

Year 10 Home Learning Grid – Chemistry

For wb 4th, 11th and 18th May



Department of
Science





















You can select to do these tasks in any order that you choose. You must complete any boxes marked in yellow. Orange boxes indicate simpler tasks and bright green shows challenge tasks.

If you close an Educake quiz midway through, it will automatically save your progress. So when you log back in you can pick up where you left off.

Answer the hard Chemistry quiz on Educake and try to achieve more than 80%	Draw and label the general structure of the atom. Include: protons, neutrons, electrons, nucleus and shells.	Watch a FreeScienceLessons YouTube video about Chemistry and summarise the key points in a poster.	Construct a table to show the charge and mass of a proton, neutron and electron. There is one on page 3 for you to print out, should you need it.
Create a storyboard, timeline, or written account to describe the development of the model of the atom. It should include the names of the Scientists in date order as well as their key discoveries.	Summarise how to calculate the number of protons, neutrons and electrons in an atom. Also, see if you can find out the average radius size of an atom and average radius size of the nucleus.	Draw the atomic structure for as many of the first 20 elements as you can. This includes any element with an atomic number (bottom number) of up to, and including, 20. There is a sheet you can print out on page 2.	Answer the easy Chemistry quiz on Educake and try to achieve more than 80%
Describe a method you could use to separate the following mixtures: ✓ Two different liquids mixed ✓ Five liquids mixed together	Complete the Separate Science exam questions on Educake – <i>For Separate Science students only</i>	Draw a table to compare the properties of group 1, group 7 and group 0 elements. This should include any memorable reactions as well as any patterns as you go down or up each group.	Describe a method you could use to separate the following mixtures: ✓ Salt and water ✓ Sand and water (You could draw a set of diagrams to explain)
Think of a Chemistry topic you have studied either in Year 9 or Year 10. Plan a mini lesson that you could teach to someone at home	Learn 5 physics equations off by heart. <i>(I know this was on last time, but try and learn a different 5 instead.)</i>	Set yourself twenty questions on Educake on a topic you completed in Year 9.	Produce 10 flashcards based on the key points from Module 1 – Atomic Structure.

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Help sheet for task: “Draw the atomic structure for as many of the first 20 elements as you can. This includes any element with an atomic number (bottom number) of up to, and including, 20.”

Electronic structure of the first twenty elements in the Periodic Table								
Group I	Group II		Group III	Group IV	Group V	Group VI	Group VII	Group 0
<div>¹₁H</div> <div></div>	<div>1. <u>Draw</u> the electronic structure for each element (this is shown for neon)</div> <div>2. In the grey area under each structure <u>write</u> out the electronic structure (this is shown for neon – 2,8)</div> <div>Questions – What do the elements in each Group have in common?</div> <div>What do the elements in each Period (row) have in common?</div> <div>Draw and write out the electronic structure for a) a sodium <u>ion</u> b) a chloride ion</div>						<div>⁴₂He</div> <div></div>	
<div>⁷₃Li</div> <div></div>	<div>⁹₄Be</div> <div></div>		<div>¹¹₅B</div> <div></div>	<div>¹²₆C</div> <div></div>	<div>¹⁴₇N</div> <div></div>	<div>¹⁶₈O</div> <div></div>	<div>¹⁹₉F</div> <div></div>	<div>²⁰₁₀Ne</div> <div></div>
								2,8
<div>²³₁₁Na</div> <div></div>	<div>²⁴₁₂Mg</div> <div></div>		<div>²⁷₁₃Al</div> <div></div>	<div>²⁸₁₄Si</div> <div></div>	<div>³¹₁₅P</div> <div></div>	<div>³²₁₆S</div> <div></div>	<div>³⁵₁₇Cl</div> <div></div>	<div>⁴⁰₁₈Ar</div> <div></div>
<div>³⁹₁₉K</div> <div></div>	<div>⁴⁰₂₀Ca</div> <div></div>	TRANSITION METALS	Ga	Ge	As	Se	Br	Kr
Rb	Sr		In	Sn	Sb	Te	I	Xe

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Help sheet for task: “Construct a table to show the charge and mass of a proton, neutron and electron.”

Sub-Atomic Particle	Charge (positive, negative neutral)	Mass
P		
N		
E		