



## **Design Technology Rationale**

At Cheadle Catholic Infant School, we want our children to develop the skills, knowledge and understanding of designing and making functional products. We want them to use their knowledge of maths, science, art or computing in fun and interesting ways. We feel it is vital to nurture creativity and innovation through design so that there are no limits to their ambitions in adult life, whether they choose to be an architect, a graphic designer, a chef or a carpenter.

### **Nursery**

It is important that children in the Early Years Foundation Stage have plenty of opportunity to construct with a purpose in mind using a variety of resources. Children should begin to use simple tools and techniques competently and appropriately. They should be able to select appropriate resources and be provided with opportunities to shape, assemble and join materials they are using.

When the children begin in the Autumn term of nursery, they will be looking at the topic 'All About Me.' During this topic, the children will think about how to stay healthy. They will learn about foods and think about where food comes from. They will taste various fruits and talk about how the foods look, feel, taste and smell. They will start to look at groups of food e.g. fruits and vegetables and they will learn about good hygiene.

Children will begin to learn how to hold scissors correctly and think about aspects of safety. They will begin to use glue and tape to join materials together,

In the second half of the Autumn term, they will be focussing on the topic of 'The Gruffalo.' During this topic, the children will build dens and pretend they are making homes for the animals and the Gruffalo's cave. The children can design their own terrible creatures on paper, using play dough, junk modelling resources or on the computer.

In the Spring term, the first topic will be 'Nursery Rhymes.' The children will think about musical instruments and how they create sounds. They will design and make their own musical instruments to play whilst singing along to their favourite nursery rhymes.

During the second half of the Spring term, they will cover the topic 'Traditional Tales & The three Little Pigs.' The children will have opportunities to build dens from which they can make up role plays. The children can make the three little pigs houses using straw, sticks and building blocks. They can discuss the materials that are used and think about the best material for building houses.

In the Summer term, the children will begin by looking at the topic of 'Growing.' The children will look at different gardens and then design their own. They can sketch designs on paper or make houses and gardens from construction sets. They can make garden collages using a variety of resources e.g. wool, tissue paper, sequins, pom-poms or by cutting their favourite flowers from magazines. They can design seed packets and flowers to sell in a garden centre.

The last topic of the year in Nursery is 'Minibeasts.' During this topic, the children will make minibeasts from play dough and 3D models from recycled materials. The children can make shelters for minibeasts from construction materials and use natural materials in the outdoor space. They can make minibeast sock puppets and use them to make up role plays.

## **Reception**

During the first term in Reception, the children will look at the topic 'Wonderful Me.' During this topic they will have opportunities to make models from construction sets which will be celebrated and put on class display. The children can make 3D models of themselves from recycled materials. They will use their senses to explore different foods and use appropriate vocabulary to describe how they look, feel, smell and taste. They will talk about how to stay healthy and make collages of their favourite meals.

During the second half of the term, the children will focus on the topic of 'Seasons and Celebrations.' They will make a variety of crafts using textiles and other materials. They will create collages and pictures for Halloween and Bonfire night. They will make cards and Christmas decorations for their families.

In the Spring term the children will begin by looking at the topic of 'Superheroes.' During this topic, the children will draw designs of superhero costumes, masks and superhero vehicles. They will make models of vehicles using the construction sets. They will build dens for Superheroes to live in and make props to use in role play. The children will make the storybook character 'Supertato' and make a costume for him to wear. They will make a moving superhero using split pins to create joints so that the body parts can move.

During the second topic, the children will find out about 'Minibeasts.' During this topic they will make models from play dough and use resources to make body parts e.g. match sticks for legs, stones for eyes, pom-poms for spots, pipe cleaners for antenna. They will use recycled objects to create minibeasts and they will design and make a bug house.

In the Summer term, the children will be learning about 'Space.' They will work in groups to create rockets and space stations made from cardboard boxes and other resources. They will make aliens and spaceships from construction sets to be used in small world play. They can design their own aliens and make them out of modelling dough. They can create props to use in the role play area.

In the final topic, the children will explore what it is like 'Under the Sea.' They will explore sea creatures and make models of them using a variety of resources. They will make salt

dough sea creatures and 3D aquariums for them to live in. They can create collages of the sea using natural objects e.g. shells, sticks, or string to create texture.

## **Year 1**

In the Autumn term, the year 1 children will begin by looking at the topic of Freestanding Structures. During this topic they will think about buildings/structures in their environment. They will look at structures built by famous architects. They will think about the materials that structures are made from and how they are built. To do this the children will need lots of opportunity to build structures using construction sets. They will use a variety of different materials to find out about their properties and think about ways to strengthen structures. The children will make paper bridges looking at ways to make paper stronger. They will design and make a structure of their choice, thinking about its purpose and who would use it and why? They will use these criteria, to develop their own product. At the end of the topic the children need time to evaluate their structure, thinking about how it could be developed further in the future.

In the Spring term the children will focus on 'Templates & Joining.' The children will learn about the designer/puppeteer Jim Henson the maker of the 'Muppets.' They will learn about how he created his puppets using various textiles. They will learn about the techniques he used to join the materials together. The children will have opportunities to learn simple sewing techniques and learn how to use a template to create a mock-up design. Later, the children will design and make their own puppet. They will need to think about who they will make their puppet for? How can they make it move? What resources will they need to make it? How will they join the materials together? As always at the end of a topic, the children will need to evaluate their product and talk about aspects of their work they may change in the future.

In the Summer term, the children will learn about 'Preparing fruits and vegetables.' During this topic, the children will explore the need for variety in our diets. They will learn how to cut, grate and chop a range of ingredients. They will learn how to measure and weigh food items in non-standard measures e.g. spoons or cups. They will learn how to work safely and hygienically when preparing food. The children will design and make their own fruit salads thinking about the ingredients they would like to use and why. They will draw their design ideas on paper and annotate their designs with their ideas. At the end of the topic the children will evaluate their fruit salads and talk about the good points and think about how they might improve their future designs.

## **Year 2**

In the Autumn term, the Year 2 children will begin by designing and making eco-friendly Christmas products. They will learn about materials and recycling and ways to be eco-friendly. The children will learn about Christmas products like Christmas cards, wrapping paper and tags, and talk about items on them that cannot be recycled. They will look at products on the current market and talk about how to make them more eco-friendly. The children will design and make their own Christmas product based on a design criterion. At the end of the topic they will evaluate their designs thinking about what worked well, the changes they could make to improve, and how eco-friendly their product was.

In the Spring term, the children will focus on the topic 'The Great Fire of London.' During this topic they will look at the aspect of 'Wheels and Axels' in Design Technology. They will look at images of emergency vehicles from the past and compare them to emergency vehicles that are used today. They will look at the colours used and the emergency features on these vehicles e.g. lights and sirens. They will look at how wheels and axels are used to make vehicles move. They will have opportunities to make vehicles from construction sets. They will design their own emergency vehicles and the children will decide on the resources they will use. They will make mock-ups and think of ways to improve the finished design. As always, the topic will end with children evaluating their finished product.

Finally, in the summer term, the Year 2 children will focus on 'Levers and Sliders' in relation to their topic on 'Animals and their Habitats.' During this term, the children will learn about how levers and sliders work within products we use every day e.g. levers used in door handles and sliders used on drawers/trays. The children will learn how to create moving pictures using sliders and levers.

The children will be asked to design a moving picture book for a child. They will look at products that are on the market currently and talk about the aspects they like or dislike about them. They will draw up design ideas and annotate their work throughout to show their thought processes. At the end of topic, the children will evaluate their own work and compare it to the work of their peers.