Ashtree Primary School and Nursery Medium Term Plan for DT

EYFS - Reception – Construction/shelters

Key Vocabulary

Structure, construct, shelter, base, thicker, thinker, 2D, 3D, cube, cuboid, triangular prism, circles, rectangles, triangles, sides, corners, straight, flat round, Make: join, cut, equipment, materials, design: plan, purpose Evaluate: strong, weak.

Key Knowledge

Understanding of structures: Initially, children will be exploring and experimenting with different construction materials and developing their fine motor skills to manipulate and handle them. As they progress, they will start to construct simple structures such as towers and bridges, and eventually move on to more complex structures that require planning and problem-solving.

Knowledge of construction tools and equipment: Children will begin by selecting and using simple construction materials such as blocks and connectors, before moving on to more complex materials such as wooden blocks and construction sets.

Understanding of mathematical concepts: Children will start by exploring mathematical concepts such as shape, size, and weight through construction activities. They will progress to using more advanced mathematical concepts such as measurement, simple symmetry, and balance to construct and build.

Communication and collaboration: Initially, children will be working independently or in parallel play, but they will begin to collaborate with others to plan and construct structures. They will be learning to communicate their ideas and to listen and respond to others.

Creativity and imagination: Children will start by copying or imitating structures they have seen, but they will begin to develop their own ideas and designs for constructing and building. They will be encouraged to use their creativity and imagination to construct and build more complex and sophisticated structures.

Key Skills

Physical Development

- Develop their small motor skills so that they can use a range of tools competently, safely and confidently.
- Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor.

Expressive Arts and Design

- Return to and build on their previous learning, refining ideas and developing their ability to represent them.
- Create collaboratively, sharing ideas, resources and skills.

Mathematics

- Select, rotate and manipulate shapes to develop spatial reasoning skills
- Compose and decompose shapes so that children recognise a shape can have shapes within it.

PSED

- Show resilience and perseverance in the face of challenge.

Communication and Language

- Learn new vocabulary

ELG

Expressive Arts and Design

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
  Share their creations, explaining the process they have used.

Physical development

- Use a range of small tools, including scissors

Curriculum Enhancements

Building Blocks: Provide a range of building blocks of different shapes, sizes, and materials to enable children to explore and construct different structures. Encourage children to use mathematical language to describe their constructions, such as "tall," "short," "wide," "narrow," "heavy," and "light."

Construction Sets: Provide a range of construction sets, such as wooden blocks, Duplo, Lego, K'NEX, and other building sets. These sets can help children to develop their fine motor skills, hand-eye coordination, and problem-solving skills as they construct different structures and models.

Junk Modelling: Encourage children to bring in recycled materials from home, such as cardboard boxes, plastic bottles, and tubes, to use in their constructions. Provide tools such as scissors, tape, and glue for children to manipulate and join the materials together.

Small World Construction: Provide a range of small world construction materials, such as vehicles, people, and buildings, to enable children to construct their own towns and cities. This activity can help children to develop their imaginative play skills and their understanding of the built environment.

Outdoor Construction: Provide a range of large-scale construction materials, such as planks, poles, and crates, for children to use in outdoor construction activities. This activity can help children to develop their gross motor skills, coordination, and team working skills as they work together to construct large-scale structures.

Construction Challenges: Set construction challenges for children to complete individually or in small groups, such as building the tallest tower or the strongest bridge. This activity can help children to develop their problem-solving skills, resilience, and persistence.

Design and Planning: Encourage children to plan and design their constructions before they start building. This activity can help children to develop their creativity, imagination, and planning skills

Possible Misconceptions

Structures can be built without any planning or design: Children may think that they can build structures without any planning or design, simply by putting materials together. However, they need to understand that planning and designing are important steps in the construction process.

Structures can be built without any support: Children may think that structures can stand on their own without any support or consideration for balance and stability. They need to understand that structures need to be built carefully, with consideration for balance and stability.

Any material can be used for construction: Children may think that any material can be used for construction, regardless of its properties or suitability. They need to understand that different materials have different properties and that some materials are more suitable for construction than others.

Construction is just about building structures: Children may think that construction is just about building structures and that there is no creativity or imagination involved. They need to understand that construction can involve creativity, imagination, planning, and design.

Construction is just for boys: Children may think that construction is just for boys and that girls cannot participate. They need to understand that construction is a gender-neutral activity and that everyone can participate and enjoy it.

Questions

What materials can we use to build a shelter? (ELG: Children should know about the properties of different materials and how they can be used for construction)
Why do we need to plan and design our shelters before we build them? (ELG: Children should understand the importance of planning and designing in the construction process)
How can we make our shelters strong and stable? (ELG: Children should know about balance and stability in construction)
What types of shelters do different animals use? (ELG: Children should develop knowledge and understanding of the natural world, including animal habitats and structures)
How can we make our shelters weather-resistant? (ELG: Children should know about different weather conditions and how they can affect structures)
Can you think of a time when you used a shelter, and why did you need it? (ELG: Children should develop personal experiences and understanding of the use of shelters)
How can we work together to build a shelter? (ELG: Children should develop collaborative skills and teamwork in construction)
How can we make our shelter more comfortable? (ELG: Children should understand how shelters can provide comfort and protection

This wiill lead to . . .

As reception children progress to Year 1, they should be able to apply and build upon their existing skills and knowledge in construction and design. They should be able to:

Generate more complex ideas based on design criteria and their experiences.
Develop and communicate their ideas using a range of methods, such as sketching, labelling, and simple written explanations.
Explore a wider range of existing freestanding structures, including those outside of the school environment. Evaluate their products more thoroughly, considering factors such as aesthetics, durability, and user needs.
Use a wider range of materials and tools to create models, and apply more advanced finishing techniques. Make more complex structures. Understand more advanced concepts related to stability, such as the importance of weight distribution etc Use a wider range of joining techniques.