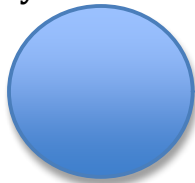
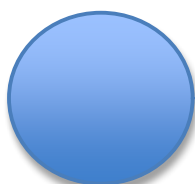




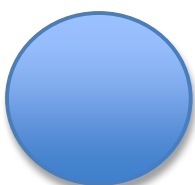
Questions/Pictures/  
Key Words



"Hypo = Hippo  
(big fat guy)"



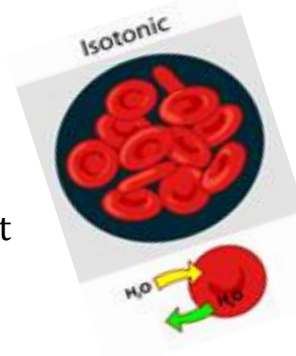
—"Hyper", hyper  
people burn lots of  
energy and are  
skinny!"



**Type of Solutions:**

**1. ISOTONIC**

- Same solution on both sides
- \_\_\_\_\_ movement in and out



**2. HYPOTONIC**

- "HYPO" means less



- \_\_\_\_\_ solute (salt) molecules \_\_\_\_\_ the cell, since salt sucks, water will move into the cell.
- The cell will gain water and grow larger.

• **Strategies**

- How to deal with swelling up and not pop!

— ANIMAL CELL:

- The cell may be in danger of bursting, organelles called **CONTRACTILE VACUOLES** will pump water out of the cell to prevent this

— PLANT CELL:

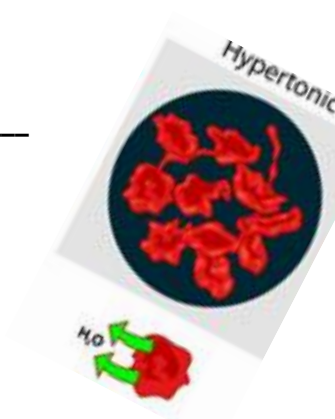
- The central vacuoles will fill and the plant becomes stiff, the cell wall keeps the plant from bursting

— **Central Vacuole**

**3. HYPERTONIC**

- "HYPER" means more
- The word, in this case there are \_\_\_\_\_ **solute (salt) \_\_\_\_\_ the cell,**
- which causes the water to be sucked out of the cell

- PLANT CELLS: the central vacuole loses water and the cells shrink, causing wilting.
- ANIMAL CELLS: the cells also shrink.
- In both cases, the cell may die.



**Summary:**