

# Applicable standards

## National Curriculum for England Key Stage 1

KS1 Science Element of the Science Programme of Study	Lessons			
	1	2	3	4
<b>Everyday materials</b> <ul style="list-style-type: none"> <li>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</li> <li>Describe the simple physical properties of a variety of everyday materials</li> <li>Compare and group together a variety of everyday materials on the basis of their simple physical properties</li> </ul>	✓	✓		
<b>Animals including humans</b> <ul style="list-style-type: none"> <li>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</li> <li>Identify and name a variety of common animals that are carnivores, herbivores and omnivores</li> </ul>			✓	
<b>Living things and their habitats</b> <ul style="list-style-type: none"> <li>Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</li> <li>Identify and name a variety of plants and animals in their habitats, including microhabitats</li> <li>Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food</li> </ul>			✓	✓
<b>Working Scientifically</b> <ul style="list-style-type: none"> <li>Ask simple questions and recognising that they can be answered in different ways</li> <li>Observe closely, using simple equipment</li> <li>Perform simple tests</li> <li>Identify and classify</li> <li>Use their observations and ideas to suggest answers to questions</li> <li>Gather and record data to help in answering questions</li> </ul>	✓	✓	✓	✓

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## National Curriculum for England Key Stage 1

<b>KS1 Geography</b>		<b>Lessons</b>			
<b>Element of the Science Programme of Study</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	
<b>Location knowledge</b>					
<ul style="list-style-type: none"> <li>Name and locate the world's seven continents and five oceans</li> </ul>		✓	✓	✓	
<b>Human and physical geography</b>					
<ul style="list-style-type: none"> <li>Use basic geographical vocabulary to refer to key physical features, including beach, cliff, coast, forest, hill, mountain, sea, ocean, river, soil, valley, vegetation, season and weather</li> </ul>		✓	✓	✓	
<ul style="list-style-type: none"> <li>Use basic geographical vocabulary to refer to key human features, including city, town, village, factory, farm, house, office, port, harbour and shop</li> </ul>		✓	✓	✓	
<b>Geographical skills and fieldwork</b>					
<ul style="list-style-type: none"> <li>Use world maps, atlases and globes to identify the United Kingdom and its countries, as well as the countries, continents and oceans studied at this key stage</li> </ul>		✓	✓	✓	

<b>KS1 English</b>		<b>Lessons</b>			
<b>Element of the Science Programme of Study</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	
<b>Spoken language</b>					
<ul style="list-style-type: none"> <li>Listen and respond appropriately to adults and their peers</li> </ul>	✓	✓	✓	✓	
<ul style="list-style-type: none"> <li>Ask relevant questions to extend their understanding and knowledge</li> </ul>	✓	✓	✓	✓	
<ul style="list-style-type: none"> <li>Articulate and justify answers, arguments and opinions</li> </ul>	✓	✓	✓	✓	
<ul style="list-style-type: none"> <li>Give well-structured descriptions, explanations and narratives for different purposes, including for expressing feelings</li> </ul>	✓	✓	✓	✓	
<ul style="list-style-type: none"> <li>Maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments</li> </ul>	✓	✓	✓	✓	
<ul style="list-style-type: none"> <li>Use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas</li> </ul>	✓	✓	✓	✓	
<ul style="list-style-type: none"> <li>Participate in discussions, presentations, performances, role play, improvisations and debates</li> </ul>	✓	✓	✓	✓	
<ul style="list-style-type: none"> <li>Consider and evaluate different viewpoints, attending to and building on the contributions of others</li> </ul>	✓	✓	✓	✓	

# Applicable standards

## Next Generation Science Standards

Grade 2 Science and Engineering	Lessons			
	1	2	3	4
<b>Element of the curriculum</b>				
<b>Structure and Properties of Matter</b>				
<b>2-PS1-1.</b> Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.	✓			
<b>2-PS1-1.</b> Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.	✓			
<b>Interdependent Relationships in Ecosystems</b>				
<b>2-LS4-1.</b> Make observations of plants and animals to compare the diversity of life in different habitats.		✓		
<b>Engineering Design</b>				
<b>K-2-ETS1-1.</b> Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.			✓	
<b>K-2-ETS1-2.</b> Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.			✓	
<b>K-2-ETS1-3.</b> Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.			✓	

# SCHEME OF WORK

## Lesson 1: What are plastics?

### Overview

This lesson introduces students to a range of materials and allows them to compare and describe their properties. Students develop their understanding of what is meant by materials and investigate four in particular; wood, metal, glass and plastic. They then discover why certain materials are chosen to make different products. Focussing in on plastic, students explore the variety of items which are made of or contain plastic. They then conduct an investigation to find out which material is the most effective at waterproofing.

### Learning outcomes

- Identify, classify and describe a range of materials
- Explain why materials are used in different ways
- Identify a variety of items made from plastic
- Investigate which materials are most waterproof
- Summarise some of the everyday uses for plastic

### Resources



**Slideshow 1:**  
What are plastics?



**Activity Overview 1a:**  
Waterproofing investigation



**Student Sheet 1a:**  
Waterproofing investigation

## Lesson 2: Where are plastics?

### Overview

In this lesson students consider what happens to their rubbish once they have disposed of it. They discover the route a plastic bottle might take to landfill, recycling or ending up as litter. Students then go on to discover how plastic bottles can be recycled and the new products that can be made. They discuss what happens to plastic that isn't disposed of responsibly, then make posters instructing how to recycle and keep a rubbish and recycling diary to monitor their recycling at home.

### Learning outcomes

- Understand what happens to rubbish when it is thrown away
- Discover the products that can be made from recycling plastic
- Consider where discarded plastic might end up if not disposed of responsibly
- Create a poster instructing how to recycle
- Keep a rubbish and recycling diary to monitor their own recycling

### Resources



**Slideshow 2:**  
Where are plastics?



**Student Sheet 2a:**  
Rubbish and recycling diary

# SCHEME OF WORK

## Lesson 3: What impact can plastic have?

### Overview

Students discover what happens to plastic when it ends up in the ocean by exploring some of the examples of how plastic pollution affects marine life. They look at simple ocean food chains and discuss the impact of plastic pollution on these species and their habitats. Students choose a food chain to recreate and write warnings about how plastic litter can affect the species in their food chain. They conclude by considering how they could reduce the amount of plastic they use such as reusable bags and avoiding straws.

### Learning outcomes

- Understand how plastic can enter the ocean
- Discover some of the ways this impacts marine life
- Discuss how food chains are affected by plastic pollution
- Create an ocean food chain model with warnings about plastic pollution
- Consider how to reduce the amount of plastic used

### Resources



**Slideshow 3:**  
What impact can plastic have?



**Student Sheet 3a:**  
Warning cards

**Student Sheet 3b:**  
Postcard

## Lesson 4: What can I do?

### Overview

Students discover the 6Rs and discuss what each one means. They then make suggestions of how they could do each one. Students then complete one of three art projects which not only reuse plastic rubbish but also informs others how they can help fight marine plastic pollution. The completed projects could be displayed around the school or showcased in an assembly.

### Learning outcomes

- Understand what is meant by the 6Rs
- Explain how each of the 6Rs can be implemented
- Complete an art project demonstrating how to fight marine plastic pollution
- Share learning with a wider audience

### Resources



**Slideshow 1:**  
What can I do?



**Activity Overview 4a:**  
Jellyfish in a bottle

**Activity Overview 4b:**  
Plastic fish

**Activity Overview 4c:**  
Lava lamp