

## Key stage 1 and 2 – Design and Technology Cycle B

Year	Autumn Term	Spring Term	Summer Term
EYFS- NURSERY	<p>Throughout their time in nursery, children will be given the opportunity to freely explore a wide range of different materials and textures. Through their exploration and adults modelling, children will develop their ideas about how to use different materials and what to make. As their ideas develop, they will decide which materials to use to express them. Children will be taught about how to join different materials with different types of tape and glue.</p> <p>Children will also be provided with frequent opportunities to construct with various construction kits and open-ended resources on both a small and large scale.</p>		
EYFS- RECEPTION	<p>Throughout the continuous provision, children are provided with frequent opportunities to create and construct both individually and as part of a team with a wide range of materials. Children are encouraged to consider and talk about what they wish to make ahead of creating and to make plans for the models they wish to make. Throughout their construction, children are encouraged to problem solve and find solutions or alternative methods if something isn't going to plan. They are also encouraged to reflect on their models, identifying how they have been successful in achieving what they set out to and/or what they might change.</p> <p>Children have access to a wide range of tools and materials, which builds up gradually over the course of the year as new things are introduced and modelled. Children are taught about different techniques for joining materials, e.g. with different types of adhesive tapes and glue and are taught how to use tools safely, such as hammers and saws.</p> <p>In addition to child-led learning in the continuous provision, children engage in adult-led design and technology projects, such as designing and making a light source, designing and making a monster/alien etc.</p>		
1	<p style="text-align: center;"><u>Yoghurts: Healthy Eating</u></p> <p>During this unit we will develop our own recipe for a healthy yoghurt. We will learn to cut safely and measure ingredients accurately. We will develop knowledge of which foods are healthy and nutritious.</p>	<p style="text-align: center;"><u>Castles with Drawbridge</u></p> <p>We investigate winding mechanisms using construction equipment. We then use our learning to create a castle drawbridge using a mechanism with an axle and winder in pairs. We will evaluate in order to improve our outcome.</p>	<p style="text-align: center;"><u>Moving Pictures - Plants</u></p> <p>During this unit we will look at how to make a picture move. We will learn three different skills and then use our knowledge to create a moving picture of our own. We make sure our outcome is attractive, works, is strong and original.</p>

2	<p><u>Lorries - moving vehicle with axel</u></p> <p>We will evaluate toy cars to see why they are successful. We will investigate the different parts of a lorry so we know how to make our lorry look realistic. We will learn about fixed and rotating axels. We will design and build a lorry with an axel. To be successful our lorry must move straight, be realistic, be strong and be original.</p>	<p><u>Castles with Drawbridge</u></p> <p>We investigate winding mechanisms using construction equipment. We then use our learning to create a castle drawbridge using a mechanism with an axel and winder in pairs. We will evaluate in order to improve our outcome.</p>	<p><u>Puppets</u></p> <p>We will research about puppets - the history and how they are made. We will then design an animal puppet to link with our KUW. We will make a simple pattern, then cut out and sew our puppet together adding features. We will make sure our puppet is realistic, strong, works and is original</p>
3	<p><u>Stable Structures</u></p> <p>We will learn about the importance of a wide base in making a stable structure. We will build tall towers to test our bases, then use our learning to build a stable photo frame.</p>	<p><u>Sandwiches</u></p> <p>During this unit we will find out how to make a healthy sandwich. We will research shop bought sandwiches and using the Plate of Good Health. Design a tasty sandwich of our own which fulfils the success criteria. The children will then make their own sandwich and eat it for lunch.</p>	<p><u>Moving monsters</u></p> <p>Pneumatics will be explored as a way to move parts of our monster. We will then create a monster in pairs, using our teamwork skills. We need to make sure our monster is strong, stable, attractive, original and has a least two, scary moving parts!</p>
4	<p><u>Fix and Repair Kit</u></p> <p>Looking at the problem of fast fashion and textile waste we will look at the 3 Rs and make our own fix and repair kit. We will learn some</p>	<p><u>Room Set light circuit</u></p> <p>We will make links to our learning within Science, to design and create a room set with a working light. We will use our construction skills to design and make a room set. We will then use</p>	<p><u>Musical Instruments</u></p> <p>Alongside the science learning we will use our knowledge of sound, pitch and volume. We will make a musical instrument of our own choice</p>

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	<p>simple sewing skills and use them to create a fabric 'book like' kit with embellishments.</p>	<p>our knowledge of electrical circuits to create a light with a switch.</p>	<p>which plays 3 notes. It must be strong, original and attractive too!</p>
5	<p style="text-align: center;"><u>Fairground Rides</u></p> <p>We will investigate how to make circuit with a motor. Linking with the science curriculum we will focus on gears and pulleys. We will then design and make a fairground ride with a circuit and gears to change the speed of the ride. To be successful the ride must work, be attractive, be strong and be original.</p>	<p style="text-align: center;"><u>Paper Engineering</u></p> <p>We will learn about paper engineering and develop our skills to make an informative, attractive, original poster that engages the audience. This will link with our science learning about plants</p>	<p style="text-align: center;"><u>Biscuits</u></p> <p>Food Technology skills will be used to design a biscuit for our family. We will make a basic recipe and add an ingredient. We will make sure the outcome is tasty, even sized, has a good texture and looks good. We will use our design skills to make packaging for our product.</p>
6	<p style="text-align: center;"><u>Car Challenge - Electricity</u></p> <p>Using the skills developed throughout KS1 and KS2 the children will be set a challenge to build a prototype electric powered vehicle to win a race. They will add an electric circuit gears, pulleys, and axels to try to make the winning vehicle.</p>	<p style="text-align: center;"><u>Program and Control</u></p> <p>Using Lego the children will be set a series of challenges to build and program Lego models. We will then visit the Lego innovation centre to extend our skills using Lego robotics.</p>	<p style="text-align: center;"><u>Production Marketing</u></p> <p>Linked to our end of year play, we will make props, costumes and programmes using all the D and T skills we have developed.</p>