

Smoky Mountain Elementary School

6th Grade Science 2019-2020 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 evidence-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:

Text Book: Integrated Science
Brain Pop
Study Island
Science Notebook for Student 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
- Slide Show 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

Topic
Engineering and Design
Energy

2nd 9 weeks

Topic
Ecosystems: Interactions, Energy, and Dynamics
Biological Change: Unity and Diversity

3rd 9 weeks

Topic
Earth's Systems – Energy Transfer
Earth's Systems – Cycles in Nature
Earth's Systems - Weather

4th 9 weeks

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

Access to Instructional Materials: See Teacher for more information.

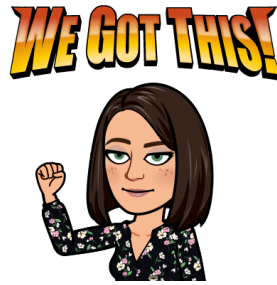
Link for Tennessee State Standards for 6th Grade Science is listed below:

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

Graded Course Distribution

Participation-----	20%
Class Assignments----	20%
Quizzes-----	20%
Test-----	20%
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Total-----	100%



Late Work Policy

Late assignments will be accepted, but will be reduced by half credit.

Grades will be updated each week in the Aspen grade portal. Logins will be given to students and parents at the beginning of the school year.

Letter Grade Assignment

A---	93-100
B---	85-92
C---	75-84
D---	70-74
F---	0-69

Part 5: Course Policies

Attend Class

Students are expected to attend all class sessions as listed on the course calendar.

Participate

Be part of the class and participate in 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 instructor 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 instructor when difficulties arise during the semester so that they can help you find a solution.

Complete Assignments

Assignments must be submitted by the given deadline or special permission must be requested from the instructor *before the due date*. Extensions will not be given beyond the next assignment except under extreme circumstances.

All discussion assignments must be completed by the assignment due date and time. Late or missing discussion assignments will affect the student's grade.

Academic Dishonesty Policy

This is an example only:

- 1. Academic dishonesty includes such things as cheating, inventing false information or citations, plagiarism and helping someone else commit an act of academic dishonesty. It usually involves an attempt by a student to show possession of a level of knowledge or skill that he/she does not possess.**
- 2. Teachers have the initial responsibility for detecting and dealing with academic dishonesty. Instructors who believe that an act of academic dishonesty has occurred are obligated to discuss the matter with the student(s) involved. Instructors should possess reasonable evidence of academic dishonesty. However, if circumstances prevent consultation with student(s), instructors may take whatever action**

(subject to student appeal) they deem appropriate.

- 3. Teachers who are convinced by the evidence that a student is guilty of academic dishonesty shall assign an appropriate academic penalty. If the teachers believe that the academic dishonesty reflects on the student's academic performance or the academic integrity in a course, the student's grade should be adversely affected. Suggested guidelines for appropriate actions are: an oral reprimand in cases where there is reasonable doubt that the student knew his/her action constituted academic dishonesty; a failing grade on the particular paper, project or examination where the act of dishonesty was unpremeditated, or where there were significant mitigating circumstances; a failing grade in the course where the dishonesty was premeditated or planned.**

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.

Important Note: Any form of academic dishonesty, including cheating and plagiarism, may be reported to the office.

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.