

Grasmere Academy - Project Medium Term Planning

Term : Autumn (Precision - Science)	Project Question: Why does the world need forces and magnets?	Year group: 3
<p>Summary of the project: (mini outcomes identified)</p> <p>Mini Outcome 1: Children to design a game using their understanding of forces and magnets. Children to also create Balloon Buggies.</p> <p>Mini Outcome 2: Children to write an explanation text explaining how to make/play their game relating to their understanding of forces and magnets.</p> <p>Mini Outcome 3: Children to write a letter to another class in school inviting them to their presentation/event to showcase their games.</p> <p>Final Outcome: Children will use their designs and understanding of forces and magnets to create their game to share with another class in school (Bubble situation dependent). The children will present their idea and game to the other class. They will use the explanation text produced to explain how to make/play their games relating to their understanding of forces and magnets.</p>		
<p>Literacy Genres: Finding Tale - The House of Lost and Found Calligraphies and Shape Poems - In a Twist, Rain, Star, Spiderweb Explanation Text - What are forces and magnets? How to play/make their forces and magnets games. Letter writing - The Jolly Postman/To another class regarding attending their game event.</p>		
Maths Units: Numbers and Place Value, Addition and Subtraction.		
What do we want children to know by the end of this project?		
<p>Science Forces and Magnets:</p> <ul style="list-style-type: none"> - To compare how things move on different surfaces. - To notice that some forces need contact between two objects, but magnetic forces can act at a distance. - To observe how magnets attract or repel each other and attract some materials and not others. - To compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. - To describe magnets as having two poles. - To predict whether two magnets will attract or repel each other, depending on which poles are facing. 	<p>Art</p> <p>Drawing:</p> <ul style="list-style-type: none"> - To use own portrait as inspiration. - To use accurate freehand drawings of faces and measurement of facial features. - To draw initial sketches as a preparation for painting. - To observe patterns, tessellations and symmetry in small detail. 	<p>DT</p> <ul style="list-style-type: none"> - Children to generate ideas for an item considering its purpose and the user/s. - Children to identify a purpose and establish criteria for a successful product. - Plan the order of their work before starting. - Make drawings with labels when designing. - Select tools and techniques for making their product. - Measure, score and cut with some accuracy. - Use hand tools safely and appropriately. - Evaluate their product against original design criteria e.g. how well it meets its intended purpose.

Famous Scientist - Isaac Newton, William Gilbert, Andre-Marie Ampere			Artist - Ling Meng, Matisse, Andy Warhol.	
Music <ul style="list-style-type: none"> - Children to sing in unison and in 2 simple parts. - To follow a leader when singing. - To sing with awareness of being in tune and the pulse of the song. - To enjoy singing solo or in a group. 	Computing <p>Digital Literacy -</p> <ul style="list-style-type: none"> - To explore a range of electronic information as part of a topic. - To understand that anyone, from anywhere, can access the internet. - To recognise specific places to get help - CEOP. <p>Information Technology -</p> <ul style="list-style-type: none"> - To organise folders and documents on their iPads and to understand the importance. - To understand that files can be uploaded and organised to help with retrieval of digital content. <p>Computer Science -</p> <ul style="list-style-type: none"> - Recap the concept of coding. - Describe what debugging is. - Demonstrate the use of debugging in an everyday situation. - Create and debug simple programmes. - Understand what algorithms are. - Use logical reasoning to predict the behaviour of simple programmes. 	French <ul style="list-style-type: none"> - To ask and answer name. - To ask and answer simple feelings. - To count from 0 - 11. - To know the colours. - To know the days of the week. - To know the months of the year. - To ask the day/month. - To ask birthday month. - To explore how the French celebrate Christmas. 	RE <p>Hinduism</p> <ul style="list-style-type: none"> - To explore a range of religious stories and sacred writings and talk about their meanings - To name and explore a range of celebrations, worship and rituals in religion, noting similarities where appropriate - To identify the importance, for some people, of belonging to a religion and recognise the difference this makes to their lives - To explore how religious beliefs and ideas can be expressed through the arts and communicate their responses - To identify and suggest meanings for religious symbols and begin to use a range of religious words. 	PE <p>Autumn 1 - Hockey</p> <p>Autumn 2 - Dance</p>

Which words and phrases do we want children to recall and define by the end of this project					
Science Force, push, pull, open, surface, magnet, magnetic, magnetisation, attract, repel, opposites, magnetic poles, North, South, gravity, friction, motion, magnetic fields.	Art Draw, sketch, light, dark, shadow, shape, texture, object, face, pattern.	Music Sing, rhythm, duration, rhymes, tempo, vocal, pitch, high, low, harmony.	D&T Design, develop, model, equipment, cutting, joining, structures, measure, mark, components, context, evaluate, strengths, improvements.	Computing Computing, algorithm, bug, coding, command, conditional statement or action, debugging, developer, event, loop, sequence.	RE Hinduism, Hindu artefacts, Diwali, aum, shrine, prayer, temple, karma, Brahma, Ganesh, Krishna, Lakshmi, Rama, Sita, Shiva, Vishnu, rangoli.

In order to ensure **all children can achieve** - what pre teaching/learning will need to occur? What prior knowledge will they need?

Science

- Find out how the shapes of solid objects made from materials can be changed by squashing, bending, twisting and stretching. (Y2 - Uses of everyday materials)

Art

Children will be able to use a pencil to draw and design and record shapes. They will be able to observe and design their own patterns using a variety of tones of one colour using white to lighten.

DT

- Children will generate ideas by drawing on their own and other people's experiences.
- Children will develop design ideas through discussion, observation and modelling.
- Identify a purpose for what they intend to design and make.
- Make simple drawings and label.
- Begin to select tools and materials, use vocab to name and describe them.
- Assemble, join and combine materials in order to make a product.
- Evaluate their products as they are developed, identifying strengths and possible changes they make.
- Talk about ideas, saying what they like and dislike about them.

Music

- To know that some songs have a chorus part.
- To know why we need to warm up our voices.
- To prepare and improve a performance.
- To know that everyone singing at the same time is unison.

Computing

- Children will recognise common uses of information technology beyond school.
- Children will use technology safely and respectfully, keeping personal information private.
- Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

French

- Children will know nouns, adjectives, pronouns and conjunctions.
- Children will understand and say a few familiar spoken words and phrases.

RE

- Children will know there are lots of religions.

PE

- Master basic movements including running, jumping, throwing, catching, as well as developing balance, agility and coordination and begin to apply these in a range of activities.
- Participate in team games, developing simple tactics for attacking and defending.

Which **visits, visitors and special experiences** will we organise to secure children's knowledge ?

Playground visit to explore forces and magnets (Covid dependent).

Centre for Life Magnet workshop (Covid dependent).

Which **books** will help the children secure and think more deeply about the knowledge in this project?

Reading Spine

Autumn 1	Autumn 2
The Iron Man - Ted Hughes	Mrs Armitage: Queen of the Road - Quentin Blake Mr Archimedes' Bath - Pamela Allen

Driving Texts

Fiction	Non Fiction	Poetry
Bird Builds a Nest - Martin Jenkins The House of Lost and Found - Martin Widmark and Emilia Dziubak Ada Twist, Scientist - Andrea Beaty	Little People, Big Dreams Women in Science Be a Scientist: Investigating Magnets - Jacqui Bailey Be a Scientist: Investigating Forces - Jacqui Bailey	Shape Poems: In a twist Rain Star Spiderweb Apes to Zebras: An A-Z of Shape Poems - Roger Stevens

How will we exhibit our learning? How will we present our learning from each subject?

The children will use design and create a game using their understanding and knowledge of forces and magnets. The children will design, create and review Balloon Buggies and test their understanding of friction and how things move on different surfaces.

The children will create explanation texts in literacy to go with their games.

They will present their understanding and outcomes to another class within school.

Breakdown of weeks for Project sessions

Forces and Magnets

- I can compare how things move on different surfaces.
- To notice that some forces need contact between two objects, but magnetic forces can act at a distance.
- To observe how magnets attract or repel each other and attract some materials and not others.
- To compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.

	<ul style="list-style-type: none"> - To describe magnets as having two poles. - To predict whether two magnets will attract or repel each other, depending on which poles are facing. <p>SOLE: What makes rockets fly? Can you ever switch a magnet off? What does 'aerodynamic' mean?</p>
Art	<ul style="list-style-type: none"> - Children begin by exploring Andy Warhol and his artwork. - Children will use own portrait as inspiration. - To use accurate freehand drawings of faces and measurement of facial features. - To draw initial sketches as a preparation for painting. - Children will explore Ling Meng and iron filling artwork.
<p>Computing</p> <p>Digital Literacy Information Technology (Ongoing)</p>	<p>Year 2 - Digital Literacy:</p> <ul style="list-style-type: none"> - To recap what to do when worried about something and to recognise specific places to get help - CEOP. - <p>Year 2 - Information Technology:</p> <ul style="list-style-type: none"> - To organise folders and documents on their iPads and understand the importance. - To understand that files can be uploaded and organised to help with retrieval of digital content. <p>Year 2 - Computer Science:</p> <ul style="list-style-type: none"> - To recap the concept of coding. - To understand the goals of the sessions/outcome. - To understand the purpose of a working wall. - With increasing independence, learn how to use Seesaw. - Using everyday examples, describe what sequences are. - Construct a sequence based on a familiar story. - To code using sequences. - To build a step by step sequence. - To understand what a loop is. - To identify where a loop can make an instruction more efficient. - To understand why a loop is powerful. - To code with loops. - To describe what debugging is and demonstrate the use of debugging in an everyday situation. - To understand that an event is an action that causes something to happen. - To code using events and actions. - To understand that we can make actions occur only under certain conditions. - Use IF statements in everyday life and in coding. - To write an algorithm to solve a problem. <p>Project links:</p> <ul style="list-style-type: none"> - Using keynote to create presentations of the children's magnet and forces games and Balloon Buggies. - Using Camera to take pictures and video their forces tests. - Using Pages to record ideas for DT games.
Music (Ongoing throughout term.)	<p>Progression through Charanga Music School and BBC 10 pieces</p> <ul style="list-style-type: none"> - Children to sing in unison and in 2 simple parts. - To follow a leader when singing. - To sing with awareness of being in tune and the pulse of the song. - To enjoy singing solo or in a group.
French	<p>Opportunities for children to practise throughout the school day:</p> <ul style="list-style-type: none"> - To ask and answer name.

(Ongoing throughout the term.)	<ul style="list-style-type: none"> - To ask and answer simple feelings. - To count from 0 - 11. - To know the colours. - To know the days of the week. - To know the months of the year. - To ask the day/month. - To ask birthday month. - To explore how the French celebrate Christmas.
RE	<p>Hinduism</p> <ul style="list-style-type: none"> - To deduce Hidu artefacts. - To understand the symbols of Hinduism and their meanings. - To understand the meaning of the festival Diwali. - To be able to recall the story of Rama and Sita. - That Rama and Sita are important to Hindus. - To relate emotions in the story with their own experiences. - To learn about Hidu worship. - To know the purpose of a Mandir. - To assess knowledge and understanding of life in a Hindu Family.
PE (Ongoing throughout the term.)	<p>Autumn 1 - Hockey</p> <p>Autumn 2 - Dance</p>
DT	<ul style="list-style-type: none"> - Final outcome: Children design and create their game using forces and magnets. Children present their games and their instructions and explanation text from literacy to another class.