

# Electronic Structure and the Periodic Table Lesson Plan

Subject Chemistry

Content Area: The Periodic Table

Title of Lesson Properties of Elements

Grade level M.4

Teacher M.Narong Champrasit

Length of lesson 50 minutes

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## 1. Objectives

1. Describe the organization of the modern periodic table according to the periodic law.
2. describe their characteristic properties, and relate their properties to their electron configurations.

## 2. Lesson Process

No.	Teaching-Learning Strategies / Procedures	Resources / Materials	Time Frame
	Introduction		5 minutes
1	<p>Starting the Lesson: (Warm-up)</p> <ul style="list-style-type: none"><li>-Good morning/Good afternoon everyone...</li><li>-How are you?</li><li>-Today, we will learn about "Periodic Table."</li><li>-Are you ready? (Yes/No)</li><li>-OK. Let's go.</li><li>-The topic is Electronic Structure and the Periodic Table.</li></ul> <p><b>-Learning Objectives</b></p> <ol style="list-style-type: none"><li>1. Describe the organization of the modern periodic table according to the periodic law.</li></ol>		

No.	Teaching-Learning Strategies / Procedures	Resources / Materials	Time Frame
	2. describe their characteristic properties, and relate their properties to their electron configurations.		
2	<b>Review concept of the last period.</b>		15 minutes
	<p><b>Periodic Table of Elements</b></p> <p>Teacher Show the picture 1.</p> <p>How are Elements organized?</p> <p>-Look at the picture.</p> <p>How many Elements in the periodic table?</p> <p><b>Review vocabulary : Key Terms</b></p> <ul style="list-style-type: none"> <li>● periodic table</li> <li>● element</li> <li>● periodic law</li> <li>● valence electron</li> <li>● group</li> <li>● period</li> </ul>	<p>Picture 1</p> <p>: Periodic Table</p>	
3	<b>Teacher explains</b>		20 minutes
	<p>Electronic Structure and the Periodic Table.</p> <p>Teacher introduces By Picture 1, and resource number 4</p> <p>-The <b>Periodic Table</b> is a way of arranging elements.</p> <p>-The elements are put in order of their proton number.</p>	<p>Picture 2</p> <p>: Periodic Table for the first 20 elements.(show Electronic configuration)</p>	

No.	Teaching-Learning Strategies / Procedures	Resources / Materials	Time Frame
	<p>- A vertical set of elements is called a Group.</p> <p>- A horizontal row of elements is called a Period.</p> <p>Teacher introduces By Picture 1</p> <p>-Look at the electronic configurations and electronic structures of the elements in the picture 2</p> <p>Teacher explains.</p> <ul style="list-style-type: none"> <li>● In each period</li> </ul> <p>There is a regular pattern.</p> <p>From lithium to neon, the number of outer shell electron increases across the period 1 to 8, then it go back to 1 again (in sodium) and increases again across the period to 8 for argon.</p> <ul style="list-style-type: none"> <li>● In each group</li> </ul> <p>The number of outer shell electrons is the same for very element and is equal to the group number. For example, fluorine and chlorine are both in Group VII, and they both have 7 outer shell electron.</p> <p>Student compare.</p> <ul style="list-style-type: none"> <li>● Electronic structure in the group number.</li> <li>● Electronic structure in the period number.</li> </ul>		

No.	Teaching-Learning Strategies / Procedures	Resources / Materials	Time Frame
4	Questions		10 minutes
	1. The electron configuration of lithium? 2. The electron configuration of magnesium? 3. The electron configuration of chlorine? 4. The electron configuration of argon? 5. Draw diagrams to show the outer electronic structures of <ol style="list-style-type: none"> <li>a. oxygen</li> <li>b. sodium</li> <li>c. argon</li> <li>d. chlorine</li> </ol> 6. How many outer shell electron do atom of potassium have? 7. How many outer shell electron do atom of oxygen have? 8. How many outer shell electron do atom of phosphorus have?		

### 3. Resources

1. Science Textbooks
2. <http://graphicriver.net/item/periodic-table/6533130><http://graphicriver.net/item/periodic-table/6533130>
3. <http://chemistryforhighschool.blogspot.com/2012/07/electron-configuration.html><http://chemistryforhighschool.blogspot.com/2012/07/electron-configuration.html>
4. [http://www.caistudio.info/cai/add\\_2554/2science/basic\\_chem/online/e5.2-next.swf](http://www.caistudio.info/cai/add_2554/2science/basic_chem/online/e5.2-next.swf)