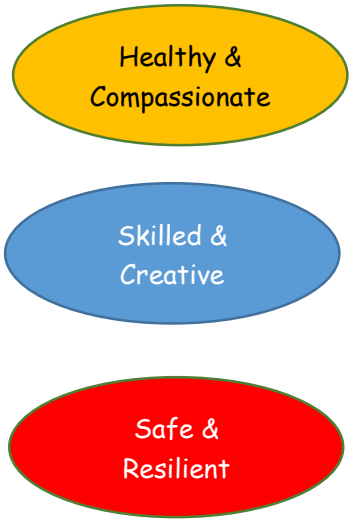
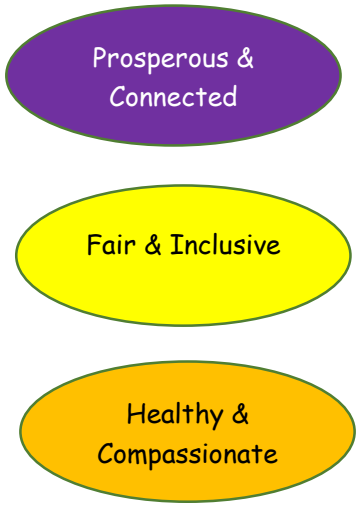
BIG PROJECT OVERVIEW- YEAR GROUP 4

	AUTUMN	SPRING	SUMMER
BIG PROJECT	To create a board for the Yorkshire Wildlife Park around the effects of climate change on the Polar bears. Each area of climate change to be covered on the board with how it impacts the polar bears.	To create a water transportation and irrigation system to help support/reduce the flooding impact of increased rainfall in Doncaster – Sprotbrough Falls Possible talks and links with people from Yorkshire Water/plumbers who design water systems/farmers.	To create a prosthetic arm for the Iron Man – Links with the medical profession
MORAL PURPOSE	Tackling climate change Opportunity for project based learning that meets environmental challenges – creating the board for the YWP that looks at environmental challenges e.g. climate change that effects the polar bear population/habitat. Children will learn knowledge and awareness of environmental issues around climate change e.g. deforestation, polar ice caps, global warming and rising sea temperatures and will look at ways to tackle these issues going forward. Children will look at current measures that have	Tackling water transportation and irrigation in flood risk areas, in Doncaster, to help reduce the devastating impact of flooding. Focus on how this impacts the lives of people in Doncaster and the devastation /trauma this puts on them. Opportunity to design a method of transportation and irrigation linked to the Egyptians who developed the Archimedes screw and also relied on the Nile for various purposes. Focus on how the Egyptians carried water from the Nile and the systems in place (Shaduf), then design their own	Celebrating differences/individuality in the open task creation of an Iron Man's arm. Looking at how there is a range of disabilities in society and how this makes us individuals and unique. Focus on how prosthetics have been created overtime to aid amputees in living a 'normal' life. Focus on famous people that have prosthetic limbs and look at the Paralympics and how the use of prosthetics aids them in being able to compete in sports. Look into how prosthetics work and how they have become more advanced overtime.

	already been put in place to try and slow/stop climate change from occurring and causing more irreversible damage to the environment/polar bears.	type of Shaduf to transport water from one place to another.	
LA STRATEGY LINKS	Study different aspects of climate change e.g. deforestation, polar ice caps, food sources/chains, rising sea temperatures, pollution in order to understand what it is and the different aspects of it before being able to apply this to Alaska and the polar bears. (1. Tackling climate change) Developing knowledge of measures already in place to combat climate change and global warming. (5. Creating safer, stronger, greener and cleaner communities where everyone belongs) 	**4. Healthy and compassionate** An education of skills system that works closely with health and social care. Look at effects of lack of water and lack of clean water. Drought and effects of climate change on these countries. **5. Skilled and creative** Have a knowledge of structures already in place from the past and now. Use these as a basis to create own system to transport water. 	Design skills of hydraulic and electrical systems links to skilled and creative and prosperous and connected. (2. Developing the skills to thrive in life and work.) (4. Healthy and compassionate) – an education of skills system that works closely with health and social care. 

LINK TO PREVIOUS LEARNING (IN-YEAR AND PREVIOUS)	Links to Y3 geography looking at what deforestation is and the effects of it on the rainforests around the world. Y3 Geography – Use atlases to find out about features of other places e.g. mountains. – As part of this topic we will look at the features of Alaska including mountains. Begin to identify significant places and environments. – In this topic we will be looking at the significant environments in Alaska and the places within Alaska where climate change occurs and how Alaska has changed over time as a result of climate change. Understand and apply knowledge of human and physical features to a place of study – We will be studying the human and physical geography of Alaska to pin point where and how climate change has impacted these features. Links to recycling and sustainable living from the '3 Little Pigs' Big project in Year 1.	In y4 science looking at changes of state looking at solids, liquids and gases. • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature – this extends on from our work on solids, liquids and gases in Autumn 1. In y4 geography looking at global warming/climate change and the impact of the sea level rising. • Understand people's dependencies on the environment • Understand the basics of climate change (causes and effects) In Autumn term we studied global warming/climate change and the effects that it had on polar bears within the Arctic Circle. In y3 – DT looking at strengthening materials when making a house, and in Year 1 when they strengthen the house they design for the 3 little pigs. Children will apply these skills in order to strengthen a Shadulf so that it can hold liquid.	DT skills covered in Autumn term when children made wardrobes. Skills covered were: • Create a final design for their product based on initial ideas and revisions, based on researching existing ideas – In Autumn term, children designed a variety of wardrobes and used ideas from each to create a final design. To create the Iron Man's arm, they will need to research the use of prosthetics and how they work to create designs before reaching final design. • Use equipment and tools with increased accuracy and safety – When making wardrobes, children learnt how to use saws safely and with accuracy to ensure straight cuts and measurements. To create the Iron Man's arm, they will need to use a range of tools to ensure the cuts are of an equal length to enable the Iron Man to clench its fist. • Measure, cut and assemble accurately & measure accurately to build effective structures - When making wardrobes, children learnt how to measure the wood to the length they wanted and

			then to cut it before using it to build the frame. To create the Iron Man's arm, they will need to use a range of tools to ensure the cuts are of an equal length to enable the Iron Man to clench its fist and to ensure that when assembled the arm does the intended job.
SCAFFOLD TASKS AND BUILD UP (TIMINGS INCLUDED)	Scaffold geographical and scientific tasks: Science – unit on states of matter – changes in state, observing the effects of heat on matter, water cycle, insulators. (Tier 3 vocab). This will enable children to understand and identify changes of state which contribute to climate change in Alaska e.g. Ice caps, mountains) Living things and habitats – food chains and webs. This will enable children to understand and identify how a change in the food sources can adversely affect the primary and secondary sources as well as apex predators.	The following objectives will form the basis of the skills needed to research and make a Shaduf. • Recognise and describe key rivers around the world. • Recognise how and why people may seek to manage environments sustainably. This will enable the children to understand how the River Nile supplied the Egyptians and was used for many purposes including irrigation for crop production. Children research different water irrigation systems including the Egyptian Shaduf. Compare and contrast them. • Create a final design for their product based on initial ideas	The following objectives will form the basis of the skills needed to create the Iron Man's arm. • Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. This will enable them to use electronics in the Iron Man's arm. • Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery • Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. This will enable them to create a part that lights up and moves in the arm,

	Geographical – Identifying significant places and environments – pin point exact places within and around Alaska where climate change occurs (deforestation etc) - Study of human and physical geography within a region (Alaska). This will enable the children to identify the parts of Alaska which are physical features and which are human features and the effect these have on each other. - Recognise how and why people may seek to manage environments. This enables children to understand and identify how and why environments can alter and the effect this has on the surrounding human/natural population. - Locate key human and physical characteristics including hills, mountains, coasts and rivers and land use patterns and how they have changed overtime.	and revisions, based on researching existing ideas • Create a detailed plan considering their target audience, design criteria and intended purpose • Use equipment and tools with increased accuracy and safety • Select the most effective materials, tools and techniques to use • Manipulate materials effectively using a range of tools and equipment • Measure, cut and assemble accurately • think about their ideas as they progress and make changes to improve their work • assess how well their product works in relation to the design criteria and the intended purpose • explain how they could improve their design and how the improvement would affect the original outcome . Children research different water transportation systems and then design and plan making one. They then make prototypes to practise	as well as using a motor to clench and unclench the fist, if this forms part of their design.

		cutting skills with saws and wood before making their design. They then evaluate how well the product works for the task and how it could be improved. Children will explore the impact of flooding and what that has on local communities and how they are helping in their efforts to eradicate that.	