

EXERCISE - DAY 1 - 3D SPACE

Learning Objectives:

1. Define planes and spaces
 2. Create representations of 2D and 3D space with physical materials.
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Activity:

Using pipe cleaners or other materials, represent a:

1. 2d plane
 2. 3d space
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Questions Posed:

Q1: How many vectors can occupy 1d, 2d, & 3d?

A1: 0, infinite, infinite

Q2: What is the minimum number of vectors needed to define 1d, 2d, & 3d?

A2: 1, 2, 3

Q3: What are these called?

A3: line, plane, space

Q4: How do we define them?

A4: ??

Key Vocabulary & Concepts:

Axis/Axes - a reference line drawn on a graph

0d space - a single point with no dimension

1d space - one single axis

2d - two axes perpendicular to one another

3d - three axes perpendicular to one another

Point - a location with no direction or dimension

Line - a segment of a single axis

Plane - a space defined by any two perpendicular axes

3d Space - a space defined any three perpendicular axes

Coordinates - set of values that show position in 2d or 3d space

Vectors - a mathematical structure that has a magnitude and a direction