



# Scrapyard Challenge

The scrapyard challenge is a fun and engaging activity that can be completed individually, in small groups or even with large numbers of children such as a birthday party! Don't worry, this challenge doesn't involve getting filthy and greasy in a scrapyard. However, it is going to take you and your children into a world of invention and ingenuity as you make inventions to help solve real problems.

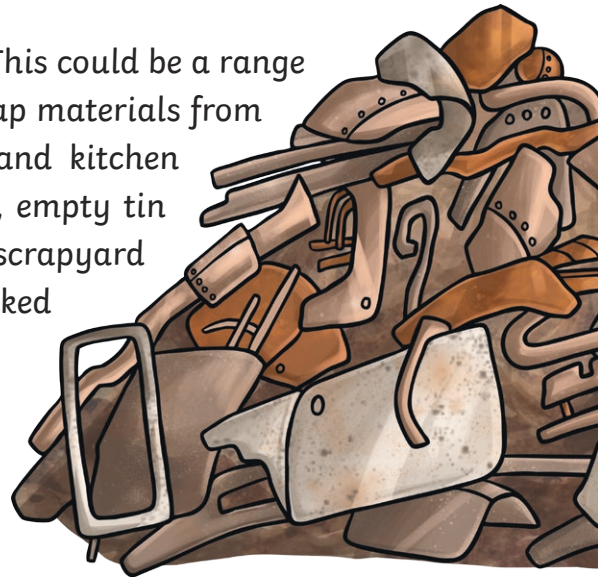
## What Is a Scrapyard Challenge?

This is a challenge where you have to use invention and ingenuity to create a structure or model that solves a real problem. Children (and adults) have to use a range of scrap materials to create a structure or model of your own design and creation – this could be to make a bridge that will support the weight of a baked bean can or design a car that can transport your favourite action figure a short distance.

## What Do I Need?

You will need to create your very own mini scrapyard. This could be a range of materials from your recycling bin and any other scrap materials from around your home (such as cardboard boxes, toilet and kitchen rolls, old newspapers, bits of string, old plastic bottles, empty tin cans, etc.). Just about anything can be placed in your scrapyard as long as it isn't dangerous (make sure items are checked thoroughly for sharp edges, etc.).

You will also need scissors, glue, sticky tape, string... any materials needed to help construct your model. You may also want paints, stickers and glitter to decorate.



## How to Complete a Scrapyard Challenge

First you need to decide on a challenge (please see the suggested list below for ideas and inspiration). The challenge needs to be something that can be tested once the structures have been made, such as building a bridge to support the weight of an object. Once you have decided on the challenge, use materials from your scrapyard to create and make your structure. You may wish to have a prize for everyone who takes part and an extra special one for the winner (this could be a sweet treat, computer console time, a trip to the park or whatever your children would enjoy). After the structure (or structures) have been completed, you have to test them to see if they can complete the challenge (such as testing the bridge to see if it can support a weight).

The scrapyard challenge can be done individually or as a team. You may wish to pit your children against each other or have them work together to try and complete a challenge you have set. This can also be done with large numbers of children and family members by working in teams to try and complete the challenge.

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## Suggested Scrapyard Challenges

### Build a Bridge

The challenge is to build a bridge that can span a gap of at least 20cm and can support a given weight (such as a baked beans can). To test the bridge, place it over a gap of 20cm and place the weight on top to see if it can support it.



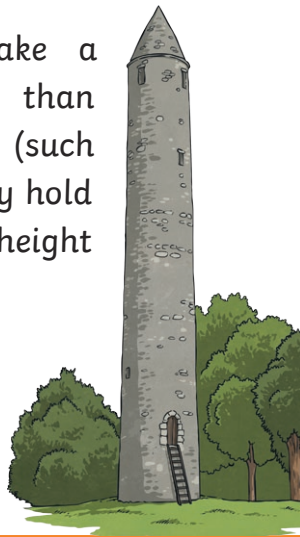
### Make a Vehicle

Children have to make a vehicle that can travel a set distance to transport an object such as a toy or even an egg (which they have to transport without breaking it). To test the vehicle, they can push it to see if it can travel independently over the distance.



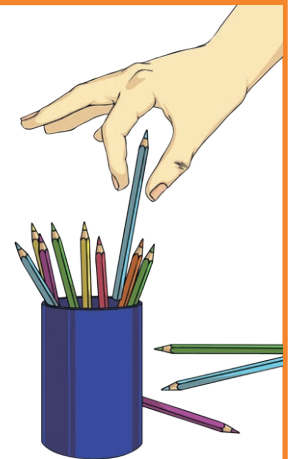
### Make a Tower

Children have to make a tower that is taller than a given height (such as 30cm) and can safely hold an object above that height (such as a tennis ball).



### Make a Desk Tidy

Children have to design a desk tidy that can be used to hold all their pens, pencils, rubbers, rulers, etc. If the desk tidy holds everything in place then they've solved a challenge in addition to helping to tidy up!



### Build a Raft

This is great fun. Your children will have to think of creative ways to ensure their craft is waterproof and doesn't sink. Choose a weight and distance that the raft has to travel. It could be across the washing up bowl, across the bath or a paddling pool. You could also set the challenge to float for a certain amount of time, such as 30 seconds. You may wish for the craft to support a weight or just to float or complete a distance. There are many ways this one can be done, but it is great fun either way!

