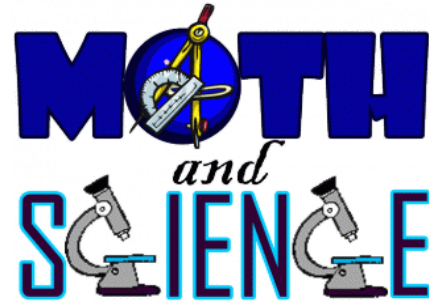


West Orange High School

Institute for Mathematics and Science

IMS 9 & 10 NEWSLETTER

November 2025



Hello IMS families,

Welcome to the 2025-2026 school year!

The IMS team of teachers and school counselors is excited to work with our 9th and 10th-grade students in the Science, Technology, Engineering, and Math program this year.

We are looking forward to a year filled with enriching experiences, including guest speakers from various STEM professions, field trips related to our curriculum and future opportunities, and math and science contests. This month, we will welcome Dr. Joseph Sarver, who will speak about the field of Biomedical Engineering. Next month, Ms. Christine DeCaro will discuss Physical Therapy with our students. Additionally, we will host our first peer networking event with former IMS students in January. Please remind your student to check Google Classroom regularly for updates and more information on upcoming events.

Students will receive IMS contracts that outline the expectations of the program. Communication regarding IMS-related events will be shared through the IMS Google Classrooms that all students have access to. Don't forget to remind your student to check Classroom for updates and further information on events. Also, please keep an eye out for our program fundraiser selling Double Good popcorn!

Feel free to reach out if you have any questions about the IMS program.

Wishing you an enjoyable start to the holiday season!

Mrs. Cristina Delaney

cdelaney@westorangeschools.org

IMS Program Coordinator

IMS School Counselor News

Madelin Fernandez-Perez, School Counselor

Greetings IMS families!

Congratulations on completing the first marking period of the 2025-2026 school year. The School Counseling office is currently reviewing first marking period grades for all students. Each marking period counts for 25% of their final grade. Students should continue to work diligently throughout the rest of the year. We encourage students to reflect on their progress thus far and create short and long term goals for themselves.

Freshmen students were invited to their school counselor's google classroom which offers helpful resources they can access over the next few years. Students can access their [Naviance](#) account to explore career options and build their activity resume to better prepare for their post-secondary plans. It is never too late to join the Mountaineer community by participating in [Clubs/Organizations](#). Students and parents can continue to monitor their child's academic progress through the [PowerSchool Parent Portal](#) account. Please contact your child's [school counselor](#) if you have not activated the Parent Portal. The [GPA Calculator](#) is a great tool that offers our students an estimate of their academic progress based on their current performance.

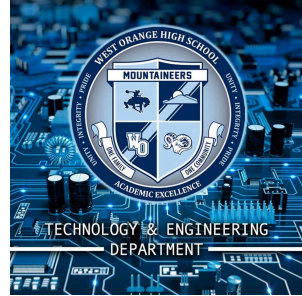
After the New Year, school counselors will be meeting with students to input course requests for the 2026-2027 school year. Teachers are responsible for submitting recommendations for academic courses and students have the option to choose elective courses for next year. For current 9th graders, students will be considered for Honors Math and Honors Chemistry. Additionally, students are required to enroll in a STEM elective designed to provide practical and experiential application of learning in the core math and science classes. The IMS elective tracks are:

- **Programming in Visual Basics/Programming in C++**
- **Architectural and Engineering Design 1**
- **Introduction to Engineering**
- **Sustainable Technology**
- **Healthcare Organizations & Interprofessional Practice**

We look forward to seeing all the wonderful accomplishments our students will make. Families can reach out to their school counselor if you have any questions or concerns.

Technology & Engineering

**Mrs. Celi, Technology & Engineering Coordinator,
Teacher of Architecture and Engineering Design**

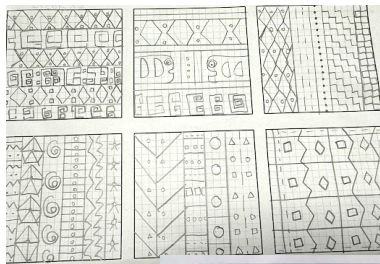


Architectural and Engineering Design 1 Student Highlights

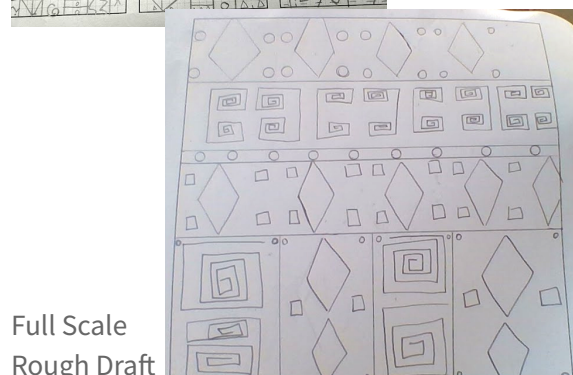
Our Architectural and Engineering Design 1 students have been putting in tremendous effort this quarter! They've been learning the fundamentals of hand drafting using professional architectural tools, mastering accuracy, precision, and scale while developing their design skills.

Earlier in the quarter, students took on the role of textile designers, creating culturally inspired fabric swatches measuring 10" x 10". Each student selected a culture of interest and thoughtfully incorporated traditional elements into their design. They then presented their finished pieces to the class, explaining the cultural significance behind their choices.

Below is a student example highlighting the artistic use of traditional drafting tools. Through this project, students explored how art and culture intersect in design while applying their knowledge of measurement, geometry, drafting best practices, and the engineering design process.

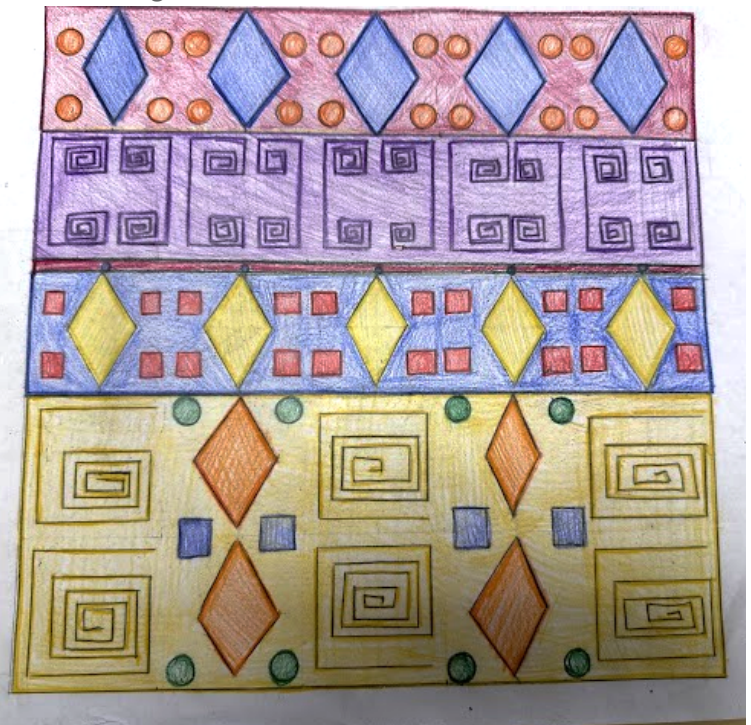


Brainstorming



Full Scale
Rough Draft

Final Design



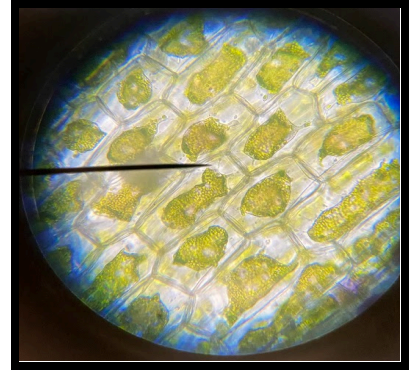
Drawn by: Melanie Chanco / Class of 2029

Honors Biology IMS 9

Tagen Jacobus, Teacher of Biology

Greeting IMS Families,

During marking period 1 your children have been researching and exploring cells and homeostasis in great depth. They have also been practicing reading, note-taking, forming bullet points from a text and practicing scientific models. Students enjoyed themselves while using the microscopes to see Elodea plant cells in fresh and saltwater. Then we moved into a Heart Rate lab where they set up a procedure to run and collect data on how heart rate changes before, during and after exercise.



Moving onto Unit 2, which explores matter and energy transformations, students will be analyzing the relationship between photosynthesis and respiration. During these labs, they will be exploring variables that aid in photosynthesis and respiration. Last, we will move onto Cycles through the different "spheres" of our Biosphere.

In December, we will be heading to the LMC for a little bit of SEL time while strategizing, collaborating and problem solving during a Breakout EDU program.



I am available most C and D days during lunch and Tuesday, Wednesday and Thursday for student assistance. Studying and building a study guide is a necessary expectation and if your child is still struggling to do so, please encourage them to see me during these times so we can assess where they are at and assist in moving forward.

Happy Thanksgiving and Holidays to all!

Mrs. Jacobus

Honors Algebra II IMS 9

Leslie Bagen, Teacher of Mathematics

Hello!

Welcome to the 2025 – 2026 school year and the IMS 9 program. I am covering for Mrs. Bryant and will be your child's Honors Algebra II teacher until Mrs. Bryant returns at the end of the month. We began the year by diving into solving Quadratic Functions. The different solving methods that we used are graphing, factoring, completing the square, and the quadratic formula. We also worked with transformations on Quadratic Functions and analyzed them in vertex form. Throughout the unit, students completed a project in which they analyzed the characteristics of parabolas in the real-world.

As November begins, so do many new topics. For IMS Honors Algebra II, we will be analyzing polynomials and their characteristics. This includes end behavior, zeros, domain, and range, evaluating the functions at a specific value, using synthetic division, factoring, and applying properties of exponents. For this unit's project, the students will use polynomial functions to relate it to the shapes of roller coasters. Then, they will be creating their own roller coaster polynomial function using specific requirements and drawing its graph.

Sincerely,

Ms. Bagen

Honors Geometry & Analysis IMS 9/10

Samantha Heller, Teacher of Mathematics

Hello and welcome!

I am so excited for this school year! Let me start by introducing myself. I am a WOHS alum and am so happy to be teaching in my hometown. After graduating from WOHS, I attended Rutgers University and earned my Bachelors of Science in Mechanical Engineering. I worked in the industry for a short period of time and then decided to get my Masters in Teaching at Montclair State University. I am now entering my seventh year of teaching and am loving every minute of it!

We have been very busy in Geometry during these first few months of school. We have developed a solid foundation of points, lines, planes, and angles. We have also measured and constructed various lines and angles using compasses and protractors during our first Performance Based Assessments (PBA). Furthermore, we've studied the different angle relationships found involving transversals. We have also been working on our logic skills by writing geometric proofs and solving complex algebraic problems that relate to Geometry. My students have shown such growth over the past couple of months and I am already so proud of all that they have accomplished (especially with the dreaded topic of Proofs)!

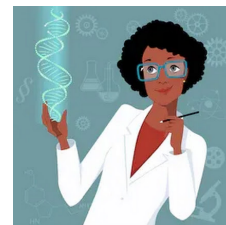
In this new marking period, we will be focusing on Triangles. More specifically, we will be learning about the various types of triangles, the angle relationships found within triangles, the theorems that relate to triangles, congruent triangles, and various proofs that correlate to these triangle topics. I am excited to continue to build our Geometry knowledge and look forward to all that this new marking period has in store!

Have a wonderful holiday season!

Ms. Heller

Honors Chemistry IMS 10

Tantanya Hodges, Teacher of Chemistry



Hello IMS Families and Friends,

This year in Chemistry with the study of the Big Bang. The students will be developing an understanding of Chemistry by learning where it all began. We will be studying the origin of the Universe, the discoveries and the experiments that led to the amazing things around us.

My goal as a teacher is to introduce my students to the prevailing theories and discoveries of well regarded scientists as well as to the experiments and scientists that aren't in the textbooks, but whose work and ideas led to the groundwork for our understanding of the microscopic world.

These first few months the students have been learning about developments of atomic theory; the discoveries of the atom, proton, electron, neutrons and nucleus. Recently we've discussed the historical developments in atomic structure and why the model of the atom has evolved from a simple circle to something abstract and difficult to describe.

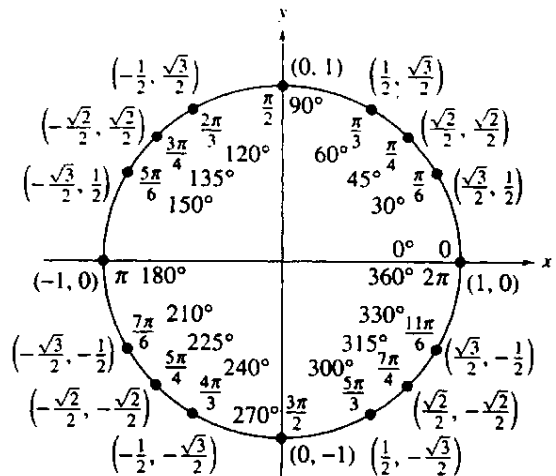
Throughout the year, the students will be engaged in many inquiry-based investigations, data analysis, mathematical problem solving and developing scientific arguments. On occasion, I will collaborate with our Library Media Specialist to integrate technology and student learning through various activities.

Honors Precalculus IMS 10

Cristina Delaney, Teacher of Mathematics

Dear IMS 10 Precalculus families,

With the first marking period coming to a close, we have made great strides in learning this new content, which will provide a foundation for Calculus and additional higher-level mathematics courses.



We have completed two units so far. In our first unit, Triangle Trigonometry, we built upon the knowledge gained in IMS Honors Geometry by exploring how to solve triangles using the Laws of Sines and Cosines, as well as determining the area of non-right triangles. In our second unit, Angles and the Unit Circle, students were introduced to radian measures and angles on the coordinate plane. Looking ahead, we will continue to deepen our understanding of trigonometry and the applications of sine, cosine, tangent, and their reciprocal values.

It has been a pleasure to work with your students and get to know them throughout this marking period. I hope they are enjoying the course and their learning experiences. I look forward to continuing our journey through Precalculus together!

If you have any questions, please don't hesitate to reach out.
Wishing you all a wonderful holiday season!

Sincerely,

Mrs. Cristina Delaney

