Year : 2	Term : 3	Topic : Nursery Rhymes	
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 a winding mechanism has an axle that turns and a handle • to observe carefully what happens when such a mechanism works • ***List*** attributes or features of existing products (**Progression in Design Skills R5)** • to make simple drawings to show how the mechanism works • begin to use drawings that are roughly in proportion (**Progression in Design Skills DR2)**	• Show toys with winding mechanisms and/or construct a simple winding mechanism using a construction kit. Discuss what the winding mechanism does and how it works. *What might you need to wind up?* • Investigate winding mechanisms in different ways using a selection of construction kits. *How did they construct the winding mechanism? How did they attach the axle so it moves? How can they turn the axle?* • Draw a toy and label the different parts of the mechanism.	• Toys that use winding mechanisms • Paper for drawing	Can children: • explain that a winding mechanism has an axle that turns and a handle; • observe carefully what happens when such a mechanism works; • make simple drawings to show how the mechanism works; • begin to use drawings that are roughly in proportion?
Focused Practical Tasks (FPTs)			
Children will learn: • techniques for making winding mechanisms • to use tools accurately and safely • to investigate and evaluate ways of making characters for the toy	• Remind them of techniques for holding axles to enable them to turn *eg punching holes in the side of a box, using clothes pegs or triangular pieces of card with holes punched.* Demonstrate the techniques and discuss possible difficulties *eg what happens when the axles are not parallel.* • Show how to cut, fix and use appropriate amounts of masking tape, or plastic tubing, to secure the cotton reels on the axle if there is a loose fit. • Practise using specific tools and equipment *eg how to use a hacksaw and bench hook to cut doweling.* • Have a winding race, contestants use different drum sizes eg matchstick, pencil or dowel, cotton reel, cardboard cylinder cases, plastic bottle… After the race, discuss the importance of the size of the drum on a 'winder'. The bigger the drum the faster it winds up for a given winding speed.	• Card • Clothes pegs • Doweling • Cardboard boxes • Cotton reels • Masking tape or plastic tubing • Matchsticks • Pencils • Cylinder cases (eg Pringles tube) • String • Lolly sticks for handles • Glue, pipe-cleaners, • Scissors, snips, hole punch,hacksaw, bench hook, stapler • Stopwatch	Can children: • make winding mechanisms; • use tools accurately and safely; • investigate and evaluate ways of making characters for the toy?

Year : 2	Term : 3	Topic : Nursery Rhymes	
Learning Objectives (What will the children learn?)	**Class Activities** (What will the children do?)	**Resources** (What will I need?)	**Assessment** **(opportunities)**
• ***Design and Make Assignment (DMA)***			
Children will learn: • to identify criteria for their design • to listen to and offer any ideas (**Progression in Design Skills GI1)** • to talk about what they are making as they are working, using the language of trial and error (**Progression in Design Skills P1)** • to select tools and materials and use correct vocabulary to name and describe them • to assemble, join and combine materials to make a winding mechanism • to understand the need for a stable structure to support a mechanism • to evaluate against design criteria • use a trial and error approach to making their design and say what they think about what they have made (**Progression in Design Skills E1)**	• Read a nursery rhyme *eg 'Hickory, Dickory Dock', 'Incy Wincy Spider'.* • Give children the following basic design brief: *design and make a toy that must:* ➢ *show the mouse in 'Hickory Dickory Dock' or 'Incy Wincy Spider'* ➢ *allow the mouse or spider to move up and down;* ➢ *be easy to use;* ➢ *have a handle;* ➢ *have a good finish.* • Ask the children to think carefully about their ideas. *Which winding mechanisms would be most suitable for your toy? How will you construct the spider or mouse? How will you make the sun and rain? How will you make it strong enough for people to use?* Discuss other design criteria. • Collect their materials and list the tools that they think they will use. • Encourage them to make well-constructed structures. *How is it going to move? How will you join the pieces so that it can move? How could you make it stronger? Where are the weak points? How could you reinforce them? Are there different ways of making this? Which would give the best results?* • Discuss what they have done and evaluate how well the toy works in relation to their design criteria.	In addition to those listed above: picture book showing 'Hickory Dickory Dock' or 'Incy Wincy Spider' materials for finishing *eg coloured papers and card, fabric, felt-tip pens, paint* A simple graphics package can be use effectively to produce particular characters or images.	Can children: • identify criteria for their design; • listen to and offer any ideas; • talk about what they are making as they are working, using the language of trial and error • select tools and materials and use correct vocabulary to name and describe them; • assemble, join and combine materials to make a winding mechanism; • understand the need for a stable structure to support a mechanism; • evaluate against design criteria • use a trial and error approach to making their design and say what they think about what they have made?