

Year 3 Term 6

Should humans interfere with nature?

SCIENCE



Use simple scientific language to answer questions, using a template where appropriate: oral explanations, written explanations, displays, presentations and bar charts. Use straightforward scientific evidence to develop explanations to answer questions.

Draw simple conclusion, e.g. the ...-er the ... the ...-er the ...

Compare the development of scientific discoveries and inventions. Appreciate that ideas are refined and improved over time. Explore the work of Thomas Edison and Isamu Akasaki.

Long-term Memory Knowledge:

We need light to be able to see and that darkness is an absence of light. Light is reflected from surfaces. Sunlight can be dangerous: name ways to protect ourselves. Shadows occur when light is blocked by an opaque object. Name some of the reasons why shadows change. Name some different sources of information that can be used to help answer questions. Suggest practical ways to answer questions. Recognise the importance of making observations over time. Measure with accuracy. Use science vocabulary accurately. Begin to notice patterns and relationships when looking at results. Understand that scientific ideas and inventions can change over time. Know the importance of Thomas Edison and Isamu Akasaki.

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
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

Relevance

Now	Children have some understanding of natural phenomena they are familiar with: shadows and sunlight; they can keep themselves safe in the sun; 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; 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.

National Curriculum Links:

Recognise that we 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 there are ways to protect our eyes. Recognise that shadows are formed when the light from a light source is blocked by an opaque object. Find patterns in the way the size of shadows changes.

Essential Prior Learning:

Have a curiosity about the world around them and wonder, 'what if ...?' Suggest ways in which they could find answers to questions. They will have had practical experience of testing their scientific ideas. Record data they collect in a simple table. Recognise and name materials that are opaque, knowing that something is opaque if we cannot see through it. Recognise the shadows of different objects.

Progression in Skill:

Use secondary sources (books, photographs, videos) to find information and answer questions. Conduct simple practical enquiries that are comparative or fair tests. Make systematic and careful observations. Take accurate measurements using standard units with a metre stick. Use disciplinary writing and scientific vocabulary to answer the enquiry question. Ask relevant questions about the world around you.

