

Year 3 – Term 6

Should humans interfere with nature?

SCIENCE



Progression in Skill:

Ask relevant questions using different types of scientific enquiries to answer them.

Set up simple practical enquiries, comparative and fair tests.

Gather, record, present data and report on findings from enquiries using simple scientific language in a variety of ways to help in answering questions: including oral and written explanations, displays or presentations, drawings, labelled diagrams, keys, bar charts and tables of results and conclusions.

Use results to draw simple conclusions, e.g. the ...-er the ..., the ...-er the ...

Read and spell simple scientific vocabulary correctly.

Long-term Memory Knowledge:

Explain why we need light and that it can be reflected.

Explain why we should not look at direct sunlight and how to protect your eyes in bright light.

Understand how shadows are created and explain how the size of shadows can be changed, noticing patterns in the changing size of shadows.

Suggest questions to explore, relevant to the learning, and how a scientist might try to answer them.

Carry out simple comparative and fair tests.

Gather, record and present data in an appropriate way; use this to draw simple conclusions.

Use the appropriate scientific vocabulary.

Key Vocabulary

light	a kind of energy that we can see
dark	an absence of light
reflect	throw back without absorbing it
light sources	the place where light begins: e.g. Sun, candles, torches, fire, etc.
light reflector	places from which light is reflected: e.g. Moon, animal eyes, mirrors, etc.
mirror	polished surface which reflects light
block	interrupt light causing a shadow

shadows	area of darkness formed when an object blocks light
opaque	not able to be seen through

Progression in Resources:

Torches

Materials for making a dark den – Den making materials

Show boxes with a viewing hole

Lolly sticks

Materials for making a puppet and screen.

Rulers

Plasticene

Protractor

Cereal boxes

Rounders posts (or similar) for casting shadows

Chalk for drawing on playground

Gnomon and sundial template- online

Materials for children to make their own shadow clock

National Curriculum Links:

Recognise that they need light in order to see things and that dark is the absence of light.

Notice that light is reflected from surfaces.

Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.

Recognise that shadows are formed when the light from a light source is blocked by an opaque object.

Find patterns in the way that the size of shadows change.

Essential Prior Learning:

Children should have a curiosity about the world around them and wonder, 'what if ...?' and should be able to suggest ways in which they could find answers to these questions. They will have had practical experience of testing their scientific ideas, such as whether an object will float or sink.

Children should be able to sort and group objects according to their observable features.

They should be able to record data they collect in a simple table.

Children can recognise and name materials that are opaque, knowing that something is opaque if we cannot see through it.

They should be able to recognise shadows of different objects.

Relevance

Now	Children have some understanding of natural phenomena they are familiar with: shadows and sunlight. They can keep themselves safe in the sun. Pupils understand that it is not safe to look directly at the Sun, even when wearing dark glasses.
Future	They can take responsibility for the safety of themselves and others in the sun as well as using its potential for growing. They can make healthy decisions about having an appropriate light source for the tasks they are doing; making the most of natural light to conserve the world's energy supplies.
Aspiration	Study the sun and the properties of light for the benefits of both humans and the rest of the planet; use light aesthetically for artistic purposes; design buildings that make the most of natural light and/or organise their own homes to do this.