

# 10 Science Lesson Plan

Lesson Number: Seven  
(7)

Unit : Chemistry isn't magic

Lesson Title: History of the Periodic Table

Content Descriptor

Year Level: 10

The atomic structure and properties of elements are used to organise them in the Periodic Table (ACSSU187)

Learning Outcomes / Target

I will understand the development and refinement of the periodic table over time

Real world connections in Learning Targets

Mixing fuels together, working with different metals around binding agents or chemicals, hairdressers use chemicals to change hair colours etc...

Other considerations – Indigenous students / medical/ students with disabilities

Numeracy

Literacy

Understanding timelines  
Mass Numbers

Know the difference between an element and an atom  
Understand how elements are organised according to mass

## Equipment

Activity 1 : History of the periodic table info sheets, blank timeline (A3 size) – 5 copies  
Activity 2 : Chemical Equations Worksheet, Molymods  
Activity 3 : Element Flash Cards  
Task cards 1, 2, 3 (Details of the activities – printed, laminated and left on the tables for students)  
Exit tickets – printed and cut up

## Safety procedures and risk assessment

N/A

## Anticipatory Set: Identifying Critical Content, Reviewing Prior Knowledge, Brainstorming etc

Time	Lesson Sequence - What is 'going on' or happening in the classroom? What pedagogical strategies will you use to engage students?	What teacher will be doing/ saying? (questioning, movement etc)	Evidence of student learning- what will students be 'doing'?	Resources / Differentiation
00:00	<p>Welcome and settling</p> <ul style="list-style-type: none"> <li>Use wait time and cueing with parallel acknowledgement to settle class</li> </ul> <p>Revise last lessons content</p> <p>Learning target</p>	<p>"Good morning year 10, please take your seats"</p> <p>"Who can tell me what we did last lesson?"</p> <p>"Today's learning target is... [read from board]"</p>	<p>Students to respond</p> <p>Students to copy learning target into their books</p>	

## Teaching Sequence: Gradual Release of Responsibility, inferential questioning techniques, Deepening knowledge and skills

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00:10	<p>Explain to students that there are 3 stations and they must rotate through them throughout the lesson.</p>	<p>"Today our lesson will work a little differently. We will be rotating through 3 activities."</p> <p>"If there is any silliness then the activity will stop and we will copy pages from the textbook for the remainder of the lesson"</p>		
00:15	<p>Organise students into 3 groups</p>		<p>Students to get into groups</p>	

(activities run for 15 minutes each (per rotation) )	<b>ACTIVITY 1</b>	<i>*While activities are running teacher is to move around the room, supervising and providing explanations where necessary</i>	Students copy equations into their books and use the molymods to help them balance them	Molymods, task cards, worksheet (2 copies – laminated)
	Chemical equations balancing task. Revision from last lesson – students use molymods to build the elements and then break them apart to help visualise how the atoms are rearranged from reactants to products.			
	<b>ACTIVITY 2</b>			
	The history of the periodic table		Students read through the given text and compile a timeline of the history of the periodic table. Each group has their own timeline.	Information sheets (2 copies – laminated), blank A3 timeline templates (5 copies, 1 per group and 2 spare)
	<b>ACTIVITY 3</b>		Students use element information cards to categorize the given elements in any way they see fit. They then provide explanation as to WHY they have chosen that particular style of categorisation.	Element cards
	CATEGORISING ELEMENTS			

### Reflective/Summative Practices: Checking for understanding, reviewing critical content, revising, classifying information

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00:60	Exit ticket questions: <ul style="list-style-type: none"> <li>Who is Mendeleev?</li> </ul>	Checks students have packed up all equipment appropriately	Students to answer questions to get out of class	Exit tickets – printed and cut up

- |  |  |  |  |
|--|--|--|--|
| <ul style="list-style-type: none"><li>• How are the elements organised in the periodic table</li><li>• Balance this equation:<br/>__H<sub>2</sub> +<br/>__O<sub>2</sub> → __H<sub>2</sub>O</li></ul> |  |  |  |
|--|--|--|--|

## Post-Lesson Reflection

### Activity Instruction Cards

## History of the Periodic Table

In this activity, you must use the text provided (orange cards) and create a timeline that details the history of the periodic table.

Include **dates** and the names of any important **people**.

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## Categorising the Elements

In this activity, you must use the element cards provided and find a way to organise them into a table that makes sense.

Once you are done, copy your table into your workbook and explain why you organised the elements the way you did.

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## Balancing Chemical Equations

In this activity, you must copy the equations from the white card into your workbook and use the molymods to help you find a balanced solution.

The rules for balancing equations are listed at the top of the sheet. If you need help raise your hand.

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