# Describing quadrilaterals: Outline lesson plan

In this lesson, students name and classify quadrilaterals according to their properties and identify the minimal information required to define a quadrilateral.

## Introduction

In a class discussion, revise what is meant by a quadrilateral and ask the learners to give you the properties of a **square**. They may suggest a range of properties such as:

|  |  |
| --- | --- |
| * Four sided shape | * Two pairs of parallel sides |
| * Closed shape | * Four right angles |
| * All sides are equal | * Two equal diagonals |
| * All angles are equal | * Diagonals bisect each other |
| * Opposite sides are parallel | * Diagonals cut each at right angles |

Discuss which properties apply only to squares and which apply to one or more other quadrilaterals. (e.g. rectangles and squares have two equal diagonals).

Ask the learners to suggest one pair of properties that define a square (e.g. four right angles and four equal sides).

Remind learners of the conventions we use to indicate parallel and equal lines, right angles and so on.

## Pair work

Ask the learners to work in pairs. To each pair, give a sheet of A3 paper, a set of strips of cards, scissors and an instruction sheet.

For all the strips of cards learners should work out what quadrilateral it describes. On the A3 sheet of paper, they sketch the quadrilateral and name it. Make sure that they leave plenty of space below each sketch. Then they choose one strip of cards and

* Cut the little cards out
* Choose the smallest number of cards needed to define it
* Stick the cards you chose under the sketch.

They should do this for all the strips.

As you walk around, listen to the learners’ discussions and ask them questions if they appear to be stuck. Avoid telling them what to do (in terms of the maths) but ask them questions to lead them towards getting to the answer by themselves.

## Conclusion

To end the lesson, ask for a volunteer to come to the board, sketch one of the quadrilaterals and stick big versions of the little cards they chose to define the quadrilateral on the board. Ask them to explain. Repeat until all the sets of cards have been used.

Discuss the learners’ suggestions throughout. Emphasise that more than one set of cards can be chosen.