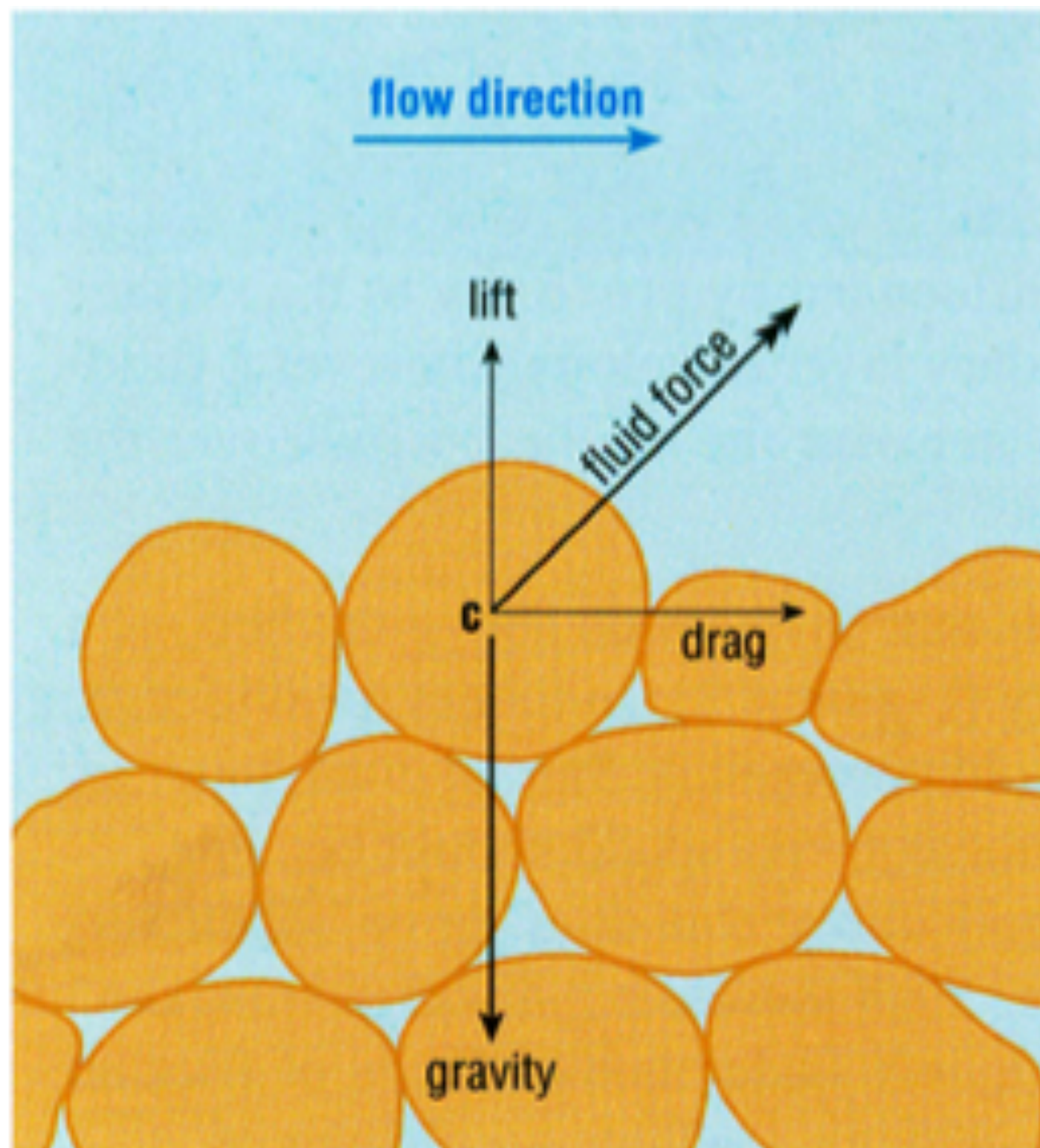


# Better physics for coastal dynamics

## Sediment transport

- To determine if seabed sediment is likely to be moved by a current we need to know the value of the shear stress at the bed!
- Measuring its value directly is impractical but we can use the rate of increase of the current speed with distance from the bed as a proxy.



- The shear stress is proportional to the square of the speed of the flow
- In addition to the frictional drag, particles are subject to a lifting force by the moving current.

# Better physics for coastal dynamics

## Sediment transport

- **grain size**
- **densities** of sediments and of ambient water (in practise the density contrast between particles and water)
- **viscosity** of the ambient water
- **flow regime** turbulent / laminar