# fluid kinematics

## Fluid Mechanics

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**STUDY OF FLUID MOTION REGARDLESS THE CAUSE OF THE FLUID MOTION**

- **DISPLACEMENT**
- **VELOCITY**
- **ACCELERATION**

# FLUID KINEMATICS

- Kinematic behavior of fluid is studied at various points in the fluid domain without considering the pressure or forces

# Two approaches of fluid kinematics

**Langragian approach**

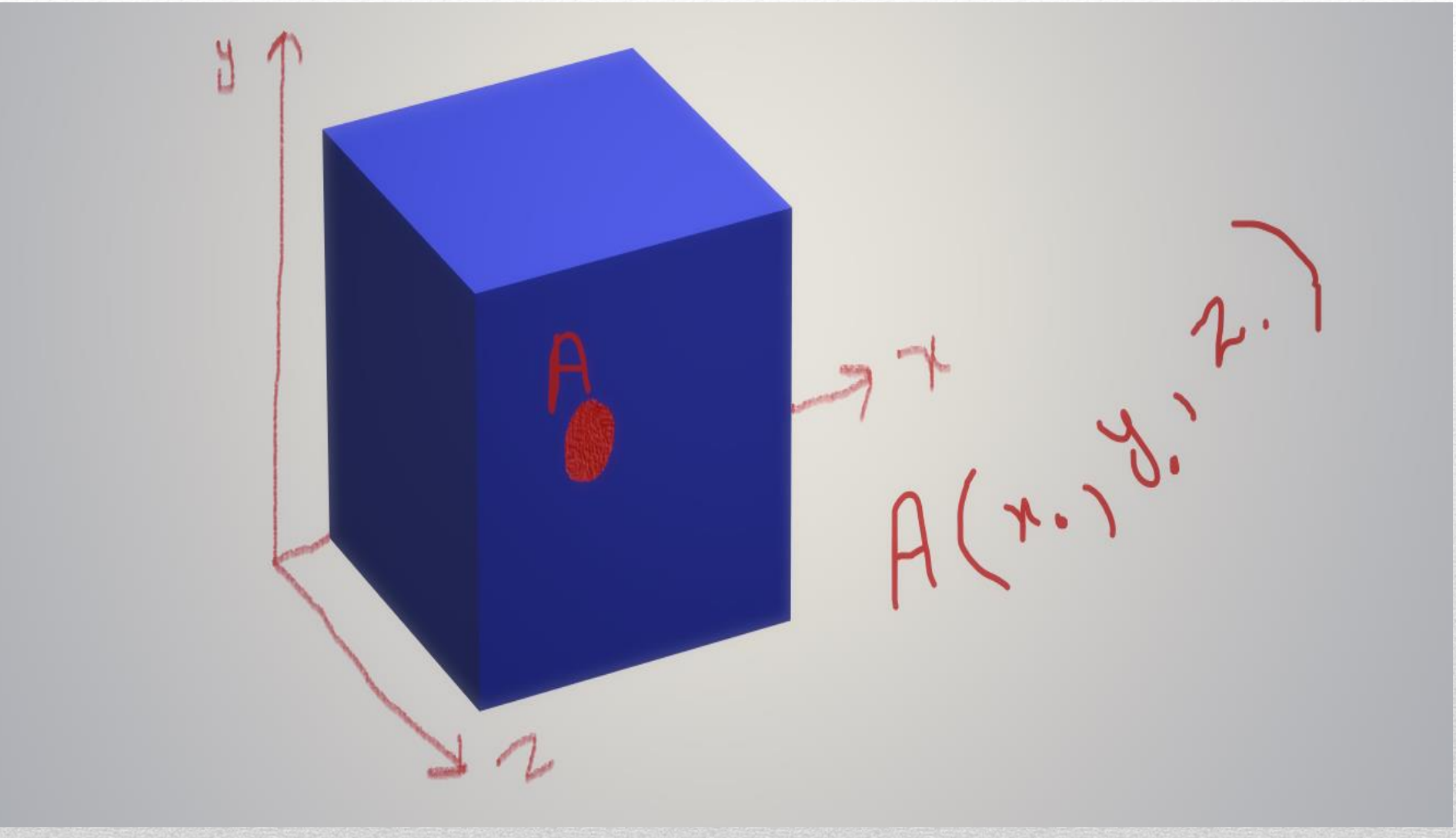
**Eulerian approach**

# Two approaches of fluid kinematics

## Langragian approach

Lagrangian approach deals with individual particles and calculates the trajectory of each particle separately

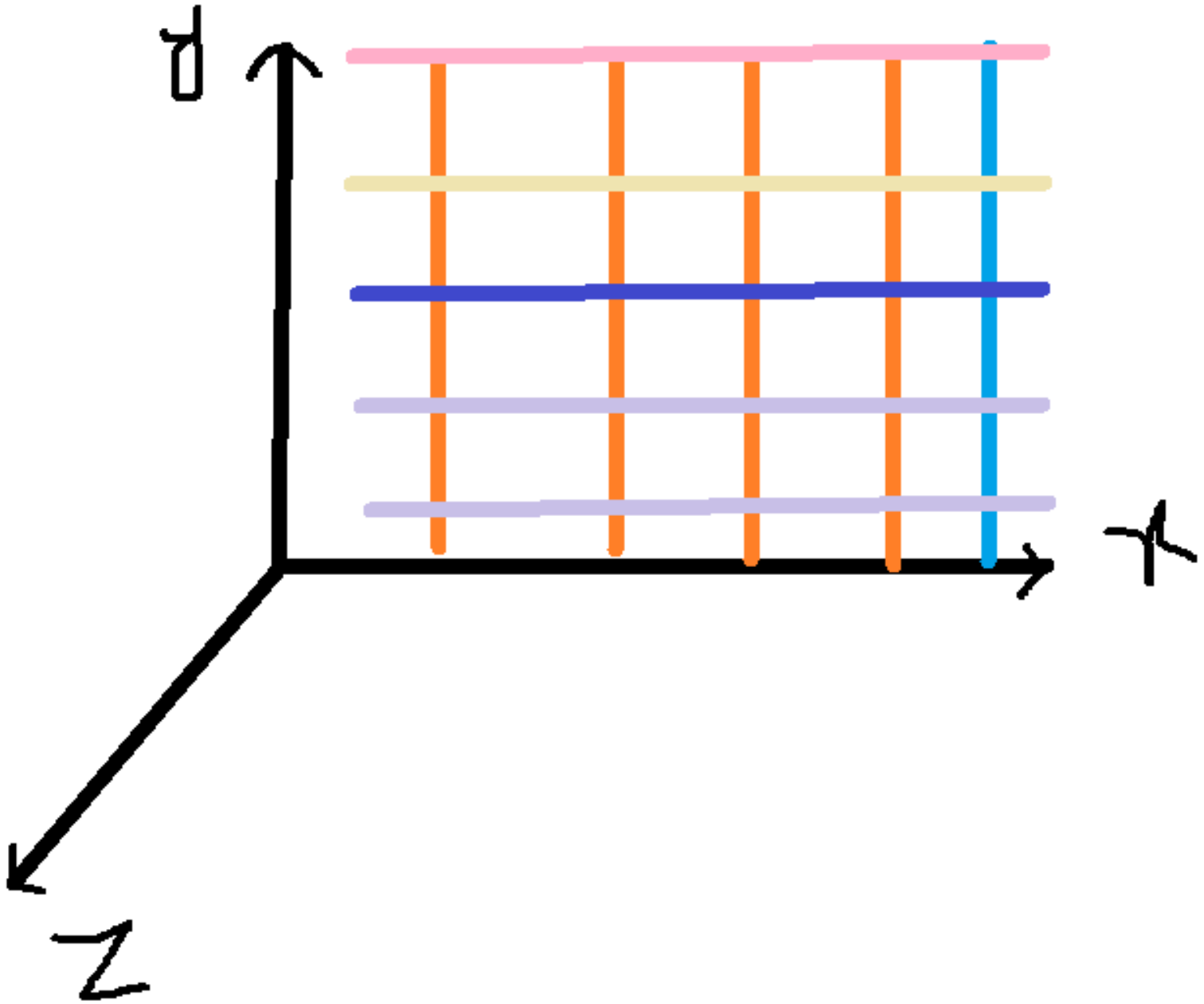
**The kinematic behavior of the fluid particle will e the function of its identity**


y
A
x
z
A(x0, y0, z0)

# Two approaches of fluid kinematics

## Eulerian approach

the Eulerian approach deals with concentration of particles and calculates the overall diffusion and convection of a number of particles.


Y
X
Z