Curriculum Road Map Year 1

Why do we follow on with this unit?

To develop the children’s understanding of construction materials.

Bridges

Suggested engineer(s): Isambard Brunel

Spring -

Children will learn the importance of building structures to span a physical obstacle. They will examine a range of bridges, identifying shapes and angles and discover how structures have changed overtime. They will design and build a bridge for a particular purpose, ensuring that their design suits the terrain it is anchored to and the material used to make it.

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Under my Umbrella

Suggested inventor(s): Samuel Fox

Autumn –

Children continue to develop their understanding of materials, researching their origins and properties. They will select equipment and materials to solve a given problem, designing an umbrella that is purposeful and functional. Children will be able to reflect on their work, as a group, comparing their finished article to existing products.

What skills will we continue to build upon?

Understanding of how to use a range of tools to perform practical tasks.

Super Smoothie

Suggested businessman(s): Richard Reed

Summer –

Children will learn the basic principles of a healthy and varied diet. They will learn to name and sort foods using the equal plate and discover where food comes from. Children will be taught how to prepare food in a safe and hygienic environment, in order to turn raw ingredients into a healthy, attractive meal.

Why do we follow on with this unit?

To develop the children’s ability to communicate their ideas.

What skills will we continue to build upon?

Understanding of how to select resources and ingredients according to their characteristics.

Curriculum Road Map Year 2

The Wonderful World of Wool

Suggested engineer(s): Edmund Cartwright

Spring –

Children will investigate the uses of wool. They will practically discover the journey of wool and research how it is spun. They will focus on how machinery is used to manufacture wool in the modern world before designing and making an appealing and functional product.

Terrific Towers

Suggested engineer(s): Gustave Effiel

Autumn –

Children will further develop their understanding of structures, exploring a range of towers. They will identify materials that have been used and consider how they have been strengthened. Children will be taught how to communicate their ideas and how to select and safely use a range of equipment and materials to complete their practical task.

Why do we follow on with this unit?

To develop the children’s ability to design functional, appealing products.

What skills will we continue to build upon?

Understanding of how to communicate ideas through drawings and templates.

Why do we follow on with this unit?

To develop the children’s ability to select from and use a range of tools and equipment to perform practical tasks.

Dynamic Draw Bridges

Suggested engineer(s): Joseph Strauss

Summer –

Drawing on their structural knowledge, children will consider the purpose of a draw bridge. They will explore the features of draw bridges, considering the need for moving mechanisms (pulleys) in an overall design. Children will link their learning to historical facts before designing and building a draw bridge fit for a given purpose.

What skills will we continue to build upon?

Understanding of how to evaluate their ideas and outcomes against design criteria.

Curriculum Road Map Year 3

Why do we follow on with this unit?

To further develop the children’s ability research and develop design criteria.

You’ve Been Framed

Suggested design house(s): Ikea

Spring –

Children will consider the appeal and use of a photo frame. They will explore different types of wood and sustainability, generating ideas for their own design. They will be taught how to join and strengthen corners and how to finish a product to a high standard.

Ready to Pop

Suggested author and paper engineer: Matthew Reinhart

Autumn –

Children will research pop up books to inspire creativity and innovation. They will communicate ideas through a series of diagrams and prototypes and evaluate their ideas against their own design criteria. Children will understand and use mechanical systems in their product ensuring that they are fit for purpose.

What skills will we continue to build upon?

Understanding of how to recognise when a product has reached the state of completion.

Why do we follow on with this unit?

To develop the children’s understanding of different mechanisms.

I’m in Love with My Car

Suggested Industrialist: Henry Ford

Children will learn how key individuals helped shape the world. They will research and develop design criteria, communicating their ideas in a variety of ways. Children will select from a wide range of tools and equipment to explore and use mechanical systems.

What skills will we continue to build upon?

Understanding of how to prepare materials for a project.

Curriculum Road Map Year 4

Quizzical Quilting

Suggested graphic designer: Michele Walker

Spring –

Children will research the historical origins of quilt making. They will respond to the research, designing and making a quilt based on tried and tested patterns. After completing a class quilt, children will be supported to make constructive reflections on the process of their own work.

On a Roll

Suggested chef(s): Nadiya Hussain

Autumn –

Following on from the children’s understanding of healthy eating, children will discover how different types of bread are made and used by different cultures around the world. They will analyse how different flours and ingredients affect the texture and taste, whilst experimenting with a loaf’s appearance. The children will prepare and cook bread and evaluate the outcome.

Why do we follow on with this unit?

To develop the children’s understanding of how key individuals can shape the world.

What skills will we continue to build upon?

Understanding of how to analyse a range of products.

Why do we follow on with this unit?

To develop the children’s understanding that products need to be appealing and functional.

Create a Buzz

Suggested scientist(s): Joseph Henry

Summer –

Children will explore how the evolution of a product changes over time and how its original purpose may evolve into another. Using flowcharts and diagrams they will articulate how an electronic devise works, before applying the knowledge to their own design and success criterion.

What skills will we continue to build upon?

Understanding of how to evaluate against design criteria.

Curriculum Road Map Year 5

Pinball Wizard

Suggested businessman(s): David Gottlieb

Spring –

In this unit, children will explore the range of mechanisms used in pinball machines. They will follow the steps of design, prototype, test, release and feedback aiming to create a product fit for the intended audience.

Marble Run

Suggested sculptor(s): George Rhoads

Autumn –

Children will further develop their knowledge gained from previous structure units by creating their own marble run. They will set their own design criteria keeping within given parameters and master how to reduce the force of friction thereby allowing gravity to take over.

Why do we follow on with this unit?

To develop the children’s understanding of how external forces can affect technology.

What skills will we continue to build upon?

Understanding of how to alter forces in technology to achieve a product design

Why do we follow on with this unit?

To develop the children’s understanding of building prototypes

Roving Roberts

Suggested engineer(s): Mars Rover Engineering Team

Summer –

Children will apply their understanding of computing to design a programmable device. They will use exploded diagrams to show both structural pieces of their product and exploded sections to focus on the functional mechanisms used. They will evaluate their model throughout the design process, altering the programming sequence in accordance with their findings.

What skills will we continue to build upon?

Understanding of how to apply computing knowledge

Curriculum Road Map Year 6

Take a Seat

Suggested designer(s): Robin and Lucienne Day

Autumn –

Children will research the historical origins of a seat. They will analyse a range of materials and apply knowledge gained from their research of print design to their own design ideas. Using carefully selected tools, they will use a range of joining techniques to make a padded seat cushion.

Hats Off to You

Suggested designer(s): Philip Treacy and John Batterson

Spring –

Children will research the range of different types of hats worn over the decades. They will investigate the specific and necessary tools required to complete a hats journey before creating their own piece of millinery.

Why do we follow on with this unit?

To develop the children’s understanding of how to strengthen and manipulate textiles.

What skills will we continue to build upon?

Understanding of how to use a range of joining techniques

Great British Menu

Suggested chef(s): Angela Hartnett

Summer –

Children will learn the process of menu planning and the different types. They will investigate products to inform the designing and making of their own savoury dish; exploring basic cooking techniques for selected ingredients. They will investigate the process in which food is manufactured and produced learning the difference between processed and unprocessed foods.

Why do we follow on with this unit?

To develop the children’s understanding of artistic creativity

What skills will we continue to build upon?

Understanding of how to plan for a project brief.