

## Structures 2024-2025

	<b>Evaluate</b>	<b>Project/Make</b>	<b>Skills</b>	<b>Knowledge</b>
<b>Nursery</b>	Discussion about own homes	Homes and houses for people and animals	Explore and build with the construction sets. Able to talk about what they are making and how they are making it.	Begin to build with an outcome in mind. Begin to know that some ways of placing bricks and blocks are more stable than others. Can push and pull apart construction pieces such as Duplo. Know and use words including: stack, build, attach, make, join.
<b>Reception</b>	Look at different bridges, focussing on Tower Bridge. Look at videos of bridges opening.	A bridge to take the goats across the river.	Try out joining materials in different ways. Make a simple hinge. Cut/rip masking tape/sellotape. Investigate making the bridge strong. Draw finished bridge. Place and balance when building with construction sets.	Understand that tools must be used in the correct way and safely. Understand that bridges need to be strong. Know that supports make the bridge stronger. Know some bridges have moving parts. Know what is meant by a hinge. Know and use technical language: fold, stick, hinge, cut, join, strong/weak. Choose suitable bricks from the construction set. Choose suitable material from the junk-modelling box.
<b>Y1</b>				
<b>Y2</b>	Research animal-carrier/look at relevant free-standing structures. Draw/photograph the structures and label using taught technical vocabulary.	Carrier to take a bird to the vets.	Design product on squared paper using a ruler. Label design to show what it will look like. Use the design to help make the carrier. Create joints. Join materials together. Learn how to use triangle supporters to make something solid.	Understanding of 2D and 3D shapes. Build upon taught technical language and know words including: structure, free-standing structure, assemble, stiffen, stable, design, evaluate, function. Know how to make a freestanding structure stronger, stiffer and more stable. Know that shapes/structures with wide, flat bases or legs are the most stable. Choose suitable materials (cardboard/recycled materials).
<b>Y3</b>				

<b>Y4</b>	Different shell structures, identifying parts of a net.	Box for a present.	Use CAD to assist in the creation of the net. Use a ruler to measure accurately. Explore ways of embellishing the appearance of the box.	Know how to construct a strong shell structure. Know the purpose of the shell structure. Use knowledge of nets of cubes. Know that computer programmes can be used to aid design. Build upon taught technical language and know words including: shell structure, net, cube, marking out, tabs. Know about Charles Babbage, the “Father of the computer”.
<b>Y5</b>				
<b>Y6</b>	Types of frame structures which provide shelter.	Model shelter to serve as a meeting place at a Beech Road Park.	Explore ways of reinforcing and strengthening. Design using CAD. Produce a step by step plan. Accurately join framework materials. Use a hacksaw to cut doweling.	Build upon knowledge of using CAD to plan/design. Design with the local environment in mind. Know how to use a hacksaw safely and effectively to cut doweling. Know how to construct a strong frame structure. Understand that using triangulation adds strength to a structure. Build upon taught technical language and know words including: frame structure, reinforce, triangulation, design specification, scale model, annotated sketch. Know about Frank Lloyd Wright and his ‘organic architecture’.