

# Alchemy Island



Year Group: 5/6  
Cycle B

## Half Term Learning Focuses

### Science

- Properties and Changes of Materials
- Electricity
- Working Scientifically

### Computing

- Multi-media presentations

### Geography

- use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world
- human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water

# Geography

**National Curriculum:** Pupils should be taught to:

- use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world
- human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water

**Curriculum Intentions (Key Knowledge and skills to be learned):**

- How to use four and then six-digit grid references to locate features on a map of a fictional island, and then transfer these skills to locating features on an Ordnance Survey map of a Scottish island e.g. Isle of Arran
- Identify and describe key human and physical features on a fictional map and then transfer these skills by identifying key human and physical features on a satellite image and Ordnance Survey maps of a Scottish island e.g. Isle of Arran
- Understand the use of symbols and key in Ordnance Survey maps and create their own symbols and key for a map of their own fictional island.

**Age Related Subject Skills (Progression Guidance):**

**Year 5**

- Compare maps with aerial photographs
- Select a map for a specific purpose
- Begin to use atlases to find out other information (e.g. temperature)
- Find and recognise places on maps of different scales Use 8 figure compasses, begin to use 6 figure grid references.
- Locate the world's countries, focus on North & South America Identify the position and significance of lines of longitude & latitude
- Draw a variety of thematic maps based on their own data
- Draw a sketch map using symbols and a key
- Use and recognise OS map symbols regularly

**Year 6**

- Follow a short route on an OS map
- Describe the features shown on an OS map
- Use atlases to find out data about other places
- Use 8 figure compass and 6 figure grid reference accurately Use lines of longitude and latitude on maps
- Locate the world's countries on a variety of maps, including the areas studied throughout the Key Stages
- Draw plans of increasing complexity
- Begin to use and recognise atlas symbols

**Prior Learning**

**Forever Firs children working at ARE should already be able to:**

- Follow a route on a large-scale map
- Locate places on a range of maps (variety of scales)
- Identify features on an aerial photograph, digital or computer map
- Begin to use 8 figure compass and four figure grid references to identify features on a map
- Locate Europe on a large-scale map or globe
- Name and locate countries in Europe (including Russia) and their capitals cities
- Recognise and use OS map symbols, including completion of a key and understanding why it is important
- Draw a sketch map from a high viewpoint

## Key Vocabulary

Tier 1		Tier 2		Tier 3	
Map	Find	Aerial	Locate	Latitude	Key
Globe	Place	Settlement	Location	Longitude	North
Atlas	Food	Trade	Symbols	Satellite image	South
Rivers	Water	Economic	Natural resources	Human features	East
Mountains	Roads	Distribution	Energy	Physical features	West
Country		Features	Minerals	Grid references	Southwest
		Directions	Natural	Human geography	Southeast
		Settlement	Resources	Minerals	Northwest
			Trade	Coordinates	Northeast
					Compass

Ordnance Survey  
(OS) Map

## Geography Assessment

Children working below ARE

Children working towards  
ARE

Children working at ARE

Children working above ARE



# Science

**National Curriculum (Knowledge):** Pupils should be taught to:

## Properties and Materials

- compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets
- know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution
- use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating
- give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
- demonstrate that dissolving, mixing and changes of state are reversible changes
- explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda

## Electricity

- associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
- compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches
- use recognised symbols when representing a simple circuit in a diagram

## Working Scientifically

- plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- use test results to make predictions to set up further comparative and fair tests

## Suggested Investigation:

Separating Solutions, Separating Mixtures and Reversible and Irreversible Changes

[https://www.outstandingscience.co.uk/index.php?action=view\\_page&page=view\\_unit&unit=5c](https://www.outstandingscience.co.uk/index.php?action=view_page&page=view_unit&unit=5c)

## Prior Learning

Forever Firs children working at ARE should already be able to:

- ask relevant questions and use different types of scientific enquiries to answer them
- set up simple practical enquiries, comparative and fair tests
- make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- gather, record, classify and present data in a variety of ways to help in answering questions
- identify differences, similarities or changes related to simple scientific ideas and processes
- report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- use straightforward scientific evidence to answer questions or to support their findings
- use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identify common appliances that run on electricity
- construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery
- recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit recognise some common conductors and insulators, and associate metals with being good conductors

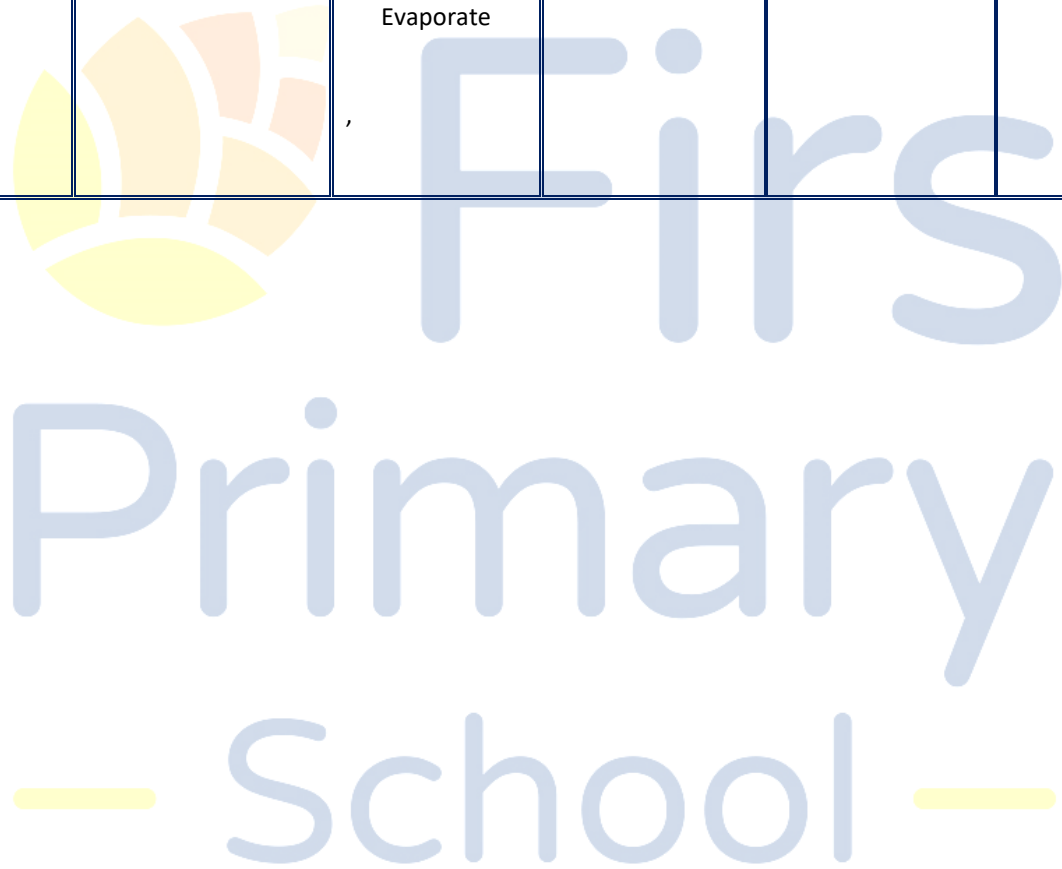
## Key Vocabulary

Tier 1

Tier 2

Tier 3

Solid Liquid Gas Metal Wood Plastic Switch Test Electricity	Change Burning Hardness Brightness Lamp Buzzer On/off Wires Bulbs	Transparency Response Reversible Irreversible Materials Variation Function Variables Evidence Compare Group Attract Repel Mixture Separate Filter Sieve Evaporate	Dissolve Substance Separated Recover Volume Diagram Reading Accuracy Properties Response Opaque Transparent Dissolve Conclusion Findings Predictions Enquiry	Comparative test Fair test Acid Solubility Solution Magnet Voltage Cells Circuit Conductors Insulators	Conductivity (electrical and thermal) Evaporate Variables Casual relationships Battery
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## Science Assessment

Children working below ARE	Children working towards ARE	Children working at ARE	Children working above ARE
 The logo for Firs Primary School is centered in the table. It features a stylized sun or flower icon on the left, composed of several overlapping semi-circular segments in shades of yellow and orange. To the right of the icon, the words "Firs Primary School" are written in a large, light blue, sans-serif font. The word "Firs" is on the top line, "Primary" is on the middle line, and "School" is on the bottom line. Two short horizontal yellow bars are positioned below the word "School", one on the left and one on the right, flanking the text.			

# Computing

## National Curriculum:

- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

## Computing Strand: Multimedia

**Topic Links:** To create a multi-media presentation of a fictional island

## Age Related Subject Skills (Progression Guidance - DDAT):

- Presentations: Pupils learn to write and deliver a presentation, incorporating a range of media
- Animations: Pupils learn how to develop a storyboard and then create a simple animation using for instance 'Puppet pals' or 'Stop Motions Animation' - this may be extended by editing the final product in using video editing software

## Upper Key Stage 2

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|--|---|
| <ul style="list-style-type: none"> <li>• Design in response to a given criteria</li> <li>• Create simple hyperlinks and buttons in a presentation</li> <li>• Insert videos into a presentation</li> <li>• Begin to use two hands when typing</li> <li>• Evaluate websites and current publications in terms of colour, font, pictures and use this to inform their own work</li> </ul> | <ul style="list-style-type: none"> <li>• Create a presentation using timings, auto play and more complicated hyperlinks</li> <li>• Type confidently with two hands</li> <li>• Edit their presentation in response to peer feedback and considering the audience</li> <li>• Insert text boxes and use columns to create a more interesting layout</li> </ul> |
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## Prior Learning


**Forever Firs children working at ARE should already be able to:**

- Combine a mixture of text and graphics to share my ideas in a presentation
- Continue to make appropriate choices about fonts, images, size through peer assessment and self evaluation, evaluate design and make suitable improvements
- Begin to use more than two
- Use word art and animations when creating a presentation whilst considering the appropriate audience
- Use a spell checker
- Use more than two fingers when typing

## Key Vocabulary

Tier 1		Tier 2		Tier 3	
Colour	Type	Audience	Insert	Graphics	
Size	Layout	Word Art	Text box	Evaluate	
Drag	Audience	Animations		Hyperlink	
Mouse		Font		Button	
Keyboard		Presentation		Auto-play	
Keys		Spell Check			

## Computing Assessment

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 The logo for Firs Primary School is centered in the table. It features a stylized tree icon on the left, composed of several overlapping semi-circles in shades of yellow and orange. To the right of the icon, the text 'Firs' is written in a large, light blue, sans-serif font. Below 'Firs', the word 'Primary' is written in a smaller, light blue, sans-serif font. At the bottom, the word 'School' is written in a light blue, sans-serif font, flanked by two short horizontal yellow bars.			