

Max's Geometry Challenge: Mastering Shapes

Learning objective: To identify, describe, compare, and classify 2D and 3D shapes based on their properties, including parallel and perpendicular lines.

Read the front of each card to test your geometric knowledge. If you get stuck, remember how Max the monkey likes to break shapes down into smaller patterns!

What is a polygon?

A 2D shape with straight sides that is closed.

Define a pair of parallel lines.

Two lines that are always the same distance apart and will never meet, no matter how far they are extended.

What is a perpendicular line?

A line that meets another at a right angle (90 degrees).

How many vertices does a cube have?

8 vertices.

Compare a square and a rhombus. How are they similar and different?

Both are quadrilaterals with four equal sides. However, a square must have four right angles, whereas a rhombus does not have to.

What is an obtuse angle?

An angle that is greater than 90 degrees but less than 180 degrees.

Explain why a circle is not a polygon.

A polygon must have straight sides; a circle is a curved shape.

What is the difference between a prism and a pyramid?

A prism has two identical ends (faces) and apartment sides, while a pyramid has a base and triangular sides that meet at a single point (apex).

Justify why a rectangle is always a quadrilateral.

A quadrilateral is defined as a polygon with four sides. Since a rectangle has exactly four straight sides, it fits the definition perfectly.

What might happen to the internal angles of a triangle if you change the length of one side while keeping the other two fixed?

The internal angles would change to accommodate the new side length to ensure the shape remains a closed triangle.