Reavis High School
Scientific Research & Application Curriculum Snapshot

Unit 1: Water - Properties, Sources, Contaminents, Uses, and Treatment

6 weeks	Through the study of water, students will learn the processes of science. Students distinguish between independent and dependent variables, predict, hypothesize, differentiate between qualitative/quantitative observations, design experiments, and evaluate scientific works using labs and case studies.

Unit 2: Agriculture - Farm to Table and Beyond

| 6 weeks	Topics covered are about systems and interacting parts, issues in technology, and the effects of our global food system on the environment. Misconceptions about farming and where food comes from will be addressed. Evaluating risks vs. benefits of certain practices in the farming industry, such as irradiating food, GMO's, etc. ,will be studied.

Unit 3: Energy

6 weeks	Students will become familiar with the principles of energy in a scientific manner. By studying interactive systems, students will discern the risks and benefits of existing and emerging energies. Energy consumption and waste will be evaluated at the individual, local, and global level.

Unit 4: Waste - Every System Has It

6 weeks	Waste is a part of every system. Different types of waste will be addressed, such as energy, landfills, materials, sewage, etc. How waste can be minimized in a system's design will be examined.
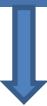
Unit 5: Climate Change

6 weeks	Students' misconceptions about weather and climate are addressed. Previous units will be integrated to illustrate the interconnectedness of disciplines and how these topics contribute to global climate change. Climate-induced changes that affect one part of a species' life cycle can have wide-reaching effects on the ecosystem as a whole.

Unit 6: Capstone Project

6 weeks	Students will complete a capstone project that includes authentic research, designing a system to solve a global issue, testing said design, and including redesigns when necessary. Students will be required to display data, verify, and corroborate results of their project. They will then present their findings to a panel of mentors for review.