

MathXplosion – Pop Up Paper!

ABC ME screening details: Tuesday 19 May, 2020 at 11:40am

This episode can also be viewed on [ABC iView](#).

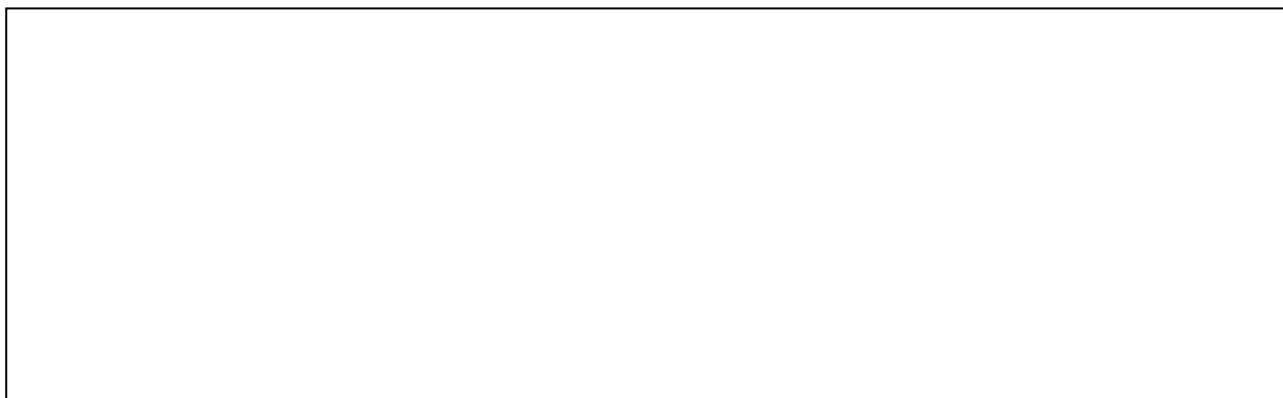
Key learning areas: Mathematics

Level: Levels 3 and 4

About: This episode introduces paper engineering: the art of following a specific sequence of origami folding instructions using a standard sheet of paper, a few cuts and reverse folds to construct a 3D object.

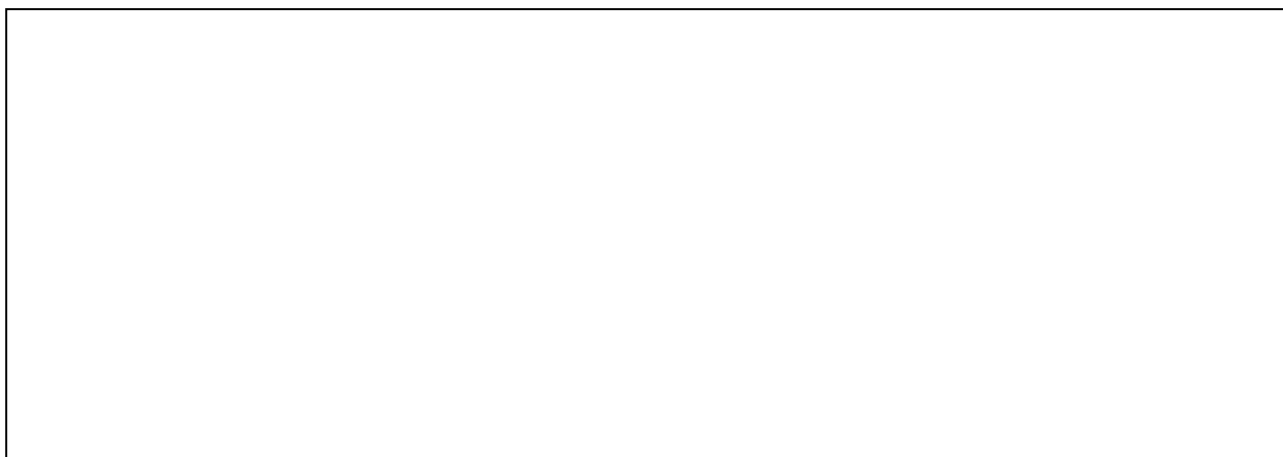
Before the episode

1. Have you ever folded paper to make 3D objects? Draw and describe what you made.





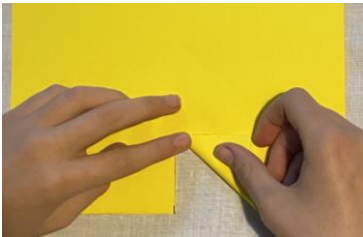
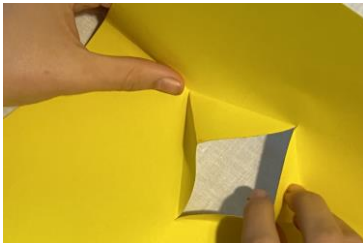



During the episode

2. Think about what type of animal you want to make. In this episode you will see a chicken, an octopus, a shark, a dinosaur, a lion and a tiger. What will you make? Draw the face of your animal.



After the episode

3. Turn a two-dimensional shape into a three-dimensional one right before your eyes!
Follow these instructions to make your own Pop Up animal card.

Pop Up card instructions	
<p>1. Choose two pieces of coloured paper. Fold the first piece of paper in half.</p> 	<p>2. Make the mouth by cutting a small line (about 5cm) in the middle of the card.</p> 
<p>3. Two flaps will be formed near the cut. Fold these to form two triangles.</p> 	<p>4. Unfold the card. With your finger, lift the triangles to form a mouth shape.</p> 
<p>5. Close the card with the triangles folded inside.</p> 	<p>6. Fold the second piece of paper and glue it to the back of your card.</p> 
<p>7. Fold your card. You should see coloured paper through the open mouth.</p> 	<p>8. Decorate your card. Draw an animal's face around the mouth. Make sure your drawing is symmetrical (the same on both sides).</p>

Follow-up activity: Experiment with other pop up card designs.

Teacher notes

This resource contains self-directed learning activities that students can complete while learning at home or in the classroom. The activities align with the Victorian Curriculum F-10 and can be modified to meet the needs of your students. Teachers could collect student work for feedback and assessment.

Learning intentions

- To learn to construct a three-dimensional card.

Victorian Curriculum content descriptions

	Level 3	Level 4
Shape	Describe the features of three-dimensional objects (VCMMG121)	Explain and compare the geometric properties of two-dimensional shapes and three-dimensional objects (VCMMG171)
Location and Transformation	Identify symmetry in the environment (VCMMG144)	Create symmetrical patterns, pictures and shapes with and without digital technologies (VCMMG173)

Victorian Curriculum achievement standards

	Level 3	Level 4
Measurement and Geometry	Students recognise the features of three-dimensional objects.	Students identify symmetry in natural and constructed environments. They make models of three-dimensional objects.

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