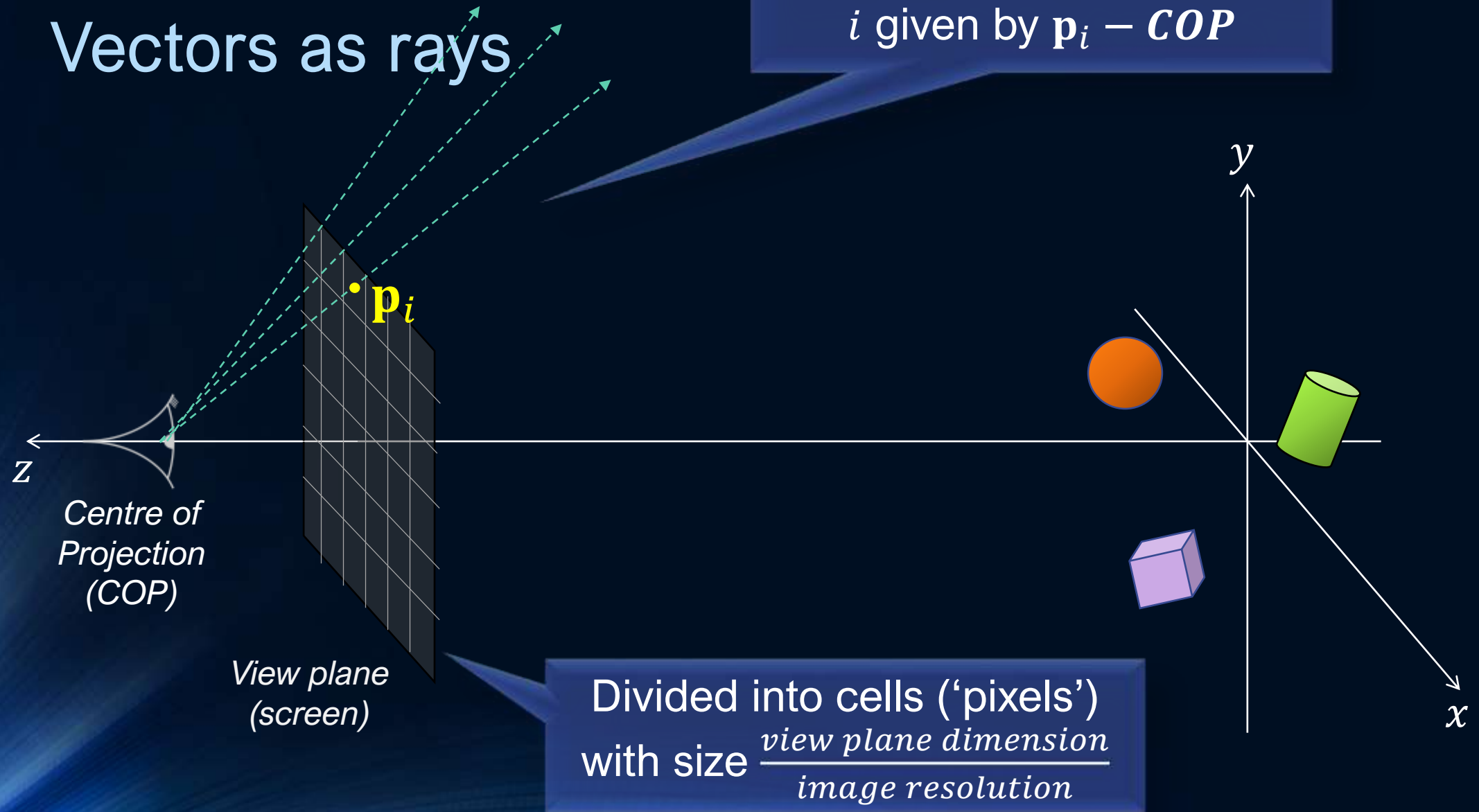*Week 7: 3D Geometry I*
Part 3: A simple camera

COMP270: Mathematics for 3D Worlds and Simulations

Objectives

- **Apply** vectors and intersection tests in transferring a 3D scene to a 2D screen

Vectors as rays

Direction of ray through cell i given by $\mathbf{p}_i - COP$

$\mathbf{p}_i$

z

Centre of Projection (COP)

View plane (screen)

Divided into cells ('pixels') with size $\dfrac{view\ plane\ dimension}{image\ resolution}$

y

x

Colour by numbers

Zoom

z

Centre of Projection (COP)

View plane (screen)

y

x