

Learning Activity Template

Title: Introduction to the Periodic Table

Curriculum: Grade Physical Science

Grade-Level Span: 9th - 10th

PURPOSE:

To help students understand the nature of an element within the periodic table and the natural world.

DESCRIPTION:

Students will be assigned one element on the periodic table to research. They will produce a power point presentation linked to the teacher's periodic table. The report will include a cover slide with the element name, symbol, and student name, table characteristics, history, physical properties, chemical properties, common uses and a citation page.

ACTIVITIES	CURRICULUM STANDARDS	NETS PERFORMANCE INDICATORS
Students will research, using the internet, reference books, periodicals, and their text book	Sci 9-12, I, A, 3 & 5	1, 2, & 5
Students will identify specific forms, properties and interactions of an element	Sci 9 –12, II, A, 1-4 & 7	5
Students will produce and present information on PowerPoint	Sci 9-12, I, C, 3	1-5

TOOLS AND RESOURCES:

(List all Web sites, specific software and hardware, and other needs.)

Power Point, digital camera

ASSESSMENT:

(How will you assess the students' learning? If you have a rubric, record it here. Be as specific as possible.)

A checklist with specific criteria will be used to assess the presentation and student understanding.

CREDITS (INCLUDING CONTACT INFORMATION):

(Record the names and e-mail addresses, if possible, of those who contributed to the development of this learning activity.)

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Element Project Student Directions **Due**
Date: **150 Individual Project Points**

You are a researcher and web-designer for a large children's internet-site company. Your publisher has indicated that there are entirely too few science sites written specifically for children on the topic of the periodic table. Your publisher wants you and the other designer-writers at the company to prepare a series of power point slides on the elements that will include all of the basic information about the elements while making the elements appeal to a young audience.



Your Task

Design a power point presentation appropriate for a 5th or 6th grade student about the element you are assigned. Your element information will be placed into a larger presentation about the entire periodic table.

Your information should include:

Cover: The power-point cover slide should have the name of your element, your name and class

Basic Information Slides:

List your element's atomic number

List your element's *average* atomic mass

List the group and period numbers that your element is in on the periodic table; note the name of that group

List the block that your element is part of

Describe a short history of the element, including who is given credit for discovering the element and how long the element has been known for

Describe what it looks like in its pure form

Give the element's physical state at room temperature (solid, liquid or gas)

Explain how common the element is in nature and where it is found

List common uses for the element

Include at least three numerical physical properties about the element, besides descriptive looks (example: density)

Include at least two chemical properties about the element

Compounds the Atom Can Make:

Include at least two compounds that your element can be a part of (or, in some cases, explain why your element does not form compounds)

Give the names of the compounds and what they are used for

Pictures of the Element in it's pure form and pictures of the element in another form or compound

Glossary: A glossary slide, or slides, should include at least seven (7) words included in your presentation with appropriate definitions. This is where very precise, accurate descriptions of words like "atomic number" or "atomic mass" will occur.

Sources: List all websites, books, etc. used to prepare this project.

Technical Specifications: A clear, easy to read, power point presentation of at least seven (7) well constructed, relevant slides

Chemically accurate: Now is not the time to make stuff up. While creativity is appreciated, don't lose points supplying incorrect information.

Correctly spelled: A point will be deducted per misspelled word. Use spell check or a dictionary!

Colorful: Use color, but within reason. Make sure the design and color don't distract from the information.

On time: There will be a full letter grade deduction per day late.



Element Project Grade Sheet

Name _____

Cover: The power-point cover slide should have the name of your element, your name and class _____ (3 points)

Basic Information Slides:

List your element's atomic number _____ (3 points)

List your element's *average* atomic mass _____ (3 points)

List the group and period numbers that your element is in on the periodic table; note the name of that group

_____ (6 points)

List the block that your element is part of _____ (3 points)

Describe a short history of the element, including who is given credit for discovering the element and how long the element has been known for _____ (8 points)

Describe what it looks like in its pure form _____ (5 points)

Give the element's physical state at room temperature (solid, liquid or gas) _____ (5 points)

Explain how common the element is in nature and where it is found _____ (8 points)

List common uses for the element _____ (5 points)

Include at least three numerical physical properties about the element, besides descriptive looks (example: density)

_____ (8 points)

Include at least two chemical properties about the element

_____ (8 points)

Compounds the Atom Can Make: Explain if your element forms compounds, and what types of compounds it commonly forms, or, in some cases explain why your element does not form compounds)

_____ (10 points)

Pictures of the Element in it's pure form and pictures of the element in another form or compound

_____ (10 points)

Glossary: A glossary slide, or slides, should include at least seven (7) words included in your presentation with appropriate definitions. This is where very precise, accurate descriptions of words like “atomic number” or “atomic mass” will occur.

_____ (14 points)

Sources: List all websites, books, etc. used to prepare this project.
_____ (12 points)

Technical Specifications: A clear, easy to read, power point presentation of at least seven (7) well constructed, relevant slides

_____ (18 points)

Chemically accurate: Now is not the time to make stuff up. While creativity is appreciated, don't lose points supplying incorrect information.
_____ (10 points)

Correctly spelled: A point will be deducted per misspelled word, up to eight words. Use spell check or a dictionary!

_____ (8 points)

Colorful: Use color, but within reason. Make sure the design and color don't distract from the information.

_____ (5 points)

On time: There will be a full letter grade deduction per day late.

Total Score
(150 possible)



Comments:

COMMENTS:

(Have you taught this learning activity before? What are the great ah ha's/experiences you had?)