

Unit title	Topics for students presentations
Topic	Atomic and Nuclear
Name and email address of person submitting unit	Martin Sidley m.sidley@mmu.ac.uk
Aims of Unit	The unit aims to enhance students' knowledge and presentation skills by giving them topics to research and make presentations to their peer group.
Indicative content	Presentation skills, research, peer assessment
Resources needed	Interactive white board, pupils access to IT.
Teachers notes	<p>A very good homework and main activity for pupils 14+.</p> <p>Time approx. 7 minutes per presentation.</p> <p>A suggested set of web pages are given which were active at time of submission but pupils are encouraged to find their own.</p> <p>Learning outcomes for this activity</p> <p>All pupils will research a specific topic from a specified list using both text books and the internet. All students will listen to the all presentations.</p> <p>Most pupils will be able to construct and prepare a presentation using ICT within a specified time with very little input from the teacher.</p> <p>Some pupils will be able to give a well ordered insight into various appropriate topics related to atomic and nuclear physics.</p>

Date:	Topic: Student presentations in atomic and nuclear physics	Time: 1 lesson preparation time plus 7 minutes presentation per pupil.	Class: 14+
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SEN pupils

Gifted and Talented

Class Room Support

Equipment needed for this activity:
Access to IT and relevant text books.

Health and Safety:
None

Learning outcomes for this activity

All pupils will research a specific topic from a specified list using both text books and the internet. All students will listen to the all presentations.

Most pupils will be able to construct and prepare a presentation using ICT within a specified time with very little input from the teacher.

Some pupils will be able to give a well ordered insight into various appropriate topics related to atomic and nuclear physics.

Starter Activity

Main Activity

During this activity, students are allocated a topic from a list, they are then given the opportunity to research these topics and put together a presentation which will be delivered at a later time. Support will depend on the general abilities of the individual pupils involved.

During the presentations all students will listen to each other and be able to ask questions.

Plenary Activity

Reflections on the lesson

Student Presentations in Atomic and Nuclear Physics

In groups of two, you should select a topic from the list below which:

- you know enough about to be interested in
- you know you can extend your knowledge about the topic

Once you have selected the topic, research it using the websites listed and other sources, and make up a 20 minute presentation to deliver to your fellow students. The presentations will take place two weeks after the topics are chosen, and should involve a variety of resources for the presentation.

TOPIC LIST:

Radioisotopes and their uses
Radiation hazards
Nuclear reactions
Manhattan project
Nuclear fission
Nuclear fusion
Particle physics
Rutherford
Quarks
Chernobyl and Three Mile Island
Radon and health
Radiation and genetics
Food irradiation
Radiocarbon dating
The radioactive Earth

WEBSITES:

www.me.utexas.edu/~uer/manhattan
<http://physicsweb.org/article/world/12/12/18>
<http://nhs.needham.k12.ma.us/cur/mp/thestory.html>
<http://www.launc.tased.edu.au/onlie/sciences/physics/INDEX>
<http://web.mit.edu/jinseok>
www.uic.com.au
www.nucleartourist.com
www.hyperphysics.phys-astr.gsu.edu/nbase/nuclear
www.phys.virginia.edu/classes/252/Rutherford_Scattering
www.largesock.com/writing/wrutherford.html
www.nih.gov/sigs/dna-rep/whatis.html
www.ifst.org/hotspot11.html
www.reviss.reviss.com/puridec/foodirradiation