

Year 2- In the Night



Term:	Summer 1
Concepts:	Nature
Subject focus:	Science and Design Technology
Non-Fiction:	Chronological Report
Fiction:	Narrative (with preposition)

Concepts	
Science	Design Technology
Nature/The Real World	Innovate/Technique/Evaluate
<p>This Year 2 Science unit gives children the opportunity to learn more about animals' habitats and the way they are adapted to live in them, especially those that are nocturnal animals. In previous years, the children will have learnt about the habitats of a range of animals, including bears, minibeast and animals found in the woods. This unit builds upon the knowledge they already have, with a focus on those that are nocturnal.</p> <p>Another concept of this unit is the enquiry into light and light sources. In the Early Years, children learnt about our planet and beyond. This topic offers the children the opportunity to build on their understanding of space and how the stars, including the sun, give us light. They will also begin to learn about the phases of the moon and gain an understanding of how it reflects the sun's light. These scientific ideas will be further built up in Year 5, during the topic <i>Blast Off!</i></p> <p>The children will have the opportunity to develop their observational skills, predicting what animals they might see at night in the school garden and then setting up appropriate resources to make these observations. They will learn about the habitats of local nocturnal animals and how they can help to ensure that these are not disturbed for these creatures.</p> <p>As with all topics, the children will have the opportunity to consider how they can use the knowledge they have gained in their everyday life. By learning about the effects of light pollution and destruction of habitats and ecosystems, the children will consider ways in which they can to reduce pollution and preserve wildlife. This is a concept that continues to be developed throughout the curriculum; in KS2 the children look at more global issues and how things such as deforestation and climate change are affecting the planet.</p> <p>In this topic, the children will design and make a bug hotel, using appropriate tools and materials. This builds upon the construction skills the children have begun to learn in the EYFS and Year 1 when they made a raft. This design project gives the children the opportunity to explore products that already exist and consider how they can use them to inspire their own bug hotel. In KS2, the children's construction skills will continue to be developed as they create a range of items with a specific purpose e.g. a floating garden, a catapult and a shelter.</p>	

Science	
National Curriculum	
<p>Science</p> <ul style="list-style-type: none"> • I can explain the needs of animals, including humans, for survival • I can explain that most living things live in habitats which suit them and depend on each other • I can name some plants and animals in their habitats including micro habitats • I can say why I would choose a material for a particular job • I can explain how objects made from some materials can be changed • I can ask questions and know they can be answered in different ways • I can watch closely using equipment • I can name and group • I can use my observations and ideas to suggest answers to questions • I can collect and record data to help answer questions 	<p>Design Technology</p> <ul style="list-style-type: none"> • I can design purposeful, functional, appealing products, based on design criteria • I can generate, develop, model and communicate ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology • I can choose appropriate tools and equipment, techniques and materials from a wide range • I can safely measure, mark out, cut and shape materials and components using a wide range of tools • I can evaluate and assess existing products and those that have been made using a design criterion • I can investigate different techniques for stiffening a variety of materials and explore different methods of enabling structures to remain stable • I can explore and use mechanisms e.g. levers, sliders, wheels and axles
<p>Computing</p> <ul style="list-style-type: none"> • I can recognise common uses of information technology beyond school • I can use technology purposefully to create, organise, store, manipulate and retrieve digital content • I can use technology purposefully to create digital content comparing the benefits of different programs • I can use technology safely and keep person information private 	
Year 2 Science In the Night	
Foundation subject Knowledge and skills	
<p>What are the main concepts?</p>	<ul style="list-style-type: none"> • Know that there are 24 hours in a day • Know that during the night the earth is facing away from the sun • Know that the moon reflects light from the sun • Know that the moon goes through different phases and that is why it appears to look different in the sky • Know that stars are light sources • Know how to keep safe in the dark e.g. light reflectors on clothes/bikes, lights on bikes/cars, torches etc • Know what transparent, opaque and translucent mean • Identify materials which are transparent/opaque/translucent • Know that some jobs require people to work during the night and why some jobs need to be done all through the day. • Know that some animals are awake in the night

	<ul style="list-style-type: none"> • Know that they are called nocturnal • Know the names of some nocturnal animals in the UK • Know the names of nocturnal animals in countries outside of the UK • Know how nocturnal animals are adapted to hunt in the night • Know where nocturnal animals go in the daytime • Know why nocturnal animals choose to come out at night • Know that animals which come out in the day are called diurnal
How can we inquire into this concept?	<ul style="list-style-type: none"> • Make observations of animal, insects and birds in the outside area of the school during the day • Make observations of the different habitats found in the outside area of the school • Observe animals at night in the outside area of the school (using a night camera) • Sort and compare the different animals, insects and birds observed • Know the physical features and adaptations of some nocturnal animals and how they help them in the dark • Compare the features of a nocturnal creature with one which hunts in the day
How does this science effect today's world?	<ul style="list-style-type: none"> • Understand why it is important that we preserve the habitats of animals • Know who David Attenborough is and the work he has done over many years to study the lives of different animals. Know that he raises awareness of how to help protect species of animals and plants • Know how artificial light can affect the natural world • Understand what light pollution is (any adverse effect of artificial light, including sky glow, glare, light trespass, light clutter, decreased visibility at night and energy waste) • Know that scientist have found that light pollution disrupts global wildlife and the balance of ecosystems and can also have negative effects on human health • Know that all species of bats, badgers and smaller carnivores, most rodents (except squirrels), 20% of primates, and 80% of marsupial are nocturnal • Know that many species of plants and animals rely in the length of the night to indicate when to flower, mate, malt and other life cycle activities. Artificial light can confuse animals and plants and this can have effects on the ecosystem • Artificial light can disorient animals and cause them harm e.g. hatchling turtles, night flying moths, frogs and amphibians, birds • Know that migrating birds use the moon and stars but are attracted by light beams, causing confusion
How can we apply what we know to think about the future?	<ul style="list-style-type: none"> • Know that there are ways to reduce light pollution: turn off lights when not needed; use yellow lights as they do not affect wildlife or attract insects; keep lights away from wildlife habitats; raise awareness by sharing your knowledge; have outdoor lights facing down • Know ways in which we can protect nocturnal animals and their habitats e.g. creating areas in gardens, wildlife areas, not disturbing habitats • Be aware of charity organisations that help to protect animals in the UK • Understand what will happen to animals if their habitats are not protected- fewer numbers, risk of extinction e.g. the red squirrel

Design Technology

Year 2

Design Technology: Construction

Year 2	<ul style="list-style-type: none">• Look at a range of insect/bug/bird feeders and houses• Discuss what they are made from and the reasons for those materials• Discuss how they are joined together• Evaluate a range of 'bug hotels'• Design own 'bug hotel' against a criteria: what animal it is for, where it will be placed, what it will need to be made from etc• Include the use of mechanisms in design e.g. levers, sliders• Use a range of tools, materials and joining techniques to make a bug hotel• Evaluate against design criteria
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Writing Outcomes

Non-Fiction

Recount the day in the life of a nocturnal animal, including details of its habitat, adaptation and diet

Fiction

Narrative using prepositional phrases and questions