Roller Coaster Designers - Spring 2022

MAIN FOCUS

Science:

Rocks - Study of different rock types and how they might impact upon foundations needed for the safe construction of roller coasters.

In depth study of the rocks of the Yucatan, Mexico (limetone/sedimentary), and how this effects the water system in this area.

Forces and magnets - Roller coaster design, to include the forces impacting upon a rider as well as how magnets can be used to launch or slow a roller coaster cart.

States of Matter - Water cycle as experienced in the focus tropical region of Mexico.

Sound and Electricity - How elecricity and souns can be used in the design and construction of roller coasters in order to enhance the experience of the riders.

English:

Word Reading: Handwriting and reading/spelling linked to targeted letter strings and prefix and suffix work

Comprehension: Development of skills through reading and discussion of non-fiction books related to science and geography focus, as well as stories found in Mexican/Mayan folk tales.

Draft, write, evaluate and edit written pieces of work, including scientific explanations and reports, letters, emails, folk tales, journals etc. Use these opportunities to develop grammar and punctuation.

Religious Education:

The key beliefs and practices ofthe Mexican people, particularly focusing on Dia de los Muertos.

Music:

Improvise and compose music to be used in the theme park.

Play and perform in ensemble contexts.

Use and understand staff and other musical notations (year 4 ukulele)

Art and Design:

Introduction to sketchbook techniques.

Improve their mastery of art and design techniques through the design of roller coasters and theme parks.

Learn about great rollercoaster degners and architechts from history.

Design Technology:

Use technical knowledge to design, make and evaluate roller coaster models.

Understaand and use mechanical systems to launch and slow down roller coaster carts.

Unnderstand use electrical systems to add lights and sounds to roller coasters.

Maths:

Geometry - angles and turns through the design of rollercoasters

Statistics - interpreting scaled bar charts, pictograms and other graphs in relation to company data

Measurement - perimeter and area of rectilinear shapes in relation to theme park rides/areas

Out of MOE to include: Addition and Subtraction (up to 4 digit numbers) - column addition, estimation and inverse operations for checking, two-step problems in context,; Measurement - read write and convert betweeen analogue 12 and 24 hour analogue clock, solve problems involving time; continued work on multiplication facts.

History: Study of a non-European society that contrasts with British history - Mayan civilisation c. AD 900

RSE:
The importance of respecting others, even when they are very different from them (for example, physically, in character, personality or backgrounds), or make different choices or have different preferences or beliefs.
This will be explored through the relationships formed with the Mayan and Mexican people living in the area where we are to work.

Modern Foreigh Language:

French transport vocabulary

Introduction to Spanish conversation

PE: Dodgeball with Trish, Basketball with James

Computing:

Use software to design and create digital content that represents past and future theme parks designed by our company, as well as allowing children to analyse and evaluate data and information presented in relation to the success of the parks.

Geography:

Locational knowledge:

Focus on North, Central and South America, concentrating on their environmental regions, key physical and human characteristics, countries and major cities by looking at locations of past jobs and current commission in Mexico.

ID the position of latitude/longitude, equator, northern/southern hemisphere and the tropics., as well as time zones.

Understand key features of physical geography (in Mexico), focusing on rivers and the water cycle, as well as earthquakes.

Develop geographical skills and fieldwork through the exploration of the Yucatan region in Mexico.