# Year 3 Autumn & Spring 1 Design and Technology



# **Stone and Iron Age Forts**

Design, make and evaluate a model stone and iron age fort

Working towards ...children making their own 3D shape modelling a stone and iron age hut. Children make prototypes of 3D shapes, in particular cylinders and cones (used to make the forts) Children combine their models to create a stone/iron age village

Links to history topic— stone and iron age

#### Prior Learning (skills and knowledge)

Previously, Chn have ...

- Experience of using different cutting, joining and finishing techniques using paper and card
- Made 3D shapes before and used nets

They have learnt about...

 Basic understanding of 2D and 3D shapes in maths and how 3D shapes are constructed

#### Links to other curriculum areas

- Maths—knowledge of 2D and 3D shapes, and how to make 3D shapes using 2D shapes.
- Art and Design—Graphic techniques, rendering, using markers and adding decoration to card.
- Links to Egypt topic, designing a box of pyramid, Egyptian themed chocolates

# **Essential skills**

This time Chn will ...

- Make prototype 3D shapes using 2D shapes, finding their own way to construct and build these
- Cut and roll net shapes to build cones and cylinders
- Attach tabs onto net shapes to join parts together
- Decorate forts and use decorative techniques, paper, collage, 3D modelling
- Cut and fold card nets to make 3D shapes
- Join using tabs
- Work as a team to build hill fort village creating a layout and landscape for their model village

#### **Key content**

- <u>Practice 3D shapes</u>— Children given range of flat shapes (squares, rectangles, triangles & circles) Discuss with children using flat shapes to make cylinder, cone, cube, cuboid, triangular prism, pyramids—do not show children, they must figure it out and make prototypes of 3D shapes with a partner. Class discussion about how to build each shape and drawing net shapes in books with written description.
- <u>Prototype Forts</u>—Children cut out nets for making forts—cylinders and cones. Discuss how to join sides and pieces together. Discuss how to join to a base or to join roof and walls together. Introduce tabs. Children re-draw nets including tabs. Show children examples of forts and discuss other ways to strengthen and support forts (roof struts, beams, etc...)
- <u>Make Forts</u>—Children use different materials, cardboards etc... to construct their own forts. Remind children of net shapes they need to make cylinder and cone shapes and remind them to include tabs.
- <u>Decorate forts</u>—Children use materials to decorate their forts, showing stone walls and thatched roof. Children use stone patterned paper, paint and paint effects, wooden sticks, paper straws, hay, etc... to add decoration.
- <u>Make hill fort village</u>—Children work together to create village, adding their individual forts to a village, children decorate village adding grass, trees, river, bridge, fence, etc...
- <u>Evaluation</u>—children comment on what they have learned this unit, what skill they were very good at and why and also what they would want to do better. Children also comment on how they feel about their final outcome and discuss their thoughts with others

# Key vocabulary to be taught/embedded

Shell structure, three-dimensional (3D) shape, two-dimensional (2D) shape, net, tabs, cylinder, cone, cube, cuboid, triangular prism, triangular based pyramid, square based pyramid, edge, face, side, corner, length, width, height, marking out, transfer, scoring, shaping, joining, assembly, disassemble, accuracy, stiff, strong, roof, walls, door, window, base, foundations, wood, thatched roof, straw,

# **Linked texts**

- 3D shapes: 25 My path to Math
- Life and Death in an Iron Age Hill Fort
- Hill Forts: Discover Stone, Bronze and Iron Age Britain