

ELEMENT DAY.....An Exercise Easily Adapted for General Chemistry or Physical Science Classes or Elementary, Middle School, or Junior High

This has been adapted for use in elementary through college classes.

Objective: To make learning about elements fun and exciting.
To involve creativity, background research, exposure to handbooks, writing skills, and oral presentation.

The project involves 5 parts: The student will select an element, research the element, write a report on the element, dress up to represent the element on a selected day near Halloween, and explain to the class what the element is and why the costume represents that element. The original assignment should be made 1 month in advance.

Scoring: This is really up to the teacher. Often I used 30 points for the paper, 30 points for the costume. Sometimes I didn't require a paper, but required an oral presentation with much the same information that would be in the paper. Sometimes I required all three.

How do I pick an element?

Students look at the periodic chart and select one that they have an interest in or one for which they would like to create the costume. A list of elements should be posted on the bulletin board and students allowed to sign up. No duplications are allowed.

Examples: Tungsten...a kid dressed like a Christmas tree with the lights (Tungsten is the filament in those lights). Californium.....a kid dressed like a California girl complete with sunglasses, short skirt, boa, wig, etc. Sodium.....dressed like the Morton salt girl. Tin.....dressed like the tin man. Etc.

A few elements have limited information. If a student finds it is difficult to research, he/she might talk to the teacher about changing.

What does the report involve?

Research the element. Compose an essay with the following information as a guide:

- Origin of element name
- Discovery of element (I was surprised to find out that so very many elements were discovered by the same person.)
- Physical Properties (however, I really didn't want them to get bogged down with melting point, boiling point, density, etc.) Color, usual natural state, etc.
- Isotopes
- Common industrial preparation and/or sources for the element
- Common laboratory preparation
- Common reactions the element undergoes
- Uses for the element
- Price of the element
- Any further investigations concerning the properties

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For the chemistry students: quantum numbers of the last electron
Electron configuration

Students are to complete the report with a bibliography of **three** or more references. Encyclopedias and text books cannot be listed as a reference. They are a good place to start looking for general information. The students need exposure to using a chemical handbook. Most of the information should come from journal articles, books, newspapers, etc. The internet sources must be from journals or some other legitimate source. I sometimes could use this to show that some internet articles are not scientific. Include pictures, diagrams, etc. Any interesting anecdote should also be included.

Dressing up?

You are to wear your costume for the entire school day. Costumes are judged on originality, effort, etc. This is pretty subjective and I always grade this high if they had made any effort at all.

Oral Presentation?

You must stand before the class and tell us why your costume represents the element you have chosen. Also I usually had them tell us who discovered the element and any anecdotal material...or often I supplied anecdotal material. There may not be time in the class period for more than why the costume represents the element.

No matter what their age, students seem to enjoy this learning activity.