

Humans and the Elements

Why do we care about elements? Well, because all physical matter on Earth is composed of elements! However, different structures of elements in the Periodic Table allow humans to use these elements in different ways. In this project you will pick an element from the periodic table and describe its atomic structure and discuss how it functions in the environment, specifically, how it is used by humans.

You may present your investigation as a **poster, google slide presentation, prezi, or short video**. You will present your element to the class in a short (3-5 minute) presentation. You may work **by yourself** or in a group of **no more than 3 people**.

Structure

1.) Describe the atomic structure of your element:

# Protons	# of Electrons
# Neutrons	# of Valence Electrons

2.) Indicate how your element is organized on the periodic table:

- a. What group is it in? What are some common properties of elements in this group?
- b. What period is it in? What are some common properties of elements in this period?
- c. What is its classification?

Alkali Metal	Basic Metal/Poor Metal	Halogen
Alkaline Earth Metal	Semimetal/Metalloid	Noble Gas
Transition Metal	Nonmetal	Lanthanide
		Actinide

Function

3.) Is your element considered reactive or nonreactive? Why? Discuss its valence.

4.) Where does the element occur naturally? Under what circumstances?

5.) How is the element used by humans?

- Give at least one example of how this element is used by humans.
- What are the benefits of using this element? Include specific details about how it is used including what industry
- What are the costs of using/mining this element? Include at least one example of any monetary (\$), environmental, or public health concerns associated with your element.

Citations:

List ALL sources, including image sources, on a works cited page or slide. You must have **at least 3** informational sources for your presentation.

Name(s) _____ Per _____

Humans and the Elements Rubric

Concerns Areas that need work	Criteria Standards for this task	Advanced Evidence of exceeding standards
	<p>Content: Student addresses all 5 categories.</p> <p>Student uses appropriate academic vocabulary correctly in their explanations.</p>	
	<p>Presentation: Student presentation is professional the final product is well made and uses a variety of media.</p> <p>All students contribute and speak, students maintain eye contact and address the entire class.</p>	
	<p>Citations: All information is cited using a consistent format.</p> <p>All photographs/video clips/diagrams are cited using a consistent format.</p>	