

Art and maker class: Make an easy origami lampshade



Overview

About this class

Create your own origami lampshade to update an existing light at home. In this easy to follow class, you'll learn different paper folding techniques commonly used to make origami homewares.

Materials

You will need these simple materials and tools to complete the project:

- 3 x 160gsm A3 coloured card pieces
- Ruler
- String
- Sticky tape
- Something sharp to score the card, like a skewer or needle
- Hole punch, or if you don't have one you can use the skewer or needle
- Pendant lamp with LED bulb. It is important to only use an LED bulb. Other light bulbs are a fire hazard as they can overheat and burn the paper.

Optional materials

- Cutting mat

If you want to make the lampshade bigger you can use A2 sized card. To make it smaller, use an A4 sized card.

Glossary

Maker terms

Origami

The Japanese art of folding paper into decorative shapes and figures.

GSM (Paper)

The term GSM stands for grams per square meter. The higher the GSM, the thicker or heavier your paper will be.

Landscape orientation

Landscape orientation is wider than it is tall.

Portrait orientation

Portrait orientation is taller than it is wide.

Horizontal

Parallel to the plane of the horizon.

Vertical

At a right angle to a horizontal plane.

Step 1: Selecting your paper

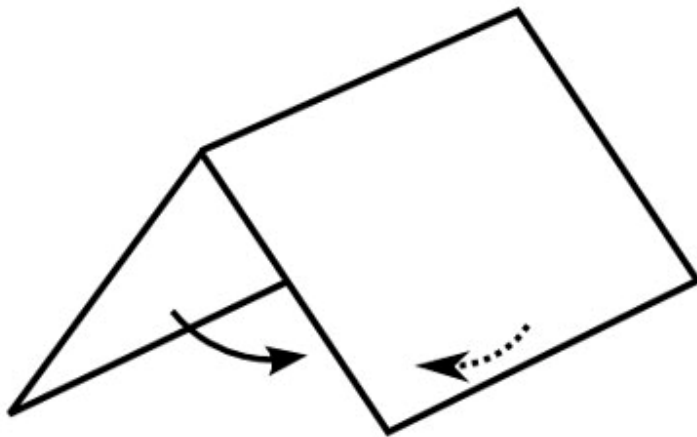
When it comes to choosing your paper or card, a medium thickness is best. If the paper is too thin the lampshade will be floppy. If it's too thick you won't be able to see the light shining through. Paper or card that is approximately 160gsm lets the light through nicely while remaining stiff enough to hold its shape.

You will need three pieces of A3 sized paper to make the lampshade the same size as in this tutorial.

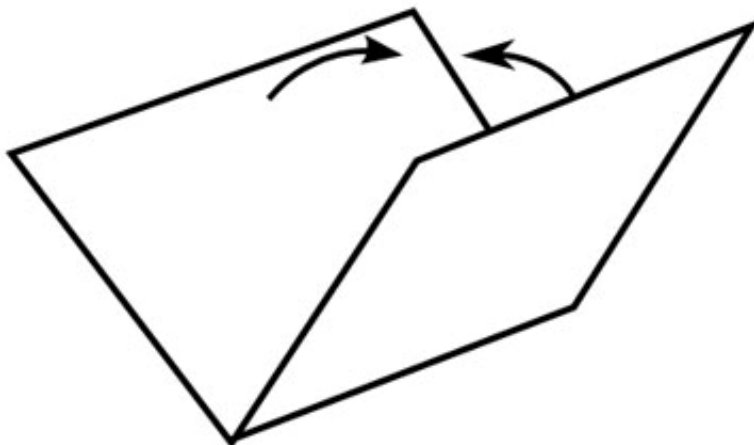
By using A3 pieces of paper or card the lampshade will measure approximately 30-35cm. However, you can always customise the lampshade just by scaling the paper up or down to suit your existing lamp. If you're ambitious you might want to use A2 sized paper to make a larger lampshade.

Step 2: Learning about the types of folds

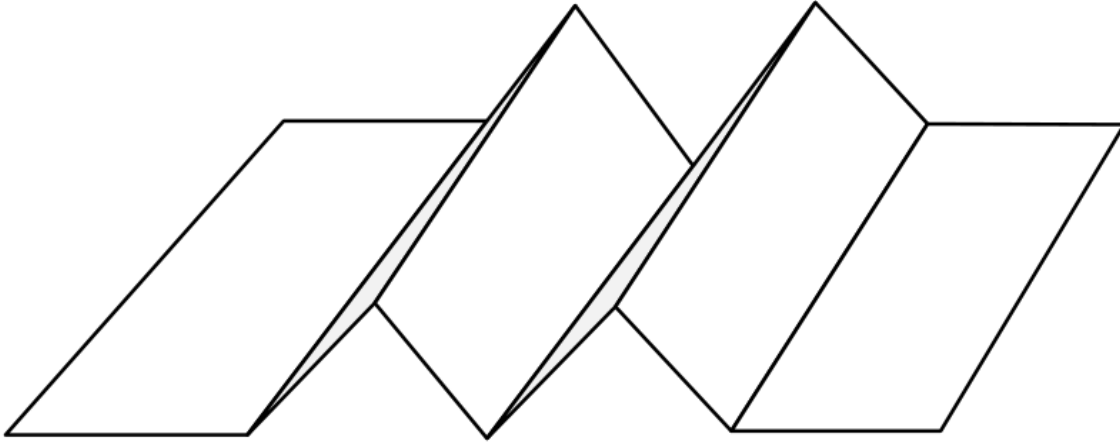
In origami there are two different folds - a mountain fold and a valley fold. A mountain fold is what it sounds like, the fold points upwards out of the paper.



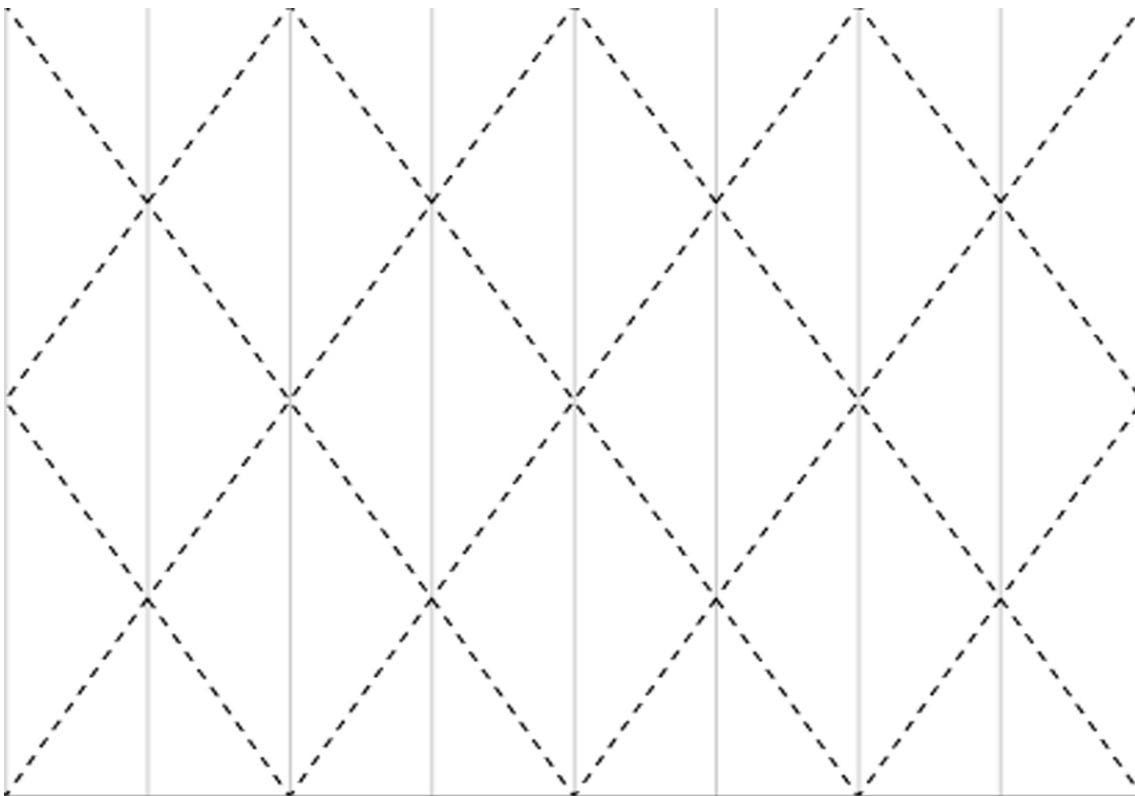
A valley fold is a fold where the fold points downwards, making a valley in the middle.



Using a mountain and valley fold in a line creates a concertina or zigzag fold.

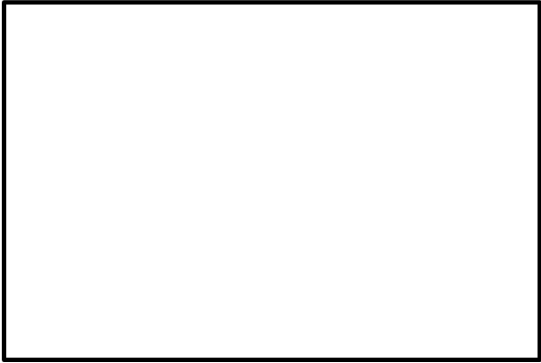


We will be folding our card in three different directions - vertically, horizontally and diagonally - to create the concertina effect in this lampshade. You can see the folds more clearly on the template below.



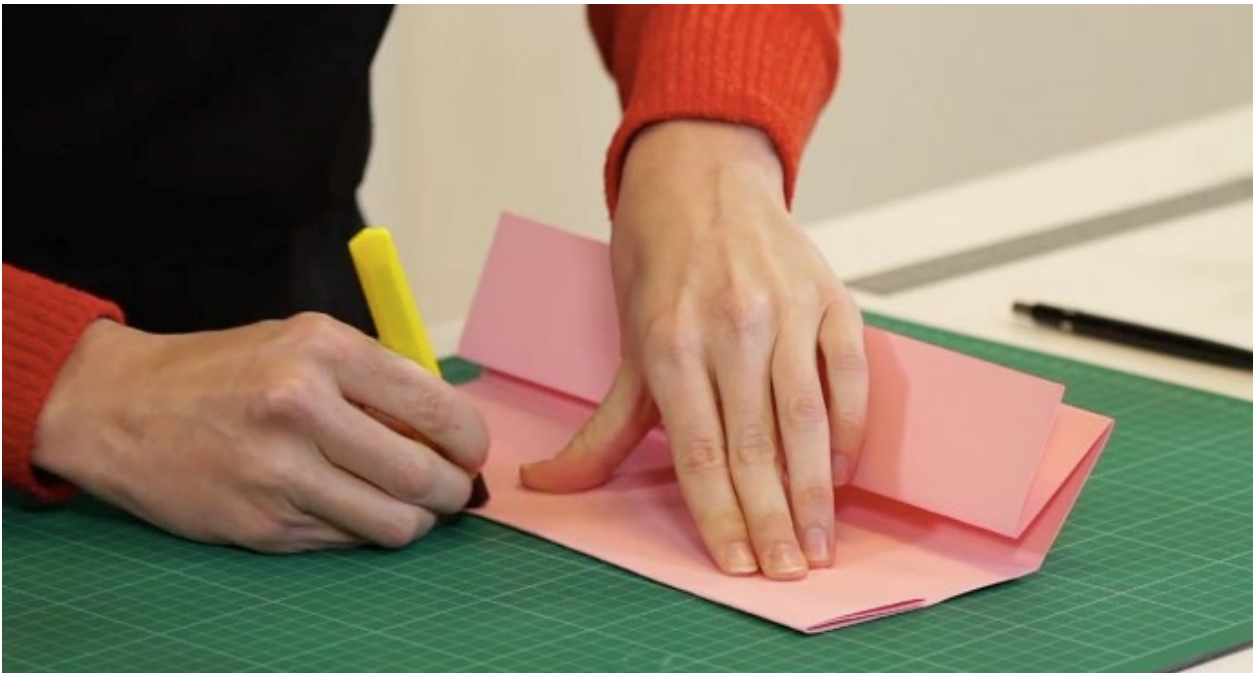
Step 3: Getting the orientation of the paper right

To begin, we need to fold some grid lines into the paper to act as a guide for the diagonal folds. You will be folding each sheet of paper one at a time. To do this, begin by laying each sheet of paper in a landscape orientation where the longest side of the paper is horizontal, and the shortest side is vertical.



Step 4: Create the vertical folds

Let's fold our vertical lines first. Lay the paper in a horizontal (landscape) position and fold the paper in half. Then open the paper up and fold the right-hand side into the centre. Now fold the left-hand side into the centre. Keep both sides folded in towards the centre and then fold the right and left hand side in towards the centre again.



Run your finger along the fold to create a good crease. Or you can use a tool like a ruler to help you crease the folds.

Step 5: Flattening the folds

When you open up your paper, you'll notice that some of the folds are mountains and some of them are valleys.



We want to flatten these folds out. To do this, just fold the creases in the opposite direction to counteract the fold. Now your paper should sit flat.



Step 6: Create the horizontal folds

Now you need to fold the paper in half vertically. Lay the paper in a vertical (portrait) position and fold the sheet in half from left to right.



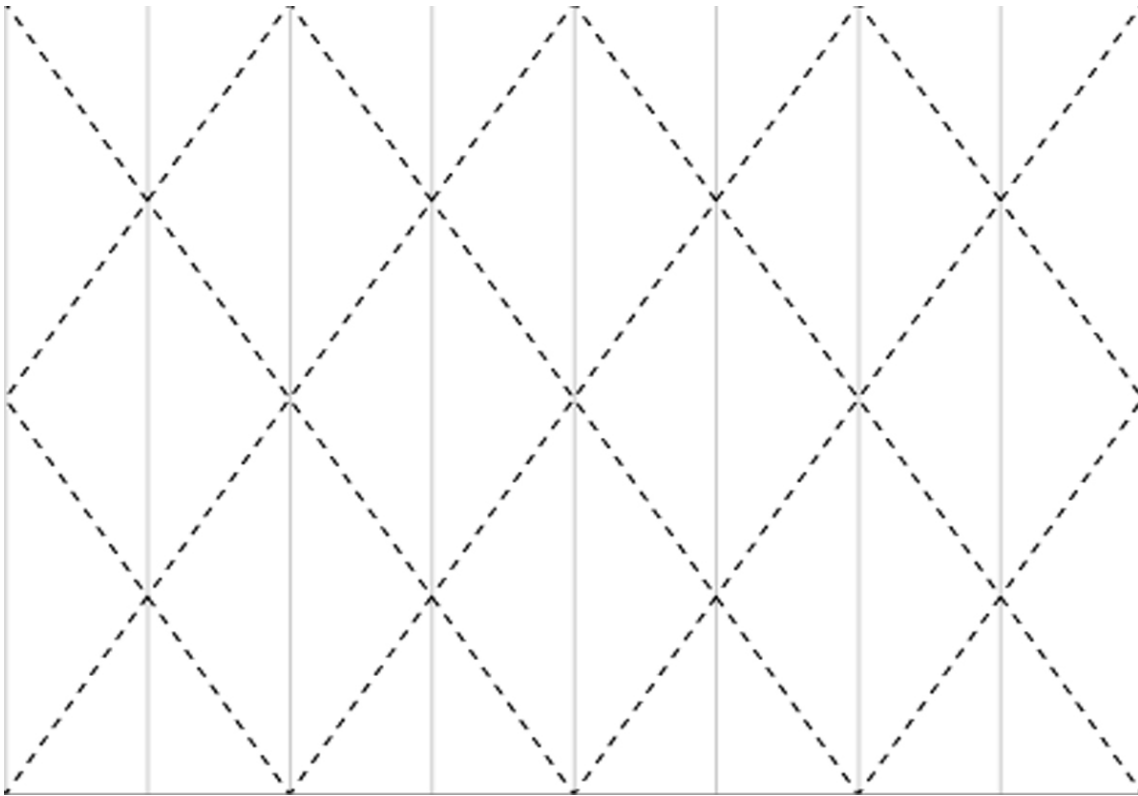
Once the paper is folded in half, fold the crease in the opposite direction to flatten the fold. Next, we need to fold the paper into quarters. Fold each of the sides into the centre crease.



Open-up your paper and fold the lines the opposite way to flatten them out too.

Step 7: Score your card diagonally

The next folds are going to go diagonally. To make the diagonal folds you'll need your ruler and scoring tool (a skewer or needle). By lightly scoring the diagonal lines into the paper, the structure will fold into shape more easily at the end. Your paper will end up looking like the template below. For this step it is easier to do each of your three sheets of paper separately.



The first diagonal line is going to go from the top left corner to the center at the bottom of the paper. Make sure your ruler lines up with the corners of the gridded folds all the way along the line. When you've lined it up as perfectly as possible, lightly score the line with your tool. You don't need to press too hard.

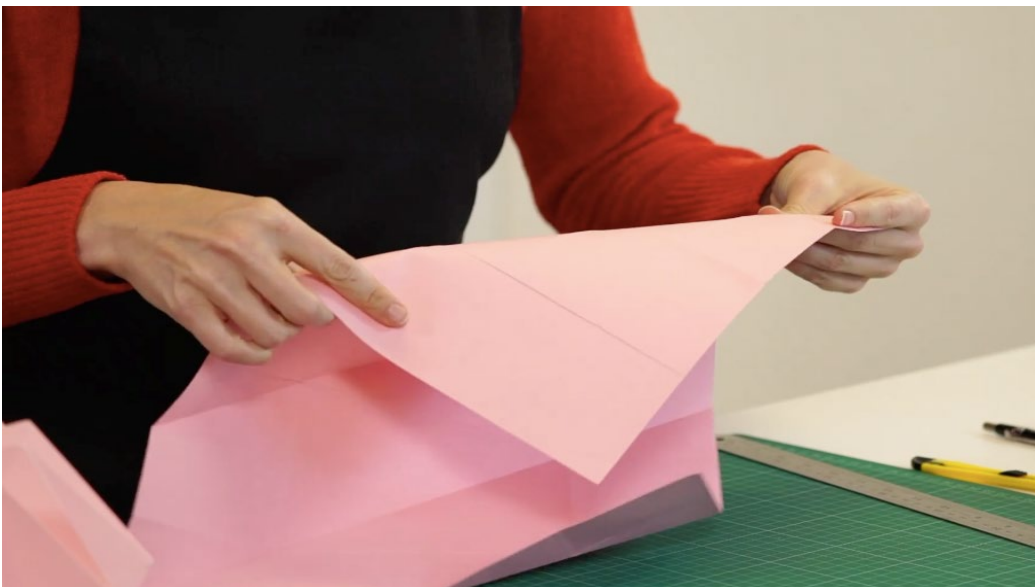
Continue as illustrated in the dotted lines in the image above for each of your three sheets of paper. All the grey un-dotted vertical lines also have to be scored. Score and fold any of these lines that have not already been done.



Step 8: Create the diagonal mountain folds

When you've completed the diagonal lines, the next thing you need to do is **fold each diagonal line into a mountain fold**.

Notice how easy it is to fold them because you scored the paper. When you've finished the paper should start to look three-dimensional.



Step 9: Coax the structure into shape

This next part is the trickiest part of the whole project. You will need some patience. You are going to gently coax your origami lampshade into shape. It is easiest to work from one end and fold it bit-by-bit.

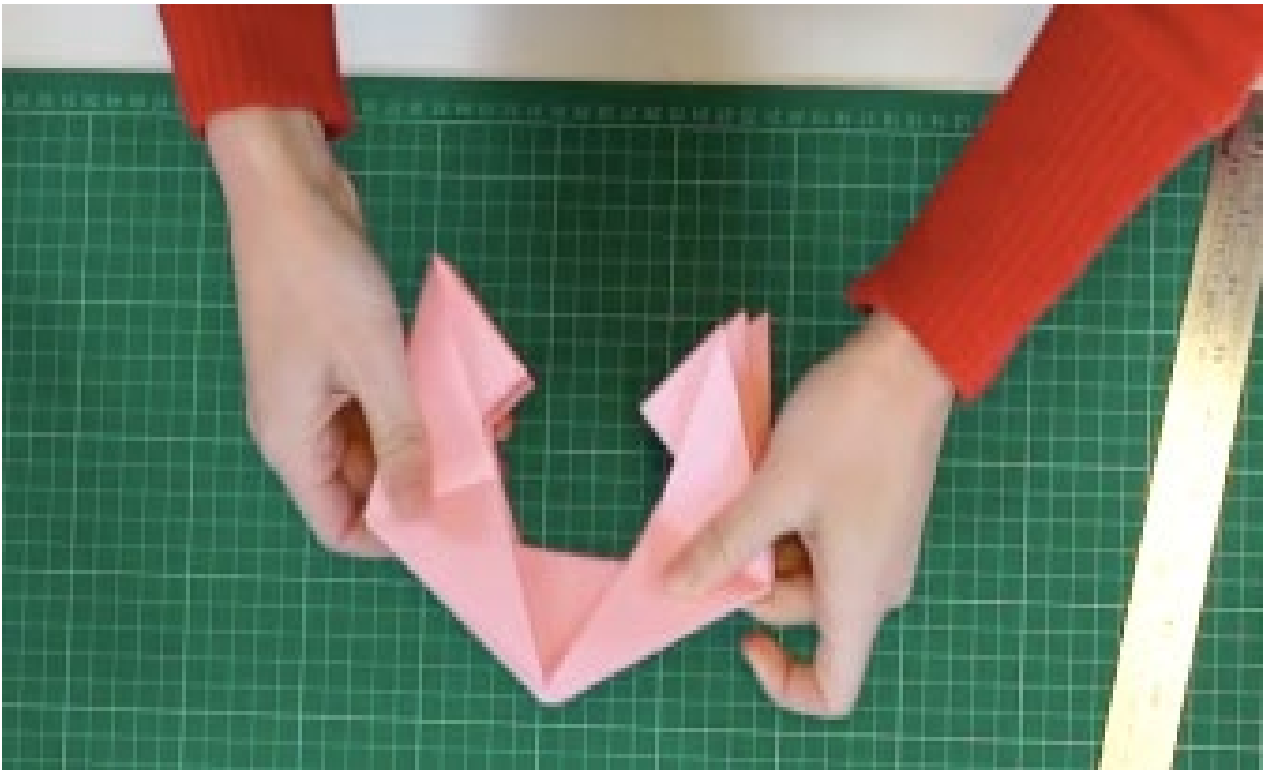
The triangles along the edge will become valley folds.

The three points in the center become mountain folds.



Just work your way along from one side to the other, using your fingers to pop the folds inwards and outwards.

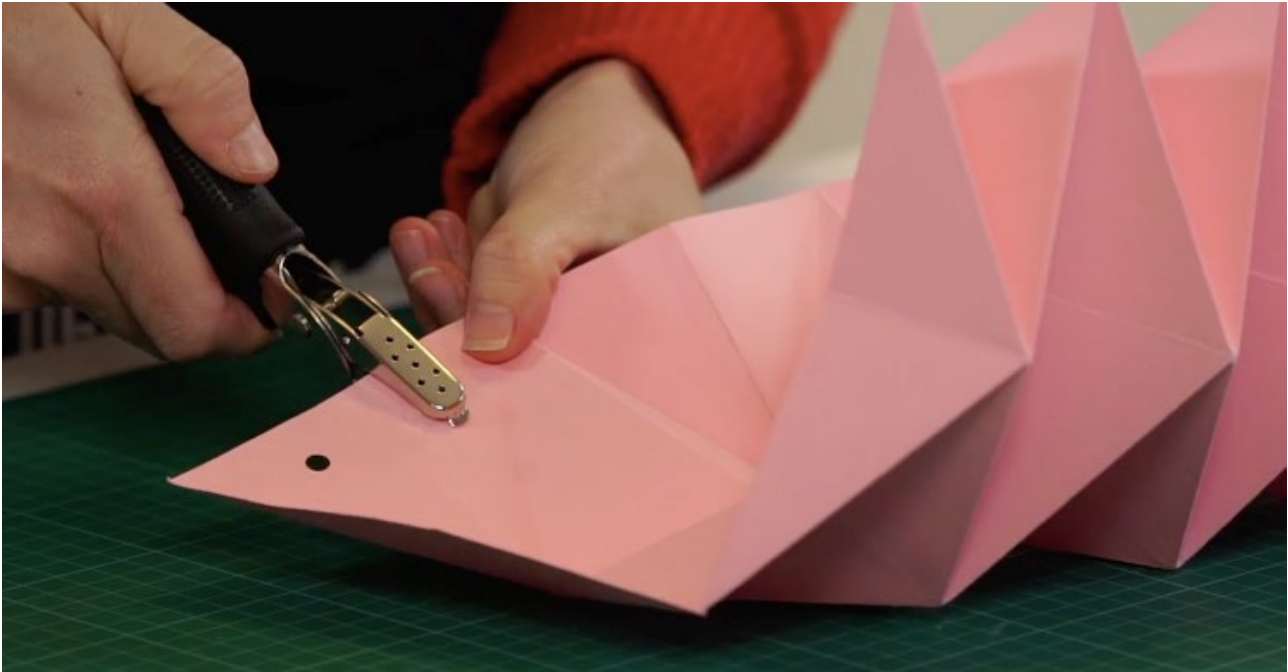




When you are finished you will end up with a letter C shape.

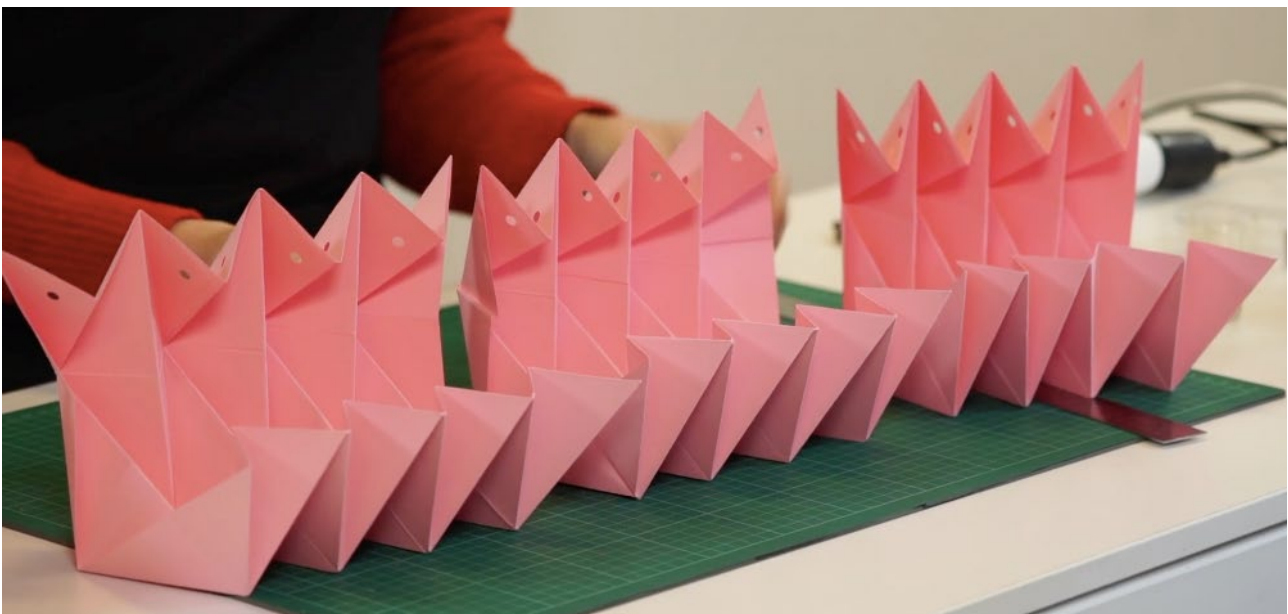
Step 10: Using the hole punch

Now we are going to use our hole punch to place holes along the top edge of the lampshade to thread our string through. If you don't have a hole punch, you could use a skewer or needle as an alternative. You might find it easier to flatten out the triangle and hole punch along one by one.



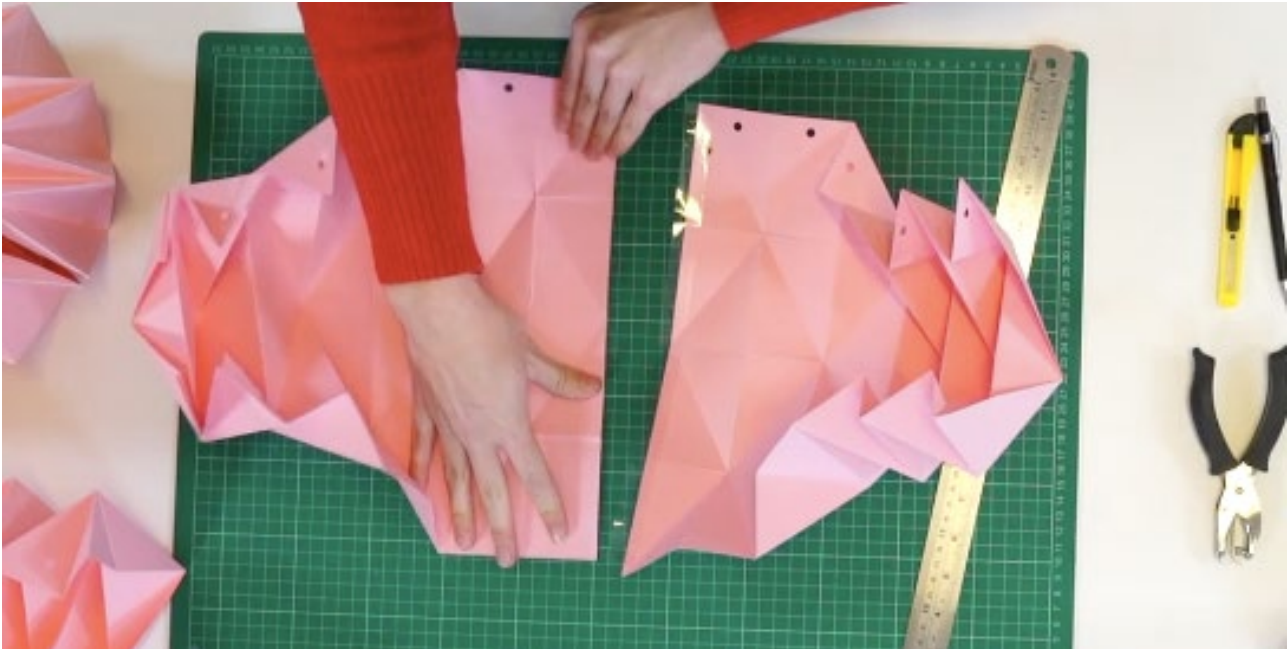
Step 11: Repeat with your other pieces of card

You need to repeat steps 3 to 10 with your two pieces of 160gsm coloured paper or card. You will end up with three concertina sections to join.



Step 12: Stick the sections together

To join the three sections together you will need your sticky tape. Flatten out one side of your first section and stick a length of sticky tape along the edge. As you do this, leave half of the tape over-lapping the edge so you can stick it onto the next section.



Take the next section and flatten out one side. Line up the center folds with the first section as you carefully stick them together. You want the two paper edges to be side by side, not overlapping, so it's easy to fold up again.



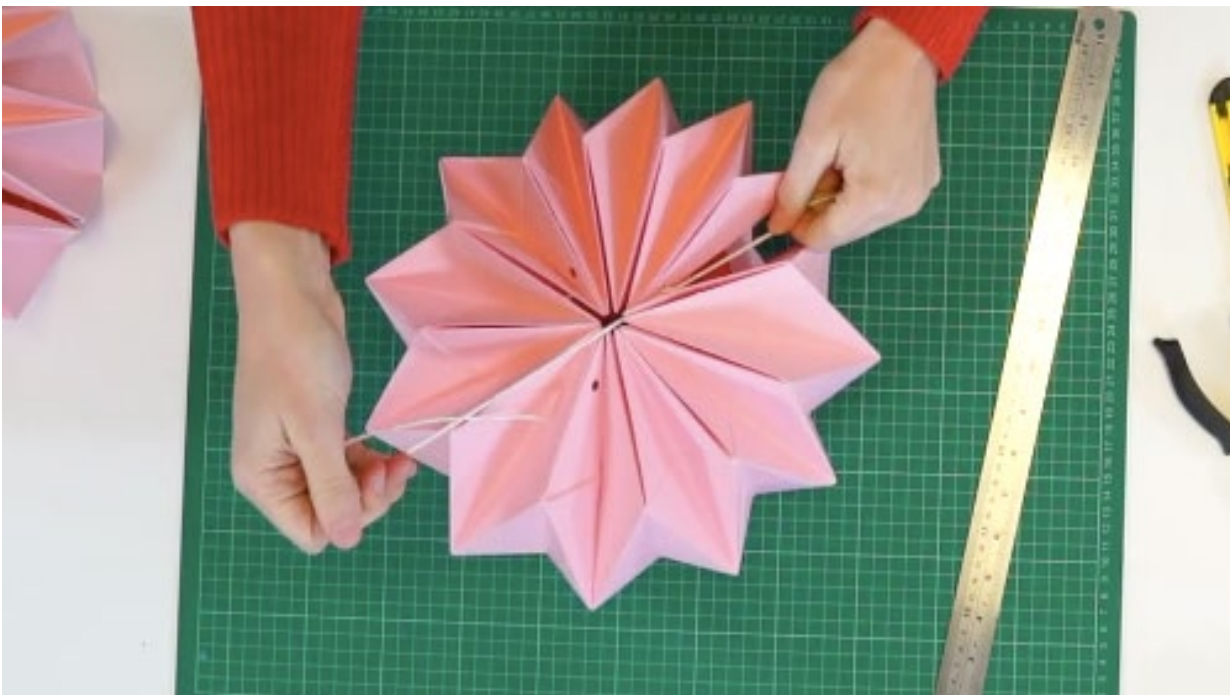
Now repeat that process with the final section. Refold the design back up into the letter C shape.

Step 13: Threading the sections together with string

Thread a length of string about 45 centimetres long through the holes.



Then pull the paper together to tighten the structure.



Step 14: Add the light

Now for the fun part – adding the light fixture. Pull the string apart enough to insert your light bulb and then tighten the string so the structure sits evenly around the chord.



Tie it off in a bow and tuck the string inside. Then fasten the remaining sides together using sticky tape.

And there we have it. You have now updated an existing lamp at home with a cool handmade origami lampshade.

Exploring other designs

You can experiment with different folding designs to create a variety of lampshade forms.

For example, folding the diagonal lines so they intersect further down will create another cool shape. And turning your design inside out will create a totally different lampshade.

There are lots of origami templates you can find in books and online to keep creating.



We hope you have fun making your lampshade.

Don't forget to check out our other City of Sydney Art and maker classes online at whatson.cityofsydney.nsw.gov.au/programs/city-of-sydney-art-and-maker-classes-online.

