



Scheme of Work		
Years: 5&6	Title: Space Explorers	Weeks: 6 weeks

Rationale

This unit develops pupils’ understanding of space, scientific discovery and exploration through enquiry, investigation and evidence-based learning. Pupils explore the structure of our solar system, relationships between the Earth, Sun and Moon, significant individuals and events in space exploration and the ways scientific ideas continue to shape understanding of the universe. Through carefully sequenced learning experiences, pupils develop substantive scientific knowledge alongside disciplinary understanding of how scientists work, investigate, question and use evidence to construct explanations.

Learning is designed to encourage curiosity, questioning and ambitious thinking through meaningful contexts and high-quality texts. Pupils investigate how scientific discoveries are made, consider how technology has changed understanding of space and explore the impact of space exploration on the modern world. Opportunities for prediction, observation, interpretation and explanation support pupils in developing scientific reasoning and confidence in communicating ideas.

The unit uses carefully selected Reading Spine texts including *Phoenix*, *Hidden Figures*, *How to be an Astronaut*, *Where Once We Stood*, *Lunar*, *Curiosity* and *The Jamie Drake Equation* to promote disciplinary reading and deepen understanding. These texts provide opportunities to explore scientific concepts, human experiences, aspiration, resilience and diversity within STEM fields whilst developing vocabulary, fluency and comprehension.

Learning experiences are designed to:

- develop secure knowledge and understanding of space and Earth’s place within the universe
- build scientific enquiry, reasoning and evidence-based thinking skills
- develop curiosity through investigation, discussion and exploration
- strengthen understanding of scientific vocabulary and concepts through repeated application
- provide opportunities for retrieval, prediction, observation and interpretation
- develop confidence in communicating scientific ideas through spoken, practical and written outcomes
- create meaningful opportunities for discussion, collaboration and problem-solving
- encourage pupils to consider how scientific discoveries influence everyday life and future possibilities
- provide opportunities for pupils to explore aspiration, perseverance and achievement through significant individuals and discoveries
- promote positive attitudes towards science, enquiry and lifelong learning
- support pupils to make connections across subjects and apply learning in meaningful contexts
- ensure pupils access ambitious learning through adaptive approaches without reducing curriculum expectations

By the end of the unit pupils will understand that scientific knowledge develops through evidence, investigation and discovery and that curiosity, questioning and perseverance continue to shape understanding of the world and universe around us.

Adaptive Teaching

This unit applies Storyybrook SEMH principles with particular emphasis on practical enquiry and collaborative investigation.

Examples of adaptation within this unit include:

- visual timetables and now/next supports
- vocabulary pre-teaching and rehearsal
- sentence stems and modelling



- chunked instructions and reduced cognitive load
- oral rehearsal before recording ideas
- alternative recording methods (drawing, practical outcomes, verbal responses)
- sensory and movement opportunities where needed
- emotional check-ins and regulation support

Challenge and Greater Depth Opportunities

Pupils demonstrating secure understanding may be challenged through:

- increasingly independent application of learning
- deeper questioning and higher-order thinking
- interpretation and evaluation of evidence
- more sophisticated use of disciplinary and subject-specific vocabulary
- extended reasoning and justification of ideas
- leadership, collaboration and peer-support opportunities
- greater complexity within written, practical and presentation outcomes
- opportunities to make connections across subjects and contexts
- independently identify patterns and relationships within scientific data and observations
- justify scientific conclusions using multiple pieces of evidence

Hook

Pupils enter a classroom transformed into a **Space Exploration Centre / Mission Control Room** containing:

- mystery mission boxes (*space rocks, astronaut photographs, coded messages, mission badges, star charts, replica artefacts and scientific equipment*)
- maps and images of the solar system and planets
- images of astronauts, space stations, rockets and significant space missions
- planet information stations and space fact cards
- space exploration timeline displays
- NASA mission photographs and videos
- astronaut quote stations
- mystery evidence cards and scientific clues
- space communication challenges and coded messages
- dramatic space music, sound effects and video clips
- moon landing footage and space imagery
- scientific investigation stations with prediction and observation tasks

Opening challenge

Can you become a scientist and explorer and discover how humans have explored space and what mysteries still remain beyond our world?

Writing Outcomes

By the end of the unit pupils will:

- orally rehearse ideas before recording and explaining thinking
- write descriptive phrases and paragraphs using increasingly ambitious scientific and technical vocabulary linked to space and exploration
- create labels, captions and annotated diagrams linked to planets, scientific models, images and investigations
- record predictions, observations and questions linked to enquiry activities and scientific investigation
- compose explanation texts describing aspects of space, scientific discoveries and exploration
- write comparative responses identifying similarities and differences between planets, environments and scientific ideas
- create diary entries and first-person narratives from the perspective of astronauts, scientists or space explorers
- write balanced arguments and persuasive responses linked to scientific questions and viewpoints
- use evidence from scientific sources, images, texts and discussion to explain ideas and justify thinking
- create information texts, mission guides, presentations or scientific reports linked to space exploration
- explanation texts about space and exploration
- astronaut narratives



	<ul style="list-style-type: none"> • persuasive responses linked to scientific questions • mission guides and scientific reports <p>Mixed-age challenge (Year 6 depth):</p> <ul style="list-style-type: none"> • justify scientific explanations using evidence from multiple sources • compare and evaluate information from different scientific sources independently • adapt writing for different purposes including explanation, persuasion, balanced argument and scientific interpretation writing • evaluate the reliability of scientific evidence and justify conclusions • use scientific models and representations to support explanations independently • justify scientific explanations using evidence • evaluate reliability of scientific evidence • compare scientific sources independently • use scientific models to support explanations
<p>Outcomes:</p> <p>By the end of the unit pupils produce:</p> <ul style="list-style-type: none"> • a Space Exploration Showcase shared with adults, peers or visitors demonstrating understanding of space, scientific discovery and exploration • a collection of spoken, practical and written learning evidence • a written explanation, balanced argument, scientific report or persuasive outcome demonstrating understanding of space exploration and scientific concepts • annotated diagrams, timelines and scientific representations linked to planets, space missions and discoveries • labelled diagrams and source analysis linked to scientific models, astronauts, technology and space environments • predictions, questions and responses linked to enquiry activities and scientific investigations • comparative work linked to planets, environments and scientific discoveries • a practical or creative outcome linked to learning (<i>e.g. rocket designs, space models, mission plans, astronaut survival guides, scientific models or space exploration presentations</i>) • vocabulary-rich classroom display work linked to scientific concepts and disciplinary vocabulary • a collaborative presentation, demonstration or scientific enquiry outcome explaining learning and ideas 	<p>Success Criteria:</p> <p>By the end of the unit most pupils will be able to:</p> <ul style="list-style-type: none"> • use topic vocabulary accurately within discussion and learning activities • describe key features of space, the solar system and space exploration • explain relationships between the Earth, Sun and Moon • identify and describe significant individuals, events and achievements within space exploration • explain some ways scientific discoveries linked to space have influenced modern life • identify and describe similarities and differences between planets, environments and scientific ideas • use scientific sources, diagrams, models and texts to retrieve and interpret information • ask relevant scientific questions and discuss ideas thoughtfully using scientific vocabulary • retrieve information and apply learning during discussion, investigation and reflection activities • identify and discuss different viewpoints and interpretations linked to scientific evidence • record ideas, observations and responses using appropriate vocabulary and sentence structures • use evidence from scientific sources, texts, images and investigations to explain ideas and justify thinking



<ul style="list-style-type: none"> digital or creative outcomes such as presentations, podcasts, videos or recorded explanations where appropriate scientific interpretation activities using evidence to support conclusions written reflections and evaluations linked to key enquiry questions and scientific thinking 	<ul style="list-style-type: none"> explain relationships between Earth, Sun and Moon identify significant individuals and discoveries explain how space discoveries influence modern life <p>Year 6 extension:</p> <ul style="list-style-type: none"> explain scientific concepts and discoveries using increasingly precise scientific vocabulary independently interpret and evaluate information from scientific sources and identify possible reliability issues justify scientific explanations using evidence from multiple sources identify connections between scientific discoveries and their impact on modern society compare and evaluate different viewpoints and interpretations independently use scientific models and representations to explain ideas independently use scientific evidence and models to explain relationships between the Earth, Sun and Moon and evaluate explanations critically make reasoned scientific conclusions using evidence from investigations, models and secondary sources
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<p>Secure End Point</p> <p>Pupils can:</p> <ul style="list-style-type: none"> explain key concepts linked to Earth, the solar system and space phenomena identify and describe relationships between planets, movement and observable patterns in space use observations, investigations and evidence to explain scientific ideas and justify conclusions use scientific vocabulary accurately to communicate understanding and findings communicate scientific understanding confidently through spoken, practical and written outcomes 	
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<p>Common Misconceptions</p> <p>Pupils may think:</p> <ul style="list-style-type: none"> the Sun moves around the Earth rather than the Earth moving around the Sun the Earth is flat rather than approximately spherical the Moon produces its own light rather than reflecting light from the Sun day and night happen because the Sun disappears rather than because the Earth rotates 	<p>Sticky Knowledge (Non-negotiable Learning)</p> <p>By the end of this unit pupils will know:</p> <ul style="list-style-type: none"> the Sun is at the centre of our solar system and the planets orbit around it the Earth rotates on its axis and this causes day and night the Earth orbits the Sun and the Moon orbits the Earth the Earth's tilted axis and movement around the Sun create seasonal patterns
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- seasons occur because the Earth moves closer to and further away from the Sun rather than because of the Earth's tilted axis and movement around the Sun
- all planets are the same size and are equally distant from the Sun
- gravity only exists on Earth and does not act elsewhere in space
- astronauts float in space because there is no gravity rather than because they are in continuous freefall
- stars and planets are the same type of object
- the solar system contains only planets and stars and not other objects such as asteroids, comets and moons
- space is completely empty
- scientists know everything about space and scientific knowledge never changes
- scientific discoveries happen immediately rather than developing through investigation, evidence and collaboration over time
- all information and images found online about space are accurate and reliable
- all planets could support human life in the same way as Earth
- larger planets are always hotter than smaller planets
- scientific models and diagrams are exact copies of reality rather than simplified representations used to explain ideas

- gravity influences movement and relationships between objects within the solar system
- the Sun, Earth and Moon are approximately spherical bodies
- the Moon does not produce its own light; it reflects light from the Sun
- the solar system contains planets, moons, asteroids and other celestial bodies
- the planets within our solar system differ in size, position and characteristics
- scientists use evidence, observation and models to explain ideas about space
- scientific understanding develops and changes over time as new evidence emerges
- significant individuals have contributed to our understanding of space and exploration
- space exploration has led to important scientific discoveries and technological developments
- scientific discoveries can influence everyday life and future possibilities
- space environments are different from Earth and create challenges for exploration
- scientific information can come from different sources and some sources are more reliable than others
- questions, evidence and enquiry help scientists develop understanding
- scientific vocabulary supports accurate explanation and communication of ideas
- how scientific models help explain ideas and why models sometimes have limitations
- models of the solar system are often not to scale and are simplified representations used to explain ideas

Science Core Learning and Wider Application

Core taught content within this unit:

- describe movement within the solar system
- explain relationships between Earth, Sun and Moon
- understand day, night and planetary movement

Wider application and retrieval opportunities:

- interpret information and identify patterns



- apply scientific vocabulary accurately
- use evidence to justify explanations

Retrieval Opportunities

Week 1 - prior knowledge discussion linked to previous scientific learning, Earth, the solar system and scientific understanding; discuss existing knowledge and misconceptions about space

Week 2 - recall key vocabulary linked to the solar system, planets, orbit and gravity through discussion and oral rehearsal

Week 3 - retrieve information from scientific diagrams, images and sources; identify and explain key features of Earth, the Sun and the Moon using scientific language

Week 4 - retrieve and apply learning linked to astronauts, space exploration and significant scientific discoveries through discussion and interpretation of evidence

Week 5 - compare scientific discoveries, technologies and achievements linked to space exploration using evidence and discussion

Week 6 - explain and communicate learning about space exploration using key vocabulary, scientific evidence and enquiry outcomes

Retrieval methods used throughout the unit:

- vocabulary retrieval
- retrieval grids
- discussion prompts
- sequencing activities
- picture retrieval tasks
- oral rehearsal and low-stakes quizzes
- quick-fire recall questions
- partner discussion and talk tasks
- scientific diagram retrieval activities
- source and evidence interpretation activities
- retrieval linked to texts, images and scientific evidence
- debate and enquiry questions
- revisit prior learning through practical activities and collaborative challenges

Prior Learning

Pupils may already:

Reading

- retrieve and interpret information from fiction, non-fiction and disciplinary texts
- identify key information from scientific sources, diagrams and images
- discuss themes, viewpoints and author choices within texts
- make predictions and inferences using evidence from texts
- explain ideas using evidence from reading and discussion
- compare information and identify similarities and differences across texts and concepts



Reading Retrieval Opportunities

- retrieval of scientific vocabulary and space concepts
- flashback questions linked to prior science learning and investigations
- recall of sticky knowledge through observations and scientific discussion
- retrieval through reading, explanation and evidence-based enquiry

Writing

- orally rehearse ideas before recording them
- write descriptions, explanations, reports and information texts
- write diary entries and first-person narratives
- organise ideas into coherent paragraphs
- communicate ideas through spoken and written outcomes
- use evidence to support explanations and responses

Grammar and Punctuation

- use expanded noun phrases and increasingly ambitious vocabulary to add detail and precision
- use conjunctions and adverbials to extend and explain ideas
- use fronted adverbials and cohesive devices to support organisation
- organise writing into coherent paragraphs around a theme
- use punctuation accurately to clarify meaning and structure writing appropriately

Spoken Language / Oracy

- ask and answer questions linked to learning experiences
- explain opinions and ideas clearly during discussion
- participate in collaborative learning and group discussion
- build upon and respond appropriately to the ideas of others
- justify ideas using evidence and reasoning
- present information and explain thinking with increasing confidence

Science and Wider Curriculum

- understand that scientific enquiry helps answer questions about the world
- recognise that evidence supports scientific explanations and understanding
- identify similarities and differences between scientific concepts and investigations studied previously
- understand that scientific discoveries can influence everyday life
- ask questions and investigate information using a range of sources
- use diagrams, models and scientific representations to organise information
- recognise that scientific ideas can change as new evidence becomes available
- describe features of Earth, light, forces and other previously studied scientific concepts

Spelling

Pupils may already apply:

- previously taught Year 3 and Year 4 statutory spelling expectations within familiar contexts
- prefixes and suffixes taught previously
- topic vocabulary from prior scientific learning
- increasingly ambitious vocabulary within spoken and written outcomes

Building on Prior Learning



Pupils build upon scientific enquiry skills developed through previous science learning including prediction, observation, evidence gathering and interpretation. Prior understanding of forces and movement supports pupils in exploring gravity, planetary relationships and scientific explanations of space phenomena.

Pupils may already:

- use prediction, observation and evidence gathering developed through previous scientific investigations
- recognise that forces can affect movement and behaviour of objects
- identify patterns and relationships from practical enquiries
- ask scientific questions and investigate ideas through observation and testing
- understand that scientists use evidence to explain how things work
- use scientific vocabulary to communicate observations and explanations
- recognise that scientific discoveries help us understand the world around us
- explain ideas using information gathered from texts, discussion and investigations

Future learning prepares pupils to:

- investigate increasingly complex scientific concepts and systems
- interpret scientific evidence independently
- explain relationships between scientific ideas
- understand how scientific discoveries continue to evolve

Spelling

Pupils apply:

- spelling patterns and rules taught through the school spelling programme and English curriculum
- Year 5 and Year 6 statutory spelling expectations
- prefixes and suffixes including **inter-**, **sub-**, **super-**, **anti-**, **auto-**, **tele-** and **micro-**
- words containing silent letters
- words ending in **-cial**, **-tial**, **-cially** and **-tially**
- words ending **-ent**, **-ence**, **-ency**, **-ant**, **-ance** and **-ancy**
- words with **ie** and **ei** patterns
- use of hyphens where appropriate
- ambitious topic vocabulary linked to scientific learning
- accurate spelling of increasingly complex subject-specific vocabulary within written outcomes
- scientific and technical vocabulary including gravity, atmosphere, astronaut, orbit, galaxy, constellation, meteorite, telescope, satellite and exploration

Spelling application opportunities throughout the unit:

- vocabulary pre-teaching and oral rehearsal
- explicit morphology and word meaning exploration

Grammar and Punctuation Focus

Pupils develop:

- use of expanded noun phrases to add detail and precision
- use of relative clauses beginning with **who**, **which**, **where**, **when**, **whose** or **that**
- use of modal verbs to indicate possibility or certainty (*could*, *would*, *should*, *might*, *must*)
- use of adverbials and fronted adverbials to develop cohesion and chronology
- use of parenthesis through brackets, commas and dashes to add information
- use of commas to clarify meaning and avoid ambiguity
- use of cohesive devices within and across paragraphs (*for example: however, therefore, meanwhile, consequently, in contrast*)
- use of organisational devices including headings, subheadings, bullet points and underlining where appropriate
- use of direct and reported speech where appropriate
- use of active and passive voice to change emphasis and effect
- use of formal and informal language appropriately according to audience and purpose
- use of scientific vocabulary and precise technical language within explanations and discussion



<ul style="list-style-type: none"> • etymology links (<i>scientific origins and Greek/Latin roots where appropriate</i>) • retrieval of previously taught statutory words • sentence-level application in scientific writing • editing and proofreading activities • independent application within extended writing outcomes • scientific vocabulary retrieval and repeated application across discussions and investigations 	<ul style="list-style-type: none"> • use of colons to introduce lists and explanations • use of semi-colons to mark relationships between closely related clauses • use of hyphens to avoid ambiguity where appropriate • use of punctuation including commas, apostrophes, brackets, dashes, colons and semi-colons accurately within writing • organise ideas into coherent paragraphs and increasingly sustained pieces of writing • edit and improve grammar and punctuation through discussion, peer support and adult guidance <p>Year 6 extension:</p> <ul style="list-style-type: none"> • manipulate sentence structures deliberately to create emphasis and effect • use a wider range of cohesive devices to strengthen links across extended writing • select grammatical structures intentionally according to audience and purpose • use active and passive constructions confidently to vary emphasis within scientific explanations • sustain increasingly formal language across extended scientific and cross-curricular writing outcomes
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<p>Computing Integration</p> <p>Pupils learn to:</p> <ul style="list-style-type: none"> • use search technologies effectively to locate information linked to space, astronauts and scientific discoveries • select and retrieve information from a range of digital sources • recognise that information found online may vary in reliability and accuracy • compare and evaluate information from different sources and identify evidence to support ideas • use digital tools to organise and present scientific learning and research • create digital presentations, fact files, timelines or reports linked to space exploration • use multimedia elements such as images, audio and text to communicate understanding • develop keyboard, editing and formatting skills when producing written outcomes • use technology safely, respectfully and responsibly when researching and presenting information • understand the importance of evaluating sources and considering reliability when accessing information online • use digital simulations, models and images to explore scientific concepts and ideas • communicate and collaborate appropriately through digital activities where relevant <p>Computational Thinking and Digital Creation</p> <ul style="list-style-type: none"> • select and use appropriate digital tools to model, organise and communicate scientific understanding 	
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Independence	Thinking
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Pupils move from:

- identifying simple information from sources with adult support
- using scientific vocabulary with prompts and scaffolds
- recording ideas through supported discussion and structured activities
- asking simple questions about scientific learning
- interpreting evidence with adult guidance
- relying on models, sentence stems and visual prompts to organise ideas
- participating in collaborative activities with adult support

To:

- independently retrieving and selecting relevant information from a range of scientific sources
- selecting and using increasingly precise scientific and disciplinary vocabulary to explain concepts accurately
- asking scientifically relevant questions and exploring ideas thoughtfully
- interpreting evidence and evaluating how effectively it supports scientific explanations
- organising and communicating ideas confidently through spoken, practical and written outcomes
- selecting appropriate models, diagrams and methods to communicate scientific understanding
- working collaboratively whilst taking increasing ownership of learning and decision making

By the end of the unit pupils can:

- independently retrieve and apply learning from scientific sources and prior knowledge
- communicate understanding using scientific vocabulary accurately and appropriately
- ask and answer scientific questions using evidence to justify thinking
- organise ideas into coherent spoken and written outcomes with increasing independence
- interpret and discuss information from different sources with growing confidence
- make comparisons and identify connections between scientific discoveries and modern life
- select appropriate strategies and resources to support learning independently
- reflect on learning and explain understanding with increasing confidence and accuracy

This unit develops:

- scientific enquiry and investigation skills
- scientific thinking and understanding of concepts and relationships within space and exploration
- interpretation and evaluation of evidence
- comparison and connection-making between scientific discoveries and modern life
- reasoning and justification using evidence
- questioning, discussion and reflective thinking
- critical thinking through analysis of scientific ideas and viewpoints
- communication and explanation using increasingly precise vocabulary
- curiosity, independence and problem-solving
- understanding of different perspectives, discoveries and experiences within science

Cognitive Progression

Pupils progress from:

- identifying and recalling simple scientific facts
- asking and answering straightforward questions
- recognising similarities and differences
- making simple observations from sources, images and scientific models
- explaining ideas with adult support

Towards:

- asking scientifically relevant questions independently
- interpreting evidence and identifying important information
- making connections between causes, events and scientific concepts
- comparing scientific explanations and evaluating the evidence that supports them
- justifying ideas and conclusions using evidence
- evaluating the reliability, usefulness and limitations of scientific evidence and models
- applying prior knowledge to new contexts and enquiries
- communicating increasingly sophisticated explanations and scientific judgements



Curriculum Progression and National Curriculum Links

Lead Subject: Science

National Curriculum Links

Pupils learn to:

- describe the movement of the Earth and other planets relative to the Sun
- 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
- plan different types of scientific enquiries to answer questions and recognise and control variables where necessary
- report and present findings from enquiries and investigations using scientific language and evidence

Year 5

- describe key features of the solar system
- explain relationships between the Earth, Sun and Moon
- describe significant people and events linked to space exploration
- use scientific evidence to answer questions and explain ideas

Year 6 Extension

- explain how evidence and scientific models are used to explain movement within the solar system
- evaluate strengths and limitations of scientific models and representations
- justify scientific explanations using evidence gathered from multiple sources
- explain how scientific understanding changes over time as new evidence becomes available

Disciplinary Knowledge:

Pupils learn to think as scientists by:

- asking scientifically relevant questions
- planning and carrying out investigations
- interpreting and evaluating evidence
- recognising patterns and relationships
- using scientific evidence to justify conclusions and explanations

Progression:

question → predict → investigate → observe → analyse → conclude → justify → evaluate

Working Scientifically Focus

Pupils will develop scientific enquiry skills by:

- asking questions
- making predictions
- carrying out observations and investigations
- recording findings
- identifying patterns
- drawing conclusions using evidence



- evaluating outcomes where appropriate

Working Scientifically Focus

Pupils will:

- ask scientific questions about Earth and space
- make predictions using prior knowledge
- observe patterns over time
- gather and interpret information from secondary sources
- identify relationships between observations
- communicate conclusions using evidence

Secure End Point:

By the end of the unit pupils can:

- explain key concepts linked to Earth and space
- describe relationships between the Earth, Sun and Moon
- explain significant developments in space exploration
- use scientific evidence to support explanations and conclusions

Disciplinary Examples:

Week	Scientific enquiry
1	Pattern seeking using planetary data
2	Research using secondary evidence
3	Observation using models/simulations
4	Interpreting historical scientific evidence
5	Comparative investigations
6	Drawing conclusions and presenting findings

Lead Subject: English

National Curriculum Links

Pupils learn to:

- read and discuss a broad range of fiction, non-fiction and disciplinary texts
- retrieve, record and present information from texts
- write for a range of audiences and purposes
- participate in discussion, debate and presentations

Year 5

- retrieve information and justify responses using evidence
- write explanations, narratives and comparative responses
- discuss themes and author choices within texts

Year 6 Extension

- evaluate author choices and viewpoints independently



- sustain writing for different purposes and audiences
- use increasingly sophisticated vocabulary and grammatical structures independently

Disciplinary Knowledge:

Pupils learn to think as readers and writers by:

- retrieving and interpreting information
- identifying themes and viewpoints
- evaluating language choices
- organising and communicating ideas effectively

Secure End Point:

By the end of the unit pupils can:

- communicate understanding through spoken and written outcomes
- justify ideas using evidence from reading and discussion
- write coherent scientific outcomes for different audiences and purposes

Lead Subject: Computing

National Curriculum Links

Pupils learn to:

- use search technologies effectively
- select and organise information from digital sources
- create and present content using digital tools
- use technology safely and responsibly

Year 5

- retrieve and organise information from different digital sources
- use digital tools to create presentations and information texts

Year 6 Extension

- evaluate the reliability and accuracy of online information
- compare multiple sources and justify decisions about usefulness

Disciplinary Knowledge:

Pupils learn to think as digital users by:

- selecting appropriate technology for purpose
- evaluating information critically
- presenting ideas effectively using digital tools

Secure End Point:

By the end of the unit pupils can:

- independently research information using appropriate digital tools



- identify trustworthy information sources
- communicate learning through purposeful digital outcomes

Application Subjects

Subject: Mathematics

Core Knowledge

Pupils develop understanding of how mathematical skills support scientific enquiry through measurement, interpretation of data, pattern identification and organisation of information linked to space exploration. Pupils apply mathematical thinking to compare distances, timelines and scientific information.

Examples of application within this unit may include:

- using timelines linked to significant events in space exploration
- comparing planetary distances, sizes and measurements
- organising information using tables, charts and graphs
- interpreting patterns and trends within scientific data
- calculating and comparing time periods and measurements linked to space exploration
- using mathematical language to discuss findings and relationships

Expected outcomes may include:

- space timelines
- graphs and tables
- comparison charts
- mathematical reasoning linked to scientific enquiry
- measurement and calculation activities

Subject: Computing

Core Knowledge

Pupils develop understanding of how technology supports scientific investigation, communication and presentation of learning. Pupils use digital tools to research, organise information and communicate findings linked to space exploration.

Examples of application within this unit may include:

- researching space exploration using digital tools
- creating presentations and information outcomes
- using digital simulations and models
- organising and presenting scientific information digitally
- evaluating reliability of online sources
- communicating learning using multimedia tools

Expected outcomes may include:

- presentations
- digital fact files
- videos
- podcasts
- digital timelines



- space investigation reports

Subject: Art and Design

Core Knowledge

Pupils develop understanding of how art communicates ideas, imagination and scientific understanding. Pupils explore imagery, colour, texture and visual representation linked to space exploration and scientific discovery.

Examples of application within this unit may include:

- exploring artwork inspired by space and astronomy
- investigating space photography and imagery
- experimenting with colour blending and texture techniques
- creating artwork inspired by planets, galaxies and space exploration
- discussing artistic techniques and choices

Expected outcomes may include:

- observational sketches
- paintings and mixed-media outcomes
- space-themed artwork
- gallery displays
- visual responses to scientific learning

Subject: Design and Technology

Core Knowledge

Pupils develop understanding of how design and technology can be used to solve problems and create purposeful outcomes. Pupils explore structures, mechanisms and technological developments linked to space exploration.

Examples of application within this unit may include:

- designing and building rockets or spacecraft
- creating lunar landing structures
- investigating structures and mechanisms
- planning and testing designs against criteria
- evaluating and improving outcomes following testing

Expected outcomes may include:

- spacecraft models
- rocket designs
- lunar landing structures
- engineering challenge outcomes
- evaluated products and design journals

Year 5

- design and create models linked to space exploration
- select materials according to function
- test structures for effectiveness



Year 6 Extension

- justify design choices and adaptations
- evaluate effectiveness against criteria independently

Secure end point

Pupils independently create purposeful models using increasingly sophisticated design choices.

Subject: Music

Core Knowledge

Pupils develop understanding of how music can communicate ideas, atmosphere and movement. Pupils explore sound, rhythm and composition to represent aspects of space, exploration and scientific discovery.

Examples of application within this unit may include:

- creating soundscapes representing space travel or planetary environments
- exploring rhythm and dynamics to communicate movement and atmosphere
- composing music inspired by planets or space missions
- experimenting with sound effects and instruments
- performing collaborative musical responses to space exploration themes

Expected outcomes may include:

- space soundscapes
- musical compositions
- performance outcomes
- collaborative recordings
- presentation performances

Musical Understanding and Performance

- create and evaluate soundscapes using pitch, tempo, texture and dynamics to communicate ideas linked to space

English Progression and National Curriculum Links

Reading

Pupils develop:

- increasing fluency and stamina when reading a range of increasingly complex texts
- retrieval, inference and prediction skills using evidence from texts
- understanding and discussion of themes, vocabulary and author choices
- comparison of ideas, viewpoints and information across texts
- disciplinary reading skills through scientific texts, biographies, narratives and information sources
- confidence in discussing and justifying opinions using evidence

Writing



Pupils develop:

- planning and organising ideas for different audiences and purposes
- writing narratives, explanations, information texts, persuasive writing and comparative responses
- selecting vocabulary and grammatical structures appropriate for purpose
- using evidence to support explanations and ideas
- drafting, editing and improving writing independently

Spelling

Pupils develop:

- application of Year 5 and Year 6 statutory spelling expectations
- accurate use of topic vocabulary within spoken and written outcomes
- understanding of spelling patterns, prefixes and suffixes
- independent editing and proofreading skills

Grammar and Punctuation

Pupils develop:

- use of relative clauses and expanded noun phrases
- use of cohesive devices across paragraphs
- use of modal verbs and adverbials
- use of active and passive voice
- use of formal and informal language appropriately
- use of punctuation including brackets, commas, colons, semi-colons and dashes accurately

Spoken Language / Oracy

Pupils develop:

- discussion and debate skills
- asking and responding to questions thoughtfully
- presenting information confidently
- justifying opinions using evidence
- adapting language and vocabulary for audience and purpose
- developing fluency, expression and confidence through oral rehearsal and presentation opportunities

Progression

retrieve → infer → interpret → justify → evaluate → communicate independently

Secure End Point

Pupils independently communicate understanding through a range of spoken and written outcomes using evidence, ambitious vocabulary and increasingly sophisticated language structures.

Future Learning (English)

This unit prepares pupils for future learning by supporting them to:

- read increasingly challenging fiction, non-fiction and disciplinary texts confidently
- interpret themes, viewpoints and evidence across a wider range of texts
- write for increasingly sophisticated purposes and audiences



- organise and sustain extended writing independently
- evaluate language, author choices and viewpoints critically
- communicate ideas confidently through discussion, debate and presentation
- apply reading and writing skills across the wider curriculum
- access secondary curriculum demands requiring independent reading, analysis and communication
- develop confidence as fluent readers, writers and communicators across subjects

Curriculum Progression and National Curriculum Links

Lead Subject: Science

National Curriculum Links

Pupils learn to:

- describe the movement of the Earth and other planets relative to the Sun
- 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
- plan different types of scientific enquiries to answer questions and recognise and control variables where necessary
- report and present findings from enquiries and investigations using scientific language and evidence

Year 5

- describe key features of the solar system
- explain relationships between the Earth, Sun and Moon
- use scientific evidence to ask and answer questions
- identify significant individuals and events linked to space exploration

Year 6 Extension

- evaluate the reliability and usefulness of scientific evidence
- justify scientific explanations using evidence from multiple sources
- explain the significance of scientific discoveries and technological developments
- analyse how scientific ideas and interpretations may change over time

Curriculum Progression

identify → observe → question → investigate → interpret → evaluate → justify

Secure End Point

Pupils independently explain scientific concepts linked to space and use evidence confidently to justify conclusions and explanations.

Lead Subject: English

National Curriculum Links

Pupils learn to:

- read and discuss a broad range of fiction, biographies and non-fiction texts



- retrieve, record and present information from reading
- increase familiarity with increasingly complex texts and themes
- write for a range of purposes and audiences
- participate in discussions, presentations and debate

Year 5

- retrieve and justify responses using evidence from texts
- write explanations, narratives and comparative responses
- discuss themes, vocabulary and author choices
- organise writing into coherent paragraphs

Year 6 Extension

- evaluate author choices and viewpoints independently
- sustain writing for different audiences and purposes
- use increasingly sophisticated vocabulary and grammatical structures
- justify opinions and interpretations using evidence confidently

Curriculum Progression

retrieve → infer → interpret → justify → evaluate → communicate independently

Secure End Point

Pupils independently communicate understanding through increasingly sophisticated spoken and written outcomes using evidence and ambitious vocabulary.

Lead Subject: Computing

National Curriculum Links

Pupils learn to:

- use search technologies effectively
- select, use and combine software to create digital outcomes
- understand how information online may vary in reliability
- use technology safely, respectfully and responsibly

Year 5

- use digital tools to research space exploration and scientific discoveries
- create presentations and digital outcomes
- organise information effectively
- use technology safely and appropriately

Year 6 Extension

- evaluate the reliability and usefulness of online sources
- select digital tools independently according to purpose
- communicate information effectively through a range of media
- evaluate and improve digital outcomes independently



Curriculum Progression

find → organise → create → communicate → evaluate

Secure End Point

Pupils independently use technology to research, create and communicate purposeful outcomes linked to scientific enquiry and understanding.

Application Subject Progression and National Curriculum Links

Subject: Mathematics

National Curriculum Links

Pupils learn to:

- solve problems involving number, measurement and interpretation of data
- use mathematical reasoning to explain and justify thinking
- interpret information presented in tables, charts and diagrams
- use mathematical knowledge to support learning across the curriculum

Year 5

- calculate and compare distances, measurements and time periods linked to space exploration
- organise information using timelines, tables and graphs
- use mathematical language to discuss findings and patterns
- identify patterns within scientific data and observations

Year 6 Extension

- analyse and interpret patterns within scientific data independently
- compare information and justify conclusions using evidence
- present findings using increasingly sophisticated representations
- explain mathematical reasoning confidently

Disciplinary Knowledge

Pupils work as mathematicians by:

- measuring and calculating
- sequencing information
- organising findings
- identifying patterns
- reasoning mathematically
- explaining conclusions

Disciplinary Progression

sequence → measure → compare → identify patterns → interpret → explain

Secure End Point



Pupils independently apply mathematical skills to organise and interpret scientific information and explain patterns confidently.

Subject: Computing

National Curriculum Links

Pupils learn to:

- use search technologies effectively
- select, use and combine software to create outcomes
- understand how information found online may vary in reliability
- use technology safely, respectfully and responsibly

Year 5

- use digital tools to research space exploration and scientific discoveries
- organise and present information digitally
- create purposeful presentations and outcomes
- communicate ideas using technology

Year 6 Extension

- evaluate reliability and usefulness of online sources independently
- select appropriate digital tools according to purpose
- communicate information effectively through a range of media
- evaluate and improve digital outcomes

Disciplinary Knowledge

Pupils work as digital creators by:

- finding information
- organising ideas
- creating outcomes
- communicating information
- evaluating effectiveness

Disciplinary Progression

find → organise → create → communicate → evaluate

Secure End Point

Pupils independently use technology to research, create and communicate purposeful outcomes linked to scientific enquiry and understanding.

Subject: Art and Design / Design Technology

National Curriculum Links

Pupils learn to:

- create sketch books to record observations and develop ideas
- improve mastery of art and design techniques



- investigate and evaluate products and designs
- generate, develop and communicate design ideas
- select and use appropriate materials and tools

Year 5

- identify features of space imagery, spacecraft and scientific design
- explore pattern, shape, colour and form within space-inspired artwork and products
- generate ideas through sketches and planning
- create outcomes inspired by space exploration and scientific discovery

Year 6 Extension

- evaluate artistic techniques and design choices independently
- justify decisions using appropriate artistic and technical vocabulary
- refine and improve designs following evaluation
- create increasingly detailed and purposeful outcomes

Disciplinary Knowledge

Pupils work as artists and designers by:

- observing
- exploring
- planning
- designing
- creating
- evaluating

Disciplinary Progression

observe → explore → plan → design → create → evaluate

Secure End Point

Pupils independently apply artistic and design skills to create purposeful outcomes inspired by space exploration, technology and scientific discovery.

Subject: Music

National Curriculum Links

Pupils learn to:

- play and perform in solo and ensemble contexts using voice and instruments
- improvise and compose music for different purposes using the inter-related dimensions of music
- listen with attention to detail and recall sounds with increasing aural memory
- use and understand musical elements including pitch, duration, dynamics, tempo, timbre, texture and structure
- appreciate and understand a range of musical traditions and styles
- develop understanding of how music communicates ideas, atmosphere, movement and emotion

Year 5



- explore how sound and music can represent movement, atmosphere and experiences linked to space exploration
- identify rhythm, pulse and patterns within musical activities and sound investigations
- create simple compositions inspired by planets, space travel and scientific discovery
- use voice, percussion and instruments to communicate mood and atmosphere

Year 6 Extension

- evaluate how musical choices influence meaning and audience response independently
- create increasingly purposeful compositions representing scientific concepts, movement and exploration
- justify musical decisions using increasingly precise musical vocabulary
- refine, adapt and improve performances following evaluation and feedback independently

Disciplinary Knowledge

Pupils work as musicians by:

- listening carefully
- exploring rhythm and sound
- composing musical ideas
- performing collaboratively
- evaluating effectiveness
- improving outcomes

Disciplinary Progression

listen → explore → compose → perform → evaluate → improve

Secure End Point

Pupils independently use sound, rhythm and performance to communicate understanding of space exploration and scientific ideas whilst explaining and evaluating musical choices confidently.

Cross-curricular links

Subject	Cross-curricular links within this unit
English	Reading biographies, scientific texts, narratives and information sources linked to space exploration; writing explanation texts, scientific reports, diary entries, balanced arguments and persuasive responses
Mathematics	Using timelines and sequencing events; calculating and comparing distances, measurements and time periods; organising information through charts, tables and graphs; identifying patterns and relationships
Computing	Researching space exploration using digital tools; creating presentations, timelines and digital outcomes; evaluating online information and source reliability
Art and Design	Exploring space imagery, colour, pattern, planets, galaxies and scientific illustrations; creating artwork inspired by space and exploration
Design and Technology	Designing and creating rockets, spacecraft, habitats or structures; planning, creating and evaluating purposeful products
Geography	Exploring Earth within the solar system; using maps, atlases and digital mapping; identifying physical features of planets and understanding environments
PSHE	Exploring aspiration, perseverance, teamwork and resilience; developing understanding of achievement, diversity and careers within science and exploration



Religious Education	Discussing beliefs about creation, the universe and humanity's place within the world; exploring different viewpoints and perspectives
Music	Exploring music inspired by space and movement; creating soundscapes and compositions to represent planets, journeys and exploration
Spoken Language / Oracy	Participating in debate, discussion, presentations, role-play and scientific enquiry activities; justifying opinions and communicating ideas clearly
Reading Across the Curriculum	Developing disciplinary reading skills through biographies, scientific sources, space narratives and non-fiction texts

Substantive Knowledge Sequence

Week	Substantive Knowledge Sequence
Week 1 - Exploring Space and Our Solar System	Pupils learn what space is, identify key features of the solar system, understand that planets orbit the Sun, develop key vocabulary linked to space and recognise that scientific understanding develops over time.
Week 2 - Earth, Sun and Moon Relationships	Pupils learn that the Earth rotates and orbits the Sun, the Moon orbits the Earth, movement creates observable patterns including day and night and scientific models help explain ideas. Pupils begin to understand that seasons occur because of the Earth's tilted axis and movement around the Sun and that gravitational relationships influence movement within the solar system.
Week 3 - Space Exploration and Significant Individuals	Pupils learn that important people and events have shaped understanding of space, scientific discoveries have changed over time, space exploration requires technology and human achievement can influence future discoveries.
Week 4 - Life Beyond Earth and Space Environments	Pupils learn that environments in space are different from Earth, astronauts face challenges living and working in space, conditions affect survival and technology supports human exploration.
Week 5 - Scientific Discoveries and Technological Advances	Pupils learn that technology supports exploration and scientific understanding, discoveries can influence everyday life, scientific ideas continue to develop and evidence helps scientists explain phenomena. Pupils also develop understanding of the scale and proportion of the solar system and recognise that models are often simplified representations.
Week 6 - Scientific Significance and Enquiry Outcome	Pupils learn that evidence helps scientists understand the universe, different sources and discoveries contribute different information, scientific understanding changes over time and scientists use evidence to justify explanations and conclusions.

National Curriculum Coverage Audit

Subject	National Curriculum Coverage within this Unit
Science	describe the movement of the Earth and other planets relative to the Sun; describe the movement of the Moon relative to the Earth; describe the Sun, Earth and Moon as approximately spherical bodies; use the Earth's rotation to explain day and night and the apparent movement of the Sun; plan scientific enquiries; report and present findings using scientific language and evidence
English	develop positive attitudes to reading and understanding increasingly challenging texts; discuss words and phrases that capture meaning; identify themes and conventions across a range of texts; draw inferences and justify responses using evidence; organise ideas into paragraphs around a theme; use increasingly varied vocabulary and sentence structures; participate in discussions, presentations and debate
Art and Design	create sketchbooks to record observations and develop ideas; improve mastery of drawing and artistic techniques; use colour, pattern, form and design purposefully; evaluate and discuss creative work inspired by space and scientific imagery



Design and Technology	generate, develop and communicate ideas through discussion and design criteria; investigate and evaluate products; select and use materials and tools appropriately; evaluate and improve designs and outcomes
Mathematics	measure, compare and interpret information; identify patterns and relationships; apply mathematical reasoning and problem-solving skills through timelines, measurement and interpretation of scientific information
ICT	use technology purposefully to create, organise and present information; develop understanding of digital communication; select and use software effectively; understand how information found online may vary in reliability; use technology safely and responsibly
Geography	use maps, atlases, globes and digital mapping; identify and describe physical features and environments; understand Earth's position within the wider solar system and make comparisons between environments
Personal Development and Learning	develop self-awareness and emotional understanding; build positive relationships and communication skills; recognise and respect similarities and differences; develop resilience, aspiration and teamwork; consider different viewpoints and future possibilities
Music	play and perform in solo and ensemble contexts; improvise and compose music for different purposes; listen with attention to detail and recall sounds with increasing accuracy; explore how music can communicate ideas, atmosphere and movement

<p>Anchor Texts:</p> <ul style="list-style-type: none"> Phoenix Hidden Figures <p>Supporting texts/recommended reads:</p> <ul style="list-style-type: none"> How to be an Astronaut Where Once We Stood Lunar Curiosity The Jamie Drake Equation The Usborne Big Book of Stars and Planets 	<p>Reading Focus:</p> <ul style="list-style-type: none"> scientific enquiry and investigation evidence and source evaluation scientific discovery and exploration narratives comparison of scientific ideas and perspectives disciplinary reading as scientists inference from scientific texts, images and evidence ambitious scientific vocabulary author viewpoint and reliability
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Disciplinary Reading Opportunities

- scientific biographies and narratives linked to astronauts and space explorers
- scientific source extracts and evidence texts
- biographies of significant individuals (e.g. Mae Jemison, Katherine Johnson, Tim Peake, Neil Armstrong)
- information texts
- diagrams, models, photographs and scientific representations
- scientific articles and space exploration texts
- scientific interpretations and viewpoints

Genre Coverage

Genre	Coverage
Science fiction	Exploring narratives and experiences linked to space exploration, future possibilities and imagined worlds
Scientific narratives	Reading and discussing texts linked to space exploration, discovery and scientific experiences



Information texts	Reading scientific non-fiction texts, fact files, reports and reference materials linked to space
Explanation texts	Understanding and creating texts explaining space, scientific concepts and exploration
Persuasive texts	Exploring and creating persuasive speeches and arguments linked to scientific questions and viewpoints
Balanced argument / Discussion texts	Considering different perspectives and evaluating questions such as <i>Should humans live on other planets?</i>
Biography	Reading biographies and information about significant figures including astronauts, scientists and engineers
Poetry	Exploring space-inspired poetry, performance poetry and descriptive language linked to space and exploration
Scientific sources / Disciplinary reading	Interpreting diagrams, photographs, scientific evidence and source materials to support scientific enquiry
Spoken presentation	Debate, presentations, mission showcases, oral storytelling and collaborative discussion activities

Reading Progression Audit

Area	Progression within this Unit
Vocabulary development	Pupils progress from understanding and using familiar scientific vocabulary to applying increasingly ambitious disciplinary language including orbit, gravity, atmosphere, exploration, galaxy and constellation independently
Fluency and stamina	Pupils develop increasing fluency and confidence when reading longer and more complex scientific texts, narratives and information sources; sustained reading opportunities support increasing reading stamina
Retrieval	Pupils progress from locating explicit information to independently retrieving and selecting relevant evidence from a range of texts and scientific sources
Inference	Pupils progress from making simple inferences to justifying ideas and interpretations using evidence from texts, images, sources and discussion
Author intent and viewpoint	Pupils develop understanding that texts and sources may present different viewpoints and interpretations and begin to evaluate author choices and perspectives
Scientific disciplinary reading	Pupils work increasingly as scientists by interpreting scientific sources, diagrams, models and evidence to construct understanding
Comparison across texts	Pupils compare themes, ideas, viewpoints and information across narratives, information texts and scientific sources



Discussion and response	Pupils progress from supported responses to independently discussing, questioning and justifying opinions using evidence
Reading across genres	Pupils access increasingly varied genres including science fiction, biographies, information texts, explanation texts and source materials
Reading for purpose	Pupils increasingly understand that reading supports enquiry, knowledge-building and understanding across the wider curriculum

Reading Spine Links

Reading Spine Unit: Space Explorers (UKS2)

Reading focus areas:

- scientific enquiry and investigation
- scientific narratives and biographies
- retrieval and interpretation from scientific and non-fiction texts
- comparison of viewpoints and evidence
- ambitious scientific and disciplinary vocabulary
- discussion, questioning and scientific reasoning

Fluency approaches:

- reader’s theatre
- performance reading
- oral rehearsal before writing
- guided group reading aloud
- choral reading of scientific texts and biographies
- echo reading for scientific vocabulary
- storytelling and role-play
- debate and collaborative discussion
- partner explanation and discussion

Retrieval focus:

- recalling key vocabulary and scientific concepts
- retrieving information from fiction, non-fiction and scientific texts
- identifying evidence from scientific diagrams, photographs and images
- using evidence to explain ideas and scientific understanding
- comparing discoveries, environments and scientific viewpoints

Reading Spine Impact

The Reading Spine is intentionally designed to ensure pupils experience:

- scientific narratives, biographies and non-fiction texts
- increasingly ambitious scientific and disciplinary vocabulary
- opportunities for retrieval, inference and interpretation
- exposure to scientific source material and evidence-based discussion
- opportunities to compare viewpoints and justify ideas using evidence
- increasingly sophisticated reading, discussion and critical thinking skills



- meaningful opportunities to develop fluency, comprehension and scientific understanding through reading across the curriculum

Vocabulary Development

Key vocabulary is revisited through oral rehearsal, discussion, retrieval practice and repeated shared reading experiences.

Tiered Vocabulary:

Tier 1: Earth, Moon, Sun, planet, star, rocket, astronaut, space, day, night

Tier 2: orbit, rotation, investigation, explanation, observation, discovery, evidence, pattern, scale, proportion

Tier 3: solar system, galaxy, constellation, atmosphere, gravity, gravitational force, axis, satellite, telescope, meteorite, celestial body, astronomer, exploration, lunar, mission, spacecraft

Oracy & Fluency:

- echo reading for scientific and disciplinary vocabulary
- paired reading
- oral storytelling linked to space exploration, scientific discoveries and astronaut experiences
- performance reading
- discussion circles
- reader’s theatre
- storytelling and role-play (*e.g. astronaut, scientist, engineer, mission controller, space explorer, presenter*)
- guided group reading aloud
- partner explanation and evidence talk
- questioning and scientific enquiry discussion
- collaborative interpretation of scientific sources, diagrams, photographs and images
- explanation and justification using scientific evidence
- debate and persuasive discussion (*e.g. Should humans live on other planets?*)
- presentation and space showcase activities
- oral rehearsal before writing and discussion tasks

SEMH Reading Approach:

Texts are selected to provide emotional safety, opportunities for curiosity, strong relational themes and meaningful discussion to support regulation, belonging and confidence. Scientific learning is carefully scaffolded through visual supports, explicit vocabulary teaching, repeated reading opportunities and practical experiences to reduce cognitive load and support access to ambitious learning. Reading experiences are designed to build curiosity, encourage scientific enquiry and develop confidence without reducing curriculum expectations.

Reading experiences are designed to:

- build curiosity through scientific discovery, exploration, stories and investigation
- provide opportunities for repeated reading and oral rehearsal to strengthen fluency and confidence
- use diagrams, photographs, models, videos and visual prompts to support understanding
- encourage discussion and exploration before recording ideas
- strengthen comprehension through retrieval, prediction, inference and interpretation of evidence
- provide structured opportunities for success and positive participation
- develop confidence in communicating ideas without reducing curriculum expectations
- promote belonging, confidence and positive reading identities through meaningful and engaging texts
- support pupils to explore different perspectives, experiences and achievements through scientific discussion and storytelling



	<ul style="list-style-type: none"> develop empathy, critical thinking and understanding through carefully selected texts and scientific themes
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<p>Visits and Visitors:</p> <p>Visits and visitors are used to:</p> <ul style="list-style-type: none"> deepen understanding of space exploration and scientific discovery through first-hand and meaningful experiences provide opportunities for scientific enquiry and investigation develop curiosity through real scientific artefacts, stories and expert knowledge strengthen understanding of scientific evidence and interpretation provide opportunities for discussion, questioning and collaborative learning develop understanding and appreciation of scientific achievement and innovation support vocabulary development and disciplinary understanding through authentic experiences strengthen confidence, communication and engagement through memorable learning opportunities create opportunities for pupils to make connections between scientific learning and the modern world promote belonging and positive learning experiences through engaging and accessible activities <p>Possible visits and visitors may include:</p> <ul style="list-style-type: none"> science museum visits with space exploration exhibitions or collections virtual space tours and immersive scientific experiences astronomers, engineers or STEM visitors astronaut talks and online presentations where available planetarium experiences or mobile planetarium workshops scientific investigation and engineering workshops space-themed drama and storytelling workshops local educational visits that support scientific investigation and understanding robotics or technology workshops linked to exploration and innovation practical STEM experiences linked to scientific enquiry and discovery 	
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<p>Home Learning:</p> <ul style="list-style-type: none"> family discussion prompt linked to space exploration, scientific discoveries or everyday influences of space science (<i>e.g. satellites, technology, communication or exploration</i>) simple creative activity to reinforce retrieval (<i>e.g. design a planet, create an astronaut profile card, make a timeline of space exploration, design a spacecraft or produce a labelled diagram of the solar system</i>) optional object, photograph, drawing or spoken contribution to bring back and share with the class short reading, storytelling or discussion activity linked to anchor or supporting texts comparison and observation activity (<i>e.g. compare planets, compare life on Earth with life in space or compare past and modern space exploration</i>) vocabulary retrieval activities using key scientific and disciplinary vocabulary 	<p>Home Reading Opportunities:</p> <p>Families are encouraged to revisit key texts together, practise repeated reading and discuss scientific themes, vocabulary and ideas. Opportunities for discussion should support curiosity, questioning and understanding of space exploration and its influence on the modern world.</p> <p>Topics for discussion may include:</p> <ul style="list-style-type: none"> scientific discoveries and exploration space, planets and the solar system similarities and differences between Earth and other environments significant people and achievements scientific evidence and interpretation questions about how space exploration influences our lives today future possibilities and life beyond Earth
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- research task linked to a scientific question (e.g. *Why is the Moon important? How do astronauts live in space? or How has space exploration changed our lives today?*)

- curiosity, aspiration and problem-solving through scientific thinking

Assessment opportunities:

Assessment information is used to identify barriers, inform adaptive teaching and ensure pupils receive timely support and challenge.

Assessment Area	Assessment Opportunities within this Unit
Scientific knowledge	Retrieval quizzes, vocabulary checks, concept activities and discussion tasks linked to space exploration, the solar system and scientific discoveries
Scientific enquiry	Observation of questioning, prediction, investigation, evidence gathering and enquiry activities
Reading	Retrieval, inference and interpretation activities linked to scientific texts, biographies and non-fiction sources
Writing	Scientific reports, explanations, diary entries, balanced arguments, persuasive writing and extended written outcomes
Vocabulary development	Oral rehearsal, vocabulary retrieval activities, discussion and independent application within written outcomes
Spoken language / Oracy	Discussion, debate, presentations, role-play and explanation of ideas using scientific vocabulary
Scientific interpretation	Analysis of evidence, diagrams and sources; comparison of scientific explanations, evaluation of evidence and justification using multiple sources
Independence	Observation of independent application, organisation of ideas, selection of strategies and participation in enquiry tasks
Final outcome	Space Exploration Showcase, presentations or enquiry outcomes demonstrating substantive knowledge and disciplinary understanding
Pupil voice and reflection	Discussion, self-reflection and evaluation of learning, understanding and confidence

Assessment Checkpoints

Teachers monitor whether pupils can:

Knowledge

- identify key concepts linked to Earth, the solar system and space
- recall vocabulary linked to planets, orbit and space phenomena
- explain relationships between Earth and space systems

Disciplinary Thinking

- ask scientific questions and investigate ideas
- identify patterns and relationships within evidence
- draw conclusions using observations and scientific reasoning

Application

- communicate findings through spoken, practical and written outcomes
- explain ideas using scientific vocabulary
- apply learning independently within the final outcome



Leaders Monitor Impact Through:

- pupil voice discussions
- work scrutiny
- retrieval quizzes
- vocabulary use in discussion and writing
- lesson visits
- assessment information
- final outcomes and presentations
- reading fluency checks
- pupil discussion linked to anchor texts
- Reading Spine progression reviews
- monitoring use of ambitious scientific and disciplinary vocabulary in reading and writing
- monitoring interpretation and use of scientific evidence within discussion and written outcome
- monitoring application of scientific enquiry, investigation and critical thinking skills across learning outcomes
- monitoring pupils' ability to justify scientific explanations and communicate understanding using evidence
- monitoring understanding of scientific concepts and connections between space exploration and prior learning
- monitoring pupils' ability to ask scientifically relevant questions and apply disciplinary thinking
- monitoring engagement, confidence and participation within discussion, debate and collaborative enquiry activities
- monitoring independent application of scientific knowledge and skills across outcomes
- monitoring pupils' use of scientific models, diagrams and representations to explain ideas
- monitoring pupils' ability to make links between scientific discoveries and their impact on modern life

Links to Whole-School Policies

This unit should be delivered in line with:

- Curriculum Policy
- Teaching and Learning Policy
- Reading Policy / Reading Spine
- Behaviour and Relationships Policy
- SEND Policy
- Assessment Policy
- Equality and Accessibility Policy
- PSHE Policy
- Safeguarding Policy



Appendix 1: Year 5-6 National Curriculum Progression Overview

Area	Year 5	Year 6
Reading	Retrieve, infer and justify ideas from increasingly complex texts	Evaluate viewpoints, themes and author choices using evidence across texts
Vocabulary	Apply ambitious subject-specific vocabulary with support	Independently select precise disciplinary vocabulary for purpose
Writing	Write for a range of audiences and purposes using appropriate structures	Sustain and adapt writing independently for different audiences and purposes
Grammar & punctuation	Apply Y5 grammar structures appropriately	Manipulate structures purposefully for effect and precision
Spoken language	Participate in discussion and justify viewpoints	Lead discussion, challenge ideas respectfully and communicate confidently
Historical thinking	Use evidence and chronology to explain events	Evaluate interpretations and analyse reliability of evidence
Scientific enquiry	Plan investigations and identify patterns	Evaluate evidence, justify conclusions and explain variables
Geographical thinking	Use maps and evidence to explain places and environments	Evaluate relationships between people, environments and change
Religious / reflective thinking	Compare beliefs and viewpoints respectfully	Interpret meaning and justify perspectives using evidence
Computing	Select and use digital tools appropriately	Evaluate sources and select technologies purposefully
Creative thinking	Generate ideas and explain choices	Refine, evaluate and justify creative decisions independently
Independence	Select resources with support	Plan, organise and evaluate learning independently

Appendix 2: Year 5-6 Disciplinary Knowledge Progression

Subject Discipline	Year 5 pupils increasingly learn to...	Year 6 pupils increasingly learn to...
Historian	identify evidence, chronology and cause	evaluate interpretations and justify conclusions
Scientist	observe, investigate and identify patterns	evaluate evidence and explain findings critically
Geographer	identify patterns and relationships between places	explain interdependence and evaluate geographical issues



Environmental Investigator	recognise connections within ecosystems	evaluate human impact and sustainability issues
Reflective Thinker	compare beliefs, values and experiences	interpret viewpoints and justify perspectives
Reader	retrieve, infer and discuss themes	evaluate viewpoints and author intent
Writer	organise ideas for purpose and audience	manipulate language and structure deliberately
Artist / Designer	explore and create using techniques	refine and justify artistic decisions
Musician	create and perform using musical elements	evaluate and improve compositions independently
Health Investigator	identify factors affecting wellbeing	evaluate choices and explain impacts on wellbeing
Digital Creator	locate and organise information	evaluate reliability and create purposeful outcomes

Appendix 3 - Reading Spine Progression Across UKS2

Purpose

The Storyybrook Reading Spine is designed to ensure pupils experience a broad and ambitious range of high-quality texts that progressively develop reading fluency, vocabulary, comprehension, disciplinary thinking and understanding of the wider world. Texts are carefully selected to provide emotional safety, opportunities for discussion and increasing challenge whilst maintaining high expectations for all learners.

The Reading Spine supports pupils to:

- develop fluency, stamina and confidence as readers
- encounter increasingly ambitious vocabulary and language structures
- experience a wide range of authors, themes, cultures and perspectives
- strengthen retrieval, inference and interpretation skills
- develop disciplinary reading across subjects
- communicate ideas confidently through discussion and writing
- develop empathy, curiosity and understanding of the wider world
- access increasingly sophisticated texts and ideas in preparation for secondary education

Reading Progression Across UKS2

Area	Year 5	Year 6
Vocabulary development	Understand and apply ambitious vocabulary within discussion and reading	Independently select and apply precise disciplinary and thematic vocabulary
Reading fluency	Read increasingly complex texts with developing confidence and expression	Sustain fluency, expression and stamina across extended texts



Area	Year 5	Year 6
Retrieval	Retrieve information and identify relevant evidence	Select and synthesise evidence across multiple sources
Inference	Infer meaning and justify responses using evidence	Evaluate interpretations and viewpoints critically
Author intent	Identify author choices and themes	Analyse author intent and evaluate impact
Comparison across texts	Compare themes, characters and experiences	Compare viewpoints, themes and interpretations critically
Disciplinary reading	Interpret information within subject contexts	Apply reading skills independently across subjects
Discussion and response	Explain ideas and justify opinions	Lead discussion and communicate increasingly sophisticated responses
Reading for purpose	Recognise how reading supports learning	Apply reading strategically to investigate, evaluate and communicate understanding

Text Progression Across UKS2

Pupils progressively experience:

- increasingly sophisticated narratives
- biographies and significant individuals
- poetry and performance texts
- explanation and information texts
- persuasive and discussion texts
- historical, scientific and geographical source materials
- disciplinary texts linked to wider curriculum learning
- texts presenting different viewpoints and perspectives
- increasingly complex themes including identity, belonging, resilience, responsibility, community and change

Fluency Progression Across UKS2

Fluency approaches are consistently revisited and strengthened through:

- echo reading
- choral reading
- guided reading aloud
- partner reading
- reader's theatre
- storytelling and role-play
- oral rehearsal before writing
- discussion and debate activities
- performance opportunities



Pupils progress from:

supported reading and oral rehearsal
↓
increasing expression and confidence
↓
independent fluency and purposeful communication

Disciplinary Reading Progression Across UKS2

Pupils increasingly learn to:

retrieve → infer → interpret → compare → justify → evaluate → communicate independently

Pupils move from:

- identifying information and themes
- discussing ideas and viewpoints
- interpreting meaning using evidence

Towards:

- evaluating viewpoints and evidence critically
- comparing interpretations across texts and subjects
- independently applying reading skills across the wider curriculum

Impact

By the end of UKS2 pupils demonstrate increasing confidence as readers who can:

- read with fluency, expression and stamina
- interpret increasingly complex texts and ideas
- justify thinking using evidence
- communicate understanding confidently
- apply reading skills across subjects
- use ambitious vocabulary independently
- think critically and reflect thoughtfully
- access secondary curriculum expectations with confidence

Appendix 4: Storyybrook Implementation Notes

Adults say

Retrieval

- “What do you already remember?”
- “Can you tell me something from last lesson?”

Vocabulary

- “Can you use that word in a sentence?”
- “What does that word mean?”

Reasoning



- “What evidence supports your thinking?”
- “What makes you think that?”

Reflection

- “Has your thinking changed?”

Adults do

- regulate and prepare for learning
- explicitly model new learning
- pre-teach vocabulary
- use visuals and scaffolds
- chunk instructions
- provide oral rehearsal opportunities
- revisit prior learning through retrieval
- gradually remove support to build independence

Adults look for

Knowledge

- recall of sticky knowledge
- accurate vocabulary use
- application of prior learning

SEMH

- engagement
- regulation
- confidence
- participation

Independence

- reduced adult support
- ownership of learning
- increasing resilience