



Life Science 1

2021-2022 Spaulding High School Science Department



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Course Description: Life Science 1 is a foundational course where students learn about different biological topics and how organisms interact with the physical world they live in. Class will involve laboratory investigations, data collection and analysis, modeling activities, whole-class and small group learning activities, and student presentations. Students seeking honors recognition will need to meet all required course standards as well as complete additional assessments outside of class (one per standard).

Topics/Areas of Study/Units of Study: The inner Workings of Cells, Ecology, Genetics, and Evolution

Materials: Students will need to supply and bring to class daily their charged chromebook, a 3-ring binder with 4 dividers (dividers can be homemade) and writing utensils (see me if this is a concern).

Practice / Learning Tasks:

Students are expected to participate in all “Learning Tasks” which may include: class discussions, labs/activity, lecture/notes, projects, investigations, practice sheets, and review sessions. Although not all of these will be formally assessed, feedback will be regularly provided and completion of Learning Tasks may be required prior to taking an assessment.

Assessment / Reassessment:

Assessments will be used to determine if you have met a standard or not. Once an assessment has been returned you have the opportunity to reassess for a higher grade. Prior to reassessing all Learning tasks for that topic must be completed proficiently and corrections will need to be made to the original assessment. Contact me and we will create a plan to help you be successful in your reassessment.

Call Back Day: At the end of the semester during Call Back Day you will be allowed to make up no more than 2 performance indicators. If students do not consistently complete PAS tasks and meet PAS expectations they may be ineligible for Call Back.

Make-Up / Late Work Policy: It is 100% YOUR responsibility to get learning opportunities and assessments that you missed due to your absence or tardiness. You must come see me during Advisory, before, or after school to get missed work. Asking me before or during class will not be accepted. It is solely up to you to get the work you missed and turn in assignments that were collected in your absence. If you have an excused absence on the day of an assessment you must sign up for my advisory or arrange a time before or after school to take the assessment within 1 week of returning.

Classroom Expectations: My expectation is that you will arrive to class with an open mind and help me maintain a respectful learning environment, where people feel safe to ask questions and try new things. We will talk more in class about what respect looks and sounds like.

Tardiness: Students are expected to arrive to class on time and active every day. Students are prepared if they have the above materials and all their class work.

Electronic Device Policy: Personal electronic devices, including headphones, must be turned off and put away during class. If you have an academic need to use a personal device, please ask first and be ready to explain what that need is. The only exception to this rule is when I allow students to listen to music during individual work time. When this is the case, your cell phone or device needs to be placed face down on the desk and cannot be touched (a playlist will need to be made if you want to choose your songs). Listening to music must not be a distraction to you or audible to other people in the room. **You may not use youtube to listen to music.** Cell phones are not to be used for social media; this includes pictures and videos. If these expectations cannot be followed I will hold on to your cell phone for the duration of the class and make sure your parent or guardian is aware of the distraction it has caused. If the cell phone turns into a constant distraction then disciplinary action will follow.

Chromebook Policy: Your chromebook should be brought to class and sufficiently charged.

→ **Chromebooks are to be used for classwork only; no exceptions.**

Substitutes: When I am absent from class I expect you will conduct yourself in the same manner as you would if I were there teaching. Any student whose name is brought to my attention for misbehavior with a substitute will be assigned a detention

Extra Help: Extra help is available during advisory or before or after school by appointment. Please feel free to come by whenever you have a question.

Food in the Classroom: There is no food allowed in class and drinks must be kept in a closed top container.

***NO PEANUT or tree nut PRODUCTS ARE ALLOWED IN CLASS!**

Course Scores: Use the [Course Performance Grading Outline](#) to determine your overall grade for the course. To receive a partially proficient or above no performance indicators can be missing or a No Evidence (NE)

* Note: To be Exemplary or Partially Exemplary in the course no Performance Indicators can be below Proficient.

Optional Honors Credit:

Honors designation is centered on students striving for greater breadth and complexity into the course material, and demonstrating greater commitment and rigor in doing so. In order to achieve “Honors” status for the course, a student must:

- Complete an additional, advanced assignment for each unit/ standard of the course.
- Pass all honors assignments. Each will be graded as pass/ fail.
- Complete all honors assignments on the deadline required.
- Be proficient in all performance indicators.
- Turn in all assignments and assessments in a timely manner.

Life Science 1 Assessed Course Standards

→ To earn **Proficient** (P) in a standard the majority of the performance indicators need to be Proficient (P) or Exemplary (E) and there cannot be any No Evidence's (NE).

→ To earn **Exemplary** in a standard no performance indicators can be below Proficient (P). **(This means you cannot have B's or D's on any performance indicators)*

Standard #1: Cells-Students will be able to explain that all living things are made of cells and all life processes happen in cells.

Performance Indicators: Student will be able to explain...

- L# 1.1: the characteristics of life.
- L# 1.2: the role of homeostasis in maintaining life.
- L# 1.3: the structure and function of the large molecules that make up living things.
- L# 1.4: the relationship between photosynthesis and cellular respiration.

Standard #2: Genetics-Students will be able to explain how DNA codes for the structure and functions of life in its immense variety.

Performance Indicators: Student will be able to explain...

- L# 2.1: the role of cellular division (mitosis) in maintaining life.
- L# 2.2: how the structure and function of DNA help carry out the essential functions of life.
- L# 2.3: how chromosomes and DNA code for inherited characteristics.
- L# 2.4: how genetic variability may come from sexual reproduction (meiosis), error in DNA reproduction, or mutation.

Standard #3: Evolution-Students will be able to investigate how life changes over time.

Performance Indicators: Student will be able to explain...

- L# 3.1: the process of evolution.
- L# 3.2: natural selection as a main mechanism for evolution.
- L# 3.3: how changes in the environment & genetics can cause changes in the variation and distribution of inherited traits
- L# 3.4: the multiple lines of evidence that support common ancestry and biological evolution

Standard #4: Ecology-Students will be able to **investigate** the relationship of biotic and abiotic factors to organisms and the environment.

Performance Indicators: Student will be able to explain...

- L# 4.1: the relationship between abiotic and biotic systems in their environment.
- L# 4.2: factors affecting biodiversity and ecological relationships.
- L# 4.3: how energy and matter cycles through ecosystems
- L# 4.4: human impact on the environment and ecological systems

Safety in the Science Classroom: All students are responsible for maintaining a safe science classroom. Please read and sign the provided science safety contract.

*Sign the back of your safety contract to indicate that you have read and understand this syllabus

For your Records

Spaulding High School Science Safety Contract

Science investigations allow students to learn science through discovery. Many investigations utilize equipment and chemicals that must be used safely and responsibly. Science teachers will assure that you have a safe laboratory experience, but you must also do your part. Read the following safety contract. Signing the contract signifies you understand and will follow it. A parent or guardian must also sign so everyone is committed to safe laboratory practices.

1. Follow all written and verbal instructions as directed by the teacher.
2. Never attempt unauthorized experiments. Do laboratory work only when the teacher is present.
3. Keep the work area clear of everything except laboratory materials.
4. Food and drink is not allowed in the laboratory area. Do not chew gum. When using chemicals or preserved specimens, keep hands away from face, eyes, mouth, and body.
5. Students are not permitted in any chemical storage room.
6. Never run in the laboratory. To prevent accidents, be aware of your environment at all times.
7. Your teacher will describe the location of exits and all safety equipment. Know where the closest fire alarm is located.
8. Use equipment (balances, Bunsen burner, etc.) in the correct way, as instructed by the teacher.
9. Properly dispose of broken glassware and other sharp objects in designated areas.
10. Any time chemicals, heat or glassware are used, students, teachers, and visitors will use laboratory goggles. Lab aprons must be used when there is danger of chemical spills or biological contamination.
11. Long hair must be tied back and dangling jewelry and baggy clothing are not appropriate. Shoelaces must be tied and sandals are not allowed.
12. Immediately report any spills, accidents, or injuries to the teacher.
13. If a chemical splashes in your eye(s) or on your skin, flush with water. Inform the teacher immediately.
14. Never touch, taste, or smell chemicals or other substances unless directed to do so.
15. Follow all provided instructions when handling chemicals.
16. Follow all provided instructions when handling glassware, equipment, and when heating substances.
17. Never point the open end of a test tube containing any substance at yourself or others.
18. Dispose of all chemical and biological waste properly. The teacher will tell what materials can be poured down the drain and what materials must be placed in a waste container.
19. Clean all work surfaces and equipment at the end of laboratory work and return all equipment to the proper storage area.
20. Wash your hands with soap and water after performing all investigations and before you leave the laboratory area.
21. If you are unclear or confused about proper safety procedures and/or laboratory instructions, ask the teacher before proceeding.

ADDITIONAL SPECIFIC INSTRUCTIONS WILL BE GIVEN PRIOR TO LABORATORY ACTIVITIES.

***NO PEANUT OR TREE NUT PRODUCTS ARE ALLOWED IN CLASS!**