

# Year 6: D&T Structures and Mechanisms

## How can we meet a child's right to a safe place to live in emergency situations?

### Situation

An increasing number of people around the world are finding themselves homeless due to extreme weather, natural disasters, unemployment, war and conflict, rising populations and poverty.

### Trevor Baylis



Trevor Baylis is well known for his invention of the wind-up radio. He came up with the idea whilst watching a TV programme about AIDS in Africa. Trevor designed his radio to be suitable for everyone, even those without electricity.

### Design Brief

Design, make and evaluate a prototype for a temporary shelter for a small family that would offer safe shelter from a range of elements in an emergency. The shelter must be easy to assemble and withstand a number of climates and adverse weather conditions.

### Shelters



umbrella



wigwam



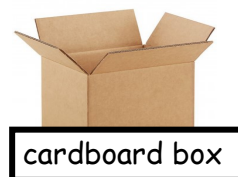
marquee



bus shelter



tent



cardboard box

### Design

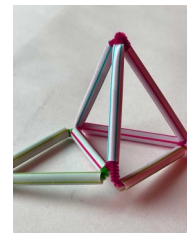
You need to consider:

- appearance/aesthetics - *how will it look?*
- cost - *how much money will you spend?*
- customer - *who is it for?*
- environment - *can it be recycled and what environments can it be used in?*
- size - *how big or small is it?*
- safety - *is it safe to use by everyone?*
- function/purpose - *how does it work?*
- materials - *what resources will you need?*
- manufacture - *how will you make it?*

### Make

What climates and weather conditions can you think of?


What materials and joining techniques could you use?



### Evaluate

Did your final prototype meet the design specification?

### Vocabulary

accommodation	A form of shelter.
adverse	To be harmful.
assemble	To make or put together.
cone	 3D shape with a circular base and a smooth, curved surface.
elements	Earth, wind, fire and water.
emergency	An urgent problem.
extreme weather	Weather that is drastically different to any usual weather patterns.
frame structures	A combination of beam, column and slab to create a strong structure.
homeless	Someone without a home or shelter.
natural disasters	Processes of the Earth causing destruction.
permanent	To last for a long time/forever.
population	How many people live in a certain area.
poverty	When a person or community do not have their basic human rights met.
prism	A 3D shape with two identical parallel faces and a consistent cross section.
temporary	For a short while.
Trevor Baylis	The inventor of the wind-up radio.
unemployment	When someone does not have a job.
war and conflict	A serious disagreement or falling out.
withstand	To resist or fight against a force or pressure.

CRC Article 27: All children have the right to shelter, food and clothing.

