Year 3 Autumn 1

All aboard!

Science – Forces and magnets

Pupils should be taught to:

- compare how things move on different surfaces
- notice that some forces need contact between two objects, but magnetic forces can act at a distance
- observe how magnets attract or repel each other and attract some materials and not others
- compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials
- describe magnets as having two poles
- predict whether two magnets will attract or repel each other, depending on which poles are facing.

Scientific inquiry

- Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- Use straightforward scientific evidence to answer questions or to support their findings.

Using toy trains, to demonstrate magnetism, and forces, using ramps for gradients.

English – Play scripts recounts

The Railway Children by E. Nesbit and Mark Alan

D&T

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

Make

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

Evaluate

- investigate and analyse a range of existing products
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- understand how key events and individuals in design and technology have helped shape the world industrial revolution -Trains have changed how goods were transported

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]

create a working toy train with gears/pulley/levers/linkages

WOW!

East Lancashire Railway ride

MOSI.-free museum

Geography

name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time

Maps of railways how the capital cities are interlinked, compare how maps and train links have changed over time.

Maths

Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight. Telling the time, reading simple train time tables.

Recognise angles as a property of shape and associate angles with turning Train turns on a turn timetable

Identify horizontal, vertical, perpendicular and parallel lines in relation to other – looking at straight lines on train tracks

Art

To improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay]

About great artists, architects and designers in history.

Look at railway paintings by Philip D Hawkins. Explore the use of colour and sponging techniques for steam.

History

a study of an aspect or theme in British history that extends pupils' chronological knowledge beyond 1066.

Looking at the history of the train

Computing

To use sequence, selection, and repetition in programs; work with variables and various forms of input and output.

To use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Build a train 2 app. Children build own train and follow the maps.