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Cub Scouts and Brownies from Startown built their own rafts to race on the Boating Lake yesterday evening. There was fun and laughter as the rafts became overloaded and sank. The competition was abandoned as the last raft disappeared beneath the water.

Natty Nodrum the Brownie pack leader said, "We're not sure what went wrong. Perhaps one of your readers could give us some advice."

Your challenge

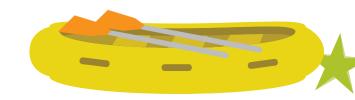
Can you help them to decide the best design for a raft?

You can make models out of paper. What shape of raft will hold the largest number of objects before it sinks? **You can only use one sheet of paper at a time**.



What do you know about rafts? Have you ever made one?

What shapes do you think might make good rafts?





Getting started

You can use sheets of squared or A4 paper to make your models.

You can make the paper into a raft by bending up the sides and folding the corners.

Fasten the corners. Don't cut your paper.

What different shapes and sizes can you make by folding your pieces of paper in different ways?



Put your raft to the test!

See which shape holds the most objects without sinking. What's the best way to add the objects? Which raft do you think will win and why?

You could record your results in a table like this:

	Picture/ description of raft	Maximum number of marbles before sinking
Raft 1		
Raft 2		
Raft 3		

Share your ideas

You could make a model of your best raft to send to Natty Nodrum.

Extra things to do

Would it matter if you use different types of paper?

Could you make the raft without fasteners?

What other materials can you use to make a raft?



