8th Grade Science Syllabus

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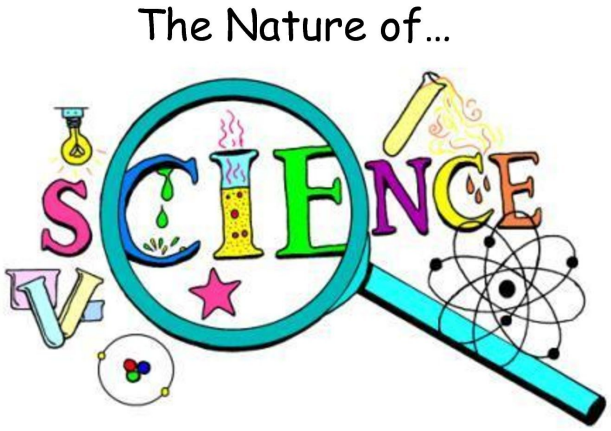

Course Overview

Our curriculum is a blend of core ideas with scientific practices to support students in developing usable knowledge and skills for 21st century real-world applications. These include developing and using models, planning and conducting investigations, analyzing and interpreting data, and applying knowledge through performance based projects. Through instructional practices and application students will develop a deep understanding of the scientific content.

Attendance

Maintaining good attendance in school is imperative in keeping up with the knowledge and skills learned in class. We will be following the school's attendance and tardy policy stated within the student handbook. When a student is absent that student is responsible for collecting a list of make-up work. In addition, due to the nature of shared resources within the science department some laboratory lessons will not be available for makeup and the student will be required to make up the information watching lab videos or meeting with the teacher during their advisory period and/or Wednesday's intervention day.

Student Privacy Policy

In Auburn-Washburn we take student privacy seriously. Students and parents are informed about the manner in which remote instruction will include the use of online platforms, video streaming and recording. Digital safety and citizenship skills are included in each class to ensure that students know how to safely navigate the online classroom. These skills include: the ability to curate reliable information, to interact safely and lawfully online, including cyberbullying, hacking and the unauthorized disclosure, use and dissemination of personal information. Because instruction will be occurring in students' homes, parents and other household members are also notified of the following:

a. Auburn Washburn Board Policy KGB prohibits the recording of any students, employees, surreptitiously or through the use of concealed audio and/or visual recording devices.
b. Recorded classroom instruction and communication will be posted only on private online sites that are not publicly searchable for the purpose of making that information available to students as needed.
c. Student information subject to protections under the Family Educational Rights and Privacy Act (FERPA) and the Health Information Portability and Accountability Act (HIPPA) will be shared with written parental consent only.
d. Students will be educated about privacy settings that are included with District-issued technology devices and digital tools.

Grading Policy

The science curriculum is scaled on a weighted curve. Assessments will account for 70% of the science grade, the remaining 30% is based on assignments and daily work. Assessments can include quizzes, tests, reports, and projects. This is set to encourage students to study and develop a deeper understanding of the content. Students may retake major tests only, the grade will be then averaged with the original test score. Plagiarism and cheating within an assignment and/or assessment is considered academic dishonesty. Students who are caught plagiarizing or cheating will have the grade marked as a zero and labeled academic dishonesty.

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Students will also be provided with an opportunity to redo the assignment and/or assessment upon request to the teacher from the student for partial credit of up to 70%.

Homework Policy

Homework should be turned in at the requested due date. Students who fail to turn in assignments within the requested due date will receive deductions in point value. Projects and assignments will be deducted by 25% if turned in late. The student can turn in late assignments up until the unit assessment, afterwards it will no longer be accepted.

8th Science Modules taught with Amplify

1. Geology on Mars
2. Plate Motion and Plate Motion Internship
3. Evolutionary History
4. Chemical Reactions
5. Earth's Changing Climate and Earth's Changing Climate Internship

8th Science Standards based on NGSS

- Mastery: these learning objectives form the basis of the course.
- Essential: these learning objectives necessary to obtain and maintain mastery learning objectives should also be included as time allows after the above considerations.
- Enhanced: these learning objectives will be taught if timing allows within the unit or offered as an extended learning opportunity

Earth Science:

MS-ESS1-4. Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history.

MS-ESS2-1. Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.

MS-ESS2-2. Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.

MS-ESS2-3. Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.

MS-ESS3-1: Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.

MS-ESS3-2. Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.

MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

MS-ESS3-4. Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

MS-ESS3-5. Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

Life Science:

MS-LS4-1. Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.

MS-LS4-2. Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.

MS-LS4-3. Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify relationships not evident in the fully formed anatomy.

Physical Science:

MS-PS1-1. Develop models to describe the atomic composition of simple molecules and extended structures.

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MS-PS1-2. Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.
MS-PS1-3. Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.
MS-PS1-4. Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.
MS-PS1-5. Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.
MS-PS1-6. Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.