Bollin Primary School

Growing hearts and minds together

Lego WeDo 2.0

Open Projects Overview

Curriculum links

National Curriculum for science
(See page 24 for how this project addresses non-statutory requirements, and requirements for Working Scientifically)

3.A.s2: Identify that humans and some other animals have skeletons and muscles for support, protection and movement.

4.A.s3: Construct and interpret a variety of food chains, identifying producers, predators and prey.

5.F.s3: Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

6.El.s3: Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Other National Curriculum links
Design and technology
Design:
Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.
Generate, develop, model, and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces, and computer-aided design.
Evaluate:
Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
Technical knowledge:
Apply their understanding of how to strengthen, stiffen, and reinforce more complex structures.
Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers, and linkages].
Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers, and motors].
Apply their understanding of computing to program, monitor, and control their products.

Computing
Design, write, and debug programs that accomplish specific goals, including controlling or simulating physical systems.
Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.
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.

Explore phase

Predators share fascinating dynamic relationships with their prey. They have evolved over centuries to improve as hunters and trappers. This has forced prey to adapt in order to evade predators and survive.

Let pupils explore the developing relationships between different sets of predators and their prey.

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National Curriculum for science

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5.LTH.s1: Describe the differences in the life cycles of a mammal, an amphibian, an insect, and a bird.
5.LTH.s2: Describe the life process of reproduction in some plants and animals.
5.F.s3: Recognise that some mechanisms, including levers, pulleys, and gears, allow a smaller force to have a greater effect.

6.LTH.s1: Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro- organisms, plants, and animals.
6.LTH.s2: Give reasons for classifying plants and animals based on specific characteristics.

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Explore phase

Bioluminescence is the biochemical emission of light by living organisms, such as fireflies, shrimp, and certain types of deep-sea fish. Bioluminescent creatures use their glowing ability to camouflage themselves, lure prey, and communicate. Most other animals communicate through sound and movement.

Let the pupils explore different kinds of social interaction between species to determine how communication helps them to find mates, reproduce, and survive.

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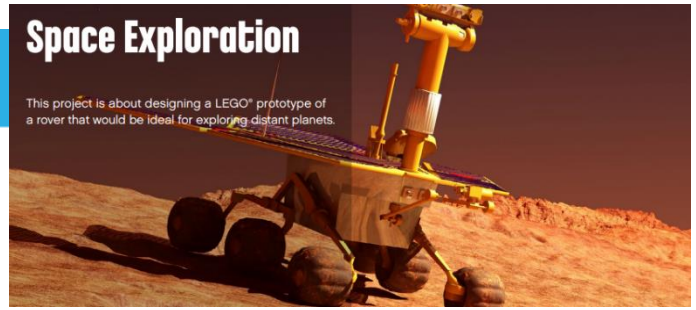
Explore phase

Fossils reveal a lot about why animals were able to survive in their surroundings. Habitat, climate, food, shelter, and available resources all contribute to the success of a species.

Let pupils explore both carnivores and herbivores and what their fossils tell us about how they lived. They could consider how some species evolved to survive into the modern era. For example, ask the pupils to build a flying or a climbing dinosaur that nests in the treetops to protect its eggs, or a crocodile to show how it uses its body, tail, and jaws in combination with its water habitat.

Alternatively, pupils could look at extreme habitats or even fictional habitats, as long as they are able to make the link between the habitat and their creature.



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5.ES.s1: Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.
5.ES.s2: Describe the movement of the Moon relative to the Earth.
5.ES.s3: Describe the Sun, Earth and Moon as approximately spherical bodies.
5.F.s3: Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

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Explore phase

A rover is an automated motor vehicle that propels itself across the surface of a celestial body. A rover may examine territory and interesting features, analyse weather conditions, or even test materials such as soil and water.

Let the pupils explore rovers and discover their many interesting features and functions. Pupils should design various functions for their rover prototypes.

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Geography

Human and physical geography:

Describe and understand key aspects of physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle.

Explore phase

The National Oceanic and Atmospheric Administration's (NOAA) Storm Prediction Center (SPC) exists to protect people by issuing timely and accurate forecasts for tornadoes, wildfires, and other natural hazards. Early warning systems for severe storms help save buildings, property, and lives.

Let pupils explore the equipment and alarm systems.

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Explore phase

Millions of tons of plastic have entered the oceans in recent decades. It is important that the oceans are cleared of plastic bags, bottles, containers, and other debris that are endangering sea animals and fish, and their habitats.

Let pupils explore collection technology and vehicles currently used and being proposed to clean the oceans of plastic waste.

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Explore phase

Wildlife crossings are structures that allow animals to safely cross human-made barriers. Types of wildlife crossings include underpasses, tunnels, and viaducts. Rescue vehicles are also used in extreme or difficult cases.

Let pupils explore existing wildlife crossings, especially local examples such as underpasses and cattle crossings. You may also wish to share specific examples of situations or conditions in which wildlife is put at risk and where a crossing may be a solution.

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Explore phase

The motorised forklift is used to lift and move heavy materials over short distances. It was developed in the early 20th century, but its use became widespread after World War II. Forklifts have become a vital part of warehouse and manufacturing operations.

Let pupils explore forklift designs and other ways to move objects, and make observations about the way these devices lift and move materials.

Important

The focus of this project could be on both the device used to move the objects and on the way the objects are prepared to be moved, such as stacking them on pallets or in containers.