Course Overview
Investigations in Life Science 7th Grade
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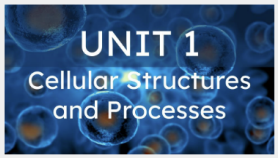
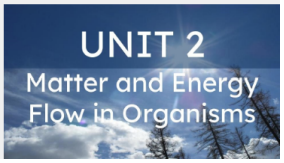
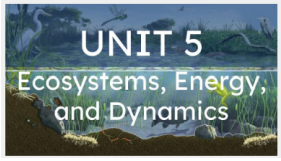
OVERVIEW:

Students in this course will develop an understanding of biology concepts related to the following topic areas: Cellular Structure and Processes, Matter and Energy Flow in Organisms, Inheritance and Variation of Traits, Evolution, and Ecosystems Interactions, Energy, and Dynamics. While each of these concepts will be taught in isolated units, Investigations in Life Science will also revisit related concepts throughout the school year to show the interconnected nature of biological sciences.

UNITS OF STUDY:

Title	*Content Focus*
	Students will examine the characteristics of living things including the structure of cells and the processes they carry out. Students will also learn what materials are required by living things, how these materials are delivered, and how these materials sustain life. **Driving Questions:** How do the structures of organisms enable life's functions? How do organisms grow and develop? How do organisms obtain and use the matter and energy they need to live and grow? How do food and fuel provide energy? If energy is conserved, why do people say it is produced or used?
	Students will study the body systems of organisms and explore how the interactions of those systems affect overall functions. Students will learn about the levels of organization within an organism and the contribution cells provide a system as the basic building blocks of life. Students will explore how matter and energy are processed by organisms to build, maintain, and repair themselves. **Driving Questions:** How do the structures of organisms enable life's functions? How do organisms obtain and use the matter and energy they need to live and grow? How do the systems of the human body function and perform basic life processes? How do body systems work together as a cohesive unit to make life possible?
	Students will study the principles of heredity and genetics. They will learn how organisms reproduce and transfer their genetic information to their offspring. Students will study how characteristics get passed on from generation to generation and research several genetic disorders that affect human offspring. **Driving Questions:** How do organisms grow and develop? How do organisms reproduce, (sexually or asexually) and transfer their genetic information to their offspring? What characteristic behaviors do animals perform that increase the odds of reproduction? How are the characteristics of one generation related to the previous generation? How does genetic variation among organisms affect survival and reproduction? Why do individuals of the same species vary in how they look, function, and behave?

	In this unit, students investigate the connections between ancient and modern organisms. Students develop a model for natural selection and use it to account for patterns between the body structures and behaviors of ancient organism fossils and similar organisms living today. **Driving Questions:** How do people reconstruct and date events in Earth's planetary history? What evidence shows that different species are related? How does genetic variation among organisms affect survival and reproduction? How does the environment influence populations of organisms over multiple generations?
	Students will explore the biodiversity and essential factors of different ecosystems and learn that a population consists of all species that occur together at a given place and time. Students will investigate populations within food webs and categorize those populations as producers, consumers, and decomposers. Students will learn that organisms compete for limited resources and that the number of organisms an ecosystem can support depends on the resources available. Students will explore how competition may limit or generate the growth of populations in specific niches in the ecosystems. They will use models to demonstrate the flow of matter and energy in an ecosystem. **Driving Questions:** How do organisms interact with the living and nonliving environments to obtain matter and energy? What happens to ecosystems when the environment changes? How do matter and energy move through an ecosystem?

Safety in the Science Class

Students will be required to follow the safety procedures outlined in the MCPS Science Safety Contract at all times during class. Failure to follow these procedures may result in exclusion from lab activities and/or dismissal from the classroom.

Students must have a signed safety contract on file **AND** pass the MCPS Science Safety Test with 100% score before they can participate in hands-on lab activities. The Science Safety Test may be retaken as many times as needed until a 100% score is earned - this is the **ONLY** assignment that will have unlimited retakes.

Required Materials

Students should bring the following items to class every day:

- 3-ring binder with a section for science
- Lined notebook paper
- Pencils with erasers
- Agenda book (*provided by the school*)

Grading & Reporting

Grades for this class are found on Synergy (**Student/Parent Vue**). Students' academic grades are based on individual academic achievement. You will see the following three types of grades in the grade book:

All Tasks / Assessments (AT)	**Practice/Preparation (PP)**	**Ungraded (Y/N)**
Graded for Accuracy	Graded for Completion	Checked for Completion
Make up 90% of final grade (weighted to 90%)	Make up 10% of final grade (weighted to 10%)	Don't affect final grade - used to track participation

A variety of assessment types will be used to assess student learning including: classwork, homework, quizzes, tests, labs, projects, and written/oral presentations. Both individual assignments and final grades will be determined using a scale of:

A: 100% - 90%, B: 89% - 80%, C: 79% - 70%, D: 69% - 60%, E: 59% - 0%. **NEW THIS YEAR: Final course grades will be determined by averaging the quarterly grade percentages per MCPS policy.**

Due dates and Deadlines

Each assignment will have a due date. This is the date by which all students are expected to submit the assignment to receive full credit. Work that is not turned in by the due date will be entered into the gradebook as a "Z." This "Z" means that the assignment is missing but can still be turned in for credit.

All late work must be turned in by the deadline to receive credit. If a student makes no attempt on an assignment by the deadline, they will be given a score of 0% for that assignment. **NEW THIS YEAR: Deadlines will be determined by the teacher, but may not exceed 10 school days after the original due date per MCPS policy. In addition, no late work will be accepted during the last 5 school days of a marking period per MCPS policy.**

Reassessment and Retakes

Not all assignments are eligible for reassessment. End of unit assessments/projects and common writing tasks will not be retakeable. Eligible assignments will be identified by the teacher AFTER the first attempt has been completed and graded. Eligible assignments will be marked with an "R" in the gradebook after the title of the assignment. When a teacher offers a reassessment, students may be reassessed if they meet the following requirements: completed the original task or assessment, completed required practice assignments, and completed re-teaching/re-learning activities. Students are responsible for requesting a reassessment on eligible assignments. The reassessment grade will replace the original grade only if the subsequent grade is higher.

TAP Time

TAP is a time when students can get extra help, make up missing assignments, and/or complete reassessments during class. TAP will be offered at least once every 2 weeks.

Academic Dishonesty

Academic dishonesty in any form will not be tolerated. Students will receive a consequence aligned to the MCPS student code of conduct. Examples of academic dishonesty include copying work from the internet, copying work from other students, or using Artificial Intelligence (AI) to create your assignments.

Absences

Students are responsible for making up work missed during an absence. Students should first check MyMCPS Classroom (Canvas) and then check in with their teacher if they have any questions. Deadlines will be adjusted on a case-by-case basis if needed.

MyMCPS Classroom and StudentVue

- Students will be given and submit a paper copy of most assignments in class. Some assignments & assessments will only be available digitally. All assignments as well as other course materials and announcements will be posted on MyMCPS Classroom (Canvas) daily.
- Students are expected to regularly check their grades and know what assignments are missing (if any). There should be no surprises about grades to students or parents. Students can check their grades for all classes through **StudentVue**. Grades are updated at least every 2 weeks or sooner.

Please reach out to your teacher with questions via Synergy Mail or using the email address at the top of this syllabus.