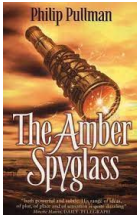
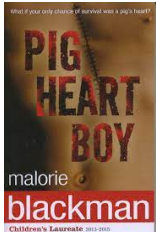
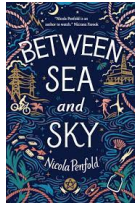


Year 8 SCIENCE

Key Learning		Pre-Exposure Tasks	Linked Fiction
<p>Autumn 1</p> <p>Introductory Lessons Study measurement and conventions in Science.</p> <p>Food and Nutrition Explore what our foods contain and why a balanced diet is important. Learn about the parts of the digestive system and how digested food gets into the blood.</p> <p>Combustion Consider what forms when a fuel reacts with oxygen and how metals react with oxygen. Explore how to stop a combustion reaction and how burning fuels cause pollution and climate change.</p>	<p>Food and Nutrition Keep a food diary for a day, work out your calories consumed https://www.nhs.uk/live-well/healthy-weight/calorie-checker/ and check whether food groups are represented in the right proportions The Eatwell Guide - NHS</p> <p>Combustion Carry out one of the experiments: https://www.thoughtco.com/kitchen-science-experiments-for-kids-604169</p>	 <p>The Amber Spyglass Philip Pullman</p>	
<p>Autumn 2</p> <p>The Periodic Table Learn what atoms are like and how elements are arranged in the Periodic Table. Consider what kinds of trends occur in physical properties and chemical properties.</p> <p>Fluids Explore how materials change from one state to another and how fluids exert pressure. Consider why some things float and some sink and what is meant by 'drag' and how it can be reduced.</p>	<p>The Periodic Table Explore the interactive Periodic Table at https://www.ptable.com/ the Periodic Table song at The Periodic Table Song (2018 Update!) SCIENCE SONGS</p> <p>Fluids Scuba Diving for Beginners - Understanding Atmospheres Underwater is Easy watch and write a list of safety instructions for people who go diving OR What Does Altitude Sickness Do to the Human Brain? research the cause and treatments for altitude sickness when people climb high mountains.</p>		
<p>Spring 1</p> <p>Breathing and Respiration Learn about aerobic respiration and how gases are exchanged in the lungs. Explore how oxygen gets from the lungs to the rest of the body. Consider how gas exchange is detected in different organisms and how anaerobic respiration occurs.</p> <p>Metals and Their Uses Study what makes metals useful and what happens during rusting and corrosion. Explore how metals react with water; what happens when metals react with acids and what makes alloys so useful.</p>	<p>Breathing and Respiration Research how humans, insects, fish and plants obtain oxygen from the air. https://tinyurl.com/y36pajic 'Do plants really breathe?'</p> <p>Metals and Their Uses https://tinyurl.com/y3hgwsnd Make a list of alloys you can find at home using the list of 20 common ones.</p>	 <p>Pig Heart Boy Malorie Blackman</p>	

<p>Spring 2</p>	<p>Light Explore how light travels, how 'ray diagrams' are used to investigate light and what happens when light hits a reflective surface. Learn how lenses, cameras and eyes work and how we get coloured light.</p> <p>Earth and Space Study how the model of our Solar System was worked out. Explore what causes day and night, eclipses and the seasons. Learn about the Earth's magnetic field; how gravity affects the Solar System and what is beyond our Solar System.</p>	<p>Light Speak to someone who wears glasses, wears contact lenses or has had laser eye surgery. Ask them why this was necessary and what their eyesight was like beforehand.</p> <p>Earth and Space Look at the current work of the European Space Agency https://www.esa.int/ and NASA https://www.nasa.gov/</p> <p>Explore the work of our local Kielder observatory at Northumberland Dark Sky Park https://kielderobservatory.org/</p>	
<p>Summer 1</p>	<p>Plant Reproduction Learn about how plants are classified, what is sexual and asexual reproduction and what flowers are for. Consider how fertilisation leads to the formation of a seed and how germination occurs.</p> <p>Rocks Study how we describe rocks and how igneous and metamorphic rocks are formed. Explore how rocks wear away, sedimentary rocks form and how we get metals from the earth.</p>	<p>Plant Reproduction Research a plant which you think is useful to humans. Find its binomial name, where it is found, what it looks like and a brief explanation of why you chose it.</p> <p>Rocks Locate an example of a spectacular natural rock structure (such as the Giant's Causeway). Find out which rocks it is made of, how old it is and how it has changed over time.</p>	 <p>Between Sea and Sky Nicola Penfold</p>
<p>Summer 2</p>	<p>Unicellular Organisms Learn about how different species of unicellular organisms vary and how microscopic fungi and bacteria are used. Consider the features of bacteria and protists. Explore how microorganisms are important in the carbon cycle.</p> <p>Energy Transfer Study the difference between internal energy and temperature. Explore how energy is transferred by heating and how energy transfers are controlled. Consider how much energy different appliances use and how we pay for energy.</p>	<p>Unicellular Organisms Research one way unicellular organisms are harmful (e.g. human communicable diseases such as the Black Death) What Made The Black Death (The Plague) so Deadly? and one way they are helpful (e.g. making bread or possibly breaking down plastic waste) Scientists find bug that feasts on toxic plastic.</p> <p>Energy Transfer List ways to make your home more energy efficient. Inspiration for my next home improvement project - Energy Saving Trust</p>	