


**Objectives:** You will be able to identify and model points, lines, and planes. You will also be able to identify collinear and coplanar points and intersecting lines and planes in space

 Points, segments, rays, lines, and planes are the basic building blocks of geometry.

**Point:** a location

**\*\*ALL** geometric figures are made up of points.

→ What does it look like?

• P

→ How do you name it?

P

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**Space:** boundless three dimension set of all **points**.

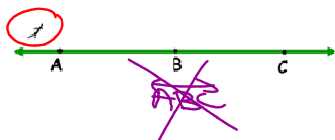
**Locus:** a group of **points**.



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**Line:** made up of **points** and has no **thickness** or width

→ What does it look like?

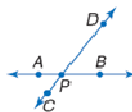


→ How do you name it?

line  $\ell$       2 pts  $\overleftrightarrow{AB}$   $\overleftrightarrow{BC}$

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→ **Collinear:** two or more points on the **same line**.



Name a pair of collinear points

A, B      C & D      D & P  
A & P      C & P      B & P



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**Segment:** part of a line that has a definite **beginning** and a definite **end**.

→ What does it look like?



→ How do you name it?

endpoints  $\overline{AB}$

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**Plane:** a **flat** surface made up of **points**.

→ What does it look like?

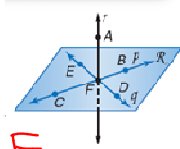


→ How do you name it?

plane Q      3 noncollinear pts  
plane TSR  
plane RUS

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→ **Coplanar**: two or more points or lines  
in the same plane.



Name a pair of coplanar points

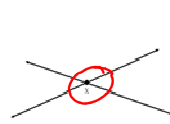
ED B&C E&F

Name a pair of coplanar lines

line p & q

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\*\*Two lines intersect at a point.



What is the intersection of these two lines?

X

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\*\*Two planes intersect at a line



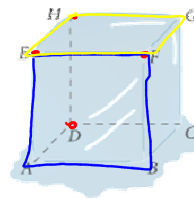
Where do these 2 planes intersect?

ST



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**Examples**



1. Are points H, E, and F collinear?

no

2. Are points H, E, D, and F coplanar?

no

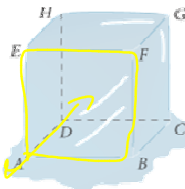
3. Name the plane represented by the front of the ice cube.

Plane AEFB

4. Where do plane HFG and plane AFB intersect?

EF

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5. Where do  $\overleftrightarrow{DE}$  and  $\overleftrightarrow{AB}$  intersect?

B

6. Where do  $\overleftrightarrow{AB}$  and plane ABFE intersect?

A

7. Name any three noncollinear points.

A, G, & H  
D, C, & F

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