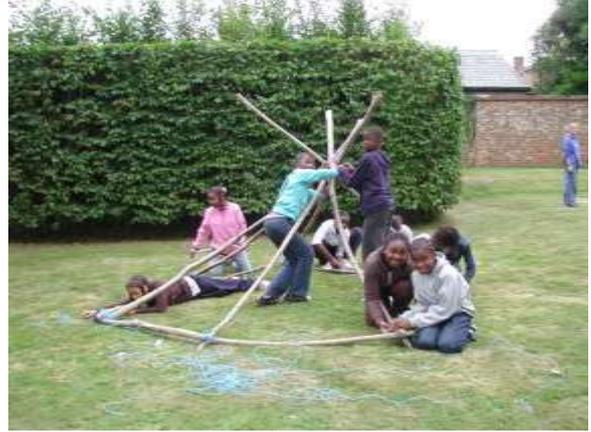


# Shelter-building

**Max group size: 14 (7 per team)**

**Time: Up to 1 hour**

**Location: Front lawn**



## Summary

Pupils work together to compete against another team to design and construct a free-standing shelter using a set of given materials (wooden poles, string, tarpaulin). Points are awarded for design and/or teamwork.

It is at the discretion of **teachers** whether to allow groups to use other fixed features available eg walls, trees, but they should not dig holes in the ground. The shelter must be large enough for everyone to fit inside, either standing or sitting. It is tested for water proofness using a watering can! At the end of the session it must be deconstructed and left neatly without needing scissors to cut the string... This element can be included in the overall points awarded. Teachers' role should be as observers and to ensure safety, rather than helping to achieve the final result, but if a group is struggling they can 'buy' assistance by spending one of their points.

Ask the team to evaluate their own shelter. What could be improved? How well did they work as a team?

If time, ask each team to evaluate the other group's shelter, considering function and aesthetics.

## LEARNING OUTCOMES

**Design Technology – Unit 6A Shelters, Working with materials;**

**PSHE – Developing confidence, Developing a healthy, safer lifestyle; good relationships;**

**ESD – What do we NEED to survive, rather than what do we WANT**

**MATHS - Forces.**

### Key Teaching Points

1. Sturdy free-standing frames can be 'A' frame or a tepee-style structure.
2. A structure can become unstable when a load is applied.
3. Opposing forces can stabilise a structure.
4. Extend the activity by considering sustainable development. How did tribal and nomadic people live within their means? What other factors must be considered when making a shelter? Develop imaginative role play by acting as a tribe – how would groups interact with each other? Sharing skills and knowledge – or by competing for resources with aggression?

### \* Risks

**HEAVY POLES - 2 children must hold the ends of large poles to avoid hitting anyone.**

**Follow up work:**

- Observe and compare other structures around Kench Hill or on local walks eg play equipment, barns.
- Draw the completed design or shelter, evaluate it and suggest improvements
- Make a model of a shelter. Write instructions on how to build it.

## Objectives

**At the end of the session:**

**ALL children will:**

- have worked with other team members to make a structure
- experience that some designs fail when a load is applied
- apply knowledge to a problem-solving task
- have followed verbal instructions from their peers
- be aware of risks involved in using bulky materials and how to do so safely
- realise that some tasks are better when done in collaboration

**SOME children will:**

- have learnt to develop a clear idea of what has to be done, and how to communicate this
- have taken a lead role in organising their team to achieve the task
- solve problems of how to reinforce and strengthen their shelter

**A FEW children will:**

- suggest alternative methods of construction if a first attempt fails
- motivate other members of their group to complete the task

**Links with:**

**Bread-making** History of settlements and agriculture

**Clay play or woodwork** History, DT. Make a model shelter, explore materials used in the past.

**Team games – Water Game –** Survival in developing countries

<b>Resources used:</b> Wooden poles Tarpaulin Binding twine Watering can	<b>Inclusion:</b> Open to all	<b>Pre-visit preparation:</b> None essential.	<b>Teacher participation:</b> Centre teacher to set up, introduce and/or show visiting staff how to run the session. Visiting staff to supervise and award points.
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