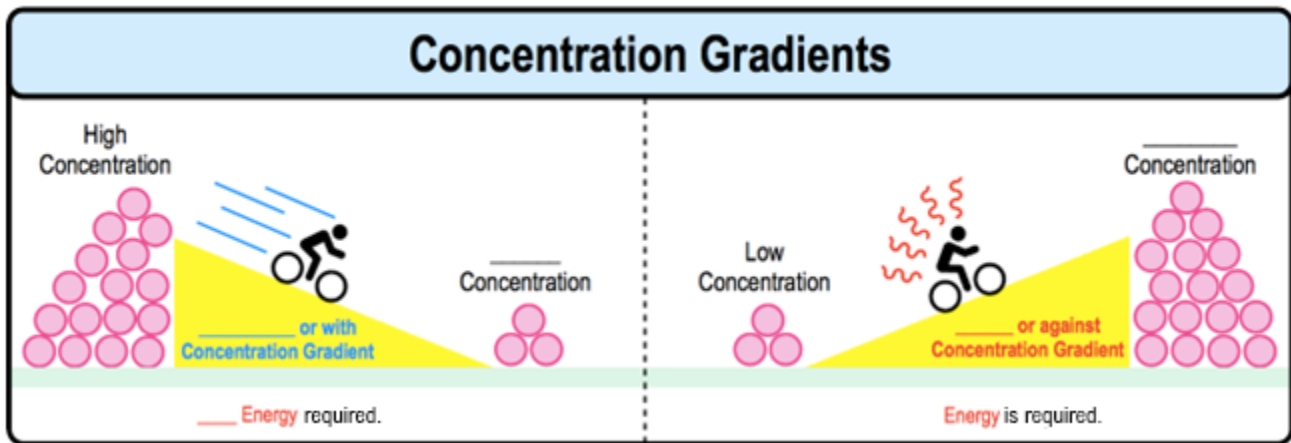


## CONCEPT: CONCENTRATION GRADIENTS & DIFFUSION

- **Concentration Gradient:** \_\_\_\_\_ in the *concentration* of a substance between \_\_\_\_\_ areas.
  - A molecule moves \_\_\_\_\_ (or *down*) its gradient when going from an area of *high* to *low* concentration.
  - A molecule moves \_\_\_\_\_ (or *up*) its gradient when going from an area of *low* to *high* concentration.

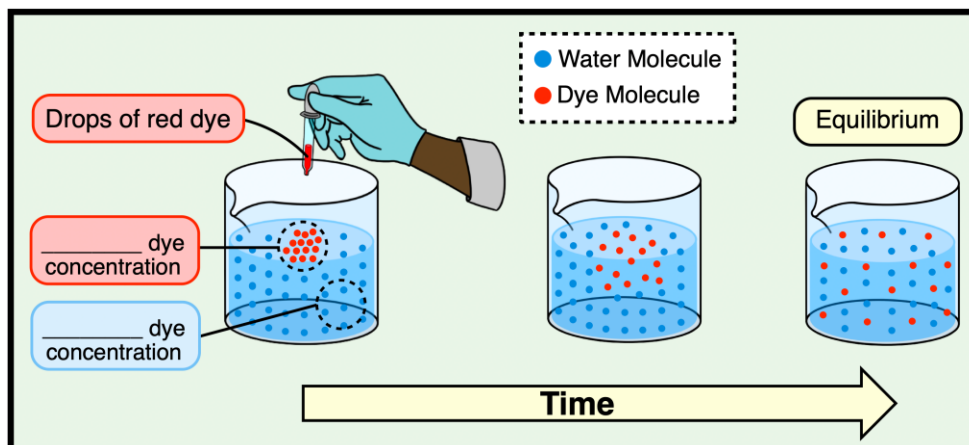
**EXAMPLE:** Concentration gradients.



## Diffusion

- The movement of a substance from an area of \_\_\_\_\_ concentration to an area of \_\_\_\_\_ concentration.
  - Molecules have natural tendency to *diffuse* \_\_\_\_\_ (down) their *concentration gradients* (from *high* to *low*).

**EXAMPLE:** Diffusion of a Dye in Water.



**PRACTICE:** Which of the following statements about diffusion is true?

- It's a process where water moves across a semi-permeable membrane to a region of high solute concentration.
- It requires an expenditure of energy by the cell.
- It's a process where molecules move from a region of lower concentration to a region of higher concentration.
- It's a process where molecules move from a region of higher concentration to a region of lower concentration.