

Y3 Biome In A Box Learning Sequence

Synopsis: Children investigate a range of biomes and use this as a stimulus to write a newspaper report. They could also write a description of a biome.

In **Science**, children learn about nutrition and the roles of a skeleton.

In **Geography**, children investigate different biomes.

In **Art**, children create a collage to represent a biome.

In **D&T**, children use a range of mechanical systems to create a 'biome in a box'.

In **Computing**, children explore outcomes when giving sequenced instructions.

Curriculum areas: English, Science, Geography, Art, D&T and Computing

Length of theme: 6 weeks

English

Write a newspaper report based about their chosen biome.

English Objectives

Comprehension

- Identify themes and conventions – newspapers
- Identify how language, structure and presentation contribute to meaning

Grammar & Punctuation

- Use a wider range of subordinating conjunctions (*before, after, while, when, if, because, although*)
- Express time, place and cause using conjunctions, adverbs and prepositions
- Use fronted adverbials and use commas after fronted adverbials (Y4)
- Punctuate direct speech with inverted commas

Language & Vocabulary

English Learning Sequence

- Share examples of newspapers with children and discuss features (*First News* is appropriate for this age range). What is a newspaper for? Who reads it? Why? Explore the tone of language (formal)
- Explore the range of content in a newspaper and discuss the purpose of the different sections and the elements within them eg news articles, advertisements, features, sport, puzzles
- Focus in on news articles - cut articles into key parts and allow children to rearrange, label and annotate: headline, by-line, introduction, main article, quotes, pictures and captions. What is the function of each part?
- Explain that they are going to become news reporters in reporting about a topic related to their chosen biome
- Role play being a reporter or expert, asking key questions and noting responses (ready for direct quotes)

- Use varied and rich vocabulary including adjective, expanded noun phrases, adverbs, preposition phrases, collective nouns, similes and alliteration
- Vary sentence openers for effect

Text Structure & Features

- Write for a range of purposes (newspaper)
- Locate information using contents, index and glossaries

Plan, Draft, Edit & Evaluate

- Discuss and record ideas
 - Draw on examples of writing when planning own work
 - Compose and practise sentences orally using an increasingly wide range of vocabulary and sentence structure
 - Suggest changes to grammar and vocabulary
 - Proofread work for spelling/punctuation errors
- Assess others' and own writing, suggesting improvements

In addition to the above, teachers should apply general spelling rules and guidance, as listed in [English Appendix 1](#) and ensure concepts and skills outlined in [English Appendix 2](#) are also addressed.

- Practise each newspaper feature in turn, writing headline, by-line, introduction (using the 5 W's of when, who, what, where and why) and main article. Teacher to model level of formality
- Ensure children are using wider range of conjunctions to write more detailed sentences eg. After he swam off the drop-off, he immediately disappeared
- If appropriate, introduce inverted commas to indicate direct quotes and explore the conventions of speech eg "Temperatures as high as this have never been reported in living memory," reported environmentalist, Miss Sulwe.
- Draft, edit and improve to produce final newspaper report

English

Write a detailed description of a biome setting, eg underwater.

English Objectives

Comprehension

- Begin to discuss words and phrases that capture the reader's interest

Grammar & Punctuation

English Learning Sequence

- Read some descriptions texts to children eg settings from books they are familiar with
- Discuss the language used – how does the writer 'paint' a vivid picture of the setting? Children share words and phrases which have captured their interest and give reasons for that

- Use a wider range of subordinating conjunctions (*before, after, while, when, if, because, although*)
- Express time, place and cause using conjunctions, adverbs and prepositions

Language & Vocabulary

- Use varied and rich vocabulary including adjective, expanded noun phrases, adverbs, preposition phrases, collective nouns, similes and alliteration
- Vary sentence openers for effect
- Use similar writing to identify and understand vocabulary and language
- Create settings

Text Structure & Features

- Recognise themes eg good over evil, magical devices
- Retell stories orally
- Build on KS1 wide range of stories, poetry, plays and myths

Plan, Draft, Edit & Evaluate

- Discuss and record ideas
- Draw on examples of writing when planning own work
- Compose and practise sentences orally using an increasingly wide range of vocabulary and sentence structure
- Suggest changes to grammar and vocabulary
- Proofread work for spelling/punctuation errors
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In addition to the above, teachers should apply general spelling rules and guidance, as listed in [English Appendix 1](#) and ensure concepts and skills outlined in [English Appendix 2](#) are also addressed.

- Play children a video of underwater setting/or other biome and they describe what they see
- Give children prompt cards to consider as they watch it eg expanded noun phrases, verbs, adjectives, adverbs, preposition phrases, figurative language
- Model generating language using video and images of coral reef eg Tiny, silver fish like diamonds darted swiftly between the swaying seaweed. Rainbow-coloured seahorses bobbed like tiny boats across the waves.
- Share writing example of underwater setting and discuss use of language to create a vivid picture in the reader's mind.
- Highlight metaphors – discuss these
- Generate metaphors for underwater features eg a forest of coral etc
- Using main clauses as starting points, children experiment with different sentence openers eg adverbs, preposition phrases, subordinate clauses
- Write a short description of a setting focusing on choice of vocabulary and use of metaphors
- Share writing with a peer and evaluate each other's work saying what they like about it and suggesting how it could be improved

Science

Learn about nutrition and the various roles of a skeleton/muscles.

Science Objectives

Scientific Knowledge

- Identify that animals, including humans, need the right types and amount of nutrition and that they cannot make their own food (they get nutrition from what they eat)
- Identify that humans and some other animals have skeletons and muscles for support, protection and movement

Science Learning Sequence

- Give children black sugar paper and white chalk and challenge them to draw what they think their skeleton looks like
- Give children pictures of bones of human body and see if they can reassemble them to make a skeleton
- Discuss the names of each bone and label a skeleton
- Investigate the role of a skeleton in humans and other animals. Do any animals have unusual/no skeletons?
- Discuss how muscles also help us to move – hands-on experience for children. Can you feel your bicep? etc.
- Link to health and fitness – how can we keep our bodies healthy? Generate ideas
- Discuss nutrition and the importance of a healthy, balanced diet. What is your favourite food/meal? Record this using words and pictures
- Compare what humans eat to other animals looking for similarities and differences

Geography

Locate biomes and describe their physical features.

Geography Objectives

- **Begin to explain geographical similarities and differences (N/S America)**
- **Locate some of the countries of Europe and N/S America using maps and identify some environmental regions, key physical / human features, cities**
- **Begin to identify position of Tropics of Cancer Capricorn, Arctic/Antarctic**
- **Begin to identify position of Prime/Greenwich Meridian and time zones**
- **Begin to describe some key aspects of physical geography**

Geography Learning Sequence

- Recap the world's continents and oceans to consolidate
- Recap position of Equator and N/S Hemispheres
- Use world maps, atlases and globes to locate different biomes, eg desert, savanna, coral reef, temperate forest
- Generate range of geographical questions to answer. What is the landscape like? What grows here? What lives here? What is the temperature?
- Investigate their chosen biome in more depth, focussing on physical features and what lives there and why
- Compare biomes in different parts of the world with a particular

<p>(climate zones, biomes & volcanoes)</p> <ul style="list-style-type: none"> Confidently use world maps, atlases and globes and begin to use digital mapping 	<p>focus on N/S America, looking for similarities and differences</p> <ul style="list-style-type: none"> Communicate findings in a range of ways including pictures, photographs, digital mapping and writing
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Art

Create a collage of a biome using a range of media.

<p>Art Objectives</p> <ul style="list-style-type: none"> In collage, consider the effect of chosen materials and technique Create sketchbooks to record and revisit observations Use and apply art and design techniques and improve control and use of materials Use range of artistic vocabulary to discuss and evaluate work Evaluate work of some artists and analyse creative works 	<p>Art Learning Sequence</p> <ul style="list-style-type: none"> (In conjunction with D&T 'biome in a box') Children explore images of biomes, discussing colours, shapes, textures etc Emulate some of the images using range of pencils, capturing the process in sketchbooks Use a range of materials to try and replicate parts of the images eg thin strips of green tissue paper for the seaweed Set out template for scene, considering background and foreground and identifying which materials would be best for each part Create a mixed media collage of biome and use a range of artistic vocabulary to describe their own and others' work
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D&T

Use a range of mechanical systems to create a moving biome scene.

<p>D&T Objectives</p> <ul style="list-style-type: none"> Identify range of mechanical systems and how they work (gears, pulleys, cams, levers and linkages) Select from and use a wide range of tools, equipment, materials and components accurately Evaluate own ideas and designs against given design criteria and consider the views of others to improve their work Communicate ideas using different strategies Use research to inform design Take risks to become innovative and resourceful 	<p>D&T Learning Sequence</p> <ul style="list-style-type: none"> Look at dioramas/pictures of dioramas depicting biome scenes, eg underwater Explain that children are going to make their own, but it has to have a moving element, eg an animal Share and discuss design criteria Children explore/research a range of mechanical systems, trying to decipher how they work and make things move Design own moving part and communicate ideas in a range of ways eg verbally, drawing
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- Using a range of tools, materials and components, children work to create a moving creature for diorama, evaluating and adapting throughout the process

Computing

Explore outcomes when giving sequenced instructions.

Computing Objectives

- Start to use reasoning to understand how algorithms work
- Detect errors in algorithms and programs
- Begin to solve problems by decomposing them into smaller parts
- Start to use sequence and selection in programs
- Begin to develop understanding of how to write and debug programs that accomplish specific goals, including controlling or simulating physical systems
- Begin to work with various forms of input/output

Computing Learning Sequence

- Plan, create and debug more complex sequences of instructions to achieve a specific outcome
- Using a programmable robot or Scratch (or something similar), explore how to input repeated commands to draw 2D shapes
- Investigate what happens when values are manipulated (eg length of side of rectangle)
- Use coding to simplify or enhance the production of a 2D shape and record how this was achieved