

1. Science Curriculum Vision

At Storyybrook, we believe science helps pupils understand themselves, the world around them and their place within it.

Science teaching is designed to ensure pupils:

- develop curiosity
- ask questions
- investigate and test ideas
- communicate findings
- apply scientific understanding
- use evidence to justify conclusions

Within our specialist SEMH context, science provides opportunities for:

- practical exploration
- collaboration
- communication development
- confidence building
- independence
- resilience and problem solving

Learning is ambitious, adaptive and carefully sequenced so pupils progressively know more, remember more and can do more over time.

2. Intent

At Storyybrook pupils will:

Know

- substantive scientific knowledge
- scientific vocabulary
- important scientific concepts

Understand

- how scientific knowledge develops
- how evidence supports ideas
- relationships and patterns

Apply

- scientific enquiry
- reasoning
- problem solving



- communication

3. Implementation

Science is implemented through:

- Carefully sequenced units
- Learning is organised through thematic units and revisited across phases.
- Working Scientifically

Pupils progressively develop enquiry skills through:

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

Retrieval

Pupils revisit:

- prior knowledge
- vocabulary
- concepts
- misconceptions
- scientific enquiry skills
- previously taught scientific vocabulary and knowledge

Vocabulary

Vocabulary is explicitly taught through:

- Tier 1
- Tier 2
- Tier 3 language

Reading

Pupils read:

- scientific reports
- information texts
- biographies
- diagrams
- explanations
- investigations
- scientific articles
- data tables and charts



Adaptive teaching

Learning may include:

- visual supports
- models
- chunked learning
- practical investigation
- oral rehearsal
- vocabulary pre-teaching
- movement opportunities
- structured discussion

4. Impact

Leaders evaluate impact through:

Monitoring activity	Evidence
Learning walks	scientific language, enquiry and engagement
Book scrutiny	progression of knowledge and recording
Pupil voice	understanding, vocabulary and confidence
Assessment information	progress and misconceptions
Retrieval activities	long-term retention
Vocabulary reviews	disciplinary language use
Final outcomes	application of scientific knowledge

Within the specialist SEMH context:

improved attendance, engagement and participation are considered important indicators of curriculum impact.

5. How Science Progresses at Storyybrook

Phase	Knowledge	Working Scientifically	Scientific Thinking
KS1	observe living things, materials and environments	observe, identify, classify	observe → question
LKS2	investigate sound, electricity, habitats and forces	fair tests, prediction and recording	investigate → explain
UKS2	analyse evolution, light, electricity and systems	variables, evidence and evaluation	analyse → justify → evaluate



Science Knowledge Progression Overview

Strand	KS1	LKS2	UKS2
Animals Including Humans	identify body parts, senses and basic needs	understand nutrition, skeletons and muscles	understand circulatory systems, lifestyle and development
Living Things & Habitats	identify living things and habitats	classify living things and understand environmental change	understand classification systems, adaptation and evolution
Plants	identify plants and conditions for growth	investigate plant functions and life cycles	understand reproduction and adaptation
Materials	identify and compare materials	investigate properties and changes	understand dissolving, separating and material behaviour
Light	recognise light and shadows	investigate reflection and light behaviour	understand light travel and perception
Sound	recognise sounds in everyday life	investigate vibration, pitch and volume	apply understanding and interpret sound relationships
Forces	recognise pushes, pulls and movement	investigate friction and magnets	understand gravity, resistance and force relationships
Electricity	recognise electrical devices	build and investigate circuits	understand symbols and complex systems
Earth & Space	–	introduce environmental understanding through wider units	understand Earth, planets and movement in space
Evolution & Inheritance	–	recognise change in living things	understand inheritance, fossils and adaptation

Science Progression Principles

Science learning at Storybrook is designed so that pupils:

- revisit prior learning through retrieval opportunities
- develop increasingly sophisticated scientific vocabulary
- move from observation and identification towards analysis and evaluation
- apply learning through practical investigation and enquiry
- use evidence to justify conclusions
- increasingly think, communicate and work as scientists



6. Working Scientifically Progression

KS1	LKS2	UKS2
Observe closely and ask simple questions	Ask relevant questions and begin planning enquiries	Ask increasingly complex scientific questions
Use simple equipment	Plan fair tests and investigations	Identify variables, select methods and justify approaches
Make observations	Record observations systematically	Record results accurately and systematically
Identify and group	Gather and interpret evidence	Analyse patterns and relationships
Carry out simple tests	Draw simple conclusions	Draw conclusions using evidence
Communicate findings	Explain findings	Evaluate reliability and justify conclusions

Pupils revisit and increasingly apply these enquiry skills across all phases and scientific contexts.

7. Scientific Disciplinary Progression

KS1	LKS2	UKS2
Scientists observe, identify and ask questions	Scientists investigate, identify patterns and explain findings	Scientists analyse evidence, justify conclusions and evaluate reliability

8. Reading in Science

Phase	Reading focus
KS1	information texts, labels, diagrams
LKS2	explanations, investigations and reports
UKS2	evaluating evidence, scientific viewpoints, interpretation and reliability of information





9. Science Coverage by Unit

Round About Winkfield (KS1)	Roots and Shoots (KS1)	Whiskers, Feathers and Fur / All Creatures Great and Small (KS1)	Fit for Life (KS1)	Sustain / Protect Our Planet (KS1-LKS2)	Stone Age to Iron Age / Survival and Early Humans (LKS2)	Sparks and Flames / Electricity & Circuits (LKS2-UKS2)	Sound Waves (LKS2)	Light and Shadows / Light & Perception (LKS2-UKS2)	Evolution & Inheritance (UKS2)	Healthy Futures (UKS2)
Delivery Focus Living things, habitats and observation	Delivery Focus Plants and growth	Delivery Focus Animals including humans	Delivery Focus Health and survival	Delivery Focus Living things, habitats and environmental change	Delivery Focus Animals including humans and adaptation	Delivery Focus Electricity and systems	Delivery Focus Sound, vibration and scientific enquiry	Delivery Focus Light, reflection and perception	Delivery Focus Evolution, adaptation and change over time	Delivery Focus Human health and wellbeing
National Curriculum Links identify and name common plants and animals identify living things within local environments describe basic features of animals and plants	National Curriculum Links identify plant structures understand conditions for growth observe plant development	National Curriculum Links identify and compare animals identify basic human body parts recognise the senses	National Curriculum Links identify basic needs for survival understand exercise, food and hygiene	National Curriculum Links identify habitats understand food chains recognise environmental impact	National Curriculum Links understand nutrition identify skeletons and muscles recognise adaptation for survival	National Curriculum Links identify circuit components construct electrical circuits understand switches and conductors use recognised symbols	National Curriculum Links identify how sounds are made recognise vibrations travel through a medium find patterns between pitch and features	National Curriculum Links recognise light and shadows understand reflection explain how light travels	National Curriculum Links understand inheritance recognise adaptation understand fossil evidence	National Curriculum Links understand body systems understand healthy lifestyles recognise factors affecting wellbeing
Working Scientifically Focus ask simple questions observe closely identify and classify	Working Scientifically Focus observe over time ask questions gather evidence	Working Scientifically Focus observe identify classify	Working Scientifically Focus observe patterns gather information suggest answers	Working Scientifically Focus identify patterns classify record findings	Working Scientifically Focus gather evidence identify patterns explain findings	Working Scientifically Focus identify variables carry out fair tests analyse findings	Working Scientifically Focus identify variables record findings analyse patterns	Working Scientifically Focus investigate variables identify patterns justify findings	Working Scientifically Focus analyse evidence interpret findings evaluate ideas	Working Scientifically Focus gather evidence interpret information evaluate findings





gather and record information										
Reading Focus labels and captions simple information texts diagrams and photographs	Reading Focus explanations labelled diagrams information texts	Reading Focus information texts diagrams simple explanations	Reading Focus health information texts explanations	Reading Focus environmental reports diagrams information texts	Reading Focus scientific reports explanations diagrams	Reading Focus scientific diagrams investigations explanations	Reading Focus scientific explanations diagrams investigations	Reading Focus diagrams scientific reports explanations	Reading Focus scientific explanations evidence texts diagrams	Reading Focus health reports explanations scientific information texts
Vocabulary habitat environment mammal plant	Vocabulary roots stem seed germination	Vocabulary senses herbivore carnivore classify	Vocabulary nutrition exercise hygiene healthy	Vocabulary habitat food chain environment sustainability	Vocabulary nutrition skeleton muscles adaptation	Vocabulary circuit conductor insulator current	Vocabulary vibration pitch frequency medium	Vocabulary reflection light ray shadow perception	Vocabulary evolution inheritance adaptation fossil	Vocabulary circulation wellbeing lifestyle nutrition
Assessment Opportunities identify living things classify observations communicate findings	Assessment Opportunities explain plant growth identify structures describe findings	Assessment Opportunities identify similarities and differences explain features communicate understanding	Assessment Opportunities explain healthy choices apply knowledge	Assessment Opportunities explain relationships identify impact justify ideas	Assessment Opportunities explain body systems interpret findings justify conclusions	Assessment Opportunities construct circuits explain findings justify conclusions	Assessment Opportunities explain findings identify patterns justify conclusions	Assessment Opportunities explain light behaviour analyse findings justify conclusions	Assessment Opportunities explain adaptation interpret evidence justify conclusions	Assessment Opportunities explain body systems justify choices apply understanding
Adaptive Teaching practical exploration visual prompts supported recording oral rehearsal	Adaptive Teaching practical investigation visual sequencing vocabulary support structured discussion	Adaptive Teaching visual prompts practical activities oral rehearsal	Adaptive Teaching practical activities visuals structured discussion	Adaptive Teaching practical exploration visual supports structured questioning	Adaptive Teaching practical models visuals vocabulary support	Adaptive Teaching practical investigation visual models structured discussion	Adaptive Teaching practical investigations visual models vocabulary support structured discussion	Adaptive Teaching practical demonstration visual models structured discussion	Adaptive Teaching visuals chunked learning vocabulary support structured discussion	Adaptive Teaching visual supports discussion opportunities practical application





National Curriculum Strand	KS1 Cycle 1	KS1 Cycle 2	LKS2 Cycle 1	LKS2 Cycle 2	UKS2 Cycle 1	UKS2 Cycle 2
Plants	Roots and Shoots	All Creatures Great and Small	Rock Detectives	Misty Mountain, Winding River	Rainforests	Evolution and Inheritance
Animals Including Humans	Uniquely Me	Whiskers, Feathers and Fur	Healthy Me	Protect Our Planet	Forces in Action	Evolution and Inheritance
Everyday Materials	Special to Us	All at Sea	Rock Detectives	Sparks and Flames	Materials Matter	Light and Perception
Seasonal Changes	Spring to Life	Sustain (Cycle 2)	Rock Detectives	Misty Mountain, Winding River	The Great British Isles	Our Changing World
Living Things and Habitats	Roots and Shoots	All Creatures Great and Small	Healthy Me	Protect Our Planet	Rainforests	Evolution and Inheritance
Rocks			Rock Detectives			Evolution and Inheritance
States of Matter			Rock Detectives	Misty Mountain, Winding River	Materials Matter	Our Changing World
Sound				Sound Waves		
Light	Spring to Life		Light and Shadows		Space Exploration	Light and Perception
Electricity				Sparks and Flames	Forces in Action	Electricity and Circuits
Forces and Magnets	Jack's Amazing Adventure		Tremors	Sparks and Flames	Forces in Action	Electricity and Circuits
Earth and Space		Dreaming of Dragons			Space Exploration	Our Changing World
Evolution and Inheritance					Rainforests	Evolution and Inheritance
Working Scientifically	All KS1 enquiry units	All KS1 enquiry units	Rock Detectives / Tremors	Sound Waves / Sparks and Flames	Materials Matter / Space Exploration	Electricity and Circuits / Evolution and Inheritance





10. Assessment in Science

Formative assessment	Summative assessment
retrieval quizzes	end-of-unit outcomes
questioning	teacher assessment and professional judgement
vocabulary checks	TrackAble outcomes
observations	pupil application tasks
discussion	scientific enquiry outcomes

Assessment Principles in Science

Science assessment at Storybrook is designed to ensure pupils progressively develop:

- substantive scientific knowledge
- scientific vocabulary
- scientific enquiry and investigation skills
- interpretation and evaluation of evidence
- the ability to explain and justify conclusions using scientific understanding

Assessment opportunities may include:

- practical investigations
- discussion and oral explanation
- retrieval activities
- scientific observations
- interpretation of diagrams and data





- written outcomes
- collaborative enquiry activities

Assessment supports pupils in moving progressively from:

KS1: observe → identify



LKS2: investigate → explain



UKS2: analyse → justify → evaluate

Within the specialist SEMH context, assessment approaches are adaptive, supportive and designed to allow pupils to demonstrate understanding through practical, verbal and investigative outcomes.

11. Science Assurance Statement

The Storyybrook Science Curriculum provides full National Curriculum coverage whilst ensuring learning remains ambitious, adaptive and meaningful within a specialist SEMH context. Pupils progressively develop substantive knowledge, disciplinary understanding and scientific enquiry skills so that they are prepared for future learning and lifelong curiosity.

