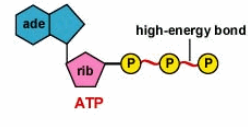


ATP/ADP CYCLE

How do cells store energy?

ATP

- ATP (adenosine triphosphate) supplies energy to the cell and is made of three parts
 - Nitrogenous base (adenine)
 - Sugar (ribose)
 - 3 phosphate groups
- The 3 phosphates are held by high energy bonds

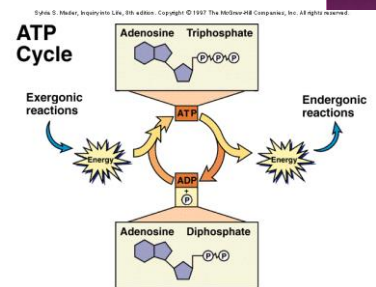


ATP/ADP CYCLE

- Breaking the phosphate bond releases energy that the cell can use to do things
- When a phosphate bond is broken ATP becomes ADP
 - one less phosphate = diphosphate
 - In other words, energy is released each time a phosphate is removed, or when ATP becomes ADP

ATP/ADP CYCLE

- On the other hand, energy is required to add a phosphate group
 - In other words, energy is needed to make ATP from ADP



SUMMARY

- In summary
 - ATP → ADP + phosphate + energy
 - ADP + phosphate + energy → ATP
- So if you NEED ENERGY, will you break ATP to form ADP or add a phosphate to ADP to form ATP?

