

Extreme weather shelter

Overview

What is extreme weather? What impacts does it have on your community? In this activity, you'll take on the role as an engineer tasked to build a shelter and prepare it against two different types of extreme weather. Are you up for the challenge?



Time required

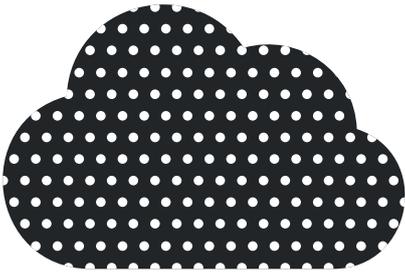
60 minutes



Materials required

- A range of shelter building materials/recycled materials
- Scissors
- Glue
- Extreme weather “simulators” – hose pipe/bucket of water/sponges, fan/hairdryer
- Ruler
- Timer/alarm





Activity Steps

01 Research

What do we mean when we say extreme weather? Watch the video [here](#) to find out more.

Using this [link](#) can you research all the types of extreme weather?. Write down some key facts that you find about each different type of extreme weather mentioned to build up a mini fact file.

Tip

Are there any other extreme weather events not mentioned that you can think of? Add them to your notes to research.

02 Plan your shelter

Congratulations, you've been given the role of an engineer. Using the knowledge you have researched above about extreme weather you have been given the task to build a structure to prepare it against two types of extreme weather. These are heavy rain and strong winds. We need you to build a structure that can withstand the storm!

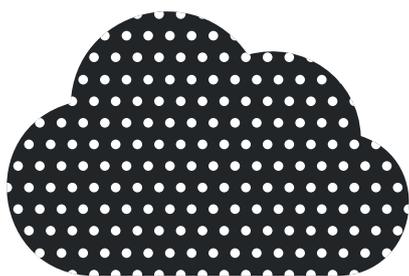
The criteria that you have been given is below:

- the shelter must be able to fit a toy figure in it which must remain dry.
- You have 30 minutes to build your shelter before the extreme weather arrives.
- It must have 4 walls and a roof.
- It must be at least 30cm high and 20cm wide.

Firstly, create a plan on paper with your engineering team or working alone of what you want your shelter to look like and what materials you will use. After you have decided what you want to do, with your plans confer with your family over your design and justify why you are building it this way using the knowledge you have gained from your research.

Tip

To add difficulty to this, discuss how much rain potentially could fall – 2cm to 20cm is a huge difference and your shelter will have to be prepared for this! You will not know until the event is over how much rain has fallen so be prepared for all eventualities.



03 Build your shelter

Using all the materials that you have gathered, including your plans and the criteria, start to build your shelter.

Remember, there's a time limit, set an alarm so that you remember. It is important that you have a shelter prepared for when the storm is due to arrive.

04 Prepare and review

The wind and rain have arrived. Let's see how prepared your shelter is:

Wind

Create wind by turning on a hairdryer or fan and placing it near your shelter. You can then increase the settings depending on how strong you want the winds to be. Experiment with this to see how your shelter copes with different strengths of wind.

Safety

Remember to keep water away from the fan/hairdryer. If unsure, get an adult to help you.

Rain

Using wet sponges, a hosepipe or bucket (depending on how heavy you think the rain will be) see if your structure will withstand the flooding. Test this for 1 minute then assess the damage.

As you are reviewing the damage that has been caused, think about these questions below:

- What worked?
- What may need to change next time?
- Did you feel the time limit helped?
- Can you think of any more extreme weather that you could prepare your shelter for? For example, hail (For this, you could use small pebbles)

If you would like to learn more about past extreme weather events in the UK, you can find out more [here](#).