

WORKSHOP IDEA.

CREATE YOUR OWN CITY.

MATHS IN ARCHITECTURE.

2 - 3 hour session

Suitable for Years 5 - 6

OUTLINE

There are lots of shapes in Architecture and our buildings can be more exciting than just square boxes. Create your own cities by using complex geometries and see how easily they can stack, lean, cantilever and arch.

Workshop instructions on reverse side.

WHAT YOU NEED?

A4 Paper cut-out templates (templates provided), Scissors, Sticky tape, Pencils and Pens

Optional resources: Large maps printed out, Camera, Computer or tablet to look at existing cities.

TEACHER'S ROLE

We encourage teachers to participate in the workshop however the teacher is responsible for duty of care and behaviour management of the class and must be present for the duration of the session.

Available to schools within 50km radius of Adelaide CBD. If your school is located outside of this limit please request a booking to discuss.

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INSTRUCTIONS

Original workshop by Foster + Partners

1. Using the templates provided, cut out the shapes and stick them together to create many different 3D shapes (the more you make the better). Pay attention to their names, how many sides do they have? What 2D shapes make the 3D shapes? Why are some shapes all called prisms? why are some called pyramids?
2. Start creating your own neighbourhoods and cities. Take your shapes and start to arrange them on the table or floor. Move them close together or far apart. See how tall you can stack your shapes and make large buildings, but also look at the spaces between shapes.
3. The buildings themselves only form part of a cities landscape. Look at the negative or empty spaces around or in between then shapes. Arrange your shapes to start to create little parks, or pathways. Small spaces are just as important as big spaces. Can you create a small pentagon park in your city? Can you also create a large heptagon plaza? What other 2D shapes can you make?
4. With your shapes (and without using glue or tape) do you think you could make an arch way? Look at the example image to give you some clues.
5. A cantilever is a rigid structure that sticks out and looks like it defies gravity. Do you think you can make a building with a cantilever (without using glue or tape)? Look at the example images to give you some clues.
6. Let us know what you discovered? What were the best shapes for stacking? Which is your favourite building in your city? What is your favourite negative space you made? What was your favourite shape to build with? How many sides did it have? What 2D shapes is it made of? Could you make an archway? What was the biggest cantilever you could make?

VARIATIONS

Instead of starting from scratch, get the students to put their shapes on a large printed map. This way they can explore already built spaces and can discuss shapes in existing cities.

Once they have started to create their cities and buildings, let them get a ground level, human view of their city. Get them get the camera as close to the ground as they can and take some photos. Ask them how they can make the spaces more interesting, more human friendly. Which shapes look the best from the humans point of view?

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