Hassocks Infant School
Skills Progression
Subject area: Design and Technology

Development Matters:
•Manipulates materials to achieve a planned effect. •Constructs with a purpose in mind, using a variety of resources. •Selects tools and techniques needed to shape, assemble and join materials they are using.

National curriculum purpose of study: Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

National curriculum aims: The national curriculum for design and technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook.

School intent: At Hassocks Infant School it is our intent that our Design and Technology is an inspiring, rigorous and a practical subject which encourages children to think and intervene creatively to help them become innovating, enterprising and capable citizens. It encourages children to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and other's needs, wants and values. We aim to, wherever possible, link work to other disciplines such as mathematics, science, engineering, computing and art. Opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness and are encouraged to help our pupils become innovators and risk-takers.

Skill	Reception	Year 1	Year 2
Design	• Use senses to explore a wide range of familiar products. • Take simple products apart and talk about their parts and how they work. • Talk about and/or use construction materials, pictures and words to plan and design.	• Use knowledge of existing products to support plans for similar products. • Describe, explore and investigate products that have been disassembled. • Use construction kits, pictures, templates, mock-ups and captions to plan and design.	• Use knowledge of a range of products to inform plans and designs. • Talk about and disassemble products and describe their function. • Use simple prototypes, labelled sketches and detailed instructions in plans and designs.

	• Talk about what has been been/made in simple terms.	• Talk about and describe the tools and materials needed in order to complete the key tasks within a plan.	• Talk in depth about ideas, plans and reasons for choices.
Make	• Use senses to explore and talk about materials. • Use simple tools and materials with support. • Cut paper/care using scissors. • Join with tape or glue. • Roll paper and card to form a tube. • Add paper and card shapes to products. • Apply simple finishes e.g. paint, PVA glue glaze. • Follow procedures for safety and hygiene.	• Explore and talk about the characteristics of an increasing range of materials. • Select and use simple tools to cut and join a range of materials. • Use a straight edge to mark lines for cutting. • Join edge to edge using glue. • Curl paper. • Use a hole punch and stapler. • Select from a range a finish to improve the appearance of a product. • Follow procedures for safety and hygiene.	• Select materials and components according to known characteristics and functions. • Select and use an increasing range of tools to cut, shape and join materials and components. • Use a ruler to measure and mark lines for cutting. • Make and use gluing tabs. • Make simple paper models, mock-ups and templates. • Select an appropriate way to improve the appearance of a product. • Follow procedures for safety and hygiene.
Evaluate	• Use the senses to explore a wide range of familiar products. • Talk about familiar products and what they do. • Talk about what has been made and the steps taken to achieve the outcome. • Explore products made by famous inventors, designers, engineers, chefs and manufacturers.	• Talk about and describe key features of a range of products. • Explore and evaluate a range of existing products. • Begin to evaluate the success of the product in terms of function and aesthetics criteria. • Explore and talk about products made by famous inventors, designers, engineers, chefs and manufacturers.	• Investigate and compare a range of similar existing products. • Compare and contrast the similarities and differences of products with the same function. • Evaluate ideas and products against design criteria; and suggest ways in which products can be improved. • Gain an understanding of the way in which the work of famous inventors, designers, engineers, chefs, manufactures have impacted on the development of product design and function.
Axes, Pulleys and Gears	• Use junk modelling materials to build boxes. • Use simple construction materials to make a vehicle. • Explore and use construction kits containing gears.	• Deconstruct and reconstruct boxes accurately. • Attach wheels to a chassis using an axle e.g. cotton reels and dowels. • Use pencils or tubes as rollers to move an object across the floor.	• Construct cubes of different sizes from a net. • With support attach a fixed axle to a chassis and add wheels ensuring that they can move freely.

			• Construct a simple pulley using rope over a horizontal bar to raise an object off the ground. • Use construction kits with gears to construct a line of gears that turn.
Electrical and Mechanical Components	• Use senses to explore battery powered toys. • Talk about electrical equipment in the home. • Explore the use of bulbs, wires and batteries.	• Use remote controlled devices e.g. a remote controlled vehicle. • Talk about how common electrical equipment works e.g. telephone, kettle and microwave. • Create a simple circuit using a battery, bulb and wires.	• Describe how a simple battery powered circuit can be controlled by different kinds of switches. • Talk about simple electrical safety. • Create simple circuits incorporating a battery, bulb, switch, buzzer and wires.
Food Technology	• Sort fruit and vegetables by taste, shape, size, colour, texture and simple food groups e.g. meat, vegetables etc. • Talk about the changes that take place when food is shaped and mixed. • Use basic tools to cut, shape and mix e.g. cutters and whisks.	• Sort and classify food into groups e.g. vegetables, pulses, cereals, diary etc. • Talk about what happens when food is heated and cooled. • Measure and weigh accurately using cups and spoons. • Work safely and hygienically.	• Sort and classify an increasing range of food according to specific food groups e.g. proteins, carbohydrates, fats etc. • Talk about what needs to be done in order to work safely and hygienically. • Measure and weigh using standard units and scales. • Discuss about the way in which food processing can affect the taste, appearance, texture and colour of food.
Mechanisms	• Explore and talk about books containing flaps and moving pictures. • Construct a simple slider with support. • Construct a simple lever with support.	• Deconstruct a simple slider and describe how it works. • Construct a simple slider independently. • Make a lever by joining card strips with paper fasteners.	• Deconstruct a range of sliders and describe how they work. • Construct increasing complex sliders. • Join levers to make linkages to create moving parts. • Construct a simple pneumatic system with one moving part.
Structures	• Explore and investigate a range of simple, large scale construction materials e.g. cardboard boxes. • Explore building, bridges and towers using large and small scale construction materials e.g. Duplo, cardboard boxes. • Make simple 2D structures using straws.	• Construct a range of simple structures using construction kits. • Make a structure more stable by widening the base. • Make a square frame from strip wood using triangular card joints. • Make a simple card hinge.	• Deconstruct and assemble the net of basic 3D shapes. • Strengthen 2D frames by adding diagonal bracing struts. • Make a rectangular frame from strip wood. • Use materials to make simple joints, glue, tape and paper clips.

Textiles	• Explore, sort and group textiles and colour etc. • Cut and stick fabrics. • Apply simple finishing techniques e.g. fabric, crayons, gluing on feathers etc.	• Talk about and begin to select textiles based n characteristics of an increasing range of materials. • Use a simple template. • Join fabrics using glue, staples and thread. • Apply an increasing range of finishing techniques e.g. painting and printing.	• Talk about the similarities and differences between textiles based on the characteristics of an increasing range of materials. • Use a simple pattern with increasing accuracy. • Cut and join fabrics using running stitch, buttons and bond web. • Decorate fabric by applying beads and sequins.
Impact: *(How will we know what pupils have learned?)* Children's skills will be assessed and developed by the teacher during lessons and through critical discussions at the end of each unit. Children's achievements will be celebrated through regular opportunities, for example during class art galleries, sharing assemblies and open evenings. Work will be displayed in the wider school and environment. Additionally, topic books will be used to used to illustrate the children's learning journey and to showcase their breadth of experiences in design and technology. Final products will be planned, created and evaluated using the school's agreed progression in skills.			