What I should already know - How to build structures such as windmills and chairs, exploring how they can be made stronger, stiffer and more stable. Recognise areas of weakness through trial and error. How to develop KS1 exploration skills, through more complex builds such as pavilion and bridge designs. Understand material selection and learn methods to reinforce structures.

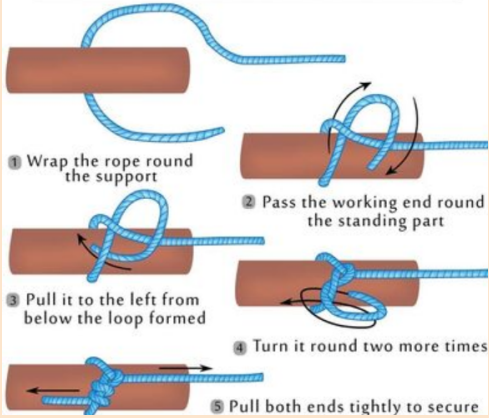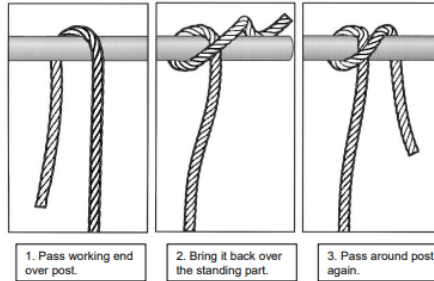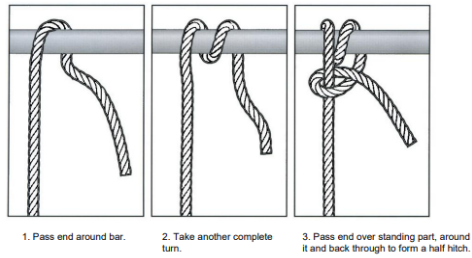| Enquiry Questions	Key Vocabulary	Pupils will:
Can I create a design for new forest school equipment? Can I make a prototype of my design? Which knots are suitable for securing wooden poles of varying sizes? Can I join materials to make a full scale piece of forest school equipment?	Adapt -To change or alter something to fit a given purpose, or to improve it. Annotate - To add notes which explain a plan or design. Cladding - a covering of tiles, wooden boards, or other material that is fixed to the outside of a building to protect it against bad weather or to make it look more attractive. Design criteria - the precise goals that a project must achieve in order to be successful. Footprint plan - Forest school - an outdoor environment where children can explore the natural environment and learn in it. Knot - A join made by tying two pieces of string or rope together. Prototype - Silver Birch - a tree with a greyish-white trunk and branches. Target audience - A particular group of people who the product is aimed at. Target customer - A particular type of person who the product is aimed at. Weave - to make by interlacing twigs, straw, rush, wicker, etc Willow - a tree or bush that has narrow leaves. The long twigs of willows bend easily and are used in weaving baskets and making furniture.	**Design** play equipment for our forest school area which features a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs. **Make** Build a range of structures drawing upon new and prior knowledge. Measure, mark and saw wood to create a range of structures. Use knots to secure wooden poles in place. **Evaluate** Improve a design plan based on peer evaluation. Test and adapt a design to improve it as it is developed. **Technical Knowledge** To know that structures can be strengthened by manipulating materials and shapes. To understand what a 'footprint plan' is. • To understand that in the real world, design , can impact users in positive and negative ways. • To know that a prototype is a cheap model to test a design idea.

Knots needed for securing timber
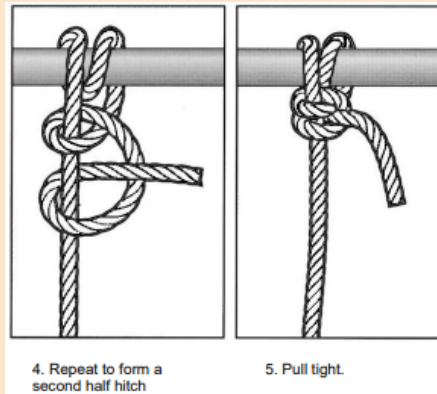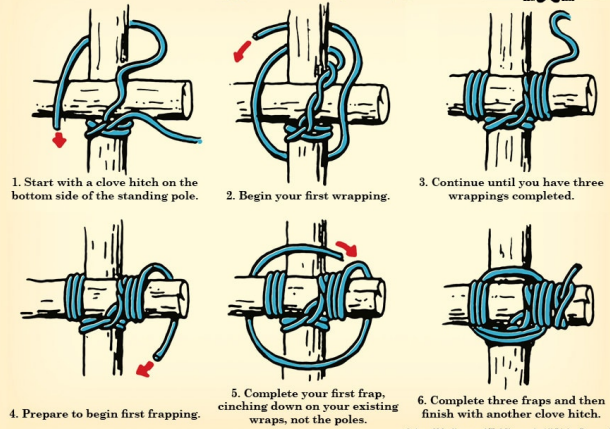
How to Tie a Timber Hitch

1. Wrap the rope round the support
2. Pass the working end round the standing part
3. Pull it to the left from below the loop formed
4. Turn it round two more times
5. Pull both ends tightly to secure

SQUARE LASHING

The Art of MANLINESS

1. Start with a clove hitch on the bottom side of the standing pole.
2. Begin your first wrapping.
3. Continue until you have three wrappings completed.
4. Prepare to begin first frapping.
5. Complete your first frap, cinching down on your existing wraps, not the poles.
6. Complete three fraps and then finish with another clove hitch.

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The Clove Hitch

1. Pass working end over post.
2. Bring it back over the standing part.
3. Pass around post again.

The Round Turn & Two Half Hitches

1. Pass end around bar.
2. Take another complete turn.
3. Pass end over standing part, around it and back through to form a half hitch.
4. Repeat to form a second half hitch
5. Pull tight.

Links to other areas of the Curriculum: Forest School/PSHE - working together