



**International Center
for Leadership
in Education**



Gold Seal Lesson:

Copernicus Education Gateway

Author(s): Michael Lucky Voiselle			Lesson Title: WHERE HAVE ALL THE TIRES GONE?			
Grade Span			ICLE Application Model			
K-4	5-8	9-12	A	B	C	D
		X				X

Instructional Focus:

Listening

Students listen for a variety of purposes appropriate to the grade level.

Writing

Students write for a variety of purposes and audiences with sophistication and complexity appropriate to the grade level.

Speaking

Students speak for a variety of purposes and audiences with sophistication and complexity appropriate to the grade level.

Basic Concepts and Knowledge

Students develop an understanding of scientific concepts using facts, theories, principles, and models.

Science as Inquiry

Students demonstrate knowledge and skills necessary to perform scientific inquiry.

Communication

Students communicate and apply scientific concepts

Performance Task

Your task is going to take you out into your community to observe and ask questions about a pollution problem of grave concern. Where are all the discarded tires going? You may work in groups of 3 or 4 students to help share the load.

Develop a list of 6 questions to ask about tires. Some suggestions follow. How many tires do you dispose of per month? Where are these tires taken once they leave here? Is there any effort made to recycle those tires? How long does it take for a tire to decompose in a landfill? What are some uses for these discarded tires?

Search for tire stores, landfills, or anywhere you notice stacks of tires. Record all your comments, answers to questions, and any other observations in your science journal. You are to summarize your research into a well-organized summary free from spelling and grammatical errors compiling the responses you were given.

Find out 10 ways that an attempt is being made to recycle some of these nearly 200 million discarded tires per year in the United States. Is your community using any of these methods? Brainstorm with your group and any other people you come in contact with to determine 4 ways that your community could recycle tires to keep them from occupying space in valuable landfills.

Your group is to draft a letter to the City Council explaining your ideas and thoughts for recycling tires. Consult your language arts teacher as to the proper format for your letter. Your ideas need to be backed up by observation and careful thought. It must be organized well and free from spelling and grammatical errors. Remember important community leaders will listen to your thoughts. Before sending the letter to your City Council you need to prepare an oral presentation.

You are to prepare a large poster for presentation at the City Council hearing. Pictures of the problem cites, quotes from area citizens, and comments from business people are starting points to develop a legitimate complaint. To enhance the presentation search for several ways that the rubber from tires could create a usable project to solve the problem such as creating a playground using mostly used tires or making asphalt to fill potholes. Brainstorm with your group and generate new ideas and then see if any of them can become a reality. It may also be helpful to visit other communities to see if they are using old tires for a project. You may also write letters to public relations managers of large tires manufacturers to get their thoughts and ideas.

After each group gives their presentations and posters to the class, brainstorm with the class to pick the best parts of each group's ideas, comments from business leaders, pictures, and research to present to the City Council.

ICLE Essential Skills

Apply in writing the rules and conventions of grammar, usage, punctuation, paragraphing and spelling. (ela1)

Investigate a current event or community issue and write an investigative report. (ela78)

Present information in well-organized fashion that will be clear to the target audience. (ela11)

Use brainstorming, role playing, and standard problem solving strategies to define a problem and suggest solutions. (ela19)

Understand and use graphs, charts, and visuals to enhance informational writing and oral presentations. (ela29)

Understand and use graphs, charts, and visuals to enhance informational writing and oral presentations. (ela29)

Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report. (ela3)

Prepare and deliver individual speeches by gathering information, rehearsing, making eye contact, speaking loudly enough, delivering information in a well-organized fashion, and appealing to the needs of the target audience. (ela10)

Understand and produce a variety of informative formats such as business letters, memos, reports, news articles, brochures, proposals and critiques. (ela22)

Make observations using senses and instruments. Inferences and interpretations are arrived at based on observations. Classify observable properties and organize observations in a meaningful and logical way. (s5)

Know and apply the principles of scientific inquiry. *(Implicit in this statement are the processes of prediction, estimation, developing hypotheses, drawing conclusions, evaluation, and following ethical principles and professional procedures.)*
(Not Ranked s114)

Understand how humans, through technology, cause environmental change by disrupting the equilibrium or balance of nature by introducing pollutants into the environment. (s6)

Understand the human impact on the environment through pollution (air, water, and soil), and ways to improve it through education, research, laws, and conservation. (s10)

Plan and apply real or hypothetical models and constructions to facilitate investigation and learning and the solution to practical problems. *(Not Ranked s115)*

Scoring Guide:

4. Student worked well and contributed to group effort. Student developed excellent questions to ask local merchants and businesses. Student included all comments, answers to questions and observations in their well-organized write-up free from spelling and grammatical errors. Student demonstrated an understanding for the tire pollution problem and researched 10 ways of recycling tires. Student determined at least 4 methods of recycling tires in their community. Research and much legwork were evident in the poster that was developed and in the oral presentation to the City Council. Student participated with their group in drafting a letter that was well organized, provided excellent backup for the 4 suggested methods of recycling in their community and was free from spelling and grammatical errors.

3. Student worked well and contributed to group effort. Student developed excellent questions to ask local merchants and businesses. Student included all comments, answers to questions and observations in their well-organized write-up free from spelling and grammatical errors. Student demonstrated an understanding for the tire pollution problem, however, only included 8 ways of recycling tires. Student only determined 3 methods of recycling tires in their community. Evidence of much research and legwork were evident in the poster that was developed. Student participated with their group in drafting a letter that was well organized, provided some backup for the 3 suggested methods of recycling and was free from spelling and grammatical errors.

2. Student worked well and contributed to group effort. Student developed excellent questions to ask local merchants and businesses. Student write-up was free from spelling and grammatical errors but was not well organized. Student

demonstrated an understanding for the tire pollution problem, however, only researched 6 methods of tire recycling and could only determine 2 methods of recycling in their community. Poster was not well developed. Letter to the City Council was not well organized but was free from spelling and grammatical errors.

1. Student did not work well with group and contributed little to the effort. Summary of questions asked to business leaders was not well-organized and contained spelling and grammatical errors. If poster was done, there was not much evidence of research and legwork. If a letter to the City Council was done, it lacked organization and contained spelling and grammatical errors.

Keywords

English Language Arts	Mathematics	Science
Reading Research	Algebra	Earth Science Pollution Scientific Inquiry Environment Problem Solving
Writing Organization Persuasion Proposal Spelling Grammar Business Letter	Geometry	Life Science
Communications Listening Oral Presentation Visuals	Statistics	Chemistry
Literature	Calculus	Physics
Other	Trigonometry	Other
	Other	