

# YEAR 5

<b>TERM</b>	<b>AUTUMN 1</b>
<b>Term Thread</b>	<b>Rockets and Revolution</b>
'EXPLORE' for ½ term (trip, visitor, experience)	Jodrell Bank
<b>Breadth of Study</b>	<b>CONSTRUCTION 'Space Lanterns'</b>
<b>Threshold Concept</b>	1. Master practical skills    2. Design, make, evaluate, improve 3. Take Inspiration from designers, artists and products.
<b>Key Person/People</b>	
<b>Link</b>	In art we looked at representation of work and working people. As Historians we will learn about the way work changed for people. Workers used to make things in their homes and in small workshops, then due to the Industrial Revolution, they began working with machines in massive factories. People lost the ability to make traditional arts and crafts as they no longer had free time. We are going to work with our hands and make our own things. We are going to make withie lanterns for our school's annual lantern parade. We will work as Designers taking inspiration from our science lessons to design space themed lanterns.
<b>No. of lessons</b>	<b>3</b>
<b>Unit Content</b>	<b>Development of Knowledge and Skills</b>  <b>Design a lantern for our community lantern parade. The theme is 'Space' so you can take inspiration from, planets, rockets (not Stephenson's Rocket but space rockets!), stars, the moon anything you can think on as long as it is 'out of this world' Work in pairs to design your lantern.</b>  <b>Lesson 1:</b> Exam and discuss the design brief. Investigate a range lanterns from images online. Look at images of our lantern made for past Winter Welcoming parades. Reflect on the designs discuss-likes/dislikes/improvements/how it was made mind make space design sheet. Collect images to do with space and lanterns and make an Inspiration board. Introduction of Arts and Crafts Movement. <b>Lesson 2:</b> Look at the construction of one of our parade lanterns. Identify the materials and how it was made. Watch the construction clips to gain understanding of the materials and techniques. MAKE STAR out of wooden splints and 2 withies circles one wet with wire 1 dry with tape. <b>Lesson 3:</b> Sketch different ideas for your lantern. When you and your partner have a design you both like, complete the design sheet and annotate your work. Make a skeleton prototype using wooden spills. Display work and discuss outcomes and processes. Select work for class portfolio.
<b>Milestones</b>	<ul style="list-style-type: none"> <li>• Further develop a range of construction skills and techniques to create products    • Strengthen materials using suitable techniques.</li> <li>• Choose suitable techniques to construct products or to repair items.    • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).</li> <li>• Make products through stages of prototypes, making refinements.    • Ensure products have a high-quality finish, using art skills where appropriate.</li> <li>• Use prototypes and annotated diagrams    • Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.</li> <li>• Create innovative designs that improve upon existing products.    • Evaluate the design of products so as to suggest improvements to the user experience.</li> <li>• Comment on and explain designs and products with a strong grasp of design technology vocabulary</li> </ul>

# YEAR 5

TERM	AUTUMN 2
Term Thread	Rockets and Revolution
'EXPLORE' for ½ term (trip, visitor, experience)	Science and Industry Museum
Breadth of Study	<b>CONSTRUCTION</b> <b>'Space Lanterns'</b>
Threshold Concept	1. Master practical skills    2. Design, make, evaluate, improve 3. Take Inspiration from designers, artists and products.
Key Person/People	
Link	In Science we looked at how the rotation of the Earth creates night and day. During Winter, the days get shorter and the time when we are in darkness gets longer. As part of our community Winter Welcoming Celebration. We all come together as darkness falls and light our lanterns to cheer our spirits and celebrate being together in the long cold winter. Work as a designer to finish your space themed lanterns ready to carry in the parade.
No. of lessons	3
Unit Content	<p style="text-align: center;"><b>Before Art</b></p> <p style="text-align: center;"><b>Application of Knowledge and Skills</b></p> <p style="text-align: center;"><b>'Space Lanterns'</b></p> <p><b>Construct a lantern for our community lantern parade. The theme is 'Space' so you can take inspiration from, planets, rockets (not Stephenson's Rocket but space rockets!), stars, the moon anything you can think on as long as it is 'out of this world' Work in pairs to design your lantern.</b></p> <p><b>Lesson 1:</b> Revise and reflect on the start of the unit. Review designs. Make any alterations. Measure and cut withies to size and begin to construct the skeleton structure of your lantern.</p> <p><b>Lesson 2:</b> Continue to build your lantern. Ensure you have your paper 'skin' stuck in place by the end of the lesson.</p> <p><b>Lesson 3:</b> Review the work. Make any alterations, repairs, or improvements. Complete your lantern by adding colour decoration and detail as appropriate. While the work is drying walk around the room and view each other's work. You can only assess and evaluate the success of your lantern when you see it lit in the darkness on the parade. Select work and photographs for class portfolio.</p>
Milestones	<ul style="list-style-type: none"> <li>• Further develop a range of construction skills and techniques to create products</li> <li>• Strengthen materials using suitable techniques.</li> <li>• Choose suitable techniques to construct products or to repair items.</li> <li>• Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).</li> <li>• Make products through stages of prototypes, making refinements.</li> <li>• Ensure products have a high-quality finish, using art skills where appropriate.</li> <li>• Use prototypes and annotated diagrams</li> <li>• Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.</li> <li>• Create innovative designs that improve upon existing products.</li> <li>• Evaluate the design of products so as to suggest improvements to the user experience.</li> <li>• Comment on and explain designs and products with a strong grasp of design technology vocabulary</li> </ul>

# YEAR 5

TERM	SPRING 1
Term Thread	Machinery and Manchester
EXPLORE' for ½ term (trip, visitor, experience)	Quarry Bank Mill
Breadth of Study	<b>MECHANICS</b> <b>'Wind and Water'</b>
Threshold Concept	*Master Practical Skills * Design, make, evaluate, improve. *Take Inspiration
Key Person/people	
Link	In Science we have been looking at movement and forces which make machines work. In History we have been looking at how the world changed due to the development of machinery and factories. In Geography this term we will begin to look at the impact of these changes to our environment and climate. Just as developing our understanding led to machines and factories which pollute our environment, our scientific understanding can also get us out of climate catastrophe. For thousands of years before the industrial revolution we harnessed the power of the wind and flowing water to create energy and make things move. We need to do this more now, so we stop burning oil, gas and coal to power our world. We are going to work as Designers to create toys which are powered by wind and water- we will also recycle and reuse scrap materials as this is another way, we can save energy.
No. of lessons	<b>3</b>
Unit Content	<p style="text-align: center;"><b>Development of Knowledge and Skills</b></p> <p style="text-align: center;"><b>Design a wind or water powered toy using recycled materials to help save our planet!</b></p> <p><b>Lesson 1:</b> Examine and discuss the design brief. Explore the work of designer and inventor William Kamkwamba. Follow the film instructions to make a pin-wheel out of scrap paper.</p> <p><b>Lesson 2:</b> Recap on previous lesson – further introduction to artists and inventors who harness wind and waterpower with exploring the work of Theo Jansen and William Kamkwamba. Play with some of the simple wind and water powered toys and discuss the mechanisms involved. Work in pairs and follow the film instructions to make two types of wind powered cars from scrap and compare the effectiveness.</p> <p><b>Lesson 3:</b> Follow the film instructions to construct a water-paddle boat. Watch the selected films to get inspiration for the kind of wind/water powered toys you may wish to make next half term. Discuss the sorts of scrap materials you need to begin collecting for making the toys. Display work and discuss outcomes and processes. Select work for class portfolio.</p>
Milestones	<ul style="list-style-type: none"> <li>• Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms or pulleys).</li> <li>• Use innovative combinations of mechanics in product designs. • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).</li> <li>• Make products through stages of prototypes, making refinements. • Ensure products have a high-quality finish, using art skills where appropriate. • Use prototypes and annotated diagrams</li> <li>• Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. • Create innovative designs that improve upon existing products.</li> <li>• Evaluate the design of products so as to suggest improvements for the user • Comment on and explain designs and products with a strong grasp of design technology vocabulary.</li> </ul>

## YEAR 5

TERM	SPRING 2
Term Thread	<b>Machinery and Manchester</b>
‘EXPLORE’ for ½ term (trip, visitor, experience)	River Trip East Lancashire Railway – Take the tram to Bury then ride on a steam train or John Ryland Library.
Breadth of Study	<b>MECHANICS</b> <b>‘Wind and Water’</b>
Threshold Concept	*Master Practical Skills * Design, make, evaluate, improve. *Take Inspiration
Key Person/people	
Link	In Geography we looked at the impact of global warming and the need for renewable energies like wind and waterpower. We will continue our work by making our wind or water powered toy we worked on as Designers last half term.
No. of lessons	<b>3</b>
Unit Content	<p><b>Application of Knowledge and Skills</b></p> <p><b>Design, construct and evaluate a wind or water powered toy using recycled materials to help save our planet!</b></p> <p><b>Lesson 1:</b> Recap the start the unit from previous half term. In pairs design your own wind or water powered toy. Draw diagrams of the mechanical aspects. Consider scrap materials you want to find. Discuss your design with your partner.</p> <p><b>Lesson 2:</b> Review design and make any alterations. Select your construction materials and begin construction of your toy.</p> <p><b>Lesson 3:</b> Review the work. Make any alterations, repairs, or improvements. Complete your toy adding any detail or decoration. Demonstrate your toy and present your work to your class. Evaluate your work and the work of others. Select work and photographs for class portfolio.</p>
	<ul style="list-style-type: none"> <li>• Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms or pulleys).</li> <li>• Use innovative combinations of mechanics in product designs. • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).</li> <li>• Make products through stages of prototypes, making refinements. • Ensure products have a high-quality finish, using art skills where appropriate. • Use prototypes and annotated diagrams</li> <li>• Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. • Create innovative designs that improve upon existing products.</li> <li>• Evaluate the design of products so as to suggest improvements for the user • Comment on and explain designs and products with a strong grasp of design technology vocabulary.</li> </ul>

# YEAR 5

TERM	SUMMER 1
Term Thread	<b>Making Change</b>
EXPLORE' for ½ term (trip, visitor, experience)	People's History Museum
Breadth of Study	<b>FOOD 'Frugal Food Cookbook'</b>
Threshold Concept	*Master Practical Skills * Design, make, evaluate, improve. *Take Inspiration
Key Person/people	Marcus Rashford and Jack Monroe
Link	<p>We are exploring the theme of 'Making Change' over this term. We have already worked as Scientists exploring changes that happen over the lifetime of different animals and reversible and non-reversible changes. Later in History we will learn how people made positive changes to make society fairer. One way in which society is not fair, is that some people do not have enough to eat. This is known as food poverty or food insecurity. This was a big problem for people in the industrial revolution, but it's still a big problem today, in countries all around the world including our own. Families, for no fault of their own, do not have enough money to be able to feed their families as they would like to, or make sure they get the nutrients they need to be healthy. Doctors say we should all be eating 7 portions of fruit or vegetables a day-this can be hard for some families. We are going to continue our work on change by working as Design Technologist. We will be designing and making a recipe book as a class with affordable recipes that will give people lots of fruit, vegetables and energy to help tackle ill health due to food insecurity.</p>
No. of lessons	<b>3</b>
Unit Content	<p style="text-align: center;"><b>Development of Knowledge and Skills</b></p> <p style="text-align: center;"><b>Learn cooking and budgeting skills and understand nutrition and food poverty</b></p> <p style="text-align: center;"><b>Lesson 1:</b> Introduction to difficulties with food insecurity and people involved in tackling food poverty including: Teacher demonstration to make 'carrot cake' porridge. Opportunity to demonstrate safe working practices. Pupils taste porridge and discuss other ways to flavour and add nutrients (mashed banana, frozen berries, peanut butter etc).</p> <p style="text-align: center;"><b>Lesson 2:</b> Nutrition- What do we need? Focus on protein (ensure that pupils understand this can be plant based), carbohydrates (for slow-release energy) and fruits and vegetables (emphasis on vegetables for Vitamins and other essential nutrients. Work in teams to design a recipe for vegetable couscous within a limited budget.</p> <p style="text-align: center;"><b>Lesson 3:</b> Knife and food preparation skills with pupils working in teams to make a nutritious and tasty plant-based meal of a cous-cous salad as designed in lesson 2. Discuss outcomes and processes. Select work and photographs for class portfolio.</p>
Milestones	<ul style="list-style-type: none"> <li>• Understand the importance of correct storage and handling of ingredients. • Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.</li> <li>• Demonstrate a range of cooking techniques. • Create and refine recipes. • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).</li> <li>• Make products through stages of prototypes, making refinements. • Ensure products have a high-quality finish, using art skills where appropriate. • Use prototypes and annotated diagrams</li> <li>• Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. • Create innovative designs that improve upon existing products.</li> <li>• Evaluate the design of products so as to suggest improvements to the user experience. • Comment on and explain designs and products with a strong grasp of design technology vocabulary.</li> </ul>

# YEAR 5

<b>TERM</b>	<b>SUMMER 2</b>
Term Thread	<b>All Change</b>
EXPLORE' for ½ term (trip, visitor, experience)	River Trip
<b>Breadth of Study</b>	<b>FOOD</b> <b>'Frugal Food Cookbook'</b>
<b>Threshold Concept</b>	*Master Practical Skills * <b>Design</b> , make, evaluate, improve. *Take Inspiration
Key Person/people	
<b>Link</b>	Over this term, we have been working as Artists to look at ways of expressing the things we believe need to change. In History we also looked at how people changed things for the better. A big part of why people fought to have the vote, was because the price of bread got so expensive. People were paid so badly, that they could no longer eat and feed their families. This led to people protesting to make sure bread was cheaper but also to get the vote, so they had people in Parliament to represent them and their needs. We looked as historians at people who lived or worked in Manchester who campaigned for change. Someone who was born in Manchester and who has been campaigning to help make the world fairer is footballer Marcus Rashford. During covid lots of people lost their jobs or lost their usual pay. This has meant it has been harder for people to feed their families. People have needed to use food banks and people like Manchester footballer Marcus Rushford have led campaigns to make sure children get the food they need. We are going to work as Design Technologists to create healthy meals with lots of vegetables for a low cost.
<b>No. of lessons</b>	<b>3</b>
<b>Unit Content</b>	<p><b>Application of Knowledge and Skills</b></p> <p><b>'Frugal Food'</b></p> <p><b>Work as a class to make a recipe book of low-cost nutritious plant-based meals to help tackle food insecurity.</b></p> <p><b>Lesson 1:</b> Recap on previous half terms learning. Watch film of Marcus Rashford getting Campaigner of the Year award from anti-poverty campaigner Jack Monroe.  <a href="https://www.youtube.com/watch?v=0LO8G0ywoHU">https://www.youtube.com/watch?v=0LO8G0ywoHU</a> Watch Dr Rupy cooking budget rice dish with anti-poverty campaigner Jack Monroe  <a href="https://www.bbc.co.uk/food/recipes/smoky_vegetable_43212">https://www.bbc.co.uk/food/recipes/smoky_vegetable_43212</a> Challenge is set to create a low-cost, one-pot rice dish that can be put into a class cookery book.</p> <p><b>Lesson 2:</b> Watch film showing basic reminders on food handling and safe preparation. Work as a team to prepare the one-pot rice dish as planned in the previous lesson. Present and photograph the finished dish, taste and evaluate. Add any notes or changes to original recipe.</p> <p><b>Lesson 3:</b> Creating a class recipe book 'Frugal Food'. (Note: could use computers if ICT suite is available). Write a class Tweet to Marcus Rashford and Jack Monroe sending pictures of your recipes and dishes #endchildfoodpoverty. Select work and photographs for class portfolio.</p>
<b>Milestones</b>	<ul style="list-style-type: none"> <li>• Understand the importance of correct storage and handling of ingredients. • Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.</li> <li>• Demonstrate a range of cooking techniques. • Create and refine recipes. • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).</li> <li>• Make products through stages of prototypes, making refinements. • Ensure products have a high-quality finish, using art skills where appropriate.</li> <li>• Use prototypes and annotated diagrams • Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.</li> <li>• Create innovative designs that improve upon existing products. • Evaluate the design of products so as to suggest improvements to the user experience.</li> <li>• Comment on and explain designs and products with a strong grasp of design technology vocabulary.</li> </ul>