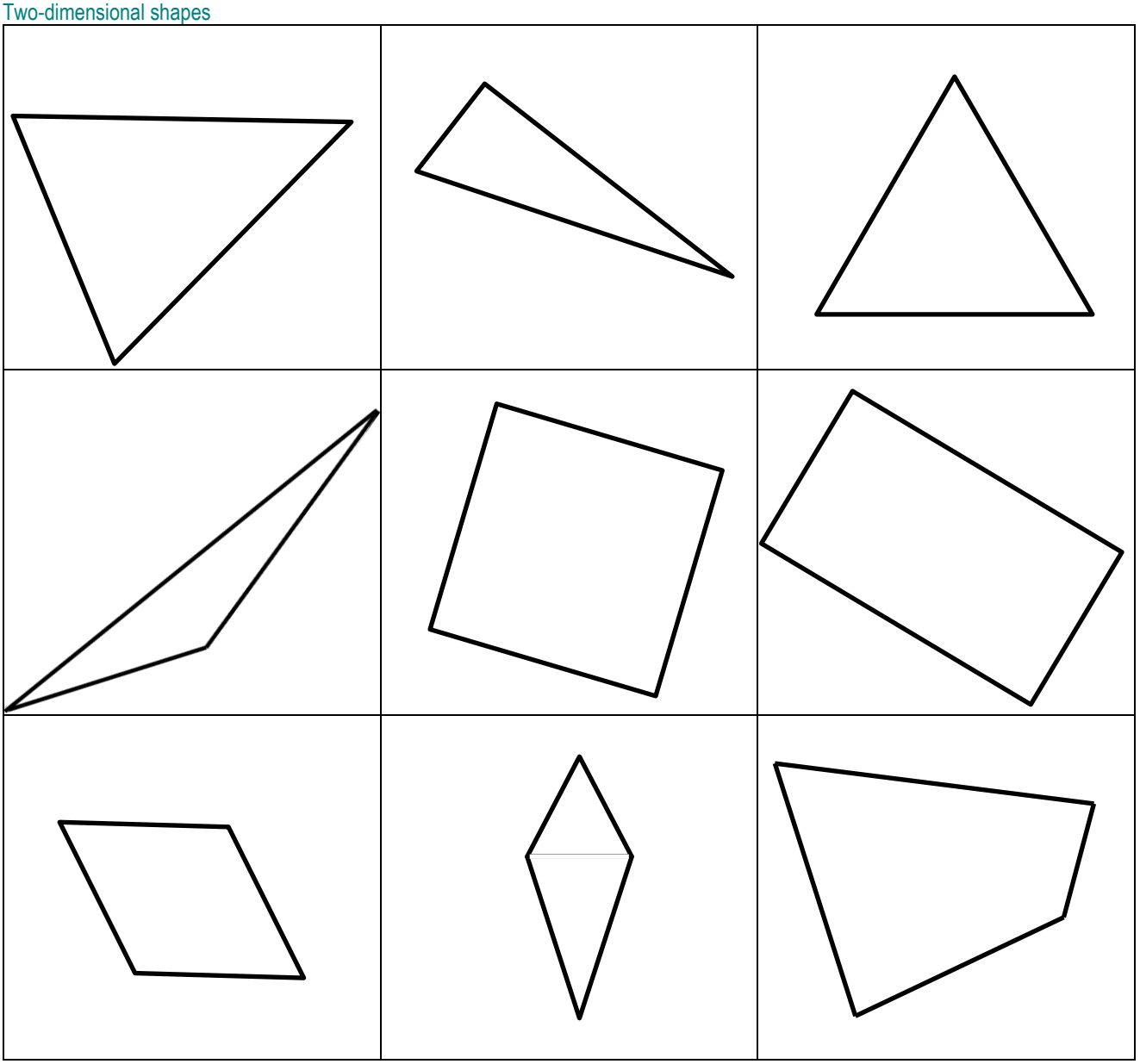
DESCRIBE TWO-DIMENSIONAL SHAPES.

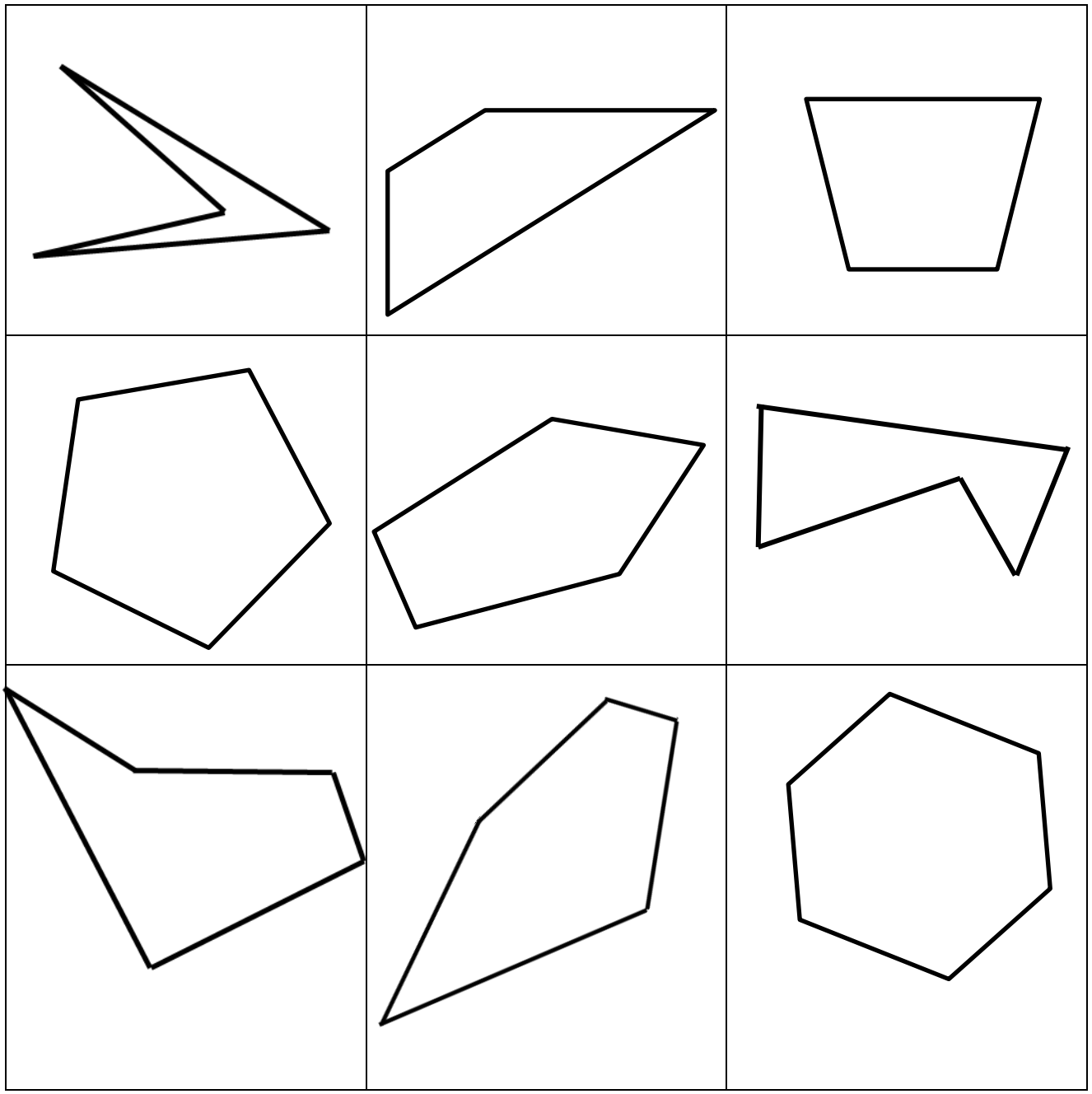
INVESTIGATIONS OVERVIEW PAGE
THIS PAGE IS A SUMMARY OF THE INVESTIGATIONS THAT STUDENTS MAY ENGAGE IN TO DEEPEN THEIR RELATIONAL UNDERSTANDING.

INVESTIGATIONS WITH INSTRUCTIONS TO STUDENTS FOLLOW ON SUBSEQUENT PAGES.

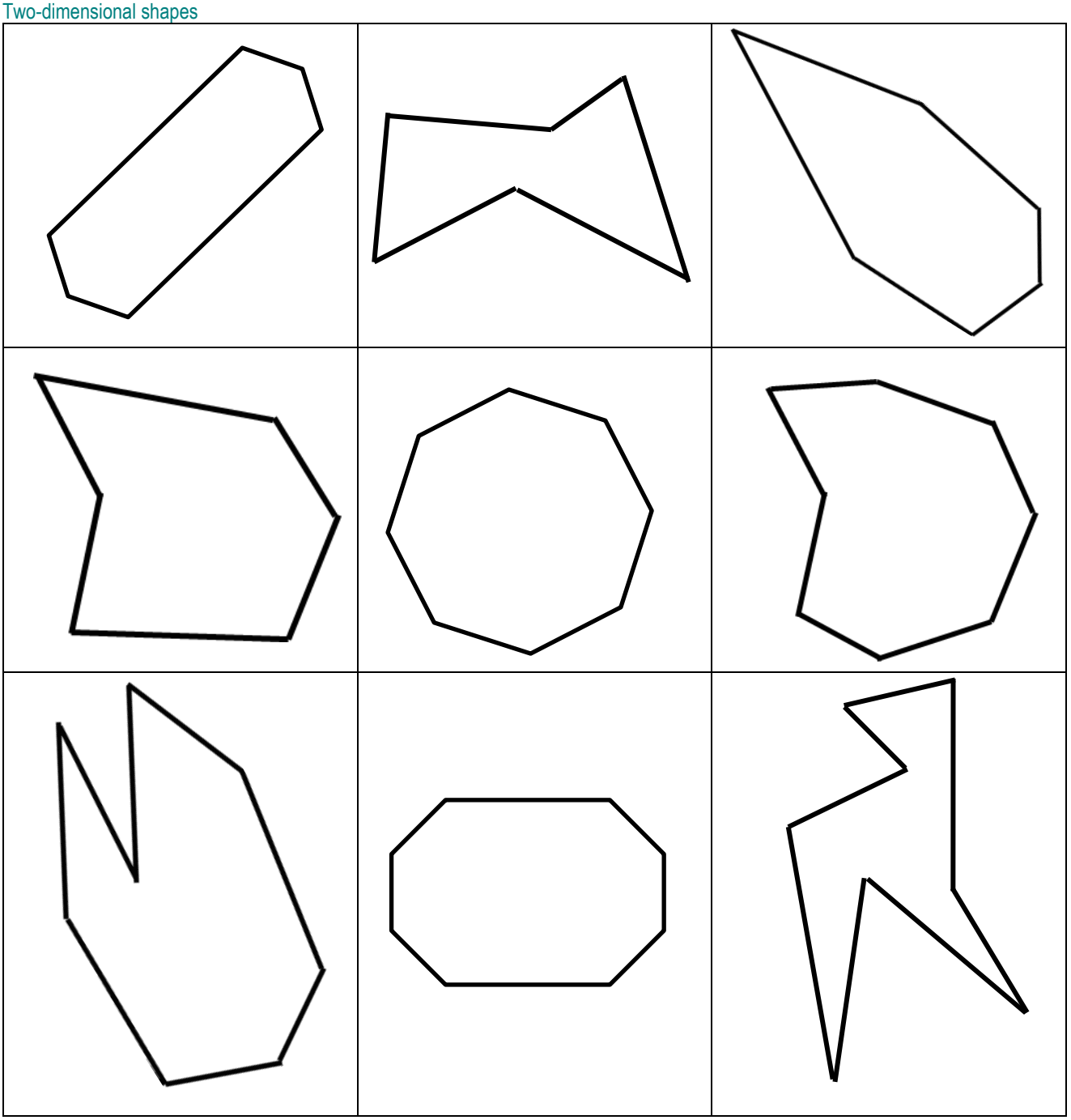
- In pairs, children have some triangles, quadrilaterals, pentagons, hexagons, octagons. They select all triangles or quadrilaterals or pentagons or hexagons or octagons. They describe the lengths of the sides, sizes of the vertices, and if any sides are parallel. Reflection: How can we describe two-dimensional shapes?
- In pairs, children have some triangles, quadrilaterals, pentagons, hexagons, octagons. They take turns to describe the lengths of the sides, sizes of the vertices, and if any sides are parallel of one of the shapes. Their friend identifies and names the shape. Reflection: How can we describe two-dimensional shapes?
- In pairs, one child has a two-dimensional shape behind a barrier. He describes the shape to their friend, who draws it from the description, then names it. Children compare the drawn shape to the original shape. Reflection: How can we describe two-dimensional shapes?
- In pairs, children have either actual geoboards and elastic bands or virtual geoboards (freely available on the Internet). Children construct a shape on their geoboards. Children have dot paper to record the shape that they construct. Children label each shape, including naming special quadrilaterals as both 'quadrilateral' and (for example) 'square'. Children identify that they cannot construct a circle on a geoboard because a circle has a curved line. Reflection: How can we describe triangles? How can we describe quadrilaterals? How can we describe pentagons? How can we describe hexagons? How can we describe octagons?
- In pairs, children have craft sticks of 3 different lengths. Children make a shape with 3, 4, 5, 6 or 8 sides. Children describe and name each shape, including naming special quadrilaterals as both 'quadrilateral' and (for example) 'square'. Children record and label their shapes. Children identify that some combinations of craft sticks cannot be joined to make shapes, for example, one long craft stick and the others very short craft sticks (because the shortest distance between 2 points is a straight line, so the sum of the lengths of the other craft sticks needs to be longer than the length of the long craft stick. Reflection: How can we describe triangles? How can we describe quadrilaterals? How can we describe pentagons? How can we describe hexagons? How can we describe octagons?
- In pairs, children rule a piece of paper using straight lines. They shade the triangles, quadrilaterals, pentagons, hexagons and octagons different colours. Reflection: How can we describe triangles? How can we describe quadrilaterals? How can we describe pentagons? How can we describe hexagons? How can we describe octagons?
- Children create art works using only triangles, quadrilaterals, pentagons, hexagons and octagons, circles, or combinations of triangles, quadrilaterals, pentagons, hexagons and octagons and circles. Children could base their art works on Cubism, examples of which are freely available on the internet. Reflection: How can we describe two-dimensional shapes?
- In pairs, children have a shape in a bag. They feel the shape, describe its features and name it. Reflection: How can we describe two-dimensional shapes?

Two-dimensional shapes





Two-dimensional shapes



Describe Two-dimensional Shapes.

Have some triangles, quadrilaterals, pentagons, hexagons, octagons.

Select all

- triangles or
- quadrilaterals or
- pentagons or
- hexagons or
- octagons.

Describe the lengths of the sides, sizes of the vertices, and if any sides are parallel.

Reflection: How can we describe two-dimensional shapes?

Describe Two-dimensional Shapes

Sit with a friend.

Have some triangles, quadrilaterals, pentagons, hexagons, octagons.

Take turns to describe the lengths of the sides, sizes of the vertices, and if any sides are parallel of one of the shapes.

Your friend identifies and names the shape.

Reflection: How can we describe two-dimensional shapes?

Describe Two-dimensional Shapes

Sit with a friend.

Have some triangles, quadrilaterals, pentagons, hexagons, octagons.

Have a barrier between you.

Take turns to select a two-dimensional shape behind the barrier.

Describes the shape to your friend.

Your friend draws the shape from the description, then names it.

Compare the drawn shape to the original shape.

Reflection: How can we describe two-dimensional shapes?

Describe Two-dimensional Shapes

Have either a real geoboard and elastic bands, or a computer geoboard.

Make a shape with 3, 4, 5, 6 or 8 sides.

How many sides on the shape?

Is your shape:

- A triangle
- A quadrilateral
- A pentagon
- A hexagon
- An octagon

Record and label your shape.

Does your shape have another name?

Can you make a circle? Why not? What kind of line does a circle have?

Reflection: What is a triangle? What is a quadrilateral? What is a pentagon? What is a hexagon? What is an octagon?

Describe Two-dimensional Shapes

Have craft sticks of 3 different lengths.

Make a shape with 3, 4, 5, 6 or 8 sides.

How many sides on the shape?

Is your shape:

- A triangle?
- A quadrilateral?
- A pentagon?
- A hexagon?
- An octagon?

Record and label your shape.

Does your shape have another name?

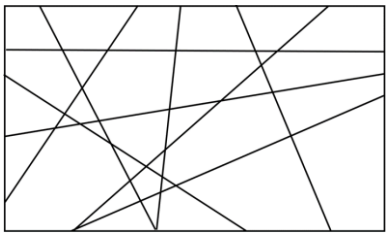
Can you make all shapes with all combinations of craft sticks, for example, 1 long straw and the rest small craft sticks?

Reflection: What is a triangle? What is a quadrilateral? What is a pentagon? What is a hexagon? What is an octagon?

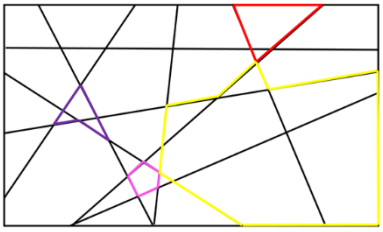
Describe Two-dimensional Shapes

Have a piece of paper and a ruler.

Rule straight lines over the paper, for example,



Find triangles, quadrilaterals, pentagons, hexagons and octagons, for example,



Reflection: What is a triangle? What is a quadrilateral? What is a pentagon? What is a hexagon? What is an octagon?

Describe Two-dimensional Shapes

Create art works using

- only triangles, quadrilaterals, pentagons, hexagons and octagons, circles, or
- combinations of triangles, quadrilaterals, pentagons, hexagons and octagons and circles.

You could base your art works on Cubism, examples of which are freely available on the internet.

Reflection: How can we describe two-dimensional shapes?