

Year 4 Term 1

Are there moments in history that are more important than others?

DT - Structures



National Curriculum Links:

Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.

Essential Prior Learning:

Experience of using different joining, cutting and finishing techniques with paper and card. A basic understanding of 2D and 3D shapes in mathematics and the physical properties and everyday uses of materials in science. Children have cut dowling to size when creating a fire wagon. Children will have looked at the suitability of materials in science, according to their properties.

Progression in Skill:

Use pictures of Anglo-Saxon settlements to design innovative, functional and appealing model settlements that are fit for purpose and create design criteria e.g. how the individual buildings will be stable, how the corners will be reinforced.

Select from and use a range of materials and components; dowling, lolly sticks, match sticks, balsa wood, corrugated card, thin card, straw/reed coloured wool or yarn, art straws, clay for daub, pliable twigs for wattle, thick card or pieces of wood for bases.

Safely use tools including hacksaws, scissors and ruler.

Investigate and analyse a range of Anglo-Saxon settlements by creating prototypes from cardboard boxes.

Long-term Memory Knowledge:

Understand how to design structures that are fit for purpose, drawing inspiration from historical Anglo-Saxon settlements.

Know some of the techniques that can be used to make a model stable.

Choose the most appropriate materials from a given range from which to construct a model, based on the design criteria.

Understand the importance of measuring accurately and cutting precisely to ensure structural integrity.

Begin to evaluate and improve designs based on how well they meet the design criteria and reflect historical accuracy.

Demonstrate how to use cutting tools safely.

Create prototypes in order to make judgements about what will and won't work.

Appreciate how design and materials were influenced by the environment and available resources in Anglo-Saxon times.

Key Vocabulary

3D	an object that has three dimensions, height, width and length
shell structure	a hollow structure made from a thin outer layer

adhesive	a substance used for sticking or gluing materials together
joining	to join two or more materials together
assemble	to fit together the separate parts or components of a structure
prototype	a first/preliminary version of a product from which other forms are developed

Progression in Resources:

Wood in the form of, e.g. dowelling, lolly sticks, match sticks
Thin card
Glue guns
Straw/reed-coloured wool or yarn or grass
Pliable twigs to use as 'wattle'
Thick card or pieces of wood to use as base for each group's building
Tools including hacksaw, scissors, ruler

Relevance

Now	Children learn techniques for building strong and stable structures, meaning they are proud of their designs and have confidence to experiment.
Future	Children are able to carry out basic repairs at home, choosing the most appropriate tools and materials to ensure joins are strong.
Aspiration	Children choose to become architects or designers; they have the vision to view a property with the view to renovating it.