

Plane

Examples & Non-Examples

Example	Example	Non-Example
Tabletop Surface - Imagine a flat tabletop with no edges that extends infinitely — this represents a geometric plane. - Even though real tables have edges, the flat surface helps us visualize how a plane behaves.	Whiteboard Surface - A large whiteboard or chalkboard, if imagined without boundaries, models a plane. - It is flat and two-dimensional — extending in all directions.	Curved Surface (like a sphere or a ball) - A basketball or a globe is not a plane because it is curved, not flat. - A plane must be flat and two-dimensional; a sphere is three-dimensional and does not meet the definition.

Definition

In Geometry, a **plane** is another fundamental concept that is typically undefined but has an agreed-upon description.

A plane is a flat, two-dimensional surface that extends infinitely in all directions and has no thickness.

Key Characteristics:

- It is made up of infinitely many points.
- It has **length and width**, but **no height** (thickness).
- It extends forever in all directions within its dimension.
- A plane can be named using **three non-collinear points** (e.g., plane ABC) or a **script capital letter** (e.g., plane P).

Example:

If points A , B , and C are not on the same line (non-collinear), they define a unique plane — written as plane ABC .

In diagrams, a plane is often represented as a parallelogram or a shaded area, even though in reality, it has no edges and goes on infinitely.

