

Please keep this syllabus in the front of your notebook at all times.

Infinite Campus: All students with internet access are encouraged to become registered users of Infinite Campus so that you may keep up with your grades in all classes. Have a smartphone? Download the app! District ID: HMYTHJ. Parents may register then access this information by going to our schools website and click the quick link for Parent Portal. Students should check grades and missing assignments at least once a week.

Google Classroom, webpage: my webpage, accessed through <https://www.harris.k12.ga.us/hccms>, provides a calendar of lesson plans with homework assignments listed and test/quiz announcements. Students will join my Google Classroom, using their student google account. Lesson presentations, assignments, projects, and classroom documents will be uploaded weekly. These are useful tools during an absence.

Remind 101: Students and parents will join my Remind 101 for important announcements and reminders.

Conference Period: Mondays and Fridays 9:00 to 10:00 by appointment through the counselor's office (706) 628-4951.

Course Description: The eighth grade gifted Science program is designed to develop a student's understanding of physical science concepts and how it relates to the world around them. This course acts as a bridge between previously learned concepts and new material to higher level concepts presented at the high school. The curriculum is taught using a variety of modalities to include investigations, technology, and research-based presentations. **Students are expected to demonstrate creativity and understanding based on original work and independent thought working within the cluster model classroom setting.**

Recommended Supplies:

- *Binder with 3 dividers (sections to include: Notes, Classwork/Labs, Vocab/Review)...binder can be combined with another subject, Composition notebook or spiral notebook (for daily warm ups), Loose leaf paper, Pencils, Cap erasers, Hand-held sharpener, Colored Pencils or markers, Glue sticks*

Grading Schedule:

❖ Classwork	45%
❖ Homework	15%
❖ Tests/Quizzes	25%
❖ Final Exams	15%

Units of Instruction:

1st 9 Weeks: Matter-

S8P1. Structure & Properties of Matter

Special Projects: Model atom, compound, Mixture; Physical & Chemical Properties & Changes; Design a Density Column; Research Tasks for the Periodic Table; Make electromagnets

2nd 9 Weeks: Force and Motion-

S8P5. a, c Electric, Magnetic, & Gravitational Forces
S8P5. b Static Charge
S8P3. Motion
S8P2. a, b Potential & Kinetic Energy

Special Projects: Make an Electroscope; Explore Van der Graff; Research/apply Laws of Motion; Balloon Car Racers; Create a foam coaster

3rd 9 Weeks: Energy in Motion-

S8P2. c, d Energy Forms & Transformations; Heat Transfer
S8P4. Waves

Special Projects: Energy Scavenger Hunt; Energy Transformation Web, Research the Electromagnetic Wave & its Usage

Curriculum meets all National Science Standards and correlates to the Georgia Standards of Excellence. <https://www.georgiastandards.org/Georgia-Standards/Pages/Science.aspx>. A summary is on the back.

Georgia Standards of Excellence Summary

S8P1. Matter

- a. Pure substances (elements & compounds) and mixtures (homogeneous & heterogeneous).
- b. States of Matter (solid, liquid, gas, plasma), phase changes.
- c. Chemical & physical properties (including density).
- d. Chemical & physical changes and evidence a chemical change has occurred.
- e. Atoms & identifying patterns in the periodic table.
- f. Law of Conservation of Matter & balancing chemical equations.

S8P2. Energy

- a. Kinetic energy and potential energy.
- b. Kinetic and potential energy transformations.
- c. Forms of energy (MR HC GENES) and energy transformations.
- d. Heat transfer (conduction, convection, radiation).

S8P3. Motion

- a. Speed, velocity, acceleration, and motion graphs.
- b. Newton's Laws of Motion, balanced and unbalanced forces.
- c. The relationship between force, mass, and acceleration ($F=ma$, Newton's 2nd Law).

S8P4. Waves

- a. Similarities and differences between electromagnetic and mechanical waves and the wave parts.
- b. Relationship between the electromagnetic spectrum and energy.
- c. Practical uses (communication, medical, military) of the electromagnetic spectrum.
- d. Reflection, refraction, absorption, diffraction of light and sound waves through various materials, and how we see color.
- e. Wave speed through different mediums (light vs. sound).
- f. Wave properties (frequency, amplitude, wavelength) and energy.
- g. Lenses: concave & convex.

S8P5. Forces in Nature

- a. Magnetic, electric, and gravitational fields.
- b. Static charge/electricity: conduction, induction, friction, and distribution of charges in conductors and insulators.
- c. Factors that affect the strength of magnetic, electric, and gravitational forces (including electromagnets, generators and motors).