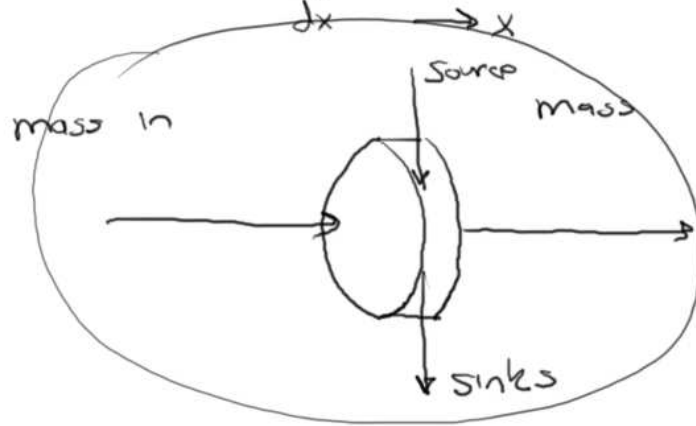
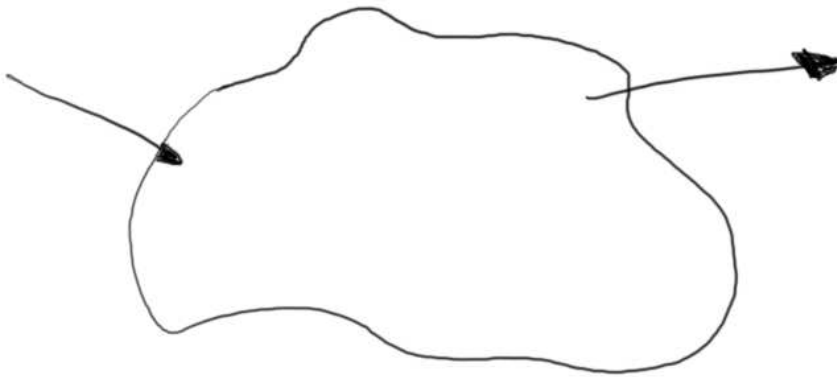


# Conservation of Mass

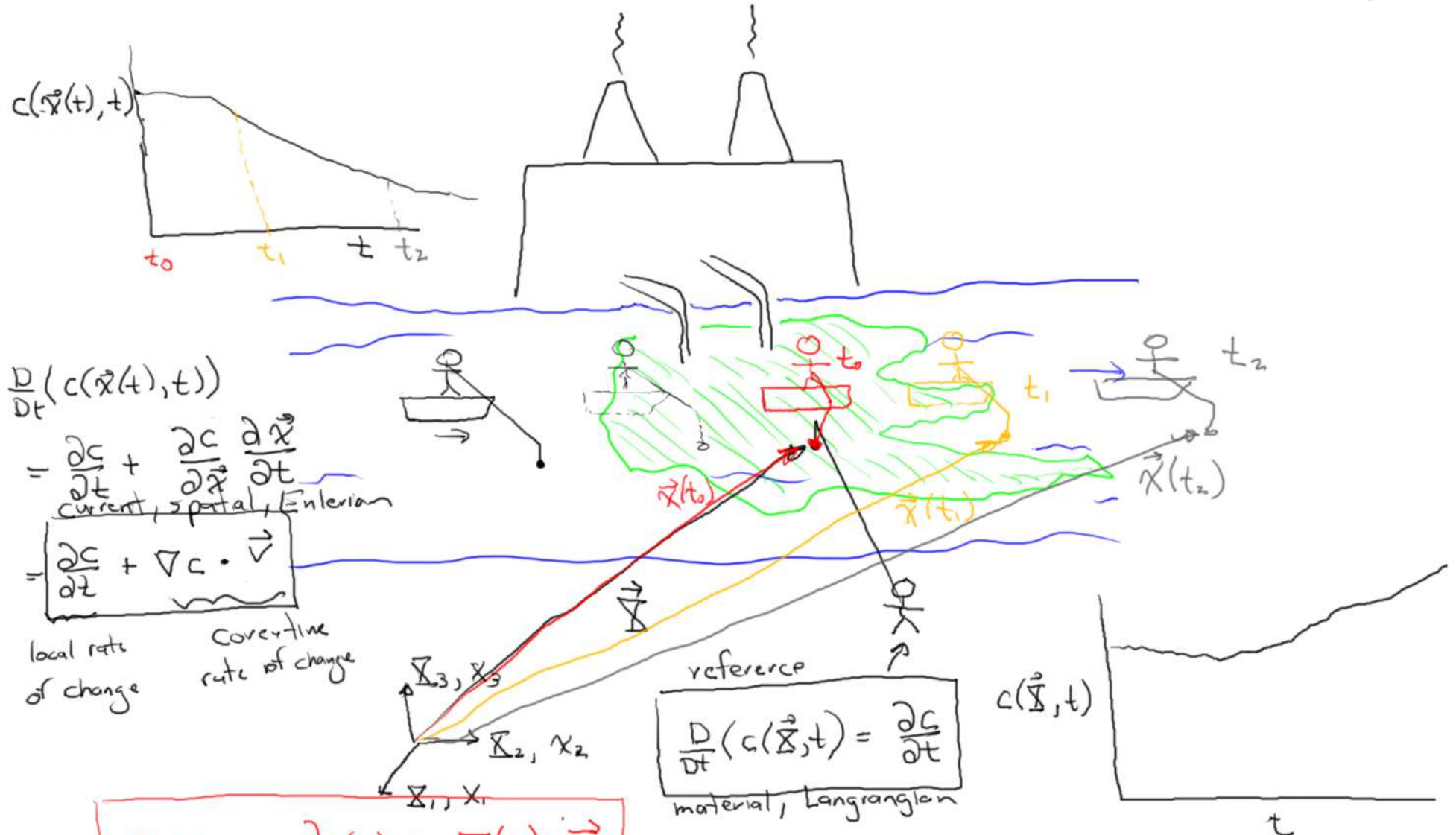


$\approx$  accum./storage

2D + 3D



# Material Time Derivative (total, substantial, convective derivative)



$$\boxed{\frac{D}{Dt}(\cdot) = \frac{\partial}{\partial t}(\cdot) + \nabla(\cdot) \cdot \vec{v}} \leftarrow \text{Material Time Derivative}$$