The value of the Periodic Table

Introduction

The Periodic Table is a wonderful tool for chemists, but non-scientists who don't understand it often see it as dull and boring.

In this activity you will be using your research skills to find out about:

- the real value of the Periodic Table
- how the Periodic Table reveals patterns
- how the Periodic Table makes chemistry simpler to understand.

You will be using your literacy skills to produce a persuasive presentation to convince non-scientists of the value of the Periodic Table.

Brief

You are going to make a presentation that will convince non-scientists that the Periodic Table really is useful.

Your presentation should:

- be persuasive, showing how the Periodic Table is useful in helping people make sense of over 100 elements
- include some information about the history of the Periodic Table
- illustrate some differences between elements in the Periodic Table
- include information about the elements of Groups 1, 7, and 0
- explain how the Periodic Table can be used to make predictions
- contain six slides
- include pictures.

Step 1

Research the following topics:

- a brief history of the Periodic Table, including who developed it and why
- a few interesting elements that show how different elements can be from one another
- the Group 1 elements (similarities and trends)
- the Group 7 elements (similarities and trends)
- the Group 0 elements (similarities and trends)
- how the Periodic Table can be used to make predictions.

Step 2

Find some appropriate pictures to use in your presentation.

Step 3 (extension)

Choose one trend that you have researched and find some data to illustrate the trend. Think about the best way to display the data.

Step 4

Choose the key points that you have found out about and decide how they can be used to convince your audience that the Periodic Table really is useful.

Step 5

Make your presentation.

Sources

Purpose and development of the Periodic Table

An introduction about the development of the Periodic Table and why it is so important:

https://www.bbc.co.uk/bitesize/guides/z36cfcw/revision/1

Group 1

The chemistry of the Group 1 elements (alkali metals):

www.ducksters.com/science/chemistry/alkali_metals.php

Group 7

The chemistry of the Group 7 elements (halogens):

www.ducksters.com/science/chemistry/halogens.php

Group 0

The chemistry of the Group 0 elements (noble gases):

https://www.ducksters.com/science/chemistry/noble_gases.php

Element data (extension)

An interactive Periodic Table with data for each element:

www.chemicalelements.com/

Making predictions

One of Mendeleev's greatest achievements was to predict the existence of germanium and what it would be like. This story really highlights the power of the Periodic Table:

www.chemistryexplained.com/elements/C-K/Germanium.html#b

Writing frames

You are going to make a presentation that will convince non-scientists that the Periodic Table really is useful.

Summarise your research findings on the key areas below.

The history of the Periodic Table (who developed it and why?)	Examples of elements with very different properties Element 1: Element 2: Element 3:	Group 1 elements (similarities and trends)
Group 7 elements (similarities and trends)	Group 0 elements (similarities and trends)	Trend data (extension)

Making predictions using the Periodic Table

Important points

- Make sure your presentation includes 6 slides.
- Your presentation should be persuasive.
- Use appropriate pictures to help make your points.

Your work

You have made a presentation to convince non-scientists that the Periodic Table really is useful.

Look at the questions below and check if you have met all the criteria given in the brief.

- Is your presentation persuasive?
- Does your presentation include some information about the history of the Periodic Table?
- Have you illustrated some differences between elements in the Periodic Table?
- Does your presentation include information about the elements of Groups 1, 7, and 0?
- Have you explained how the Periodic Table can be used to make predictions?
- Do you have a final summary slide that illustrates how powerful the Periodic Table is?
- Does your presentation contain six slides and include pictures?