning of each class period, students take a "time challenge" during which they try to fill in a chart with the 46 basic hiragana characters. They are expected to be able to complete a chart in two minutes or less by the end of September.

Japanese II: Students in this class have just wrapped up a chapter on self-introductions, telling time, and asking/answering yes/no questions. Prior to beginning the book, we reviewed katakana characters and basic calendar material such as dates and days of the week. Currently students are studying demonstratives (this, that, which) and numbers through shopping-themed dialogues.

Upper Level Japanese, 11th and 12th: Students in this class are just wrapping up a chapter in which they studied grammar concepts such as listing reasons, "to try something and see what happens," and potential forms. These ideas were introduced and practiced through dialogues having to do with a search for a part-time job. Students are currently preparing for a speech in which they will describe a noteworthy experience.

Art and Music Course Updates:

Art Fundamentals (9th and 10th grade): By the end of September students will have completed two projects stressing the importance of visual problem solving and encouraging them to stretch their thinking. In October, students will begin to work on assigned projects related to line, recycled art, and "ways of looking". They will work at their own pace and will develop solutions to the "visual problems" independently or through collaboration.

IB Visual Arts (11th grade): IB Art students have viewed the film "My Kid Could Paint That" to assist in considering what constitutes real art and who decides. They are working in their Investigation Workbooks, completing 3-4 pages per week, and are completing a project requiring them to view an everyday object in a different manner. In October, they will be working on large-scale independent projects based on some "titles" provided to them. Students are encouraged to attend Madison's Gallery Night on October 3rd from 5:00-9:00 pm. More information about Gallery Night will be forthcoming.

Studio Art (12th grade): In September, students were presented with two projects to work on, one involving the presentation of an everyday object in an unusual manner and one presenting a concept or idea related to time or light through an everyday object associated with those concepts, a clock or a candle. After the completion of these projects, students will work independently to develop ideas for projects and determine how best to implement them. We are also working on arranging a visit to the Ceramics studio at the Warner Park Community Center to learn how to use a pottery wheel.

7-12 Jazz Ensemble: The 7-12 Jazz Ensemble has already been learning and rehearsing music for their upcoming concerts in Winter of 2008. The group has started rehearsing Horace Silver's famous tune "The Preacher," as well as Duke Ellington's dance favorite "Satin Doll." Both tunes highlight specific sections of the ensemble. Students have been given the expectation of learning melodies and/or chord progressions based on their instrument. We are in the beginning stages of learning basic scales, and some students have already had the opportunity to take an improvisational solo using these scales as a guide. The group has also been given practice sheets that focus on rhythm recognition, and will be quizzed on these rhythms over the course of the trimester.