

## Barndale Activate Curriculum Science Overview

22/23	Science								Physics	Biology	Chemistry	
Topic	Seasonal Changes		Light & Sound		Animals inc Humans		Living things & Habitats		Everyday Materials		Properties of Materials	
Who/When	Hedgehogs	Autumn 1	Hedgehogs	Autumn 2	Hedgehogs	Spring 1	Hedgehogs	Spring 2	Hedgehogs	Summer 1	Hedgehogs	Summer 2
Knowledge	Identify and notice changes outside- weather & trees  Name, label and measure weather  Identify clothing for the weather		Know what makes light and shadows  Identify different colours  Make sounds and identify sounds without seeing them  Control sounds- louder, quieter, start and stop		Recognise parts of the body of animals and humans  Know difference between adults and babies animal and babies		Senses for what is in different environments  Know what animals need to grow  Can match animals & plants to habitats		Manipulate materials and sort by qualities  Know different types of materials (wood. Etc.)  Experiment suitability of materials for different tasks		Explore properties and textures of materials (bend, rough etc)  Explore how foods can change (heat, cool, mix)  Explain differences between materials	
Working Scientifically	Notice, Explore, Sort, Show, Recognise, Name, Match, Anticipate											
Assessment	Steps 1 & 2		Steps 1 & 2		Steps 1 & 2		Steps 1 & 2		Steps 1 & 2		Steps 1 & 2	

23/24	Science								Physics	Biology	Chemistry	
Topic	Forces, Magnets & Electricity		Earth & Space		Evolution & Inheritance		Plants		States of Matter		Rocks	
Who/When	Hedgehogs	Autumn 1	Hedgehogs	Autumn 2	Hedgehogs	Spring 1	Hedgehogs	Spring 2	Hedgehogs	Summer 1	Hedgehogs	Summer 2
Knowledge	<ul style="list-style-type: none"> <li>Investigate objects they can push/pull, float/sink</li> <li>Investigate magnets</li> <li>Know what different things electrical objects can do</li> </ul>		<ul style="list-style-type: none"> <li>Know what they can see in the sky during day/night</li> <li>Know the shape of the moon (changes), earth and sun</li> </ul>		<ul style="list-style-type: none"> <li>Recognises themselves and others</li> <li>Recognise features of animals and how these benefit them</li> </ul>		<ul style="list-style-type: none"> <li>Identify parts and details of plants</li> <li>Compare different plants</li> </ul>		<ul style="list-style-type: none"> <li>Identify water around us</li> <li>Know what happens to water when heated, cooled etc.</li> <li>Understand what items will feel like if they have been in a freezer/oven</li> </ul>		<ul style="list-style-type: none"> <li>Matching rocks by like qualities</li> <li>Describe difference between wet and dry sand</li> <li>Find, collect and explore materials in soil</li> </ul>	



23/24	Science								Physics	Biology	Chemistry	
Topic	Forces, Magnets & Electricity		Earth & Space		Evolution & Inheritance		Plants		States of Matter		Rocks	
Who/When	Squirrels	Autumn 1	Squirrels	Autumn 2	Squirrels	Spring 1	Squirrels	Spring 2	Squirrels	Summer 1	Squirrels	Summer 2
Knowledge	Name poles of a magnet and how these can move objects  Examine how objects can move differently  Create a simple circuit Know about electrical safety		Name some of the planets in the solar system  Understand the moon is a rock and how the reflection changes over a month  Experience a view of Earth from space		Identify similarities and difference between parents and offspring  Organise event in their life in sequence  Identify and compare fossils		Identify and record how plants/trees change over seasons  Name and label parts of trees and flowers  Know what a seed needs to grow and investigate		Explain and show how to change water from liquid to solid and vice versa  List ways to heat something up or cool it down  Investigate how to dry clothes		List things they will find in soil  Sort rocks in groups based on properties  Compare fossils Identify how fossils are made	
Working Scientifically	Discuss, Explain, Identify, Sort, Label, Compare, Describe, Record, Represent, Collect evidence											
Assessment	Steps 3 & 4		Steps 3 & 4		Steps 3 & 4		Steps 3 & 4		Steps 3 & 4		Steps 3 & 4	

22/23	Science								Physics	Biology	Chemistry	
Topic	Seasonal Changes		Light & Sounds		Animals inc Humans		Living things & Habitats		Everyday Materials		Properties of Materials	
Who/When	Foxes	Autumn 1	Foxes	Autumn 2	Foxes	Spring 1	Foxes	Spring 2	Foxes	Summer 1	Foxes	Summer 2
Knowledge	Know what months fall in seasons Know how plants and animals respond to different seasons Know the importance for not enough or too much of the same weather Recognises the sun rises and sets at different times		Demonstrates how light travels Group natural and artificial light sources Use mirrors to see things out of sight Explain how sound travels Explain the term vibration Predict high and low pitch		Name and label the skeleton Describe how baby animals change as they grow Explain the importance of food groups and exercise in being healthy Identify and classify animals		Recognise, order and explain food chains Connect healthy habitats to the number of living things there Know how habitats can be damaged List what all living things need to survive		List different materials objects can be made from  List materials more specifically  Test ways to improve materials and adapt for the future		Compare a variety of materials using different properties  Describe ways to separate different materials, inc solutions  Investigate what materials are soluble and which are reversible	



22/23	Science								Physics	Biology	Chemistry	
Topic	Seasonal Changes		Light & Sound		Animals inc. Humans		Living things & Habitats		Everyday Materials		Properties of Materials	
Who/When	Badgers	Autumn 1	Badgers	Autumn 2	Badgers	Spring 1	Badgers	Spring 2	Badgers	Summer 1	Badgers	Summer 2
Knowledge	Compare climates across the world during the same month  Describe why the position of a country affects when they get certain seasons  Suggest why countries on the equator normally have a constant length of day	Understand how the pupils react to different amounts of light  Explain how light moves through a periscope  List materials that reflect light into the eyes  Sort objects by transparency using correct terms	Describe and compare different reproductive processes and life cycles in animals  Identifies the changes during puberty and how this differs for male/female  Recognise how humans change in old age  Describe the main functions of the circulatory system  Describe the process of digestion including features of the mouth	Describes the life cycles of different types of animals  Creates a classification key using subgroups  Describe the types of animals found in a biome and their physical adaptations to their environment  Explain how environmental changes have an impact on living things	Identify a wide variety of different materials  Groups a wide variety of different materials  Understand how the properties of materials can make them better for certain uses  Suggest ways to identify materials more specifically	Identify whether changes in materials are reversible or not  Recognise that mixing materials can cause change  Give examples of change which can't be reversed  Know terms insoluble, soluble and solution  Know about thermal and electrical conductivity						
Working Scientifically	Describe and evaluate, Questions, Fair testing, Controlling Variables, Scientific Diagrams, Predict, Draw Conclusions											
Assessment	Steps 7 & 8		Steps 7 & 8		Steps 7 & 8		Steps 7 & 8		Steps 7 & 8		Steps 7 & 8	
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Who/When	Badgers	Autumn 1	Badgers	Autumn 2	Badgers	Spring 1	Badgers	Spring 2	Badgers	Summer 1	Badgers	Summer 2
Knowledge	Identify levers, gears and pulleys as mechanisms  Explain floating as balanced forces	Recite the order of the planets  Explain why day and night occur	Recognises the term evolution and species  Examine why some animals adapt, hibernate and migrate	Know that photosynthesis happens for all plants  Give examples of an explain types of seed dispersal	Compare the properties of solids, liquids and gases  Begin to use the correct terms when describing the water cycle	List elements that soil contains e.g. rock, humus, water and air  Describe uses for rocks						

