Design Technology Year 5 Outdoor Learning Structures Summer Term

Prior Learning: Children will have: *Learned about reinforcement. Be able to create 3d structures from 2D shapes. Learned ways to join materials.*

What is an Outdoor Learning Structure?

Outdoor classrooms represent an excellent opportunity for schools and other educational establishments to do something creative and interesting with their outdoor spaces. Outdoor learning has also become a fundamental part of a school's education programme. An outdoor learning structure is a place where children can learn come rain or shine.

1. TWAL: about the functional and appealing features of different outdoor learning structures.

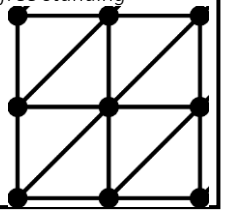
We will investigate and make annotated drawings of a range of portable and permanent frame structures We will answer questions such as How well does the frame structure meet users' needs and purposes? Why were materials chosen? What methods of construction have been used? How has the framework been strengthened, reinforced and stiffened?

2. TWAL: methods of reinforcing structures.

We will recap what we have learned about reinforcement and practise making free standing sturctures, We will use tubes and masking tape or paper straws with pipe cleaners to build 3-D frameworks such as cubes, cuboids and pyramids. We will question- How could each of the frameworks be reinforced and strengthened?

sticky knowledge

Triangles are a strong shape and make a sturdier structure than a square



3. TWAL: to plan and design a prototype of an outdoor learning structure.

We will design our outdoor learning space, ensuring we consider how it fits our brief, how we will reinforce it, and the materials we want to use. We will draw and label a diagram from different perspectives.

4. TWAL: To create a prototype of our final design to see if it is accurate.

In the last session we planned out our learning structure. In this session, we will use paper straws and masking tape to create a prototype of our final design. We will use this to consider how likely our design is to work, and make any potential adjustments we need to make before our final project.

sticky knowledge

A prototype is 3d model which is used as a test to see what improvements need to be made.

5. TWAL: To create an outdoor learning structure to fit a specific design brief.

For our final design we will be using wood, so we will recap how to safely use wood working equipment. We will identify the type of equipment we will need to use for safety. We will use a ruler to measure our our pieces accurately.

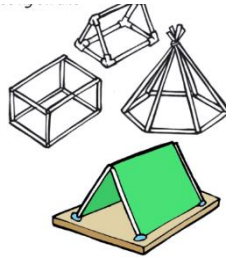
sticky knowledge

A vice is used to hold wood in place as you cut it.

6. TWAL: to evaluate my outdoor learning structures.

Once we have finished our final project, we will go back to our original brief and evaluate whether our design was fit for purpose. We will test the strength of the product to see whether it has been reinforced enough.

We will consider what we would change if we were to remake the structure.



Words we will know!