**Year 9 Science ‘at home learning’ resource 4**

**Task: Aim to complete one activity a day to help support and further your revision and subject knowledge.**

**Key Topics to revise:**

* Reactivity
* Forcefields and electromagnets

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| Draw a series circuit with 3 bulbs, a battery, and a switch. Describe the bulbs in terms of their brightness. | Draw and label an atom. If you feel creative, make a model of one. | Give an example of a displacement reaction and explain what one is. | Draw a storyboard to show how rubbing a balloon on your jumper can make it ‘stick’ to the wall. | What are the 4 ways in which the strength of an electromagnet can be increased? | Give an example of a combustion reaction and explain what one is. | What are the units for current and voltage? | What charge do electrons, protons and neutrons have? |
| Draw 3 bulbs in a parallel circuit including a battery and a switch for each bulb. Include a 4th switch that will switch all bulbs off. | How is a magnetic field affected by an electrical current? | Give at least 3 properties of solids, liquids, and gases. Write them into a table. | Give an example of an oxidation reaction and explain what one is. | Write the word and symbol equation for the combustion of magnesium. Can you balance the symbol equation? | Research an electrical engineer. Find out what they do and what qualifications are needed. | Find out about the Earth’s magnetic field and what influence it has on some animals. | Explain resistance in a circuit, describing how to change resistance and give the units. |
| What are the differences between an exothermic and an endothermic reaction? Can you give any everyday examples of these? | Choose at least 10 elements and give their name, symbol, mass number, atomic number as well as identify which group and period they are in. | Name as many forces as you can and put them into a table with the headings – ‘contact’ and ‘non-contact’. | Describe conservation of mass. | Devise a method for increasing the strength of an electromagnet. How will you prove it has changed strength? | What is the equation for calculating weight on Earth? Why did I need to say on Earth? | Give an example of a thermal decomposition reaction and explain what one is. | Describe the method used for plotting a magnetic field with a plotting compass. |