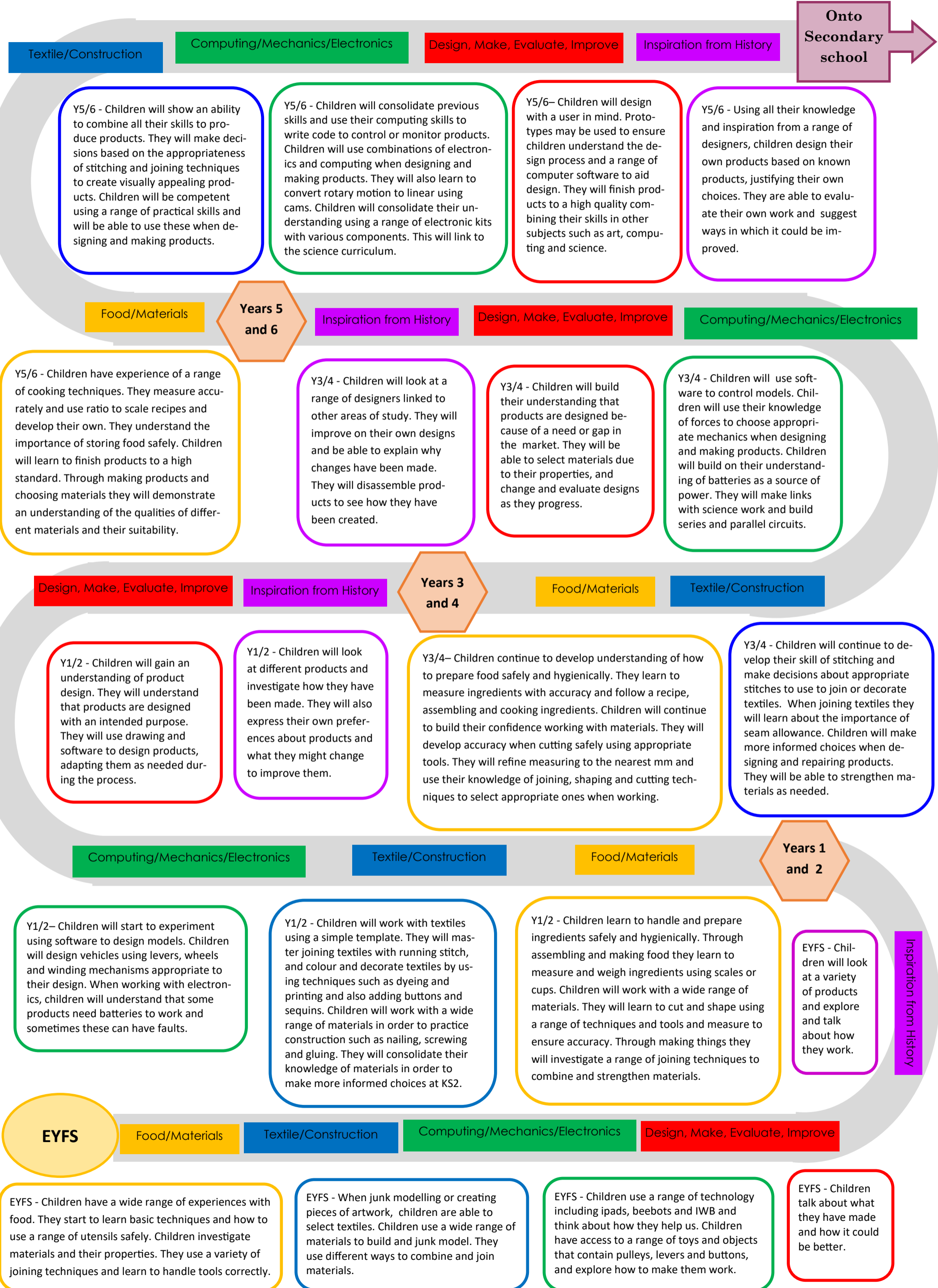


Design and Technology Roadmap

Onto Secondary school 



Computing/Mechanics/Electronics

Design, Make, Evaluate, Improve

Inspiration from History

Textile/Construction

Y5/6 - Children will show an ability to combine all their skills to produce products. They will make decisions based on the appropriateness of stitching and joining techniques to create visually appealing products. Children will be competent using a range of practical skills and will be able to use these when designing and making products.

Y5/6 - Children will consolidate previous skills and use their computing skills to write code to control or monitor products. Children will use combinations of electronics and computing when designing and making products. They will also learn to convert rotary motion to linear using cams. Children will consolidate their understanding using a range of electronic kits with various components. This will link to the science curriculum.

Y5/6 - Children will design with a user in mind. Prototypes may be used to ensure children understand the design process and a range of computer software to aid design. They will finish products to a high quality combining their skills in other subjects such as art, computing and science.

Y5/6 - Using all their knowledge and inspiration from a range of designers, children design their own products based on known products, justifying their own choices. They are able to evaluate their own work and suggest ways in which it could be improved.

Food/Materials

Years 5 and 6

Inspiration from History

Design, Make, Evaluate, Improve

Computing/Mechanics/Electronics

Y5/6 - Children have experience of a range of cooking techniques. They measure accurately and use ratio to scale recipes and develop their own. They understand the importance of storing food safely. Children will learn to finish products to a high standard. Through making products and choosing materials they will demonstrate an understanding of the qualities of different materials and their suitability.

Y3/4 - Children will look at a range of designers linked to other areas of study. They will improve on their own designs and be able to explain why changes have been made. They will disassemble products to see how they have been created.

Y3/4 - Children will build their understanding that products are designed because of a need or gap in the market. They will be able to select materials due to their properties, and change and evaluate designs as they progress.

Y3/4 - Children will use software to control models. Children will use their knowledge of forces to choose appropriate mechanics when designing and making products. Children will build on their understanding of batteries as a source of power. They will make links with science work and build series and parallel circuits.

Design, Make, Evaluate, Improve

Inspiration from History

Years 3 and 4

Food/Materials

Textile/Construction

Y1/2 - Children will gain an understanding of product design. They will understand that products are designed with an intended purpose. They will use drawing and software to design products, adapting them as needed during the process.

Y1/2 - Children will look at different products and investigate how they have been made. They will also express their own preferences about products and what they might change to improve them.

Y3/4 - Children continue to develop understanding of how to prepare food safely and hygienically. They learn to measure ingredients with accuracy and follow a recipe, assembling and cooking ingredients. Children will continue to build their confidence working with materials. They will develop accuracy when cutting safely using appropriate tools. They will refine measuring to the nearest mm and use their knowledge of joining, shaping and cutting techniques to select appropriate ones when working.

Y3/4 - Children will continue to develop their skill of stitching and make decisions about appropriate stitches to use to join or decorate textiles. When joining textiles they will learn about the importance of seam allowance. Children will make more informed choices when designing and repairing products. They will be able to strengthen materials as needed.

Computing/Mechanics/Electronics

Textile/Construction

Food/Materials

Years 1 and 2

Y1/2 - Children will start to experiment using software to design models. Children will design vehicles using levers, wheels and winding mechanisms appropriate to their design. When working with electronics, children will understand that some products need batteries to work and sometimes these can have faults.

Y1/2 - Children will work with textiles using a simple template. They will master joining textiles with running stitch, and colour and decorate textiles by using techniques such as dyeing and printing and also adding buttons and sequins. Children will work with a wide range of materials in order to practice construction such as nailing, screwing and gluing. They will consolidate their knowledge of materials in order to make more informed choices at KS2.

Y1/2 - Children learn to handle and prepare ingredients safely and hygienically. Through assembling and making food they learn to measure and weigh ingredients using scales or cups. Children will work with a wide range of materials. They will learn to cut and shape using a range of techniques and tools and measure to ensure accuracy. Through making things they will investigate a range of joining techniques to combine and strengthen materials.

EYFS - Children will look at a variety of products and explore and talk about how they work.

Inspiration from History

EYFS

Food/Materials

Textile/Construction

Computing/Mechanics/Electronics

Design, Make, Evaluate, Improve

EYFS - Children have a wide range of experiences with food. They start to learn basic techniques and how to use a range of utensils safely. Children investigate materials and their properties. They use a variety of joining techniques and learn to handle tools correctly.

EYFS - When junk modelling or creating pieces of artwork, children are able to select textiles. Children use a wide range of materials to build and junk model. They use different ways to combine and join materials.

EYFS - Children use a range of technology including ipads, beebots and IWB and think about how they help us. Children have access to a range of toys and objects that contain pulleys, levers and buttons, and explore how to make them work.

EYFS - Children talk about what they have made and how it could be better.