

Kōwhaiwhai

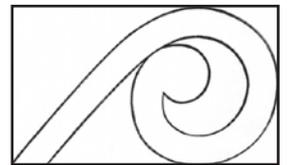
You need: square grid paper, coloured pencils or felt-tip pens

ACTIVITY

The inside roof of a whareniui is usually decorated with rafter patterns called kōwhaiwhai. Most kōwhaiwhai use three basic elements (koru, rauru, and kape) and three colours (white, red, and black). See how the following patterns use these elements and colours:

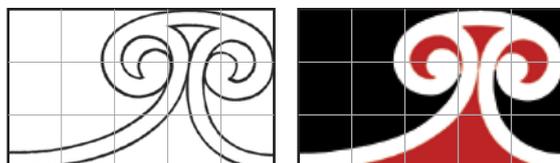


The koru is a stylised fern frond. In traditional kōwhaiwhai, it is white. The background colours are usually red and black.



1. On square grid paper, within a rectangle, create three different designs using the koru. Try to have parts of your designs touching so that you have some enclosed spaces. Colour these spaces red. Colour the other parts of the design black.

This example shows mangō pare, the hammerhead shark:



2. The diagrams below show how a design can be translated, reflected, or rotated to make a kōwhaiwhai pattern. Transformations can also be combined (for example, a translation followed by a reflection) to make more complex patterns.

Make 3 or more kōwhaiwhai patterns using the designs you created in question 1.
At least one of your patterns should use two transformations.



Translation

Start with your design. Shift it horizontally and copy it like this:



Reflection

Start with your design, reflect it in a vertical axis, and copy it:



Rotation

Begin with a design that starts in the middle of the left side and finishes in the middle of the right side, like this one:



Rotate the design 180 degrees about the midpoint of the right side and copy it. Continue rotating and copying.

