

# How do you build things like my classroom?



What are materials? Materials are important as they help us to make everyday objects.

During this Design and Technology based project, the children will explore everyday materials such as glass, wood, metal, stone, brick and plastic and will begin to understand why different materials are used for different purposes. The children will focus on a material a week, exploring the properties, origin and function of each before collecting all of this information in a booklet. Following practical, hands-on project sessions, the children will record their knowledge and findings in a booklet which they can refer to later in the project.

The children will explore and learn how to identify and describe materials using project related vocabulary such as hard or soft; stretchy or stiff; rough or smooth; opaque or transparent; bendy or rigid and waterproof or not waterproof. They will scientifically test properties of materials and will learn that the properties of a material determine its use or function, and will be able to select appropriate materials for a specific design. For instance, they will choose a waterproof material to build a roof with, and will be able to explain why they have done so.



What would I use to build a house?

Why would stone be better than plastic?

What are the windows made from and why?

By asking scientific questions and through class discussion, the children will begin to understand why specific parts of buildings are made from different materials. They will begin to understand how these materials are fitted and connected safely and securely in order to provide a solid and safe structure to be in. They will understand how materials can be cut and shaped and will explore how materials are joined and secured.

There will be lots of opportunity to work with these materials and to become familiar with the processes that are needed to shape and join. Under close supervision, the children will be able to practise these skills in the continuous provision, supporting their motor development as well as enabling them to practise fixing, joining and cutting various materials.



Towards the end of the project, the children will plan, design and make a working structure of their own, selecting appropriate materials for the purpose, and using saws, hammers, nails, screwdrivers, nuts, bolts and glue to complete their design. The booklet that the children will have built up over the course of the project will help inform their decision-making process in deciding which materials to use for each component of their design, and the children will have the opportunity to demonstrate what they have learned by applying their project knowledge and skills when designing and constructing their structure. What will they tell us about what they have used and why?



As always, we will immerse the children in the project's theme, and the environment will inspire the children's imagination as they extend their knowledge and thinking in the workshop. The workshop will be equipped with different materials and tools, encouraging the children to test their understanding of materials and their properties.

In the book corner there will be a range of fiction and non-fiction books as well as our project stories:



Through the project stories and our project sessions, the children will learn the following project-related vocabulary:

Nouns: stone, metal, plastic, glass, wood, brick, hammer, nails, screwdriver

Verbs: to make, to design, to plan, to change, to hammer, to join, to shape, to mould, to build, to bend

Adjectives: hard, soft, rigid, stiff, bendy, rough, smooth, opaque, transparent,

Prepositions: in, on top, next to, inside, between

Alongside Maths, Reading and Project Work, there will be continued opportunity for extra-curricular activities such as Music Therapy, yoga, PE and Dance. Collaborative sessions with Bats 1 and 3 will also still happen on Friday afternoons, providing the children with the opportunity to develop their relationships with their wider Resource Base peers.

By the end of the project children will be able to identify and name a range of materials, as well as describe their properties. They will be able to name some of the ways in which the material can be used and will be able to specify why it's suited to that purpose. They will have built a working structure, using their project knowledge and skills to inform their design and rationale.

## HOME LEARNING

At home you could support your child with this new project by:

Providing a range of resources and challenging your child to build a structure using the resources. Set challenges such as 'How high can you build a tower?' or 'Which materials make the strongest bridge?'

Taking photographs of structures that your children have made at home and by sharing them with the class teacher so that they can be celebrated in class. Encourage your child to talk about their designs and to describe the materials' properties.

Resources you could use: lollipop sticks, paper, pasta, toilet rolls, cereal boxes, foil, sticky tape, glue, scissors. Are these materials bendy? Waterproof? Soft? Transparent?

Taking a look around your home. Can your child identify some of the materials we have been exploring at school? Talk to your child about why this material has been chosen and how it's properties have made it a good choice for the purpose.

Going for a walk and looking outside. Can your child identify what structures are made from wood, plastic, glass, metal? eg. guttering, tiles, greenhouses, doors.

Encouraging your child to build a den inside or outside and by questioning or probing them with conversation about how it can be made stronger, stiffer or more stable.

Visiting an area where you know new houses are being built and by talking about the different stages of building. Encourage questions about the materials chosen and why.

Visiting the New Art Centre near Salisbury with its fantastic sculptures made from different materials <https://www.sculpture.uk.com/>

