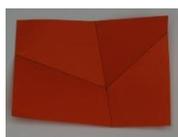


## Easy - Warm up challenge



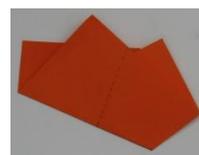
Can you see how it is folded? (Take a look below if you'd like to be shown.)



1. This first image shows the two fold lines, which have been marked in black.



2. This second image was taken after the first fold.



3. And here is the piece of paper after the second fold with a dotted line to show where to cut.

If I cut down the dotted line how many pieces will I get?

With one cut it is easy to produce two separate pieces from a sheet of paper.

However, can you produce three pieces by folding and making one straight cut?

What about four pieces?

Five pieces ... six ... seven?

Can you fold and then make one cut to produce identical pieces?

## Middle - Making you think challenge



Can any shape with straight sides be made by folding a single piece of paper and by making a single complete cut?

Watch the video below to find out more...

<https://youtu.be/N0rgqfNoAwI>

Dr Katie Steckles got into this 'fold and cut' problem by trying to cut a square out of a piece of paper as efficiently as possible. Take a look...

<https://youtu.be/G8SoJ53OJAs>

Why don't you have a go at folding a piece of paper and cutting out a triangle with just one straight cut, as Katie suggests?

Can you create a hexagon in the same way?

What other shapes can you create by folding and making just one straight cut?

## Hard - Reasoning/calculating challenge



**Katie Steckles** @stecks · Jun 11

Waiting for people to arrive at #scicommburrito. Got bored. Cut these out using a single cut. [pic.twitter.com/r2Vs4p3GTF](https://pic.twitter.com/r2Vs4p3GTF)

← Reply ↻ Retweet ★ Favorite

Flag media

Wow! Is it really true that each of those letters was made by folding a piece of paper and then making just one cut?

Take a look at this video to find out more...

<https://youtu.be/gGVcaHmF7rE>

Can you make individual letters to create your name, each letter made by folding and just one cut?