

# Year 5 - Spring Term

## Science

**Properties and changes in materials: How do materials change?**

Children consolidate previous learning by revisiting the properties of solids, liquids and gases; learn to describe the properties of materials using scientific language; investigate which materials make the best thermal insulators; and which materials are magnetic. Children will be introduced to key scientific vocabulary to describe the properties of materials and investigate how to separate materials using these properties. They will be able to name separation methods and decide on the most efficient method for separating a mixture of materials.

**Forces: Are there different types of forces?**

Children consolidate and extend their knowledge of forces by naming individual forces. They will extend their knowledge of frictional forces and plan fair test investigations to discover which shoe has the greatest friction and which shapes offer the most water resistance. They will learn how forces can be helpful and unhelpful in various scenarios and identify the forces involved in each scenario. They will learn what a mechanism is and how pulleys, levers and gears are used to allow a smaller force to have a greater effect.

## Geography

How does my region compare to North America?

In this unit, children will begin by revisiting the key human and physical features of their local region in England. They will then learn about the different countries and capital cities of North America, before focusing more closely on the Western United States.

Children will explore the human and physical features of the Western United States, including biomes, climate zones, vegetation, earthquakes and volcanoes. They will also learn about natural processes such as rivers, mountains and the water cycle, and compare these with what they know about their own region in England.

Pupils will practise naming and locating counties and cities within their local area, identifying important landmarks and features. They will compare similarities and differences between their region in England and a region in North America, looking at both physical geography (such as climate, landscapes and natural hazards) and human geography (including settlements and how land is used).

Throughout the unit, children will develop their map skills by using maps, atlases and globes to locate places and describe the features they study.

## English

**Kensuke's Kingdom**

To write an extended chapter for the story

**Cracking Contraptions**

Devise and write about your own cracking contraption to create a class Haynes Manual

**Rain Player**

To write an analytical essay about The Maya

**Poetry - The Highwayman**

To write an innovated poem based on 'The Highwayman.'

## Maths

**Multiplication and division: Formal methods of long multiplication (multiplying a 4 digit number by a 2 digit number and short division using the formal short division.**

**Decimals and Percentages**

Building on their learning in Y4 children will secure their understanding of tenths, hundredths and thousands. Children will secure concept of what 0.1 means in relation to 0.01 and how hundredths are small than tenths, different understanding value relationship 10s and 100<sup>th</sup> s

Children will learn about Percentages and explore the links between link fractions, decimal in a variety of representations.

**Measure: Area and Perimeter**

This topic allows opportunity to revisit previous learning in adding, subtracting, multiplying and dividing as children solve problems when calculation the area and perimeter in of different shapes.

**Statistics**

The children explore a range of graphs including line graphs and interpreting timetables. They will learn to answer and ask questions applying knowledge of number position and intervals.

## PSHE

**Keeping Safe  
Rights & Respect**

## RE

What does it mean if Christians believe God is holy and loving?  
Why is the Torah so important to Jewish people?

## Computing

**Programming: Selection in physical computing**

**Data & Information: Flat-file databases**

**Online safety: Protect your stuff & Respect each other**

## Music

**World music experiences**

The children will learn about the traditions of samba and famous groups of performers. The children will have the opportunity to experience playing samba instruments

## PE

Gymnastics, adventurous activities, tag rugby, & orienteering.

## French

Feeling unwell, at the doctors,  
where I live, countries  
and flags

## Art

How realistic do portraits need to be?

Children will learn about the seven elements of art and portraiture. They will use measurements to create a face with realistic proportions. They will revise how to use watercolour paints. They will understand that art does not need to be realistic to be 'good'. They will encounter a range of portrait artists from across history and the world. They will create a self-portrait using a collage. They will develop their ability to evaluate their own work.

## DT

Construction - Fairy tale engineering

In this unit, children will explore how simple mechanisms such as pulleys, levers and linkages work, and how they are used to solve everyday problems. They will also look at how these mechanisms could help characters in familiar fairy tales.

Through hands-on activities, children will practise building and joining techniques and experiment with different mechanisms. Using a fairy-tale character's problem as inspiration, they will plan and create a small model of a theatre that includes moving parts. By the end of the unit, children will have a strong understanding of how simple mechanisms work and will feel more confident combining creativity, design thinking, sustainability and practical construction skills to create imaginative and working models.