



Year Group: 5

Term: Autumn 18

School Theme

Science

Essential Question

Are we destined for intergalactic relocation?

Authentic Outcome

Graduation ceremony-
sharing learning at
Liverpool Hope University

Trips, Experiences & Making Community Links

Chester zoo (whole year group)
Farm
Museum planetarium
Liverpool Hope Art&DT
Research lab – university visit
Farmers and animal breeders
Museum experts from the planetarium
Art & DT university staff/students
Parents/carers
Governors
SJB/ Hope science team representatives
Media

Mini Outcomes

- Set up and organize 'Research Units' - Science Driven
- Create a 'Noah's Space Arch' - Art and DT Driven
- To create individual journey through the project books for each child (Dear Mum/Dad thread)

Final Outcome

- Mission success ceremony to celebrate completing the research at Liverpool Hope University

RE Curriculum Topics & Additional Links

Ourselves

Life Choices

Hope

Immersive Environment

Overall theme of Earth and Space will be reflected across both classrooms with stars, moon, sun and the planets incorporated. However, each classroom will also have designated 'research units' dedicated to gradual collection of information relating to each science curricular topic:

- Earth and Space (researching each planet, it's properties and consideration if they would offer a possible relocation point) Have each planet picture displayed and information on each planned dotted around as we consider each one in turn for a possible place of relocation.
- Animals (classify animals as mammals, amphibians, insects and birds and consider their life processes and process of reproduction, and what needs to have in terms of their habitats to allow for this. We will have a 'Noah's Space Arch' in mind and need to understand each animal type and what is required for their successful breeding and development once relocated.
- Humans- consider the changes humans go through as they develop to old age. How does our environment cater for this?

Each 'research unit' will take the form of a 'working wall' being added to as teaching takes place over the course of the project.

Technology

- Use of i-Movie and green screen
- Use see-saw across subjects to build children's online journals

Outcomes for this Term/National Curriculum Links and Coverage

Maths	English	REAL Project	RE	Other Subjects
<p style="text-align: center;">Unit 1</p> <p>Reasoning with large whole numbers</p> <p>(2 weeks)</p> <ul style="list-style-type: none"> read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 solve number problems and practical problems that involve all of the above read Roman numerals to 1000 (M) and recognise years written in Roman numerals <p style="text-align: center;">Unit 2</p> <p>Problem solving with integer addition and subtraction</p> <p>(2 weeks)</p> <ul style="list-style-type: none"> add and subtract numbers mentally with increasingly large numbers add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why <p style="text-align: center;">Unit 3</p> <p>Line graphs and timetables</p> <p>(2 weeks)</p> <ul style="list-style-type: none"> solve comparison, sum and difference problems using information presented in a line graph complete, read and interpret information in tables, including timetables solve problems involving converting between units of time <p style="text-align: center;">Unit 4</p> <p>Multiplication and division</p> <p>(3 weeks)</p> <ul style="list-style-type: none"> identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers recognise and use square numbers and the notation for squared (²) know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers establish whether a number up to 100 is prime and recall prime numbers up to 19 multiply and divide whole numbers by 10, 100 and 1000 multiply and divide numbers mentally drawing upon known facts solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes multiply numbers up to 4 digits by a one- or two-digit number using a formal written method 	<p>Reading</p> <ul style="list-style-type: none"> maintain positive attitudes to reading and an understanding of what they read by: <ul style="list-style-type: none"> continuing to read and discuss an increasingly wide range of fiction, poetry, plays, non-fiction and reference books or textbooks reading books that are structured in different ways and reading for a range of purposes increasing their familiarity with a wide range of books, including myths, legends and traditional stories, modern fiction, fiction from our literary heritage, and books from other cultures and traditions recommending books that they have read to their peers, giving reasons for their choices identifying and discussing themes and conventions in and across a wide range of writing making comparisons within and across books learning a wider range of poetry by heart preparing poems and plays to read aloud and to perform, showing understanding through intonation, tone and volume so that the meaning is clear to an audience <p>understand what they read by:</p> <ul style="list-style-type: none"> checking that the book makes sense to them, discussing their understanding and exploring the meaning of words in context asking questions to improve their understanding drawing inferences such as inferring characters' feelings, thoughts and motives from their actions, and justifying inferences with evidence predicting what might happen from details stated and implied summarising the main ideas drawn from more than 1 paragraph, identifying key details that support the main ideas identifying how language, structure and presentation contribute to meaning discuss and evaluate how authors use language, including figurative language, considering the impact on the reader distinguish between statements of fact and opinion retrieve, record and present information from non-fiction participate in discussions about books that are read to them and those they can read for themselves, building on their own and others' ideas and challenging views courteously explain and discuss their understanding of what they have read, including through formal presentations and debates, maintaining a focus on the topic and using notes where necessary provide reasoned justifications for their views <p>Writing pieces (PC/MD):</p> <ul style="list-style-type: none"> Diary – writing to parents Explanation/ Factfile – planets/animals Creative writing/space theme – Pobble 365/literacy shed Trapped on a planet? What if... Instructions – How to make a spaceship/planet out of cardboard Letter – Writing to the Head of Space Relocation explaining our findings so far and any concerns Creative writing linked to George and the Big Bang #3 	<p>Science</p> <p>Earth and space</p> <ul style="list-style-type: none"> describe the movement of the Earth and other planets relative to the sun in the solar system describe the movement of the moon relative to the Earth describe the sun, Earth and moon as approximately spherical bodies use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky <p>Non-stat coverage notes:</p> <p>Pupils should be introduced to a model of the sun and Earth that enables them to explain day and night.</p> <p>Pupils should learn that the sun is a star at the centre of our solar system and that it has 8 planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006).</p> <p>They should understand that a moon is a celestial body that orbits a planet (Earth has 1 moon; Jupiter has 4 large moons and numerous smaller ones).</p> <p>Note: pupils should be warned that it is not safe to look directly at the sun, even when wearing dark glasses.</p> <p>Pupils should find out about the way that ideas about the solar system have developed, understanding how the geocentric model of the solar system gave way to the heliocentric model by considering the work of scientists such as Ptolemy, Alhazen and Copernicus.</p> <p>Living things and their habitats</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird describe the life process of reproduction in some plants and animals <p>non-stat coverage notes:</p> <p>Pupils should study and raise questions about their local environment throughout the year. They should observe life-cycle changes in a variety of living things, for example, plants in the vegetable garden or flower border, and animals in the local environment. They should find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall.</p> <p>Pupils should find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals.</p> <p>Pupils might work scientifically by: observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions</p>	<p>Autumn TOPIC 1: DOMESTIC CHURCH– FAMILY: OURSELVES</p> <p>Know and understand:</p> <ul style="list-style-type: none"> A deepening awareness of 'Who I am' – Explore Ourselves as made in the image and likeness of God – Reveal <p>Acquire the skills of assimilation, celebration and application of the above – Respond</p> <p>Autumn TOPIC 2: BAPTISM/CONFIRMATION – BELONGING</p> <p>Learning Outcomes</p> <p>Know and understand:</p> <ul style="list-style-type: none"> Showing care and commitment – Explore The call to life and love within the community; marriage – Reveal <p>Acquire the skills of assimilation, celebration and application of the above – Respond</p> <p>Autumn TOPIC 3: ADVENT/CHRISTMAS – LOVING: HOPE</p> <p>Learning Outcomes</p> <p>Know and understand:</p> <ul style="list-style-type: none"> Waiting hopefully – Explore Advent is the Church's season of waiting in joyful hope for the coming of Jesus, the promised One, at Christmas and at the end of time – Reveal <p>Acquire the skills of assimilation, celebration and application of the above – Respond</p>	<p>PE</p> <p>Swimming</p> <ul style="list-style-type: none"> swim competently, confidently and proficiently over a distance of at least 25 metres use a range of strokes effectively [for example, front crawl, backstroke and breaststroke] perform safe self-rescue in different water-based situations. <p>Music- now not being taught as Jean not here but do we need this taught by ourselves this term?</p> <ul style="list-style-type: none"> play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians develop an understanding of the history of music. <p>Computing</p> <p><u>Unit 5.7 Concept Maps Weeks – 4 Programs – 2Connect</u></p> <ul style="list-style-type: none"> To understand the need for visual representation when generating and discussing complex ideas. To understand and use the correct vocabulary when creating a concept map. To create a concept map. To understand how a concept map can be used to retell stories and information. To create a collaborative concept map and present this to an audience. <p style="text-align: center;"><u>Unit 5.6 – 3D Modelling</u></p> <ul style="list-style-type: none"> To be introduced to 2Design and Make. To explore the effect of moving points when designing. To understand designing for a purpose. To understand printing and making. <p>Spanish Specialist Teacher</p> <p>PSHE (introduction to 'ROAR')</p>

<ul style="list-style-type: none"> divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign <p style="text-align: center;">Unit 5</p> <p>Perimeter and area</p> <p>(1 week)</p> <ul style="list-style-type: none"> measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of non-rectilinear shapes 	<p>Writing basic skills coverage:</p> <ul style="list-style-type: none"> I use knowledge of type, form, audience and purpose to structure my writing. I have a clear beginning, middle and ending in my narrative writing. I have a varied and rich vocabulary. I use a range of sentence structures. I use a range of appropriate subordinating conjunctions. e.g. although, as long as, whenever, while, in order that, then, though, since, unless I use fronted adverbials to open sentences. e.g. quietly, suddenly, terrified, delighted, at last, yesterday I use relative clauses with relative pronouns. e.g. who, which, where, that, when, whose I use semi-colons/colons/dashes to mark boundaries between independent clauses. I use devices to build cohesion within a paragraph. e.g. then, after that, this, firstly I use the correct verb tenses (and they agree with the subject). I use modal verbs. e.g. will, must, may, shall, ought to, might, should I use passive and active voice. I use expanded noun phrases to give information concisely. I use commas/hyphens to avoid ambiguity. I use brackets/dashes/commas to indicate parenthesis. I use colons to introduce a list. I use inverted commas to punctuate direct speech. <p>PC/MD:</p> <ul style="list-style-type: none"> I have proof read my work for accuracy. I have used critique during the writing process. <p>Spelling</p> <ul style="list-style-type: none"> ible/able fer tious/cious i before e cial/tial ough homophones 1 and 2 <p>Handwriting</p> <p>Write legibly, fluently and with increasing speed by:</p> <ul style="list-style-type: none"> Choosing which shape of a letter to use when given choices and deciding whether or not to join specific letters Choosing the writing implement that is best suited for a task I write legibly and fluently using cursive and I have progressed to using pen 	<p>and suggesting reasons for similarities and differences. They might try to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs. They might observe changes in an animal over a period of time (for example, by hatching and rearing chicks), comparing how different animals reproduce and grow.</p> <p>Animals, including humans</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> describe the changes as humans develop to old age <p>DESIGN & TECHNOLOGY</p> <p><u>Design</u></p> <ul style="list-style-type: none"> use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Make select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately <p><u>Evaluate</u></p> <ul style="list-style-type: none"> investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work <p>ART & DESIGN</p> <ul style="list-style-type: none"> to create sketch books to record their observations and use them to review and revisit ideas to improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay] about great artists, architects and designers in history. <p>Speaking and Listening- in preparation for Hope Students Event where pupils will teach students about how projects are structured and how they help them to learn better.</p> <p>Hope University presentation of learning to parents, carers, university lecturers/ students.</p>		
--	---	--	--	--