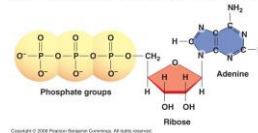


Cellular Energy

What Energy does the Cell Use?

- ATP
- adenosine **TRI**phosphate
- Assembled in mitochondria

(a) ATP consists of three phosphate groups, ribose, and adenine.



Where's the energy in ATP?

- Because all THREE phosphate groups are negative, they REPEL each other but are held in place by a bond.
- This is like a **COMPRESSED SPRING!**



No Energy
Spring Relaxed



Stored Energy
Spring Compressed

Figure 4. Examples of spring energy

Where's the energy in ATP?

- Energy is IN THE BONDS THAT HOLD THE PHOSPHATE TOGETHER!
- When one of these bonds are broken... ENERGY IS RELEASED!
- Like letting go of the spring.



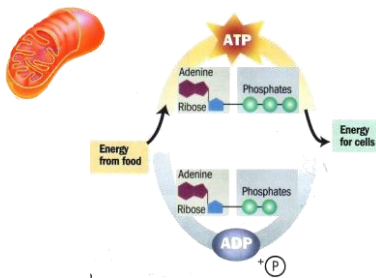
No Energy
Spring Relaxed



Stored Energy
Spring Compressed

Figure 4. Examples of spring energy

The ATP Cycle



What ENERGY?

ATP!