Year : 3	Term : 2	Topic : Land Yachts	
Learning Objectives (What will the children learn?)	**Class Activities** (What will the children do?)	**Resources** (What will I need?)	**Assessment** (Opportunities)
Investigative, Disassembly and Evaluative Activities (IDEAs)			
Children will learn: • that there are many types of vehicles • that vehicles have different purposes • that vehicles are made up of different parts • to ***discuss*** the attributes or features of existing products; **(Progression in Design Skills R5, E2)** • to produce labelled drawings that are in proportion **(Progression in Design Skills DR1&2)** • Consider more factors affecting the design **(Progression in Design Skills GI1& GI2)**	• Provide opportunities for children to examine vehicles *e.g. lorries, prams, cars, vans, ambulances, caravans, fire engines, tractors, buses, land yachts.* • Discuss with the children the different features of the vehicles, *eg Why do vehicles have wheels? Do they all have the same number and size of wheels? Why are vehicles different shapes? Which vehicles have parts that move, light up or make a noise? Can you name a vehicle which moves using wind as the power source?* • Ask the children to identify the different parts of vehicles – wheel, axle, chassis, body. • Children will make drawings of vehicle and label parts appropriately. • Children will look at and discuss land yachts and the merits of the materials used, e.g. lightness and strength for the chassis and absorbency, strength, flexibility and ability to catch air for the sail.	▪ Different kinds of vehicles including a land Yacht • A variety of materials *eg cotton, hessian, plastic*	Can the children: • give examples of how different vehicles are used for different purposes and what features they may contain; • name the main parts of a land yacht; • draw on their investigation of vehicles to inform their own design ideas; • make simple drawings, with some labels of parts?
Focused Practical Tasks (FPTs)			
Children will learn: • to use wheels and axles, understanding that wheels and axles can be assembled in two different ways: – either the wheel is attached tightly to the axle and the axle is free to rotate, or – the axle is fixed with the wheel free to rotate around it • to apply rules which will control risk when using materials, tools and equipment • to use hand tools safely and appropriately to choose and use appropriate finishing techniques	• Ask the children to practise joining wheels and axles to allow movement. • The children could try out different ways of making axle holders *e.g. using clothes pegs, punched holes in card or boxes, using large drinking straws.* • The children could try out different finishing techniques *e.g. paint, varnish, cut-out shapes to stick on, computer-generated graphics or text to print out and stick on.* ▪ Show the children methods of printing onto an appropriate fabric to be used as the sail in the land yacht *eg fabric pens or markers, fabric paints, computer generated images using special paper which will allow the printed images to be ironed onto the fabric.*	A variety of wheels and dowel for axles. Hole punches. Marvin medium, paint, computer and software. Cotton or poly-cotton, fabric pens/paint/markers, computer transfer paper.	Can the children: • Join wheels and effectively and explain how they work; • Use a range of finishing techniques?

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What the characteristics of good logos are and how to design a logo.	▪ Demonstrate suitable methods for cutting and hemming the sail and any other techniques needed to provide a means of attaching the sail to the mast. ▪ Children will practice joining pieces of material together, using the techniques demonstrated. ▪ Collect and analyse a number of commercial logos, e.g. McDonalds, Nike, PlayStation2. ▪ Appreciate that good logos are often very simple images. ▪ Draw examples of good logos and then design their own based on their initials.	A range of commercial logos from newspapers, magazines and advertising material.	**Can children:** **Explain what makes a good logo.**
Design and Make Assignment (DMA)			
Children will learn: • to identify a purpose for what they intend to design and make; • to develop their design ideas through discussion, observation and drawing; • to plan the tools and materials necessary to make their product; **(Progression in Design Skills P1)** • to measure and cut accurately; • to assemble, join and combine materials in order to make a vehicle; • to evaluate against their design criteria. • to use stamps, clipart eg Dazzle **(Progression in Design Skills DR4)** • Listen to and offer ***sensible*** ideas **(Progression in Design Skills DR1)** • to write an account of the processes they used. **(Progression in Design Skills P1)** Offer opinions about how well their product meets the design brief, what went well and how they would do things differently. **(Progression in Design Skills E1)**	Give children the following basic design brief: *design and make a toy land yacht that must:* ➢ *include a sail with a pattern or logo;* ➢ *allow wind power to move it along the ground;* ➢ *be stable.* ▪ Discuss what the vehicle is usually designed for *e.g. to travel at speed using wind power.* ▪ Encourage the children to consider type and size of land yacht, size and number of wheels, how it might be finished, what extras to add. ▪ Ask the children what their land yacht will include – set the design criteria and record them. ▪ Plan and collect everything needed including tools and joining components. Ask: *What will you need? What materials will work well for this? How much material do you need? What else can you use?* ▪ Design a logo for the sail. ▪ Discuss the order in which the children will do things. ▪ Children construct their land yacht and make the sail. ▪ Assemble the chassis and sail. ▪ Evaluate the product against their design brief. ▪ Children will measure the distance that their land • yacht travelled with wind as the source of propulsion.	• 8 x 8 mm square section wood, card for reinforcing corners, glue, doweling rod, wheels • various types of wheels, including wooden and plastic wheels, cotton reels and card discs • collage materials • straws, doweling and plastic tubing, reclaimed boxes, card, clothes pegs, single-hole punch or card punch, thin corrugated plastic sheet • simple jigs for holding materials computer and printer with paint, draw or graphics programs	Can the children: • apply what they have learnt through IDEAs and FPTs in their designing and making; • develop ideas for making a model land yacht which reflects their original idea; • suggest how they might make the vehicle they have designed; • apply rules which reduce risk whilst constructing their design; • construct a vehicle which functions; • explain what makes a good logo; • evaluate their finished vehicle, recording how it works and matches the original ideas?

	They will test their land yachts by timing them over a measured distance. They can produce their findings using tables, graphs, charts on an appropriate ICT package. write an account of how they made their land yacht and the processes they used and suggest how it might be improved.		