

<p>Year 1 National Curriculum objectives: 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.</p>	
<p>Year 1 Areas of study: Making a moving story book. Wheels and axles. Constructing a Windmill</p>	<p>Design: Learning the importance of a clear design criteria • Including individual preferences and requirements in a design. Explaining how to adapt mechanisms, using bridges or guides to control the movement • Designing a moving story book for a given audience. Designing a vehicle that includes wheels, axles and axle holders, which will allow the wheels to move • Creating clearly labelled drawings which illustrate movement.</p>
<p>Make: Making stable structures from card, tape and glue • Learning how to turn 2D nets into 3D structures • Following instructions to cut and assemble the supporting structure of a windmill • Making functioning turbines and axles which are assembled into a main supporting structure. Following a design to create moving models that use levers and sliders. • Adapting mechanisms.</p>	<p>Evaluate: Evaluating a windmill according to the design criteria, testing whether the structure is strong and stable and altering it if isn't • Suggest points for improvements. Testing a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed. • Testing mechanisms, identifying what stops wheels from turning, knowing that a wheel needs an axle in order to move.</p>
<p>Technical: To understand that the shape of materials can be changed to improve the strength and stiffness of structures • To understand that cylinders are a strong type of structure (e.g. the main shape used for windmills and lighthouses) • To understand that axles are used in structures and mechanisms to make parts turn in a circle • To begin to understand that different structures are used for different purposes • To know that a structure is something that has been made and put together. To know that a mechanism is the parts of an object that move together • To know that a slider mechanism moves an object from side to side • To know that a slider mechanism has a slider, slots, guides and an object • To know that bridges and guides are bits of card that purposefully restrict the movement of the slider. To know that wheels need to be round to rotate and move • To understand that for a wheel to move it must be attached to a rotating axle • To know that an axle moves within an axle holder which is fixed to the vehicle or toy • To know that the frame of a vehicle (chassis) needs to be balanced.</p>	<p>Additional: To know that in Design and technology we call a plan a 'design' To know some real-life items that use wheels such as wheelbarrows, hamster wheels and vehicles. • To know that a client is the person I am designing for • To know that design criteria is a list of points to ensure the product meets the clients needs and wants • To know that a windmill harnesses the power of wind for a purpose like grinding grain, pumping water or generating electricity • To know that windmill turbines use wind to turn and make the machines inside work • To know that a windmill is a structure with sails that are moved by the wind • To know the three main parts of a windmill are the turbine, axle and structure.</p>

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<p>Year 1 Areas of study: Fruit and Vegetables Puppets</p>	<p>Design: Using a template to create a design for a puppet. Designing smoothie carton packaging by-hand or on ICT software.</p>
<p>Make: Cutting fabric neatly with scissors • Using joining methods to decorate a puppet • Sequencing steps for construction. • Chopping fruit and vegetables safely to make a smoothie • Identifying if a food is a fruit or a vegetable • Learning where and how fruits and vegetables grow.</p>	<p>Evaluate: Reflecting on a finished product, explaining likes and dislikes. • Tasting and evaluating different food combinations • Describing appearance, smell and taste • Suggesting information to be included on packaging.</p>
<p>Knowledge: To understand where meat comes from - learning that beef is from cattle and how beef is reared and processed, including key welfare issues • To know that I can adapt a recipe to make it healthier by substituting ingredients • To know that I can use a nutritional calculator to see how healthy a food option is • To understand that 'cross-contamination' means that bacteria and germs have been passed onto ready-to-eat foods and it happens when these foods mix with raw meat or unclean objects.</p> <p>To know that 'joining technique' means connecting two pieces of material together • To know that there are various temporary methods of joining fabric by using staples, glue or pins • To understand that different techniques for joining materials can be used for different purposes • To understand that a template (or fabric pattern) is used to cut out the same shape multiple times • To know that drawing a design idea is useful to see how an idea will look.</p>	

