

CP Biology
Wall High School
2024-2025

Mrs. Roarty mroarty@wallpublicschools.org	Room(s): E3
<u>Class Schedule:</u> Period 3 - CP Biology with Mr. Mairo	
<u>Extra Help:</u> A Day in E9 Knights for Success. If you cannot make that day, you <u>must</u> email me to set up another time to meet.	

Marking Period Schedule

Marking Period 1 9/4/2024 - 11/6/2024	Marking Period 3 1/28/2025 - 4/1/2025
Marking Period 2 11/11/2024 - 1/17/2025	Marking Period 4 4/2/2025 - 6/5/2025
Midterm Exams 1/21/2025 - 1/27/2025	Final Exams 6/6/2025 - 6/13/2025

Course Description

Biology investigates patterns, processes and relationships among organisms. The core concepts are powerful conceptual tools for making sense of the complexity, diversity, and interconnectedness of life on Earth. Order in natural systems arises in accordance with rules that govern the physical world, and the order of natural systems can be modeled and predicted through the use of mathematics. This course also makes connections between Earth and human activity. Students will demonstrate understanding through performance expectations. Lab experiences complement the core concepts.

Units of Study

- Science as a Process
- Matter and Energy Transformations in Ecosystems
- Interdependent Relationships in Ecosystems
- Human Impacts on Biodiversity
- Structure and Function
- Inheritance and Variation of Traits
- Natural Selection & Evolution

Classroom Expectations

The following guidelines involve policies and practices of the Wall Township High School, please review the following:

1. **Be prepared and be on time!** Regular attendance is important for the continuity of the program. All absences will negatively affect your classroom participation. If you are not present in class, you are not participating.
2. **Follow all lab safety rules!** Laboratory procedures must be strictly followed and will be strictly enforced. Please review the handout on lab safety.
3. **Please see me if you have any issues!** If there are any problems with the coursework, materials, and/or other students, please see me so that we can address the situation and work out a solution.
4. **Work from bell to bell.** You should be focused and “on task” while you are here. If you pay attention and participate in class discussions and lab activities you will be more successful in this class.
5. **Do your own work!** Although you may be working with others on a specific lab, everyone is responsible for their own lab report. Any evidence of copying others’ work will result in a zero.
6. **There is a time & a place for the use of your cellphones!** There will be **no** use of personal electronic devices in the classroom. You will be asked to place them in the phone holder and you will receive them at the end of the block.

Materials & Available Resources

All students will be required to have the following in class every day:

- A charged chromebook **and** a charger
- A three ring binder
- Pens and pencils

Grading Breakdown

Each quarter grade is based on a percentage model; the following grading formulas have been established.

Marking Period Category Percentages

Category	Minimum Number	Percentage
Major Assessments (Summative)	2	30%
Minor Assessments (Formative)	6	60%
Homework/Classwork	5	10%

Course Grading

Category	Percentage
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Marking Period 1	20%
Marking Period 2	20%
Midterm Exam	10%
Marking Period 3	20%
Marking Period 4	20%
Final Exam	10%

Marking Period 1 and 2*

Big Ideas	Topics/Themes/Concepts	Activities & Assessments	Timeline
Science as a Process	<ul style="list-style-type: none"> • What constitutes a fair experiment? • What are the various types of variables in a controlled experiment? • What makes a well supported scientific claim? 	<ul style="list-style-type: none"> • Graphing • Analyzing Scientific Data • Constructing experiment • Arguing from evidence • Worksheets • Quiz(s) 	MP1
Matter & Energy Transformations in Ecosystems	<ul style="list-style-type: none"> • How do organisms obtain and use energy they need to live and grow? • How do matter and energy move through ecosystems? 	<ul style="list-style-type: none"> • Macromolecule lab • Photosynthesis simulation • Anaerobic Respiration Lab • Nutrient Cycling worksheet/activity • Worksheets • Quiz(s) • Assessment 	MP1 & 2
Interdependent Relationships in Ecosystems	<ul style="list-style-type: none"> • How can change in one part of an ecosystem affect change in other parts of the ecosystem? 	<ul style="list-style-type: none"> • Energy Transfer POGIL • Stations • Carrying Capacity Simulation • Group Behavior 	MP2

	<ul style="list-style-type: none"> • What is biodiversity and how is it impacting ecosystems? 	<p>Activity</p> <ul style="list-style-type: none"> • Biodiversity Activity • Quiz(s) • Performance Task 	
Human Impacts - Biodiversity	<ul style="list-style-type: none"> • How have human activities and climate change shaped local and global ecology? • Is it too late to slow the effects of climate change? 	<ul style="list-style-type: none"> • Climate Change Data • Climate Change Stations • Modeling Greenhouse Effect • Quiz • Data Analysis • Quiz(s) • Assessment 	MP 3
Structure and Function	<ul style="list-style-type: none"> • How do the structures and functions of cellular components contribute to the overall function and organization of living organisms? • What role does the central dogma of molecular biology play in the transmission and expression of genetic information within cells? • How do mistakes in cellular processes and genetic information impact the structure, function, and behavior of organisms? 	<ul style="list-style-type: none"> • Cell Modeling • Graphic Organizers to compare & contrast • Plant v Animal Microscope Lab • Cell Transport Practice (Tonicity Problems) • Diffusion/Osmosis Lab • Cell Specialization • Quiz (s) • Assessments 	MP 3
Inheritance and Variation of Traits	<ul style="list-style-type: none"> • If all living things share the same genetic code, how can there be such a great variety of species? • To what extent is genetic diversity from generation to generation important? • How is it that a change in the genetic code can 	<ul style="list-style-type: none"> • DNA/RNA Structure and Function • Model DNA using manipulatives • Model Protein Synthesis • Stations (DNA/RNA/Protein Synthesis) • Punnett Square 	MP 4

	have a benign effect, deleterious effect, or no effect at all?	Practice <ul style="list-style-type: none"> • Quiz(s) • Assessment 	
Natural Selection & Evolution	<ul style="list-style-type: none"> • How does natural selection contribute to the diversity and adaptation of living organisms? • What evidence supports the theory of evolution and how does it explain the similarities and differences among species? • How can an understanding of natural selection and evolution impact our understanding of and interaction with the natural world? 	<ul style="list-style-type: none"> • Natural Selection Phet Simulation • Evidence for Evolution Stations • Data Analysis • Quiz(s) • Assessment 	MP 4

**Subject to revision*

Make-up Work as per Student Handbook

- Students who are absent from class for any reason will be required to make-up the work missed in each class. Completion of this work should take approximately the same amount of time as the student missed from class. In extreme cases of prolonged absence, (more than five consecutive days,) the Principal may grant extra time for the students to complete missing assignments. Students will receive an incomplete grade pending the submission of the missing assignments. Students will receive a zero for any work that is not completed by the designated timeline.
- It is the student's responsibility to obtain all make-up work from his/her teachers immediately upon return to school. Failure to obtain makeup work is no excuse for not completing work missed. Students have the same amount of time that they have been absent to make up the work.

Academic Integrity Policy as per Student Handbook

Plagiarism Policy

- **Freshmen:** On the first offense, the student may rewrite for a maximum grade of 55. The rewrite should be closely monitored by the teacher because on the freshmen level we are concerned with

students' understanding of the process. On the second offense, the student receives a 0 grade for the final product. (Students' offenses will be filed in the supervisor's office.)

- **Sophomores, Juniors and Seniors:** If the teacher finds that the plagiarism is flagrant or pervasive and can document the same, the assessment may receive a grade of zero.

Cheating

Students are expected to conduct themselves honestly and with integrity in their work. All forms of cheating and plagiarism are prohibited. Behavior that is unacceptable includes, but is not limited to the following:

- Copying another student's work;
- Working with others on projects that are meant to be done individually;
- Looking at or copying another student's test or quiz answers;
- Allowing another student to look at or copy answers from one's test or quiz;
- Using any other method (ie "cheat sheets", communicating in any form) to get/give test or quiz answers;
- Taking a test or quiz in part or in whole to use or to give to others;
- Copying information from a source without giving proper acknowledgment;
- Taking papers from other students, publications, or internet sources and claiming it as one's own work;
- Academic dishonesty in any other form including, but not limited to, tampering with computerized grade records;
- Giving or receiving answers and/or test questions to or from another student.

Violators of this policy will be disciplined on a case-by-case basis, depending on the seriousness of the violation, prior violations and other factors.

Disciplinary measures/consequences may include, but are not limited to the following:

- Redoing the assignment (see policy on plagiarism);
- Receiving a zero grade on the project, test or quiz;
- Letter sent to parent and placed in the student's file;
- Detention, suspension or expulsion.