Year : 2	Term : 1	Topic : Transport	
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; • that ideas for their own designs can be obtained by looking at familiar products; • List attributes or features of existing products; **(Progression in Design Skills R5)** • to make simple large freehand drawings; **(Progression in Design Skills DR1)** • to view results of internet research by teacher. **(Progression in Design Skills R3)**	• Provide opportunities for children to examine vehicles *eg lorries, prams, cars, vans, ambulances, caravans, fire engines, tractors, buses, carnival floats.* • Teacher demonstrate surfing the internet for vehicles and show results to the class. • 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?* • Ask the children to identify the different parts of vehicles – wheel, axle, chassis, body, cab. • Children will make simple freehand drawings of vehicle and label parts appropriately.	• toy vehicles, models, pictures of vehicles, video of vehicles moving.	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 vehicle • 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.	• Demonstrate how to use a hacksaw and bench hook to cut a piece of doweling. • Discuss the rules the children must follow for safe working. • Children cut a piece of doweling in the way demonstrated by the teacher • Demonstrate the two ways of assembling wheels and axles and ask children to assemble both types of mechanism.	• various types of wheels, including wooden and plastic wheels, cotton reels and card discs. • Hacksaw, bench hook and doweling.	Can the children: • join wheels and axles effectively and explain how they work use a range of finishing techniques

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Design and Make Assignment (DMA)			
Children will learn: • to identify a purpose for what they intend to design and make; • to talk about what they are making as they are working, using the language of trial and error; **(Progression in Design Skills P1)** • to develop their design ideas through discussion, observation and drawing; • to measure and cut accurately; • to assemble, join and combine materials in order to make a vehicle; • to evaluate their product. **(Progression in Design Skills E1)**	• Discuss what the vehicle is designed for *eg to carry things such as furniture or postal deliveries. Why is it needed to carry things? What other functions does it have?* Give children the following basic design brief: *design and make a vehicle that:* ➢ *has wheels and axles;* ➢ *that will wheel along the ground when pushed or pulled;* • Encourage the children to consider type and size of vehicle, size and number of wheels, how it might be finished, what extras to add. • Ask the children to decide what their vehicle will include – set the design criteria and record them. • Encourage the children to collect everything they will need including tools and joining components. *What will you need? What materials will work well for this? How much do you need? What else can you use?* • Provide opportunities to create different labels or logos for the vehicle; • Discuss the order in which the children will do things. • Encourage the children to evaluate against their design criteria.	• 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 appropriate graphics package	Can the children: • apply what they have learnt through IDEAs and FPTs in their designing and making; • develop ideas for making a model vehicle which has a purpose, and 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; • finish the vehicle with a label or logo; • evaluate their finished vehicle, recording how it works and matches the original ideas?