



Cramlington Village Primary School
Science REAL projects template
Year 5 and 6 Spring 2020

Project Name	Project summary What you're going to do and why	Essential question This should be inspiring, not able to be 'googled', requiring you to conduct in depth research and relate to a real world issue	Final project outcome Deadline date? How you will promote? Who will be invited?
What makes a good Scientist?	<p>Year 6</p> <p>What makes us unique? We are going to explore evolution and how humans develop Exploring DNA and where we come from We are going to look at ourselves now and how we look after our body - eliminating bacteria, effects of drugs, alcohol and exercise on the body.</p> <p>Year 5</p> <p>What makes us unique? Explore the 6 stages of human development (prenatal, infancy, childhood, adolescence, adulthood and old age).</p>	What makes me ME?	Last week of term (Wednesday) - oracy day. Contacted NHS link to display work in hospital

Wow moment This needs to happen within the first week of term - preferably on the first day	Key staff	Key contact numbers/websites/resources	Classroom environment What will you be doing to your classroom? What resources do you need	Key text
Sunderland university - HE access science experiments	Sarah Nicole Ashleigh Galloway Gemma Sutton Debbie Thompson		<p>Create a science lab in the classroom where children will have opportunities to carry out independent experiments and exploring equipment. Set investigation cards they could try out. Include pictures to encourage key questions.</p> <p>'I see, I notice, I wonder' display questions.</p>	<p>Year 5</p> <p>Wonder by R J Palacio Skellig WAGOLL - NHS information text WAGOLL - Poetry</p> <p>Y6</p> <p>The Island At The End Of Everything Pig Heart Boy Moth WAGOLL - Charles Darwin biography innovating for Mary Anning WAGOLL - information text on the eye, innovating to the heart</p>

Science planning					
Week 1 6.1.20	Week 2 13.1.20	Week 3 20.1.20	Week 4 27.1.20	Week 5 3.2.20	Week 6 10.2.20
Explaining Science and classification		Working Scientifically/designing experiments		Data/tables/graphs and drawing conclusions	
<p>Week 1 Y6 - What is Evolution? Can we name some important Scientists? Scientific skills covered - Evolution, grouping and classifying, noticing patterns, discussing differences, grouping and sub grouping</p>		<p>Week 3 Y6 - How does a heart work? What is blood? Scientific skills covered - investigation, taking measurements,controlling variables , taking measurements with accuracy, creating experiments</p>		<p>Week 5 Y6 - What is a drug? Scientific skills covered - data analysis, calculating average, line and graph work including conclusions</p>	

<p>Literacy - WAGOLL biography on Charles Darwin innovate for Mary Anning Mon - Timelines of changes in evolution Tues - creating spider keys of adaptations Weds - grouping and subgrouping of animal adaptation Thurs - Fri</p> <p>Week 2 Y6 How has Science changed? Scientific skills covered - recognising Science has changed over time, discussing differences over time, timeline of medicine, Scientific explanations of how has it changed over time? Classification and grouping of Scientific discoveries. Mon - History of medicine before 'recent' advances Tues - timeline of Scientific advances Weds - explanations of how Science has changed over time Thurs Fri</p> <p>Week 1 Year 5 - Prenatal What is prenatal? (Asexual, sexual reproduction, fertilisation, prenatal development, germinal stage, embryonic stage and fetal stage, scientific diagrams, labels, classification keys)</p> <p>Explore the stages of prenatal development - create a timeline weeks 0-40 Label the embryo and amniotic sac Making a human Birth defects Effects of drinking and smoking on the body during pregnancy The role of a Midwife Midwife visit - Antonio's mum</p> <p>Week 2 Year 5 - Infancy / Childhood What skills do we learn in infancy and childhood? (tables, line graphs, patterns, accuracy, precision, comparisons)</p> <p>Explore skills learned in childhood and create a timeline using a child from each year group (N - Y6) make observations of language, physical skills and emotional health 1 month - 12 month timeline of physical changes Track a typical babies weight and height Is the length of our foot the same length as our forearm? Has the tallest person got the biggest head? Is our height the same length as our body span? Are our hand spans different?</p> <p>Luke's wife - paediatrician visit</p> <p>Grace Armstrong (baby stage) Harrison Finlay and Beau Armstrong-Miles (Under 1) Jacob Ray and Amelie Galloway (Up to 2) Charlotte Armstrong (Nursery Up to 3) Jacob Collins (Reception Age 4-5) Joshua Mitchell (Year 1 Age 5-6) Jessica Gorton (Year 2 Age 6-7) Charlotte Vaughan (Year 3 Age 7-8) Ben Drake (Year 4 Age 8-9) Tallula Dowden (Year 5 Age 9-10) Tyler Armstrong (Year 6 Age 10-11)</p>	<p>Literacy WAGOLL information text on the eye - innovate to the heart Mon - opening up eyes and pigs heart, looking at valves. Creating scientific diagrams with labels of the heart Tues - Looking at make up of blood, creating their own experiment around heart rates resting vs. exercise Weds - Continuing experiment Thurs - Fri</p> <p>Week 4 Y6 - what happens to our body when we exercise? Scientific skills covered - investigation, taking measurements,controlling variables , taking measurements with accuracy, creating experiments Mon - investigation involving cobalt chloride paper during exercise Tues - devise fair test into exercise over time - recording regularly to analyse results before oracy day (personal trainer visit) Weds - write up of Scientific enquiry Thurs Fri</p> <p>Week 3 Year 5 - Adolescence What are hormones? (variables, measurement, scale, describe trends, construct tables and graphs to represent data)</p> <p>Plant hormones experiment - measuring plant growth across time (indoors, outdoors, artificial light, natural light, darkness) Link to Puberty and human hormones Mental health Emotions and empathy</p> <p>Week 4 Year 5 - Adults How can we care for ourselves? (classifying food groups, line graphs, identify, classify and describe, fair testing)</p> <p>Healthy eating - food groups, diet, water, sleep. Oil absorption experiment / starch experiment Fitness - effects of exercise on our body, measure heart rate, pulse rate Medication Experiments (solids, liquids and gases, reversible and irreversible changes) Illness Body defences Anethasist visit - Elaine Gorton Cardiologist visit - Gemma's mum</p>	<p>Mon - analyse results from study on caffeine vs heart rate and respiration - draw conclusions and calculate averages Tues - create our own experiment on heart rate/caffeine and reaction time (parental consent) Weds - constructing a scatter graph of data, discussing conclusions and degrees of results Thurs Fri</p> <p>Week 6 Y6 - what is a nutrient? What is the immune system? Scientific skills covered - investigations over time, observation, recording, creating variables, analysing data Mon - analysis data of how exercise effects climbers at high altitude - discuss conclusions of this Tues - create our own pie chart, line graphs and scatter graphs of results Weds Thurs Fri</p> <p>Week 5 Year 5 - Old age What happens to our bodies as we get older?</p> <p>Explore common illness and effects on the body Links with the local care home</p> <p>Week 6 Year 5 Changes to medical advances over time Could you be an Organ donor?</p> <p>Explore organ and tissue donation (corena, heart, lungs, liver, kidney, pancreas, small bowel) Medicine through time</p>		
Half term				
Week 7 2.3.20	Week 8 9.3.20	Week 9 16.3.20	Week 10 23.3.20	Week 11 30.3.20 Oracy open day this week - Wednesday

<p>What is DNA?</p> <p>DNA Fingerprint experiment DNA models</p> <p>Week 7 -Y6 what is DNA? Why is it important? How does this link with evolution?</p> <p>Literacy WAGOLL - narrative linked to key text Scientific skills - classification and using models to describe, draw and annotate diagrams Mon - grouping and sorting DNA strands, discussing vocab and explaining key concepts Tue - using DNA model to describe and explain Wed - draw and annotate our own diagrams</p> <p>Year 5 What is DNA? Why is it important? Scientific skills - classification and using models to describe, draw and annotate diagrams Grouping and sorting DNA strands, discussing vocab and explaining key concepts Create DNA model to describe and label WAGOLL - Poetry</p>	<p>What is bacteria?</p> <p>Bacteria growth Effect of Antibiotics on bacteria growth Should we give antibiotics to everyone? why/why not?</p> <p>Week 8 Y6 - what is bacteria? What is leprosy? Linked to text. Scientific skills covered - investigations over time, observation, recording, creating variables Mon - creating observational experiment with petri dishes and bacteria. Measuring 'halo zone' to the mm Tues - microbiologist visit Wed - Concept cartoons and spider keys about bacteria growth</p> <p>Year 5 What is bacteria? Bacteria growth Effect of antibiotics on bacteria growth Should we give antibiotics to everyone? why/why not?</p> <p>What is bacteria? Explore illness and disease - Linked to the Wonder text Scientific skills covered - investigations over time, observation, recording, creating variables Creating observational experiment with petri dishes and bacteria. Measuring 'halo zone' to the mm. Microbiologist visit Concept cartoons and spider keys about bacteria growth</p>	<p>How can we stop the spread of viruses?</p> <p>Week 9 Y6 - what is a virus? Scientific skills covered - discussing degrees of trust and false conclusions recording, creating variables, classification Mon - investigate into what a virus is. Explore 'fake' and 'real' virus stories and discuss which is reliable data Tue- classification into virus stems</p> <p>Year 5 What is a virus? How can we stop the spread of viruses? Scientific skills covered - discussing degrees of trust and false conclusions recording, creating variables, classification Personal Hygiene. Light experiment to observe and measure bacteria on hands and around school.</p>	<p>Reflection / Oracy week to create resources and the scripts for each station. Refining written/oral work from term 1 to improve.</p> <p>Children to work in their working groups. (to be decided in half term)</p> <p>Reflection / Oracy week to create resources and the scripts for each station. Refining written/oral work from term 1 to improve.</p> <p>Children to work in their working groups. (to be decided in half term)</p>	<p>Oracy day plan</p> <p>Human development timeline highlighting the 6 stages of human growth (fetus, infancy, childhood,)</p> <p>DNA Interactive Fingerprint station Strawberry extraction station DNA models station - 'explanation talk' into the make up of a genome</p> <p>Bacteria Bacteria experiments with photos and written explanations of what they observed What is a virus? Why antibiotics won't work for a cold or flu - discussion into NHS lost hours over appointments into cold/flu symptoms</p> <p>Cardiology station - effect of exercise on the heart along with 'fitness professional' discussing how respiration rate is impacted. 'Explanation talk'</p> <p>Drug and alcohol awareness section - pre-prepared data analysis and leaflets on how to look after the body along with 'professional' speaker giving advice through presentation 'instructional talk'</p> <p>Evolution and inheritance - Charles Darwin and Mary Anning 'talking statues' 'information talk'</p> <p>Debates NHS theme Organ donation - opting in or out Should we privatise the NHS? Should drink drivers be banned for life? Animal testing Is the 'postcode' NHS system fair for treatment?</p>
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Lesson	Key milestones What are you going to do/ write/create/build?	Learning goals What key parts of the curriculum will this include? (long term plan holds all of the curriculum content) What skills will be practised?	
		Year 5	Year 6
Focus literacy	A historical information text A poem biography - Charles Darwin Information text - heart and the eye The island at the end of everything	Spring 1 - WAGOLL NHS Non fiction text - To adapt and innovate to a text about the history of Cramlington Hospital Spring 2 - WAGOLL Poem about DNA / being unique linked to 'Wonder'	WAGOLL biography of Charles Darwin, innovate for Mary Anning WAGOLL - non chron on the eye, innovated for the heart WAGOLL - narrative linked to 'The Island At The End Of Everything'
Focus numeracy	position and direction Decimals Percentages Algebra Converting units Perimeter, area and volume Ratio	Multiplication and division Fractions Decimals and percentages	position and direction Decimals Percentages Algebra Converting units Perimeter, area and volume Ratio

Forest school	nature badge Year 5 - see outdoor learning passport Year 6 - see outdoor learning passport	Nature badge Set up Plant hormone experiment in week 2 ready for analysis in Week 3 Strawberry DNA extraction Life cycles of plants	Nature Badge strawberry DNA extraction Kiwi DNA extraction Fire badge
Computing		Spark videos to inform an audience about job roles in the NHS	Leaflet creation using Google Docs Presentation skills using Google Slides
PE		Tag Rugby delivered by Cramlington Rockets (Monday 1:15 - 2:15) Swimming at Astley High School (Tuesday 12:00 - 2:15 every other week)	Tag Rugby delivered by Cramlington Rockets (Monday 2:15 - 3:15)
History		History of the NHS History of the local Community (Cramlington Hospital) Comparing health care today with health care 100 years ago	History of medicine Evolution - changes over time Chronology - understanding changes
PSHCE	Lucinda and Godfrey - bexhill wise	Keeping ourselves healthy Growing and changing puberty	Growing and changing puberty Changing relationships Relationships Growing and changing puberty unit 2
Art/DT		DNA models	N/a - Next term art focus
RE		Christianity and Hinduism What do Hindus and Christians believe? Nature of God-The Trinity Jesus' birth, ministry, death etc Jesus' miracles and teachings Easter Peter's story- Events of the last week through Peter's eyes Times we have let someone down; being given a second chance; making amends	Judaism and Islam Islam snapshot Judaism- The Holocaust Easter An ending becomes a new beginning Jesus' death and resurrection (Eastern Orthodox focus) Heaven- Children's ideas of heaven
French		Language Angels - Trial	Language angels - trial