

## Above and Beyond – Science (Year 9)

<b>1</b>	<b>Title: To Vape or not to Vape</b>	<b>5</b>	<b>Title: Electromagnets</b>
	<b>Details:</b> With the rapid increase in vaping instead of smoking, create a power point presentation to explain the advantages there are to vaping. Examine the costs of vaping compared to smoking cigarettes over a month. State simply the way vaping works and find out about any possible health implications including a possible addiction to vaping.		<b>Details:</b> Make a leaflet for year 6 students explaining why magnets are useful. Make a list of all the things at home that use magnets. Pick something in the home or school that uses an electromagnet. Explain how electromagnets work, and how the device you have chosen uses electromagnet.
	Curriculum link: 8B.1 Breathing and digestion		Curriculum link: 8P2 Electromagnets and magnetism
	House Points: 25		House Points: 50
<b>2</b>	<b>Title: Isaac Newton</b>	<b>6</b>	<b>Title: Early medicines</b>
	<b>Details:</b> Research Isaac Newton - Who was he? Where was he from? What education did he have? What did he find out? Why were his discoveries so important? Present your findings on an A3 poster.		<b>Details:</b> Visit a museum or historical garden and find out about how plants were used in the past as medicines. Make a poster of plants and the illnesses they were used to treat.
	Curriculum link: 8P1 Contact forces and pressure		Curriculum link: 8C Earths resources
	House Points: 50		House Points: 50
<b>3</b>	<b>Title: Fuels for the future</b>	<b>7</b>	<b>Title: Human evolution</b>
	<b>Details:</b> Fossil fuels are running out, and they produce gases that are harmful to the environment. Look into alternative fuels and assess their viability as mass energy sources. Consider bio fuels such as biodiesel and bioethanol as well as Hydrogen power.		<b>Details:</b> In the last 20 years the story of human evolution has taken on a host of new theories. Recent discoveries of different types of human species has caused scientists to question how and why <i>Homo sapiens</i> became dominant. Create a video animation on the most up to date theory on how humans have evolved, Where did the first primate evolve and who were the Neanderthals and habilines
	Curriculum link: 8C1, 2, 3 fuels energy and the environment.		Curriculum link: 8B.3 Inheritance and evolution
	House Points: 25		House Points: 50
<b>4</b>	<b>Title: Why do leaves change colour</b>	<b>8</b>	<b>Title: Convection currents</b>
	<b>Details:</b> You have learnt how chlorophyll is a pigment that makes leaves green. Create a poster to explain the structure and role of chlorophyll. Then explain why some leaves are not green - state examples. Describe the different pigments you might find in leaves of different colours and how the light interacts with the leaf. Then explain why leaves change colour in the autumn. You could collect and stick some to your poster or take pictures.		<b>Details:</b> Research convection currents and explain how they cause: <ul style="list-style-type: none"> <li>• breezes at the sea-side</li> <li>• tectonic plates to move</li> <li>• your house to cool</li> <li>• water in a pan to heat all the way through</li> </ul>
	Curriculum link: 8B.2 Respiration and photosynthesis		Curriculum link: 8P3 Work heating and cooling
	House Points: 25		House Points: 50