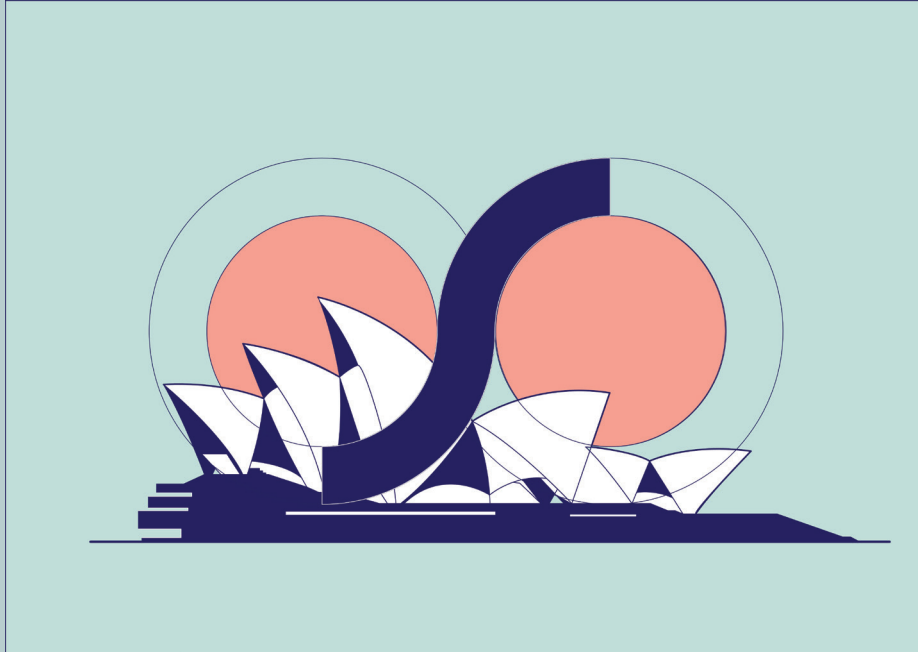


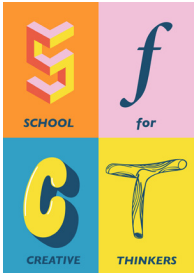


# S for Sydney Opera House

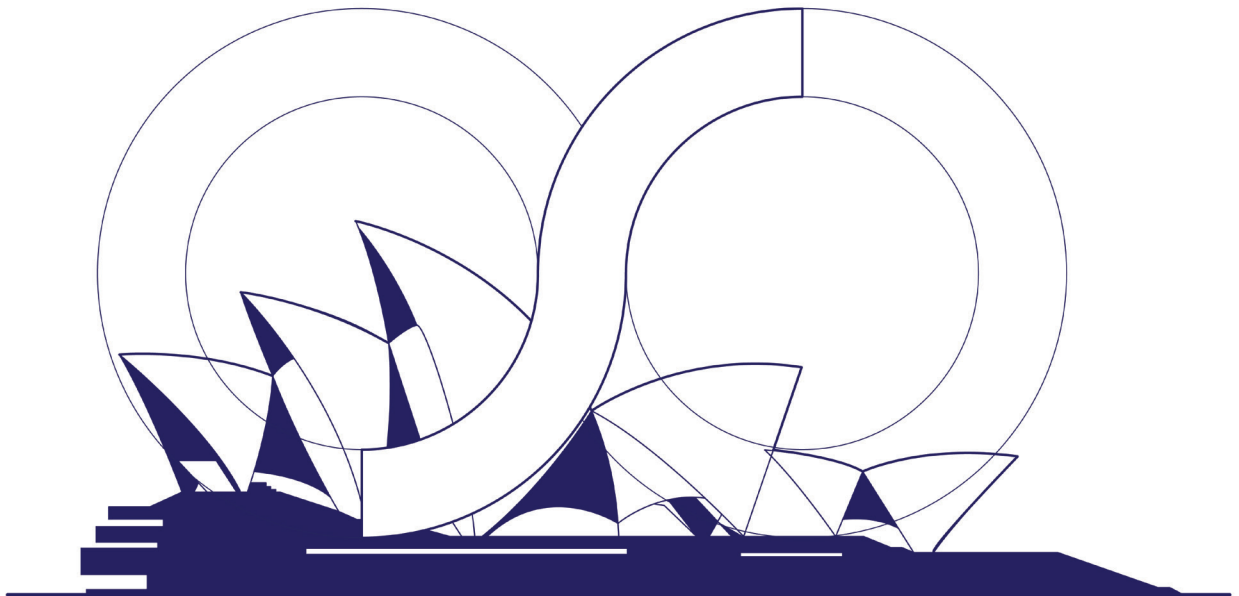


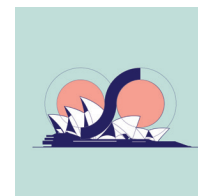
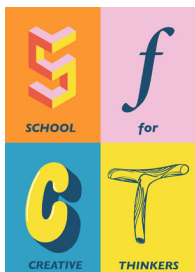
## Fun Facts

1. Sydney Opera House is cooled using seawater taken directly from the harbour. The system circulates cold water from the harbour through 35 kilometres of pipes to power both the heating and air conditioning in the building.
2. More than 10.9 million people visit the Opera House every year.
3. Construction was expected to take four years. It took 14 years and involved over 10,000 construction workers.



Colour me in





When awarding architecture's highest award to the Sydney Opera House's architect in 2003, Pritzker Prize judge Frank Gehry said, "[Jørn] Utzon made a building well ahead of its time, far ahead of available technology... a building that changed the image of an entire country."

## Geometry model of the Sydney Opera House

It took Utzon and his team 4 years to discover the solution to build the shell form of the Sydney Opera House's roof.

There is a myth saying that Utzon's eureka moment came while peeling an orange. See the model image below showing how the forms of the shell were extracted from a sphere.



## Activity

Like Utzon's model, pick a natural object, like fruits, or any other material at home that can be cut or folded easily. Try and see if you can extract different shapes out of it or in different sizes, and create a new shape or series of shapes for your structure.

Get inspired! Look at examples of parabolic, ellipsoid and spherical forms.

\* A parabola is a plane curve which is mirror-symmetrical and is approximately U-shaped.

\* An ellipsoid is a surface created by pulling a sphere shape along an axis, or by rotating an ellipse on an axis to form a 3D object.