Biology Semester One 2017

Syllabus and Expectations

Teachers:
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Office Hours: Thursday after school in the Science Lab (2:45-3:45) and any morning by appointment

Course Overview:

In this course, we will use scientific practices to study life in many different ways. This includes asking scientific questions, developing models to explain scientific phenomena, and planning and carrying out investigations to test our theories or models of how the world works.

Material covered in Biology will help students work toward proficiency in the following five Scientific Inquiry and Content Standards:

- Standard 1: Structure and Function
- Standard 2: Matter and Energy
- Standard 3: Change, Cause and Effect
- Standard 4: Sustainability.
- Standard 6: Design, Conduct and Analyze Science Investigations

Specific Performance Indicators related to the each standard will be shared at the beginning of units, along with a scale or rubric that explains the essential outcome(s) in detail.

Course Outline for Semester 1

Topics covered in semester 1 will include ecology and biochemistry. In conjunction with these topics we will focus on science inquiry skills that include asking questions, defining variables, creating hypotheses, conducting experiments and analyzing data.

Enduring Understandings

Unit 1: Ecology

- Abiotic conditions on earth determine the patterns and distribution of life.
- Based on the abiotic factors present, different ecosystems will support different types and sizes of populations.
- Feeding relationships determine the path of energy and chemicals within an ecosystem
- Human activity can disrupt an ecosystem and impact the survival of some species.
- Each population within an ecosystem has a carrying capacity based on factors within the ecosystem.

Unit 2: Biochemistry

- The essential properties of water provide a favorable environment for life.
- The molecular structure of water influences the electrical charge of the hydrogen and oxygen atoms within the molecule.
- Carbon is the foundation for the diversity of the biological molecules synthesized by all life forms.
- Food contains water and four types of macromolecules, which are incorporated into the cells of our body.
- Energy is stored in chemical bonds.

Assessments

Students will have opportunities to demonstrate the development of their understanding on different types of performance tasks. These may include informal prompts in class, projects, analysis of collected data, or more formal demonstrations of their understanding on a summative assessment. Tasks will be connected to specific performance indicators and scored on scales provided to students at the start of the unit.

If a student does not show proficiency on the summative assessment for a unit, a re-performance agreement must be completed. This should include a plan to address gaps in understanding. After providing evidence of new learning there will be an opportunity to re-perform.

Scoring and Reporting

Each unit is directly linked to the specific performance indicator of a standard. Scores on specific performance indicators of a standard will be calculated using power law, and will be used to document progress toward proficiency on the standards required for graduation.

Scores will reflect the level of proficiency demonstrated on performance tasks throughout a unit. The levels of proficiency are represented by a scale from 1-4. A score of 3 represents the desired level of proficiency on a performance indicator or standard. A 4 represents an advanced understanding beyond proficient, whereas a 1 or 2 represents a level of understanding that is still beginning or being developed.

Class Policies/ Expectations

- Take care of things unrelated to class before or after the class period, as leaving during class is a distraction.
- Be seated and ready to go by the time class begins.
- All mobile devices should be turned off and put away throughout the duration of class unless given permission.
- Be prepared for class. This includes having a writing utensil and your large 3-ring binder. If you need your textbook in class I will let you know ahead of time.
- Maintain a safe and respectful learning environment for everyone. This includes both in the classroom and the lab.
- Follow safety procedures. Any unsafe action will result in your removal from class until I meet with you and your TA or parent/guardian and can be assured that you will exercise safe behavior.
- Use furniture, equipment and supplies in the manner for which they are intended, and return them to their proper place after use.
- Complete your own work. Not only is it unethical, it doesn't help you understand the material. Don't give up if you don't understand something at first. We learn the most from our struggles and our mistakes. If you get confused, study your notes and/or your resource materials and be sure to ask questions to help clarify your understanding.
- Talk and interact respectfully with each other. This includes refraining from putting down others, even in "fun", and using profanity.
- Get to know your colleagues and work with each other outside of class. You are all in this together!

Absences

What we do each day in class is important for furthering your understanding of biology. **When absent, you are responsible for completing all work you missed. This includes missing class for co-curricular activities, field trips, or personal reasons.**

- Check the *Google Site* for that day's power point and assignments.
- Check in with your instructor to develop a timeline for completing missed work.
- All missed work due to absence needs to be made up in reasonable time

- See your instructor before TA the day upon your return to make arrangements for completing missed work. If you neglect to make arrangements promptly you will risk losing the opportunity to make up the work. **Note**: Asking for work as class is getting started or during class is inappropriate.

Textbook and Resources

Biology: Exploring Life. Prentice Hall Publishing

Online textbook and resources available at: www.pearsonsuccessnet.com

Username: u32biology **Password**: SCIENCE32

Assignments and resources will also be posted to a *Google Site* specific to this class.

Necessary Daily Materials

- Writing utensil
- Large 3-ring binder

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Please acknowledge that you have read and are aware of the class procedures by first printing and then signing your name below. It should be placed it at the front of your binder after your teacher has signed it.

_____	_____	_____
Student Name (Please Print)	Student Signature	Date
_____	_____	_____
Parent Name (Please Print)	Parent Signature	Date
_____	_____	_____
Teacher Name (Please Print)	Teacher Signature	Date