

Online Tutorial Design Specification

Tutorial Title

Periodic Table of the Elements

Subject

Chemistry

Educational Level

Middle - High: U.S. 7th - 12th Grades
Age range: 12 -17 year olds

Number of Levels

This tutorial has 3 levels, easy, medium and hard.
The difference between the three levels is the amount of time the player has to solve the problem before time runs out and how much information is on each of the element boxes.

Objective

The objective of this interactive tutorial is to learn the names, symbols, and numbers of all of the Elements.

High Level Summary

The player needs to assemble the Period Chart of the Elements.

Format/Platform

This interactive tutorial is to be accessible and used through any Internet browser. It contains both graphical assets and a mini game. Sound is optional.

Suggested Software/Coding

Photoshop
HTML 5
Developer's Choice

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Copyright & Credits

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Credits: *List the names of the individuals/company*

Player's View

First Person

Scenario

There is no preliminary scenario in this tutorial. However, the following introductory information should be presented.

The Periodic Table of the Elements is a useful tool. Each block is a summary of an element. At a minimum, an element block contains the element's symbol. More complete blocks contain the element's atomic number and atomic weight. The most complete tables contain the number of electrons in each energy level and oxidation states.

The rows across the Periodic Table are *periods*. The vertical columns of elements are *families*.

The elements are arranged in the Periodic Table in 8 groups. The groups help you see each element's natural relation towards each other. The 8 groups are metals, semi-conductor(s), non-metal(s), inert noble gas(es), Halogens, Lanthanoides, Actinoids (rare earth elements) and transition metals.

Scenario Assets

There is no preliminary scenario in this tutorial but there is introductory information to be presented. Game specific assets are at the artist's discretion.

General Tutorial Assets (.PNG and .JPG files)

At artist's discretion with credits as specified. Actual .PNG and .JPG files will be emailed upon request. Send request to sales@punaluudata.com.

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Background icon:



Hint to help solve the problem icons



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Important Fact icons



Correct and incorrect answer icons

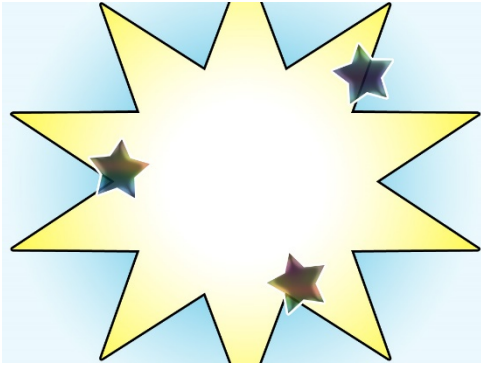


Timer icon:



Achievement Sticker icon:

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Mini Game Objective

This is a timed puzzle mini game with 3 levels of difficulty: easy, medium, and hard. Before the time runs out in each level, the player will correctly build the Periodic Chart of the Elements.

Creative License

Both the artist and game programmer have permission to interpret the problem and develop innovative and creative graphics and game play to engage the player. This may be an individual or collaborative effort.

The setting may be present day, futuristic, fantasy, mystical, etc, as long as it is “fun” and supports the learning objectives.

Mini Game Assets

At artist’s discretion with the following minimum requirements:

1. Background including copyright and credits
2. A “Hint” icon
3. Important Fact icon
4. Asset representing that the problem has been correctly solved, such as flashing lights or green check mark
5. Asset to request more help
6. Button to record tutorial completion

The following Periodic Table of the Elements from Los Alamos National Laboratory is included as a point of reference. The table that the player completes should resemble this. However, the individual asset blocks may be 2D or 3D, colored or plain. At a minimum, each element block must contain the element’s symbol, atomic number, and atomic weight in universally accepted format.