Progression in Design & Technology

Who's who?
Subject Leader: Mrs Tinniswood
Teaching staff: Miss Jardine & Mrs Tinniswood

Our Aims

At Rosley CE School, we believe that Design and Technology enhances our curriculum by engaging children, igniting their creativity and preparing them for life in a rapidly changing world.

The knowledge and skills acquired in Design and Technology will serve our pupils well beyond their primary years, from persevering in solving problems to evaluating their works and responding to feedback. These are skills children will utilise throughout their lives.

Our curriculum ensures children have the opportunity to **design and make SOMETHING, for SOMEONE, for a PURPOSE**. They learn to evaluate existing products and can draw on specifics of existing products to support them when creating their own designs.

Children enjoy the practical nature of Design and Technology and are carefully guided to improve their making skills using a range of different techniques, building on their prior knowledge and overcoming obstacles as they come. Children evaluate their products with the user in mind. They share their designs with others and give and receive feedback to support their future learning.

Where possible, we link our curriculum to our Cumbrian locality. This may involve the choice of ingredients, investigating farm to fork, or may involve work towards local enterprise projects. However, it is also important that our Design and Technology broadens our pupils' horizons by introducing them to technology and materials beyond their immediate experience.

YEAR B 2024 - 25

YEAR RECEPTION, 1 & 2		
TERM	**UNIT OF STUDY**	**LEARNING/KEY SKILLS**
Autumn	**Mechanisms/Mechanical systems** Making a moving storybook.	• Explain how to adapt mechanisms, using bridges or guides to control the movement. • Design a moving story book for a given audience. • Follow a design to create moving models that use levers and sliders. • Test a finished product, seeing whether it moves as planned and if not, explain why and how it can be fixed. • Review the success of a product by testing it with its intended audience.
Spring	**Textiles** Pouches	• Design a pouch. • Select and cut fabrics for sewing. • Decorate a pouch using fabric glue or running stitch. • Threading a needle. • Sew running stitch, with evenly spaced, neat, even stitches to join fabric. • Neatly pin and cut fabric using a template. • Evaluate the quality of the stitching on others' work. • Discuss the success of their stitching against the success criteria. • Identify aspects of their peers' work that they particularly like and why.
Summer	**Structures** Constructing a windmill	• Learn the importance of a clear design criteria, including individual preferences and requirements in a design. • Make stable structures from card, tape and glue. • Learn how to turn 2D nets into 3D structures. • Learn about windmills and their component parts. • Follow instructions to cut and assemble the supporting structure of a windmill.

		• Make functioning turbines and axles which are assembled into a main supporting structure.

YEAR 3 & 4		
TERM	**UNIT OF STUDY**	**LEARNING/KEY SKILLS**
Autumn	**Electrical systems** Torches	• Identify electrical products and explain why they are useful. • Help to make a working switch. • Identify the features of a torch and how it works. • Describe what makes a torch successful. • Create suitable designs that fit the success criteria and their own design criteria. • Create a functioning torch with a switch according to their design criteria.
Spring	**Textiles** Cross stitch and applique	• Design and make a template from an existing cushion and apply individual design criteria. • Follow design criteria to create a cushion. • Select and cut fabrics with ease using fabric scissors. • Thread needles and tie knots with greater independence. • Sew cross stitch to join fabric. • Decorate fabric using appliqué. • Complete design ideas with stuffing and sew the edges. • Evaluate an end product and think of other ways in which to create similar items
Summer	**Mechanical systems** Pneumatic toys	• Design a toy that uses a pneumatic system. • Develop design criteria from a design brief. • Generate ideas using thumbnail sketches and exploded diagrams. • Learn that different types of drawings are used in design to explain ideas. • Create a pneumatic system to create a desired motion and build secure housing for a pneumatic system. • Use syringes and balloons to create different types of pneumatic systems to make a functional and appealing pneumatic toy. • Select materials due to their functional and aesthetic characteristics.

		• Manipulate materials to create different effects by cutting, creasing, folding and weaving. • Use the views of others to improve designs. • Test and modify the outcome, suggesting improvements. • Understand the purpose of exploded-diagrams through the eyes of a designer and their client.
YEAR 5 & 6		
TERM	**UNIT OF STUDY**	**LEARNING/KEY SKILLS**
Autumn	**Structures** Bridges	• Design a stable structure that is able to support weight. • Create a frame structure with focus on triangulation. • Make a range of different shaped beam bridges. • Use triangles to create truss bridges that span a given distance and support a load. • Build a wooden bridge structure. • Independently measure and mark wood accurately. • Select appropriate tools and equipment for particular tasks. • Use the correct techniques to saw safely. • Identify where a structure needs reinforcement and using card corners for support. • Explain why selecting appropriate materials is an important part of the design process. • Understand basic wood functional properties. • Adapt and improve own bridge structure by identifying points of weakness and reinforcing them as necessary. • Suggest points for improvements for own bridges and those designed by others.

Spring	**Food** Come dine with me	• Write a recipe, explaining the key steps, method and ingredients. • Include facts and drawings from research undertaken. • Follow a recipe, including using the correct quantities of each ingredient. • Adapt a recipe based on research. • Work to a given timescale, safely and hygienically with independence. • Evaluate a recipe, considering: taste, smell, texture and origin of the food group. • Taste test and score final products. • Suggest and write up points of improvements in productions. • Evaluate health and safety in production to minimise cross contamination.
Summer	**Textiles** Waistcoats	• Design a waistcoat in accordance with a specification and design criteria to fit a specific theme. • Annotate designs. • Use a template when pinning panels onto fabric. • Mark and cut fabric accurately, in accordance with a design. • Sew a strong running stitch, making small, neat stitches and following the edge, and tie strong knots. • Decorate a waistcoat – attaching objects using thread and adding a secure fastening. • Learn different decorative stitches. • Sew accurately with even regularity of stitches. • Evaluate work continually as it is created.

HOW TO SUPPORT YOUR CHILD'S LEARNING

- Talk to your child about the role of design in everyday things at home.
- Fill a box with materials your child could use for making things. E.g. packets, plastic containers, small boxes, little bits of wood, rubber bands, old cotton reels, pieces of fabric, paper clips, string, paper plates, plastic cups, straws, toilet rolls etc. Remember to include design essentials such as glue, sticking tape, a hole punch, a stapler and scissors.
- Give your child a project and encourage them to approach it like a real designer. This will help a lot with the way lessons are taught at school. Choose something that interests your child – cooking a simple dish, making clothes for a doll, designing a model car or plane, or creating a birthday card for a friend.