Fairview Public Schools

Grade	Kindergarten
Unit	Earth and Human Activity
Unit Duration	7 Weeks / 35 Days
Course	Earth and Environmental Science
Overview/Rationale	In this unit of study, students will develop an understanding of the impact that humans have on the land, water, air, and other living things in the local environment and engage in a portion of the engineering design process in order to communicate solutions that can reduce these impacts. Students will recognize the impact that humans have on living and nonliving components of the local environment, observe, and think of things that people do to live a comfortable lifestyle. Throughout the unit, students make observations in order to describe their families in their day-to-day lives. They will observe their family activities such as what they eat, what they throw away, when and how they use water, how they warm or cool their home, what types of appliances and gadgets they use, how they maintain their home and yard, what resources are used to make the clothes they wear, how they travel from place to place, and how they communicate with others. In so doing, students will become good global citizens practicing conservation and appreciation of the world around them.

DESIRED OUTCOMES

NJSLS Standards Addressed

NJSLS-SK-ESS3-3. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.

NJSLS-SK-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

Technology Standards Addressed

Understand and use technology systems
8.1.8.A.1
Demonstrate knowledge of a real world problem using digital tools.
Select and use applications effectively and productively.
8.1.8.A.2
Create a document (e.g. newsletter, reports, personalized learning plan, business letters or flyers) using one or more digital applications to be critiqued by professionals for usability.
8.1.8.A.3 Use and/or develop a simulation that provides an environment to solve a real world problem or theory.
8.1.8.A.4
Graph and calculate data within a spreadsheet and present a summary of the results
8.1.8.A.5
Create a database query, sort and create a report and describe the process and explain report results.

In this unit, the following 21st Century Themes & Skills are addressed:

Check all Themes that apply		*Indicate whether these skills are: E- Encouraged, T- Taught, or A-assessed In this unit by marking E, T, or A on the line before the appropriate skill.*	
T,E	***Global Awareness***	T,E,A	***Creativity and Innovation***
E	***Environmental Literacy***	T,E,A	***Critical Thinking***
T,E	***Health Literacy***	T,E,A	***Problem Solving***
T,E	***Civic Literacy***	T,E	***Communication***
T,E	***Financial, Economic, Business, and Entrepreneurial Literacy***	T,E	***Collaboration***

Interdisciplinary Connections

ELA/Literacy -

RI.K.1 With prompting and support, ask and answer questions about key details in a text. (K-ESS3-2)

W.K.2 Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic. (K-ESS3-3)

SL.K.3 Ask and answer questions in order to seek help, get information, or clarify something that is not understood. (K-ESS3-2)

SL.K.5 Add drawings or other visual displays to descriptions as desired to provide additional detail. (K-ESS3-1)

Mathematics -

MP.2 Reason abstractly and quantitatively. (K-2-ETS1-1),(K-2-ETS1-3)

MP.4 Model with mathematics. (K-2-ETS1-1),(K-2-ETS1-3)

MP.2 Reason abstractly and quantitatively. (K-ESS3-1)

MP.4 Model with mathematics. (K-ESS3-1),(K-ESS3-2)

K.CC Counting and Cardinality (K-ESS3-1),(K-ESS3-2)

Science and Engineering Practices

Asking Questions and Defining Problems

Asking questions and defining problems in K–2 builds on prior experiences and progresses to simple descriptive questions.

Ask questions based on observations to find more information about the natural and/or designed world(s). (K- 2-ETS1-1)

Define a simple problem that can be solved through the development of a new or improved object or tool. (K-2- ETS1-1)

Developing and Using Models

Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions.

Develop a simple model based on evidence to represent a proposed object or tool. (K-2-ETS1-2)

Analyzing and Interpreting Data

Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.

Analyze data from tests of an object or tool to determine if it works as intended. (K-2-ETS1-3)

Career Ready Practices

CRP2. Apply appropriate academic and technical skills.
CRP4. Communicate clearly and effectively and with reason.
CRP5. Consider the environmental, social and economic impacts of decisions.
CRP6. Demonstrate creativity and innovation.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

Key Terms	Impact, living, non living, reduce, reuse, recycle, habitat, pollution, environment, choices, actions, solutions, conserve, conservation, paper, plastic, glass, land, water, air, natural resources.

Fairview Public Schools

Student Learning Objectives (SLO)

1. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.
2. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

Instructional Strategies

Unit openers.
Organized note taking and strategies.
Open ended analytical, critical thinking questions.
Constructed response questions.
Labs and interactive activities.
Reflections and discussions.
Reading and applications from textbook.
Technology based activities.

Essential Questions

1. How do people impact the environment as they gather and use what they need to live and grow?
2. How can humans reduce their impact on the land, water, air, and other living things in the local environment?

Enduring Understandings

1. Events have causes that generate observable patterns.
2. Things that people do to live comfortably can affect the world around them.
3. People can make choices that reduce their impacts on the land, water, air, and other living things.
4. Apply their knowledge about the importance of conserving natural resources.
5. Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people.
6. A situation that people want to change or create can be approached as a problem to be solved through engineering.
7. Asking questions, making observations, and gathering information are helpful in thinking about problems.
8. Before beginning to design a solution, it is important to clearly understand the problem.

Assessments

Informal observations
Formative and summative assessments
Homework and classwork assignments
Cooperative learning assignments
Lab completion
Computer, iPad based activities
Unit projects
Pre and post assessments
Project based assessment with rubrics

Differentiated Activities	
Enrichment	Conduct research and provide presentation of cultural topics. Design surveys to generate and analyze data to be used in discussion. Debate topics of interest / cultural importance Authentic listening and reading sources that provide data and support for speaking and writing prompts. Exploration of art and/or artists to understand society and history. Implement RAFT Activities as they pertain to the types / modes of communication (role, audience, format, topic). Anchor Activities Use of Higher Level Questioning Techniques Provide assessments at a higher level of thinking
ELL	Modified Assignments Use testing and portfolio assessment Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary) Repeat, rephrase, paraphrase key concepts and directions Extended time for assignment completion as needed Highlight key vocabulary Define essential vocabulary in context Use graphic organizers, visuals, manipulatives and other concrete materials Use gestures, facial expressions and body language Read aloud Build on what students already know and prior experience
Special Education	Pair visual prompts with verbal presentations Ask students to restate information, directions, and assignments. Repetition and practice Model skills / techniques to be mastered. Extended time to complete class work Provide copy of class notes Preferential seating to be mutually determined by the student and teacher Student may request to use a computer to complete assignments.

	Establish expectations for correct spelling on assignments. Teachers will check/sign student agenda daily Student requires use of other assistive technology device **Modifications for Homework and Assignments** Implement RAFT activities as they pertain to the typical Extended complete assignments. Student requires more complex assignments to be broken up and explained in smaller units, with work time to be submitted in phases. Provide the student with clearly stated (written) expectations and grading criteria for assignments. es / modes of communication (role, audience, format, topic). **Modifications for Assessments** Extended time on classroom tests and quizzes. Student may take/complete tests in an alternate setting as needed. Restate, reread, and clarify directions/questions Distribute study guide for classroom tests. Establish procedures for accommodations / modifications for assessments.
At-Risk (Intervention)	**Modifications for Classroom** Pair visual prompts with verbal presentations Ask students to restate information, directions, and assignments. Repetition and and practice Model skills / techniques to be mastered. Extended time to complete class work Provide copy of classnotes Preferential seating to be mutually determined by the student and teacher Student may request to use a computer to complete assignments. Establish expectations for correct spelling on assignments. Extra textbooks for home.
Resources	
Student Resources	Vocabulary.com, Edpuzzle, Brain Pop, Edmodo, Google Classroom, Readworks.org, Newsela, Apps from Clever.com Science Made Simple: Simple answers to common science questions, plus fun science projects, experiments, and science news. http://www.sciencemadesimple.com/
Teacher Resources	1. Discovery Education: This searchable list of lesson plans is run by the Discovery Channel. Not only does the site contain tons of innovative lessons in astronomy and weather, as one might expect from a science channel, it has the unique "Pendemonium" series of grammar lessons as

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	• **Heroes of the Environment: True Stories of People Who Are Helping to Protect Our Planet,** by Harriet Rohmer