

X – PLORING SCIENCE

ELEMENTS WEBQUEST

MATERIALS RESEARCH PROJECT

[Introduction](#) ~ [Task](#) ~ [Process](#) ~ [Resources](#) ~ [Evaluation](#) ~ [Conclusion](#) ~ [Teacher Guidelines](#)

~ INTRODUCTION ~

By now you should be somewhat familiar with the Periodic Table of the Elements, one of the most important charts in chemistry. The Periodic Table allows useful information be seen at a glance. Just by looking at the table, we can identify which elements might react with one another, and how and why the reactions take place.

But do we know about all the elements. Sure we might know that Sodium is found in salt or Aluminium is used to make windows etc, but some of the other elements we may not be all that familiar with e.g. Palladium, Molybdenum, Cobalt or Rhenium to name but a few.

So the purpose of this webquest is to explore the Internet and find information of some of the least know of our elements, where they are found, what they look like, what they are used for etc.

[Click here to view your task.](#)

~ TASK ~

This task is straightforward!!! Pick one of the elements from the list below, that you know nothing about, and find out about it. Then you must produce a presentation on the information acquired. The presentation can be a poster, report, PowerPoint® presentation, website or newsletter (1 page should be enough).

Palladium	Rhenium	Xenon	Cobalt	Antimony
Einsteinium	Strontium	Iridium	Astatine	Krypton

Your presentation must include but is not limited to:

1. Information about the elements **electron** pattern, the number of **protons** and **neutrons** and their arrangement.
2. How the element reacts, does it form ionic or covalent bonds?
3. The ways in which the element occurs naturally and how it is mined or extracted from ore.
4. The main compounds of the element, and their industrial uses! At least 2 in detail!
5. The main uses of the element in its natural state.
6. Environmental concerns about the element. Are it or its compounds causing pollution?
7. The elements physical properties, i.e. melting point, boiling point etc.
8. Five interesting facts about the element or its compounds.
9. Pictures and Photos to bring some colour to your presentation.
10. When was it discovered and by whom?
11. Its abundance in nature!
12. References of the books and sites that you used.

[Click here to see how you should carry out your task](#)

~ PROCESS ~

1. Form a group of 2 or 3 students and pick which element you are going to study. Your teacher may pick one for you.
2. You have 5 class periods to finish the project.
3. Fill out [Research Summary Page](#) as you search the web- this will include brief information about your finding and all the Internet links you have found based on the research.
4. You should not limit the information in your project to what is required. You could also include information on the following to name but a few:

- ★ Close relatives to the element.
- ★ Where it got its name.
- ★ Chemical and physical properties of the element.
- ★ Use your imagination and look out for interesting things as you search the web.



5. Don't limit yourself just to the web. Look at encyclopaedias, magazines, newspaper articles and books.
6. Produce the project on Microsoft Publisher®, Microsoft PowerPoint® or Microsoft Word®, making it as visual as possible. Use your imagination!!

[Click here for resources and web links](#)

~ RESOURCES ~

The following is a list of useful websites to visit to gather your information for your task.

DO NOT LIMIT YOURSELF TO THE WEB ONLY

General Search Tools:

[Encarta](#)

[Google](#)

[Alta Vista](#)

[Worldbook](#)

Element & Material Links

[Chemical Elements . Com](#)

[Periodic Table of the Elements](#)

[Chem4Kids](#)

[Web Elements](#)

[Visual Elements](#)

[History of Metals](#)

[Chemicool](#)

In this webquest you may find that the Search Engines are an invaluable way of looking for information

[Click here to see how your project will be evaluated](#)

~ EVALUATION ~

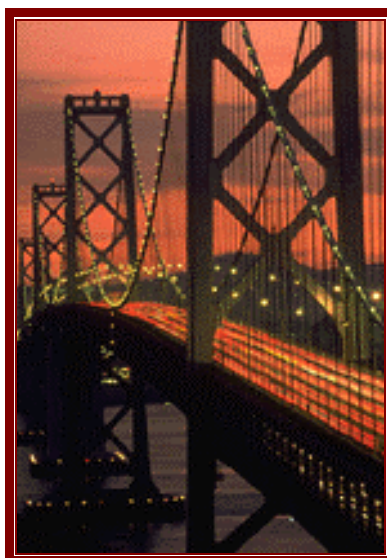
Your project will be assessed under the following guidelines.

CRITERIA	MARKS
Chemical & Physical Properties	15
Industrial or other uses of element	10
Industrial or other uses of compounds	10
Extraction of Element (Mining)	10
Interesting Facts	10
History	5
Environmental Concerns	10
Presentation	10
Originality	10
Team Effort	10
Total Marks	100

[Click here for Conclusions](#)

~ CONCLUSION ~

I hope you have enjoyed using the webquest, and that you have found out a little more about an element you may not have necessarily heard of before this. Why not now take a look at the periodic table and pick out a couple of elements you don't know and quickly search the Internet to find out some facts about it. Who knows, you may have some of it in your pocket!!!

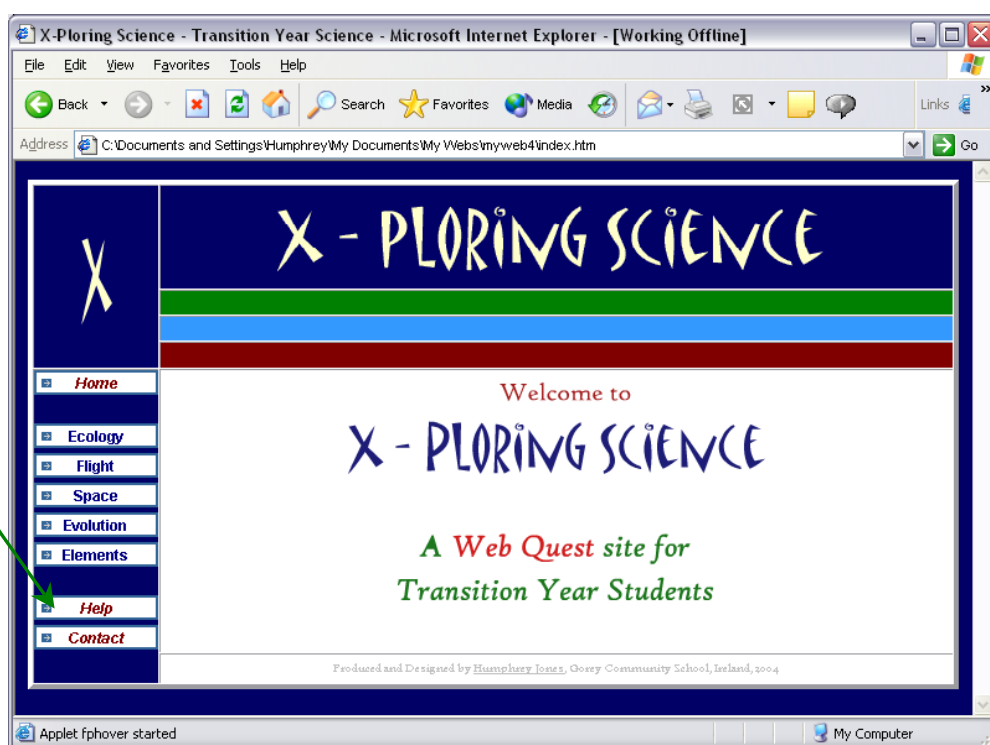


~ TEACHER GUIDELINES ~

The Elements webquest is a great way for students to explore the world of practical chemistry. They can investigate something that may have been staring them in the face but have never realised it. It promotes independent learning and higher order thinking and can be enjoyable. To facilitate the smooth running of the webquest the following are recommended:

1. Print out the [Research Summary Page](#) for each student.
2. Give some input into the use of Microsoft Publisher®
3. Emphasis the assessment procedures and stress the importance of originality and teamwork.
4. Place a time line on the project. 5 class periods is the recommended allocated time.

● For More information visit the [Help](#) section in the main site.



MATERIALS RESEARCH PROJECT

RESEARCH SUMMARY PAGE

Name of Element	
Physical Properties	
Chemical Properties	
Uses of Element	
Uses of Compounds	
Interesting Facts	
Extraction / Mining	
Environmental Concerns	
References	