

☑ Main ideas:

1. Identify and model points, lines, and planes.
2. Identify collinear and coplanar points and intersecting lines and planes in space.

☑ CA Standards: 1

Points, lines, and planes are called **undefined terms** because they do not have any actual size.

(Table is on page 6 of textbook.)

KEY CONCEPT <i>Points, Lines, and Planes</i>			
	Point	Line	Plane
Model			
Drawn	as a dot	with an arrowhead at each end	as a shaded, slanted 4-sided figure
Named by	a capital letter	the letters representing two points on the line or a lowercase script letter	a capital script letter or by the letters naming three noncollinear points
Facts	A point has neither shape nor size.	There is exactly one line through any two points.	There is exactly one plane through any three noncollinear points.
Words/Symbols	point <i>P</i>	line <i>n</i> , line \overleftrightarrow{AB} or \overleftrightarrow{BA}	plane <i>T</i> , plane <i>XYZ</i> , plane <i>XZY</i> , plane <i>YXZ</i> , plane <i>YZX</i> , plane <i>ZXY</i> , plane <i>ZYX</i>

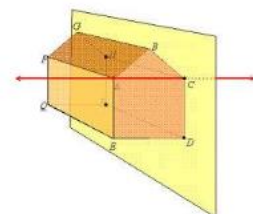
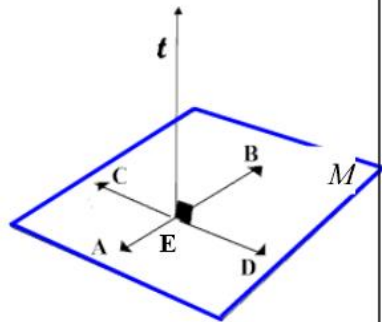
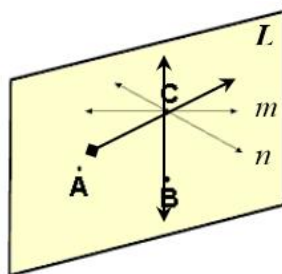
A **point** is simply a location. A **line** is made up of points, and has no thickness of width.

A **plane** is a flat surface made up of points. It has not depth and it extends infinitely in all directions.

“co” = _____

Collinear means _____

Coplanar means _____



Use the figures on the left to name each of the following:

- 1) A line containing point C

- 2) A plane containing point C

- 3) Two coplanar lines

- 4) Two non-collinear points

- 5) Two collinear points

- 6) Point where all the lines intersect _____
- 7) A line that intersects plane *M*

- 8) What does line *t* intersect?



Name the geometric term modeled by:

- 11) the tip of the pole

- 12) the pole _____
- 13) the flag _____
- 14) the stripes _____

9) How many planes are shown in the figure to the left? _____

10) Are points C, D, E and Q coplanar? Explain. _____