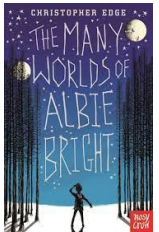

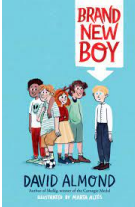


Year 9 SCIENCE

Key Learning		Pre-Exposure Tasks	Linked Fiction
Autumn 1 Genetics Learn about collecting and displaying data before studying 'Genetics'. Investigate the causes of environmental variation, including how inherited variation is caused and how genetic information is stored. Explore Darwin's theory of evolution. Making Materials Consider what makes ceramics useful and what makes polymers special. Explore the problems of making and using new materials and consider which materials should be recycled.	Genetics Draw a family tree for your own family or a famous family (e.g. British royal family). Consider characteristics which are similar and different between members of the family. Making Materials Is plastic good or bad? The surprising benefits of the world's most wasteful material Read the article on plastic polymers and consider their use.	 <p>The Many Worlds of Albie Bright Christopher Edge</p>	
Autumn 2 Control Systems Learn how the human body responds to changes, including the immune system, hormonal system and nervous system. Research how new medicines are tested to check they are safe. Motion Investigate how forces can cause objects to change speed and direction. Explore how simple machines make it easier to move things	Control Systems Explore the Alzheimer's Society website Alzheimer's Society to investigate the symptoms of Alzheimer's disease, what treatment is available at present and what future treatments are being developed. Motion Find out what the fastest natural and artificial things are on Earth and what enables them to be so fast.		
Spring 1 Chemical Reactions & Reactivity Investigate how to compare the reactivity of metals and how energy is transferred in chemical reactions. Learn how to get metals from their ores. Plant Growth Learn about the processes that allow plants to grow and the techniques farmers can use to improve crop yield. Explore the conflict between farming and protecting the environment. Force Fields Consider what kinds of force fields there are, the causes of static electricity and how to control current electricity. Find out how electricity can produce magnetism.	Chemical Reactions & Reactivity Beautiful Chemical Reactions Find out how we can find pure gold objects in almost perfect condition but those made of iron don't survive as long. Plant Growth Watch an episode of a farming programme, such as Countryfile or This Farming Life on the BBC, and identify the techniques used in farming and the challenges. Force Fields Watch the exciting magnetism experiments: 6 Experiments With Magnet Try your own static electricity experiments at home: 9 Awesome Science Tricks Using Static Electricity!	 <p>The Girl With Space in her Heart Malorie Blackman</p>	

<p>Spring 2</p>	<p>Chemistry: States of Matter and Methods of Separating and Purifying Substances Learn how to use information to predict the state of a substance and how the arrangement, movement, and energy of particles change during changes of state. Explore using melting points to tell the difference between mixtures and pure substances and how to identify substances using melting points and chromatography. Investigate how different methods of separation work and how to choose a separation method.</p>	<p>Chemistry: States of Matter and Methods of Separating and Purifying Substances Find real-life examples of each of the separating techniques being used. Think about how you would explain why that technique is chosen for that particular job.</p>	
<p>Summer 1</p>	<p>Biology: Key Concepts in Biology and Cells and Control Learn the structures, functions and adaptations of different cells and consider the changes that have occurred in microscope technology to allow us to view items previously not seen. Learn about mitosis and its importance in growth, repair and asexual reproduction; how cells become specialised and the importance of stem cells. Learn to identify different specialised cells in the nervous system and explain how the system works.</p>	<p>Biology: Research which objects can be seen with the naked eye and which require a microscope. Research different types of microscope. Consider the pros and cons of each of the different types.</p>	 <p>Brand New Boy David Almond</p>
<p>Summer 2</p>	<p>Physics: Conservation of Energy Consider how energy is transferred and stored. Define efficiency and consider how it is calculated. Explore renewable and non-renewable resources we use in everyday life. Consider the characteristics of waves and how the speed of a wave is related to its frequency and wavelength. Investigate what happens when waves are reflected, refracted, transmitted or absorbed by materials.</p>	<p>Physics: Conservation of Energy Research ways to make buildings more energy efficient. Find the definitions of the following keywords: reflected, refracted, transmitted or absorbed.</p>	