

Cell Processes

Mr. Skirbst

Cell Processes

*The ways in which cells obtain
and/or use energy*



5 Cell Processes

1. Metabolism

- **ALL chemical activities that occur**

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- **Ability to change energy from one form to another**

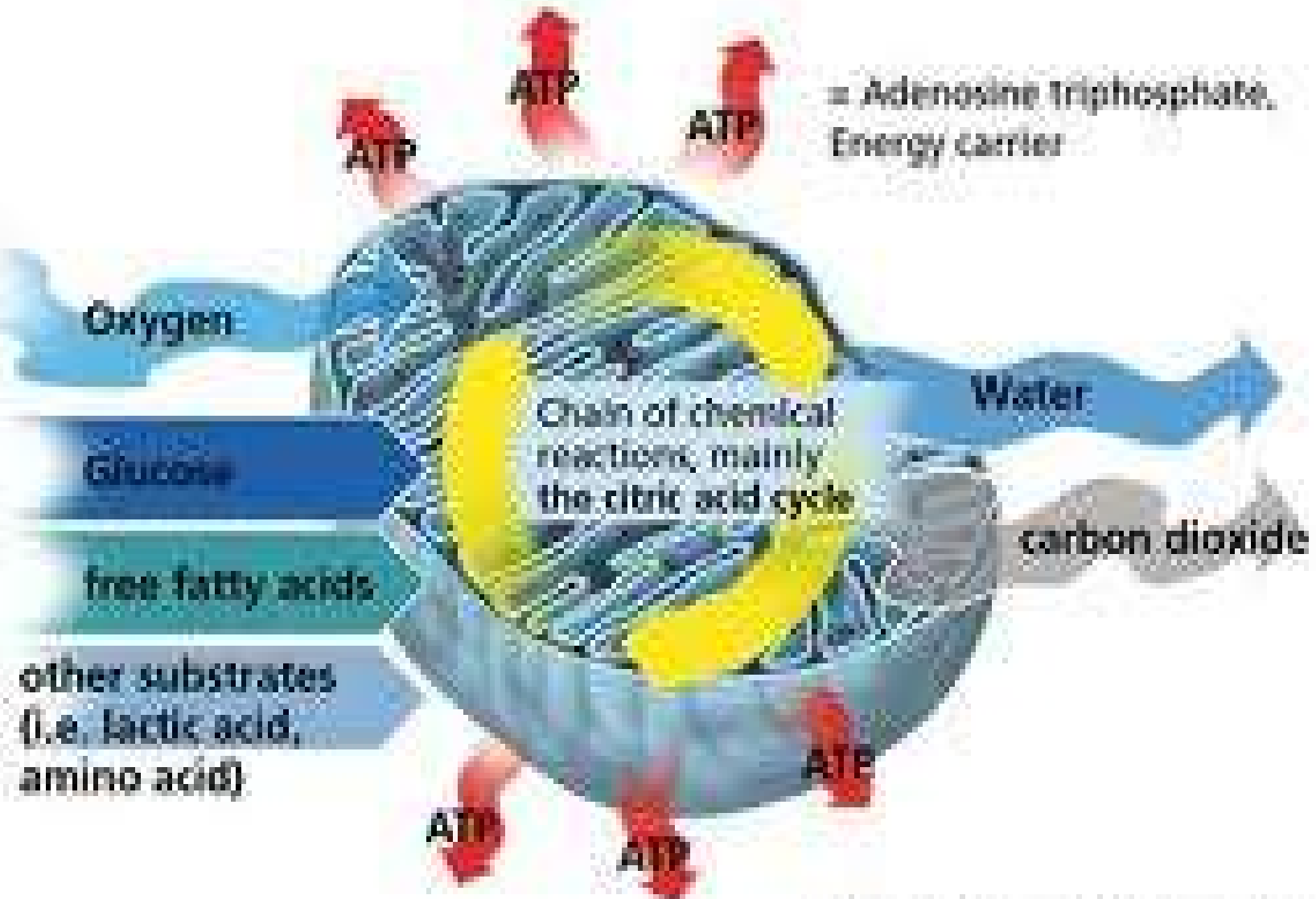
1. Metabolism

- ALL chemical activities that occur

- Ability to change energy from one form to another

(ex. chemical – motion – heat)

1. Metabolism



2. Respiration

- Breaking down food (glucose) into energy**

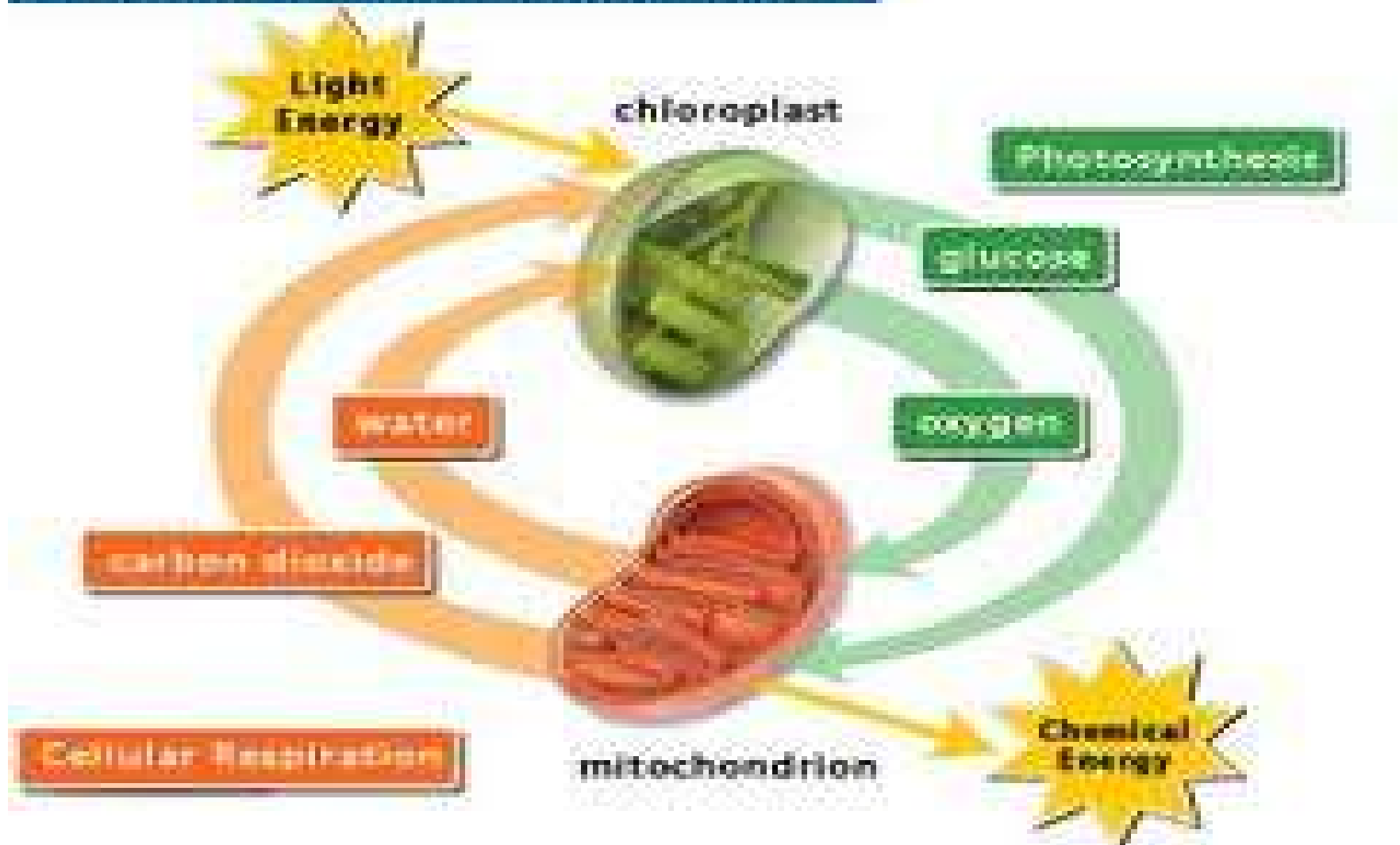
2. Respiration

- Breaking down food (glucose) into energy

TWO kinds of respiration

2. Respiration

Photosynthesis and Respiration Cycle



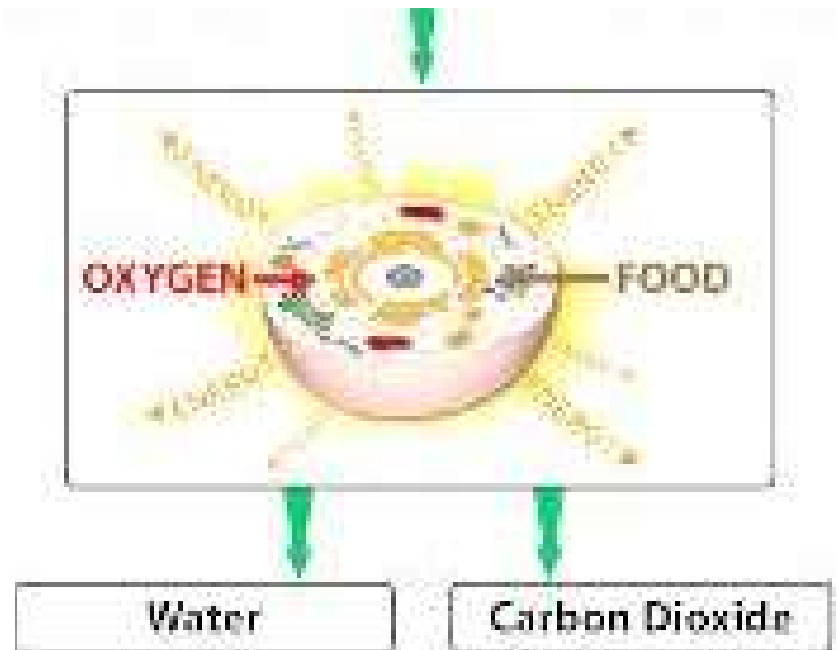
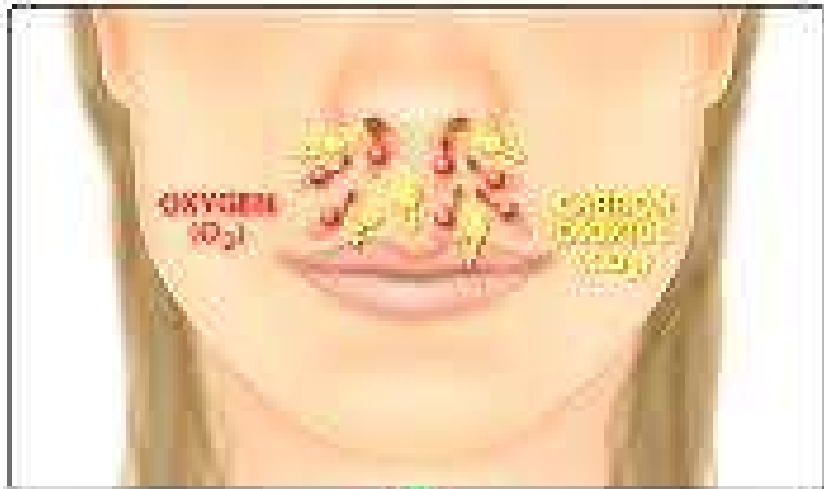
Two Kinds:

AEROBIC respiration:

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AEROBIC respiration:

- Requires oxygen (O_2)



2 Kinds:

ANAEROBIC respiration:

2 Kinds:

ANAEROBIC respiration:

- Requires NO oxygen (O_2)



2 Kinds:

ANAEROBIC respiration:

- Requires NO oxygen (O_2)

- Also called “fermentation”



2 Kinds:

ANAEROBIC respiration:

- Requires NO oxygen (O_2)
- Also called “fermentation”
- (ex. **Yeast – alcohol**)



3. Diffusion

- **Movement from higher to lower concentration levels**

3. Diffusion

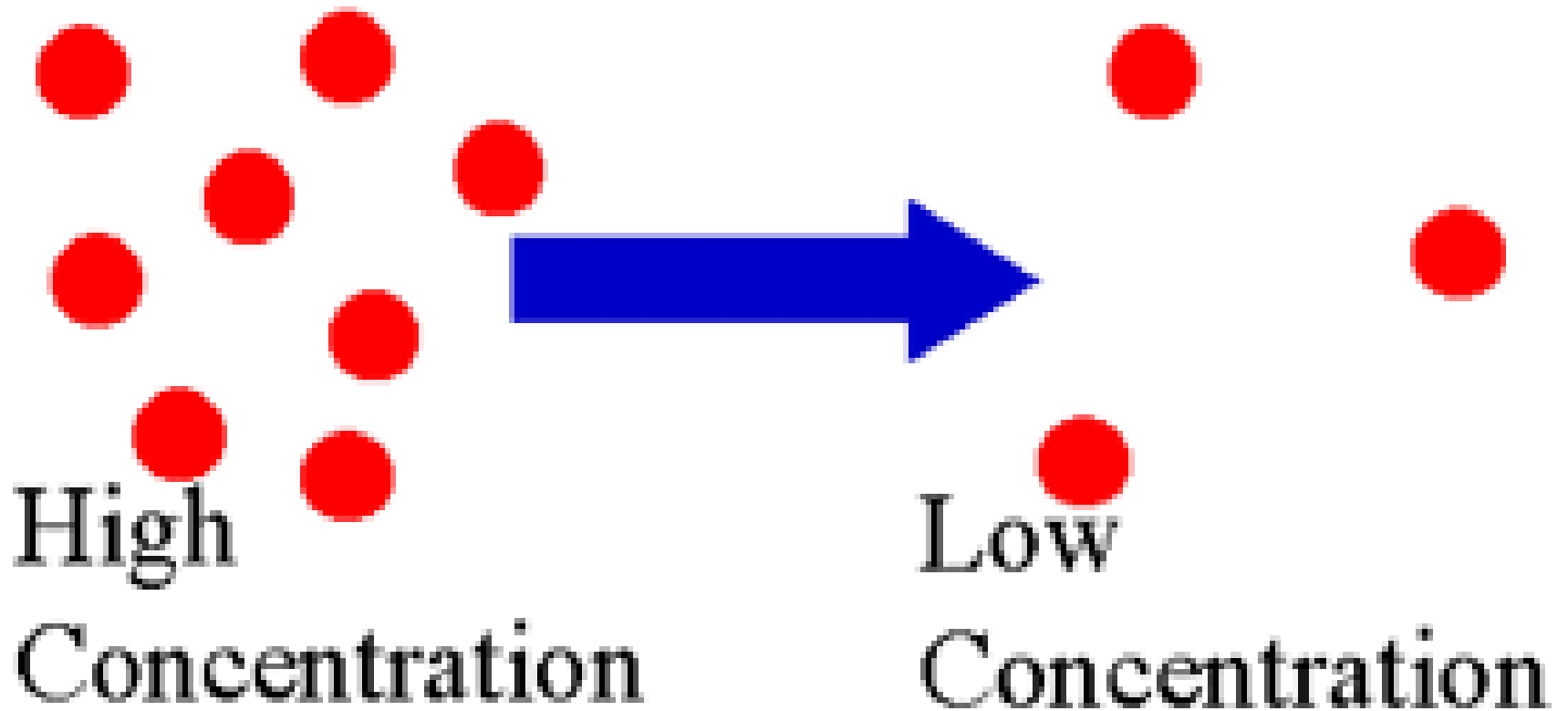
- Movement from higher to lower concentration levels
- **Requires NO energy input**

3. Diffusion

- Movement from higher to lower concentration levels
- Requires NO energy input
- **(ex. Odors, liquids, etc.)**



3. Diffusion



4. Osmosis

- Diffusion of water into or out of a cell

4. Osmosis

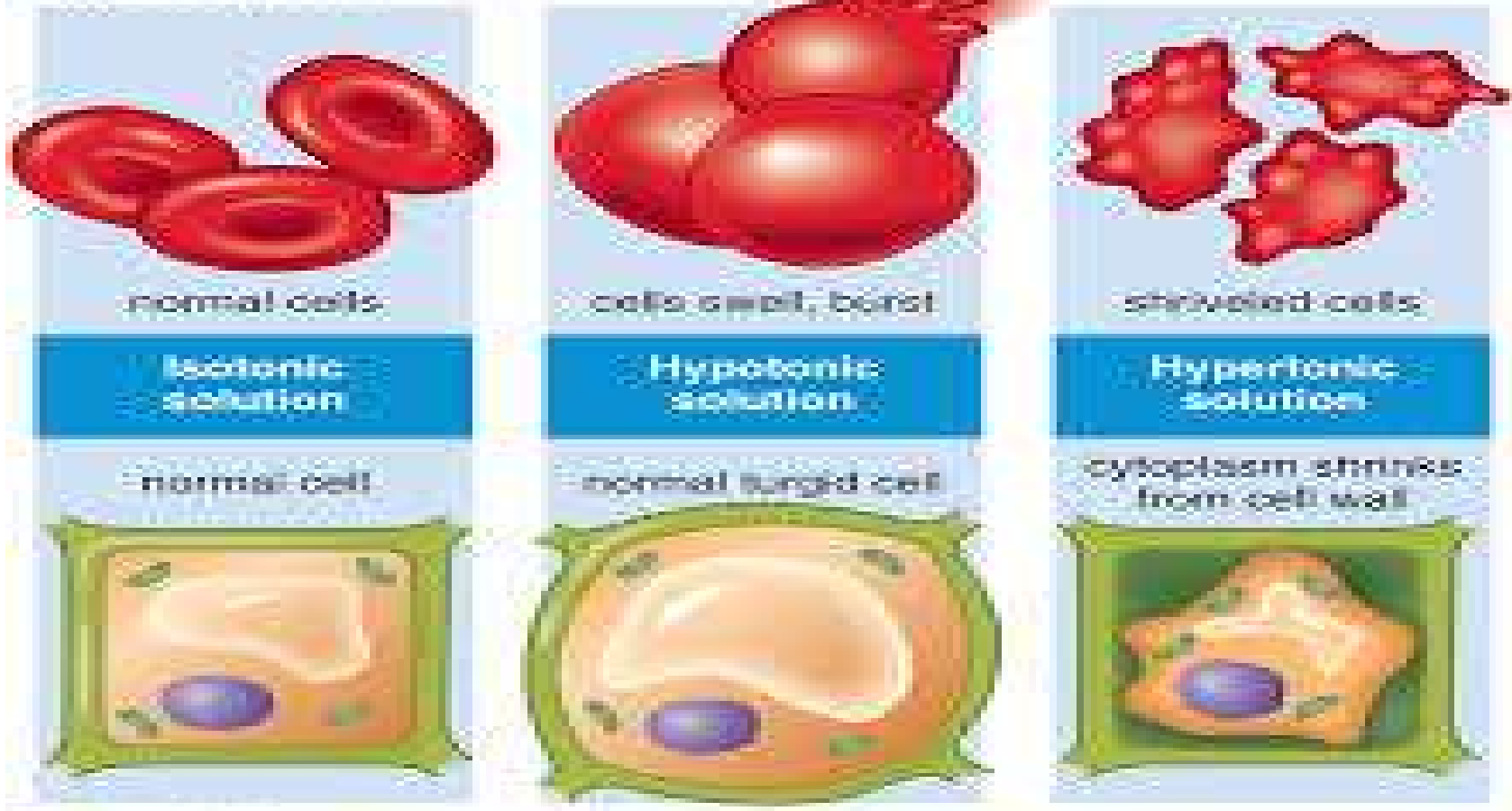
- Diffusion of water into or out of a cell
- **Requires NO energy input**



4. Osmosis

Illustration of Plant and Animal Cells in Isotonic, Hypotonic, and Hypertonic Solutions

Red blood cells



normal cells

Isotonic
solution

normal cell

cells swell, burst

Hypotonic
solution

normal turgid cell

shriveled cells

Hypertonic
solution

cytoplasm shrinks
from cell wall

Plant cells

5. Active Transport

- Movement of materials into or out of a cell (waste)

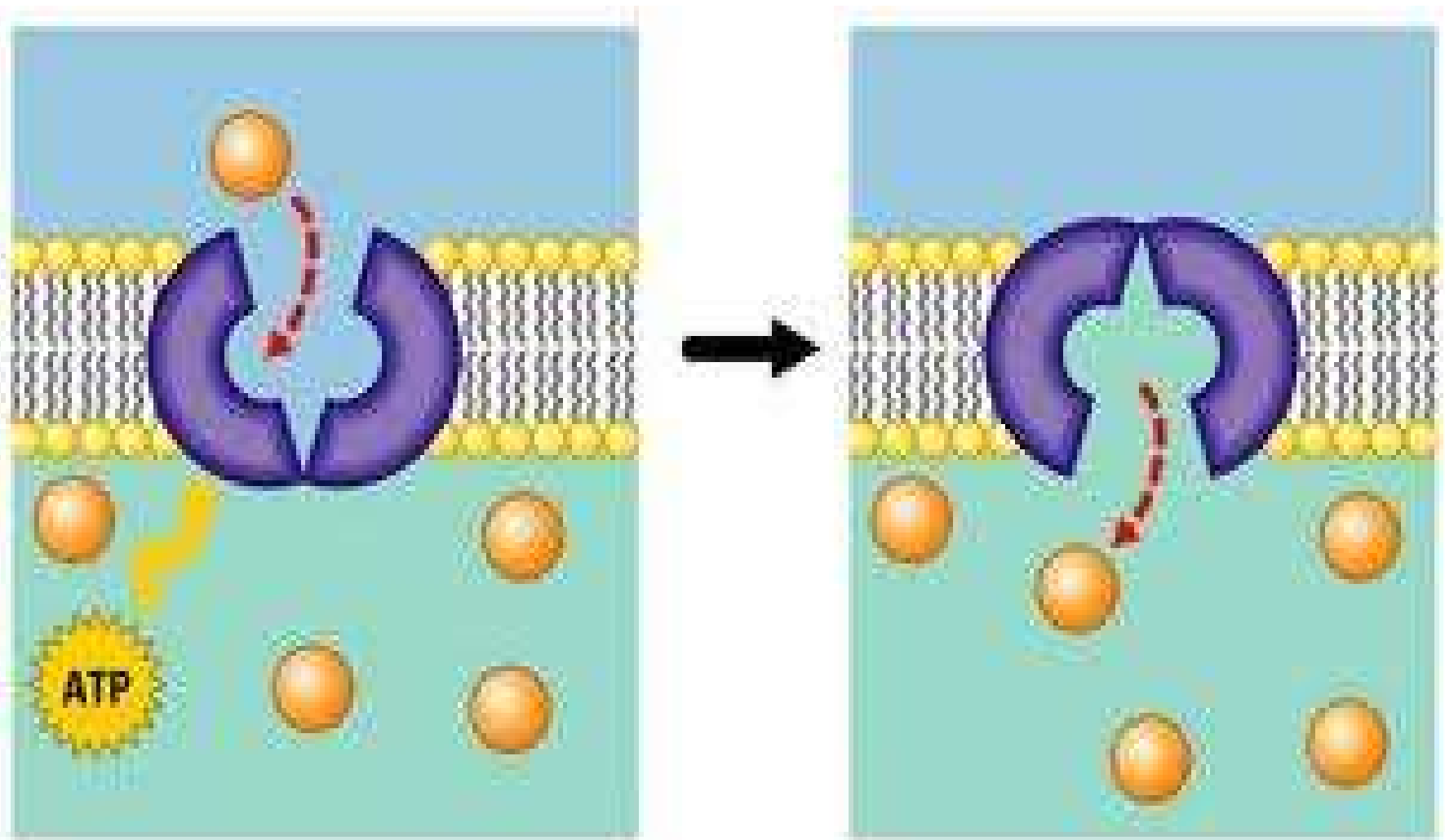


5. Active Transport

- Movement of materials into or out of a cell (waste)
- **Requires energy**



5. Active Transport



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