

ATP, Photosynthesis and Cellular Respiration Webquest

Name: _____

Objective: In this web quest investigation, you will use the internet to research topics related to ATP, Photosynthesis and Cellular Respiration. Use the web links provided to answer the following questions. Happy searching!

What is ATP? <http://www.biologyinmotion.com/atp/index.html>

1. How does energy get converted from food molecules to muscles?

2. According to the webpage, the analogy for ATP is that ATP works like a rechargeable _____.
3. Click on the arrow to the next page. Pull apart the ice cream. What happens when food is broken down in the body?

4. Pull a Phosphate from the recharged ATP, what happened?

ATP Synthase the Movie:

<http://vcell.ndsu.nodak.edu/animations/atpgradient/movie.htm>

Watch the following movie, you can pause if needed. Answer the following questions.

5. What is a gradient? _____

6. What is the enzyme that restores ADP back to ATP? _____
7. In which organelle is ATP synthesized or made? _____
8. What type of ion is built into a gradient so ATP synthase can work?

9. What does the top part of ATP synthase do when Hydrogen ions enter?

10. How many ions have to enter in order for ATP synthase to have enough energy to make ATP? _____
11. How is the gradient of ions maintained in the mitochondria?
