

Parrottsville Elementary School

6th Grade Science Syllabus

Part 1: Course Information

Instructor Information

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Course Description:

The standards incorporated into this grade have been streamlined for the students' K-12 coherent experience for a diversity of learners. The theme for sixth grade science is how energy, found in multiple systems and scales, is driving ecosystems (populations, food chains/webs), Earth's natural resources, and Earth processes (oceans, weather, and climate). In turn, oceans, weather, and climate help determine characteristics of ecosystems. A focus on science literacy is placed through the use of the science and engineering practices. Often times, students are required to gather information from reliable sources to construct evidenced-based arguments (e.g., 6.LS2.3). Finally, STEM integration is supported both as a stand-alone disciplinary core idea.

By the end of sixth grade, it is expected that students should be able to demonstrate the skills and content knowledge emphasized in the following standards in preparation for future learning in science and its practice.

Textbook & Course Materials:

Textbook: Integrated Science

Google Classroom, Study Island, EdPuzzle, Mastery Connect

Science Notebook for Student Outline Notes

Course Requirements:

Attendance is very important for student learning. Please make sure that your child is at school unless he/she is sick. Grades will be based upon class participation, daily work, projects, and quizzes and chapter tests.

Course Structure:

The course will be delivered through lectures, notes, discussion, projects, and activities. The purpose of this course is to provide each student a rigorous and exciting classroom experience that is relevant and applicable to the diverse world we live in today.

Part 2: Student Learning Outcomes:

Energy

- 1) Analyze the properties and compare sources of kinetic, elastic potential, gravitational potential, electric potential, chemical, and thermal energy.
- 2) Construct a scientific explanation of the transformations between potential and kinetic energy.
- 3) Analyze and interpret data to show the relationship between kinetic energy and the mass of an object in motion and its speed.
- 4) Conduct an investigation to demonstrate the way that heat (thermal energy) moves among objects through radiation, conduction, or convection.

You will meet the objectives listed above through a combination of the following activities in this course:

Ecosystems

- 1) Evaluate and communicate the impact of environmental variables on population size.
- 2) Determine the impact of competitive, symbiotic, and predatory interactions in an ecosystem.
- 3) Draw conclusions about the transfer of energy through a food web and energy pyramid in an ecosystem.
- 4) Using evidence from climate data, draw conclusions about the patterns of abiotic and biotic factors in different biomes, specifically the tundra, taiga, deciduous forest, desert, grasslands, rainforest, marine, and freshwater ecosystems.
- 5) Analyze existing evidence about the effect of a specific invasive species on native populations in Tennessee and design a solution to mitigate its impact.
- 6) Research the ways in which an ecosystem has changed over time in response to changes in physical conditions, population balances, human interactions, and natural catastrophes.

7) Compare and contrast auditory and visual methods of communication among organisms in relation to survival strategies of a population.

Biological Change

- 1) Explain how changes in biodiversity would impact ecosystem stability and natural resources.
- 2) Design a possible solution for maintaining biodiversity of ecosystems while still providing necessary human resources without disrupting environmental equilibrium.

Earth's Systems

- 1) Gather evidence to justify that oceanic convection currents are caused by the sun's transfer of heat energy and differences in salt concentration leading to global water movement.
- 2) Diagram convection patterns that flow due to uneven heating of the earth.
- 3) Construct an explanation for how atmospheric flow, geographic features, and ocean currents affect the climate of a region through heat transfer.
- 4) Apply scientific principles to design a method to analyze and interpret the impact of humans and other organisms on the hydrologic cycle.
- 5) Analyze and interpret data from weather conditions, weather maps, satellites, and radar to predict probable local weather patterns and conditions.
- 6) Explain how relationships between the movement and interactions of air masses, high and low pressure systems, and frontal boundaries result in weather conditions and severe storms.

Earth and Human Activity

- 1) Differentiate between renewable and nonrenewable resources by asking questions about their availability and sustainability.
- 2) Investigate and compare existing and developing technologies that utilize renewable and alternative energy resources.
- 3) Assess the impacts of human activities on the biosphere including conservation, habitat management, species endangerment, and extinction.

Engineering and Design

- 1) Evaluate design constraints on solutions for maintaining ecosystems and biodiversity.
- 2) Design and test different solutions that impact energy transfer.

You will meet the objectives listed above through a combination of the following activities in this course:

- Daily Class Participation and Note-taking/Discussion
- Quizzes and Chapter Tests
- Posters Illustrating Standards Based Topics of Study
- Research Presentations Illustrating Standards Based Topics of Study
- Essays based upon reading texts and textual evidence.
- Models based upon Standards Based Topics of Study

Part 3: Topic Outline/Schedule

1st 9 weeks

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|--------------------------------------|--|
| Topic | |
| Factors in an Ecosystem | |
| Interactions between Organisms | |
| Transfer of Energy within Ecosystems | |

2nd 9 weeks

| | |
|--------------|--|
| Topic | |
| Biodiversity | |
| Conservation | |
| Energy | |

3rd 9 weeks

| | |
|-----------------|--|
| Topic | |
| Energy Transfer | |

| | |
|------------------|--|
| Heating of Earth | |
| Weather | |

4th 9 weeks

| | |
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| Topic | |
| Earth and Human Activity – Renewable, Nonrenewable Resources / Conservation | |

Access to Instructional Materials: See Teacher for more information.

Link for Tennessee State Standards for 6th Grade Science is listed below:

https://www.tn.gov/content/dam/tn/stateboardofeducation/documents/massivemeetingsfolder/meetingfiles4/10-20-17_III_J_Non-Substantive_Changes_to_Math_ELA_Science_Standards_Attachment_3_-_Science.pdf

Part 4: Grading Policy:

Grades will not be weighted in this class. All tests, quizzes, homework, classroom assignments and projects will be on a 100 point scale. Below is the complete grading scale.

A= 90-100

B= 80-89

C=70-79

D=60-69

F=0-59

Viewing Grades in ASPEN (optional)

Points you receive for graded activities will be posted to the ASPEN GradeBook in a timely manner. Click on the My Grades link on the left navigation to view your points.

Part 5: Course Policies:

Class Attendance:

Students are expected to attend all classes.

Excused Absences:

Students will be given the opportunity to make up missed assignments and tests because of an excused absence. Excused absences include medical appointments and sickness. Students will be responsible for completing missed work within one week of the excuse.

Unexcused Absences:

Students who miss school due to suspension, truancy, travel and/or unexcused must turn in their missed work upon return. If a test happens to fall on the day the student returns to class, he or she will be required to take the test that day.

Participate:

Students are expected to participate in all classroom discussions and activities.

Build Rapport:

If you find that you have any trouble keeping up with assignments or other aspects of the course, make sure you let your teacher know as early as possible. As you will find, building rapport and effective relationships are key to becoming an effective professional. Make sure that you are proactive in informing your teacher when difficulties arise absences during the year so that she can help you find a solution.

Late Work Policy:

All late homework (when given), projects, and classwork will be subject to a deduction of up to 10 points. Missed tests will need to be completed within one week of the original test date.

Homework Policy:

Homework is not usually assigned, but when assigned it will be purposeful and designed to reinforce the concepts we have covered in class. It should not usually take more than 30 minutes to complete.

Acceptability of Written Work:

All work must be neatly done in legible handwriting. Unless otherwise specified, I prefer students' work to be submitted in hard copy form, not electronically.

Academic Dishonesty Policy:

Academic dishonesty consists of the following: Cheating, copying from your neighbor/friend, leaving out a source citation.

Plagiarism is a form of stealing and academic fraud. Students who are found guilty of plagiarism will have the option of either redoing the assignment within a specific time period and accepting a grade letter drop or taking a zero on the assignment.

**** Course policies are subject to change:** It is the student's responsibility to check for corrections or updates to the syllabus. Any changes will be posted in the classroom.

Student Testing Code of Ethics and Security:

It is important for you as a student to know that the following guidelines are to be strictly followed. This year the TNReady test will count at least 10% of your final semester grade. Your work on this test is very important and it deserves your best effort.

I understand that during testing on the days of the assessment, I am responsible for:

- Not having any electronic devices on me or in my purse/backpack/pockets
 - Including but not limited to cell phones, smart phones, smart watches, etc. **during testing or during breaks.**
 - Best practice is for students to leave devices at home or in their lockers on the day of testing.
 - If I am caught with a device during testing or during breaks, my test may be nullified, resulting in a zero as at least 10% of my final semester grade, and any school level disciplinary action as deemed appropriate by the administration.
- Trying my best on the test
 - If I do not attempt to test (I give **no answers or randomly answer** questions) my test score may be nullified, resulting in a zero as at least 10% of my final semester grade, and any school level disciplinary action as deemed appropriate by the administration.
 - The testing administrators and proctors in the testing environment will determine if no answers or random answering is taking place.
 - I will focus and put forth effort on the test.
- Being honest and not cheating
 - If I am caught cheating (taking pictures of the test, writing down and passing answers, talking to other students, looking on other computers, using software outside the testing platform), my test may be nullified, resulting in a zero as at least 10% of my final semester grade, and any school level disciplinary action as deemed appropriate by the administration.