

3-6: REMOTE MATHS

EDITION 17

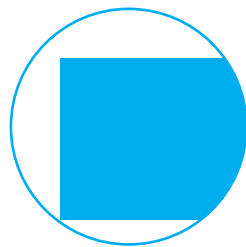
GEOMETRY - INVESTIGATIONS

Mathematical language: shape, square, triangle, sides, edges, corners, lines, polygon, pattern,

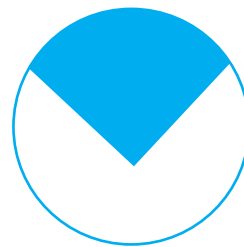
INVESTIGATION 1: VISUALISING SHAPES

PART 1: HIDDEN SHAPES *Adapted from C Danielson*

- Below are a set of shapes. You cannot see the whole shape, rather just a section of them. Imagine you are looking at parts of the shape through a microscope.
- For each image, draw and label the shapes that could be partially hidden.



- Could this be a rectangle?
- What else could it be?



- Could this be a triangle?
- What about a square?
- What else could it be?

TASK 2: HIDDEN SHAPES *Adapted from Nich*

Materials: [isometric dot paper](#)

Isometric dot paper can be used to draw a variety of 2D shapes. Your challenge is to use the isometric dot paper to draw as many of these shapes as possible.

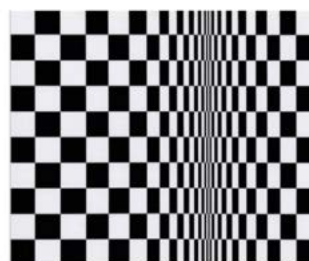
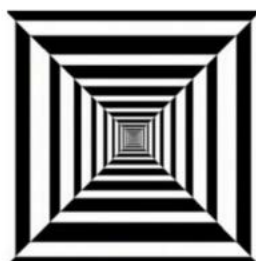
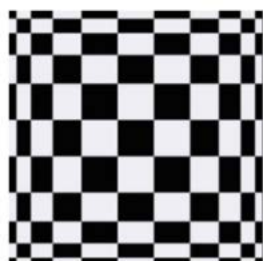
- rectangle
- rhombus
- trapezium
- parallelogram that is not a rectangle
- equilateral triangle
- right-angled triangle
- scalene triangle
- isosceles triangle that is not an equilateral triangle
- pentagon
- hexagon
- heptagon
- octagon

INVESTIGATION 2: OPTICAL ART

PART 1: GEOMETRY IN OPTICAL ART *Adapted from Youcubed*

Optical art consists of geometric shapes and patterns, and they are often black and white in colour. Look at these examples of optical art.

- What shapes do you see?
- How do the shapes change to cause an optical illusion?
- Read (or select the audio voice over at the bottom of the screen) this news article from [Kids News](#) to learn more about optical illusions.

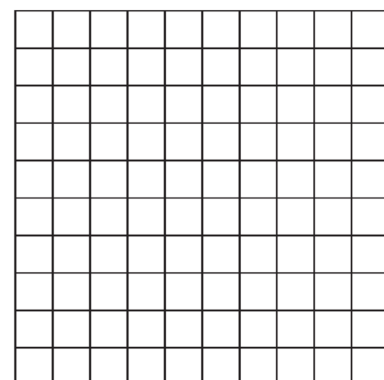


PART 2: CREATING OPTICAL ART *Adapted from Youcubed*

Materials: [100-square grid](#), texta's or pencils.

It's time to create your own interesting optical illusion pattern.

- Share your designs with a family member and find out if they see an illusion when looking at your pattern.
- Did you get any more ideas about the ways to create an optical illusion? Describe your mathematical thinking about ways to do that.
- Can you see any patterns, fractions, or decimals in your artwork? Where are they?
- Think of a mathematical question that you could ask about your artwork.
- If someone else wanted to recreate your artwork, what directions would you give them?



Look out for more tasks next week!