

Autumn 1 Medium Term Planning YELLOW Group

Overview of unit of learning:

Our topic this half term is... 'To infinity and beyond'

"One small step for man, one giant leap for mankind" N. Armstrong

This half term our topic will be space... we will blast off into space and stuff our solar system. We will start by looking at our home - The Earth and then take off on a rocket working our way through 'infinity and beyond'.

We will be looking at many natural occurrences such as Eclipse's, seasons and day/night and finding out how/why these things happen... We will be ending the topic looking at the moon, stars and the planets in our solar system.

Resources:

Video recording equipment camera/tablet
Knex
Lego
video or other secondary sources eg *photographs* of Earth taken from space
photographs of Sun, Moon and Earth
globe with small object attached
secondary sources providing information about earlier ideas of the shape of the Earth
selection of spheres of different sizes including a beach ball, pea and beads about 1/4 size of a pea
compass
shadow stick
torch with powerful beam
secondary data about times of sunrise and sunset
secondary sources providing information about how the appearance of the Moon changes over a 28-day period

Key Vocabulary:

words and phrases related to the shape and movement of the Earth and Moon eg sphere, revolve, orbit, spin, rotate, axis, sunrise, sunset, north, south, east, west
nouns and associated adjectives eg sphere/spherical
words and phrases which have similar but distinct meanings eg rotate around, rotate on its axis, spin, orbit
expressions for generalising and summarising descriptions and explanations involving a sequence of ideas.

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Topic	English	Maths
<p>To know that the Sun, Earth and Moon are approximately spherical</p> <p>To know their relative sizes and the relative distances between them</p> <ul style="list-style-type: none"> I can describe the shape and the size of the Earth, Sun and Moon and how far apart they are in space <p>FILM CLIPS:</p> <ul style="list-style-type: none"> Stargazing LIVE 'Stargazing Challenge' film 1 - Scale Model of Solar System using fruit BBC Learning Zone Class Clip 1589 (Images of the Earth, Sun and Moon) <p>To know how day and night are related to the spin of the Earth on its own axis</p> <p>To know that the Earth orbits the Sun once each year, and that the Moon takes approximately a month to orbit the Earth</p> <p>I can describe the movement of the Earth, Sun and Moon and how long these movements take</p> <p>FILM CLIPS:</p> <p>Stargazing LIVE 'Stargazing Challenge' film 2 - Earth, Sun and Moon orbits</p> <p>To know that the Moon takes approximately 28 days to orbit the Earth</p> <p>To observe the phases of the Moon</p> <ul style="list-style-type: none"> I can investigate the phases of the Moon <p>FILM CLIPS:</p> <p>Stargazing LIVE 'Stargazing Challenge' film 3: Phases of the Moon</p>	<p>Information Texts</p> <p>Listening to and discussing a wide range of fiction, poetry, plays, non-fiction and reference books or textbooks. Drawing inferences such as inferring characters' feelings, thoughts and motives from their actions, and justifying inferences with evidence.</p> <ul style="list-style-type: none"> I can listen to and discuss a story. <p>Designing Our Machines</p> <p>Discussing words and phrases that capture the reader's interest and imagination.</p> <ul style="list-style-type: none"> I can design a machine and describe it. <p>Pitching Our Designs</p> <p>Composing and rehearsing sentences orally (including dialogue), progressively building a varied and rich vocabulary and an increasing range of sentence structures. Discussing and recording ideas.</p> <ul style="list-style-type: none"> I can pitch my invention. <p>Looking at Explanation Texts</p> <p>Discussing writing similar to that which they are planning to write in order to understand and learn from its structure, vocabulary and grammar.</p> <ul style="list-style-type: none"> I can read an explanation text and use it to help me learn about them. <p>Starting Our Explanations</p> <p>Discussing writing similar to that which they are planning to write in order to understand and learn from its structure, vocabulary and grammar.</p> <ul style="list-style-type: none"> I can write the first paragraph of my explanation. <p>Continuing Our Explanations</p> <p>In non-narrative material, using simple organisational devices. Expressing time, place and cause using conjunctions (when, before, after, while,</p>	<p><u>Number - Place Value</u></p> <p>200 - I can count forwards from 1 to 20</p> <p>201 - I can count backwards from 20 to 0</p> <p>202 - I can count forwards from 1 to 50</p> <p>203 - I can count forwards to 100</p> <p>204 - I can count backwards to 0 or 1</p> <p>205 - I can count across 100</p> <p>206 - I can count, read and write numbers 1 to 100 in numerals</p> <p>207 - I can count, read and write numbers 1 to 100 in multiples of two</p> <p>208 - I can count, read and write numbers 1 to 100 in multiples of five</p> <p>209 - I can count, read and write numbers 1 to 100 in multiples of ten</p> <p>210 - Given a number, I can identify one more and one less</p> <p>211 - I can identify and represent numbers using objects and pictorial representations including the number line</p> <p>212 - I can use the term 'equals' or 'equal to' correctly</p> <p>213 - I can use the terms more than and less than (fewer) correctly</p> <p>214 - I can use the terms most and least correctly</p> <p>215 - I can read and write numbers from 1 to 20 in numerals and words</p> <p>216 - I can count in steps of 2 both forwards and backwards</p> <p>217 - I can count in steps of 3 both forwards and backwards</p> <p>218 - I can count in steps of 5 both forwards and backwards</p>

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<p>To understand that the seasons are caused by the tilt of the Earth's axis To know that the Earth orbits the Sun once a year</p> <ul style="list-style-type: none"> I can explain how the Earth's tilt causes warmer weather in the UK in summer <p>FILM CLIPS: BBC Learning Zone Class Clip 1592 Stargazing LIVE 'Stargazing Challenge' film 4: The Seasons</p> <p>To know that objects are pulled downwards because of the gravitational attraction between them and the Earth To identify the direction in which forces act</p> <ul style="list-style-type: none"> I can draw a diagram of a rocket launch using arrows to show the size and direction of the forces <p>FILM CLIPS: BBC Learning Zone Class Clip 1589 (Images of the Earth, Sun and Moon) Stargazing LIVE</p> <p>To observe and explore how lenses can be used to create a magnified image of an object To use scientific knowledge and understanding to explain observations</p> <ul style="list-style-type: none"> I can make a telescope and investigate how they work <p>FILM CLIPS: Stargazing LIVE 'Stargazing Challenge' film 6: Telescopes</p> <p>Recreate star signs using marshmallows</p> <p>Geography</p>	<p>so, because) adverbs, (then, next, soon, therefore), or prepositions (before, after, during, in, because of).</p> <ul style="list-style-type: none"> I can write the main section of my explanation. <p>Diagrams and Illustrations In non-narrative material, using simple organisational devices.</p> <ul style="list-style-type: none"> I can include diagrams or illustrations in my explanation. <p>Final Paragraph Organising paragraphs around a theme. Composing and rehearsing sentences orally (including dialogue), progressively building a varied and rich vocabulary and an increasing range of sentence structures.</p> <ul style="list-style-type: none"> I can write a closing paragraph to my explanation. <p>Evaluate and Edit Assessing the effectiveness of their own and others' writing and suggesting improvements.</p> <ul style="list-style-type: none"> I can evaluate and improve writing. <p>Persuasive Writing Features of Adverts Discussing writing similar to that which they are planning to write in order to understand and learn from its structure, vocabulary and grammar.</p> <ul style="list-style-type: none"> I can identify key features of adverts. <p>Slogans Discussing and recording ideas.</p> <ul style="list-style-type: none"> I can create ideas and a slogan for product. <p>Drafting an Advert Composing and rehearsing sentences orally (including dialogue), progressively building a varied and rich vocabulary and an increasing range of sentence structures.</p> <ul style="list-style-type: none"> I can draft ideas for my advert. 	<p>219 - I can count in steps of 10 both forwards and backwards. 220 - I can identify the tens and units digits in a two-digit number 221 - I can identify, represent and estimate numbers using different representations, including the number line 222 - I can compare and order numbers from 0 up to 100 using the <, > and = signs 223 - I can read and write numbers to at least 100 in numerals and in words <u>Number addition & Subtraction</u> 200 - I can read, write and interpret mathematical statements involving addition (+) and equals (=) signs 201 - I can read, write and interpret mathematical statements involving subtraction (-) and equals (=) signs 202 - I can read, write and interpret mathematical statements involving +, - and = 203 - I can represent and use number bonds within 20 204 - I can add and subtract 1-digit and 2-digit numbers within 20 (including zero) 205 - I can solve one-step problems involving addition and subtraction within 20 using terms like: put together, add, altogether, total, take away, distance between, difference between or more than and less than 206 - I can solve problems involving adding and subtracting numbers, quantities and measures within 20 using terms like put together, add, altogether, total, take away, distance between, difference between, more than, less than, sum and difference 207 - I can solve problems involving addition and</p>
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<p>Understand latitude, longitude, equator, hemispheres, tropics, polar circles and time zones.</p> <p>Studying our solar system and the earth that we live.</p>	<p>Organisational Devices In non-narrative material, using simple organisational devices.</p> <ul style="list-style-type: none"> I can organise the presentation of my advert. <p>A Polished Piece Proof-read for spelling and punctuation errors. Assessing the effectiveness of their own and others' writing and suggesting improvements Introducing inverted commas to punctuate direct speech.</p> <ul style="list-style-type: none"> I can assess and improve my advert and create a final version. <p>Explanation - How we get seasons Film Narrative- Wallace and Gromit 'A Grand Day Out' Newspaper reports landing on the moon, space expeditions</p>	<p>subtraction using written and mental methods and terms like put together, add, altogether, total, take away, distance between, difference between, more than, less than, sum and difference</p> <p>208 - I can recall and use addition and subtraction facts to 20 fluently</p> <p>209 - I can use addition and subtraction facts to 20 to derive and use related facts to 100</p> <p>210 - I can add and subtract a 2-digit number to and from 1-digit numbers using mental methods, concrete objects (e.g. apparatus or counters) and pictorial representation numbers written in columns</p> <p>211 - I can add and subtract a 2-digit number to and from a multiple of 10 using mental methods, concrete objects (e. apparatus or counters) and pictorial representation numbers written in columns</p> <p>212 - I can add and subtract a 2-digit numbers to and from either a 1-digit number or a multiple of 10 using mental methods, concrete objects (e.g. apparatus or counters) and pictorial representation numbers written in columns</p> <p>213 - I can add and subtract two 2-digit numbers to give an answer smaller than 100 using mental methods, concrete objects (e. apparatus or counters) and pictorial representation numbers written in columns</p> <p>214 - I can add three 1-digit numbers</p> <p>215 - I can show that the addition of two numbers can be done in any order and subtraction of one number from another cannot using mental methods, concrete objects (i.e. apparatus or counters) and pictorial representation numbers written in columns</p>
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		<p>216 - I can use the inverse relationship between addition and subtraction to check calculations and solve missing number problems</p> <p><u>Statistics</u></p> <p>200 - I can interpret and construct simple pictograms</p> <p>201 - I can interpret and construct tally charts</p> <p>202 - I can interpret and construct block diagrams</p> <p>203 - I can interpret and construct simple tables</p> <p>204 - Ask and answer simple questions based on a diagram, chart or table</p> <p>205 - Ask and answer questions about totalling and comparing based on a diagram, chart or table</p>
Art and Design	ICT	Science
<p>Model planets</p> <p>DT</p> <p>Creating a light and sound spaceship</p> <p>Design and create nutritional space bar</p> <p>Using knex, lego a range of materials to design and build a working model of the Mars Rover, evaluating its effectiveness and how they could improve their model.</p> <p>Art</p> <p>Interpretation of the solar system using a variety of materials.</p> <p>Developing use of watercolours - moon paintings.</p> <p>Studying the work of artist Peter Thorpe - create own Peter Thorpe inspired pictures.</p>	<p><u>Comic Strip Layout</u></p> <p>Select, use and combine a variety of software on a range of digital devices that accomplish given goals by inserting digital photos into a desk top publishing package to create a comic strip effect.</p> <ul style="list-style-type: none"> I can create a comic strip layout using photos in a desk top publisher. <p><u>Photo and Text Editing</u></p> <p>Select, use and combine a variety of software on a range of digital devices that accomplish given goals by editing and enhancing digital photos in a desk top publishing package and adding well-presented text.</p> <ul style="list-style-type: none"> I can edit and enhance photos and text for Presentation <p><u>Layering Objects</u></p> <p>Select, use and combine a variety of software on a range of digital devices that accomplish given goals</p>	<p><u>Spherical Bodies</u></p> <p>Describing the Sun, Earth and Moon as approximately spherical bodies by understanding how this knowledge has been attained.</p> <ul style="list-style-type: none"> I can explain why we know the Sun, Earth and Moon are spherical. <p>Identifying scientific evidence that has been used to support or refute ideas or arguments in the context of how ideas changed from a flat earth view.</p> <ul style="list-style-type: none"> I can identify scientific evidence which does or does not provide evidence for an idea or argument. <p><u>The Planets</u></p> <p>Describing the movement of the Earth, and other planets, relative to the Sun in the solar system by learning the order of the planets and how they</p>

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by inserting titles, speech bubbles and backgrounds into a desk top publishing package to create a comic strip effect.

- I can arrange and layer objects, including titles and backgrounds.

Movie Making

Select, use and combine a variety of software on a range of digital devices that accomplish given goals by using video editing software (Movie Maker) as an alternative way to present digital photos. Children are taught to insert and rearrange images, then edit the duration and animation effects.

- I can add and arrange photos to a movie presentation, with animation effects.

Soundtrack and Captions

Select, use and combine a variety of software on a range of digital devices that accomplish given goals by adding music and text to existing Movie Maker projects. These effects can then be refined by editing the start time, start point and end point of music as well as moving the appearance of captions.

- I can add an audio soundtrack and text captions to a photo sequence.

Final Presentation

Select, use and combine a variety of software on a range of digital devices that accomplish given goals by adding finishing touches to a Movie Maker project. A complete photo presentation is achieved with final enhancements to include a beginning sequence, end credits and saving the file as a movie.

- I can use beginning and ending enhancements to turn a movie maker project into a finished movie file.

move in the solar system.

- I can name and describe features of the planets in our solar system.
- I can order the planets in our solar system.

Geocentric Versus Heliocentric

Describing the movement of the Earth, and other planets, relative to the Sun in the solar system by examining the geocentric and heliocentric theories.

- I can explain how planets move in our solar system.

Identifying scientific evidence that has been used to support or refute ideas or arguments in the context of the shift from heliocentric models of the solar system to geocentric models.

- I can identify scientific evidence which does or does not provide evidence for an idea or argument.

Night and Day

Using the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky by examining why the sun appears to move and the arguments for the Earth's rotation.

- I can explain day and night and the apparent movement of the sun across the sky.

Identifying scientific evidence that has been used to support or refute ideas or arguments in the context of the evidence for the Earth's rotation.

- I can identify scientific evidence which does or does not provide evidence for an idea or argument.

Night and Day International

Using the idea of the Earth's rotation to explain

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		<p>day and night and the apparent movement of the Sun across the sky by predicting night and day in different places on Earth.</p> <ul style="list-style-type: none"> I can investigate night and day in different parts of the Earth. <p>Reporting and presenting findings from enquiries, including conclusions, in oral and written forms such as displays and other presentations in the context of investigating night and day.</p> <ul style="list-style-type: none"> I can report and present findings from enquiries. <p style="text-align: center;"><u>Movement of the Moon</u></p> <p>Describing the movement of the Moon relative to the Earth by explaining how the Moon orbits the Earth.</p> <ul style="list-style-type: none"> I can explain the movement of the Moon <p style="text-align: center;"><u>Earth and Space</u></p> <ul style="list-style-type: none"> I can describe the movement of the Earth, and other planets, relative to the <p style="text-align: center;"><u>Sun in the solar system</u></p> <ul style="list-style-type: none"> I can describe the movement of the Moon relative to the Earth I can describe the Sun, Earth and Moon as approximately spherical bodies I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.
S.M.S.C	Educational Visits	
<p>British Values: Proud to be British. Qualities that make us British. Famous British people - link to Tim Peake. My British hero. Why I'm proud to be British.</p>	<p>Kielder Star Gazing Overnight - Hopefully we will be able to stay in a lodge around Kielder Water overnight to experience their beautiful clear skies and observe a variety of constellations and perhaps a real life shooting star!</p> <p>Centre of Life Planetarium</p>	

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How I will uphold British values.

Cultural - Culture of British engineering and how it has progressed over time.

Spiritual - the wow factor of space exploration.

Moral/Social - Spending billions of the British people's money on a space programme when we have starving people using food banks.