

Cell Respiration/Photosynthesis

AP Biology – Mr. Hall

UNIT OUTLINE

Concepts/Topics

- Metabolism - catabolic and anabolic processes (often coupled)
- ATP, NADH
- Glycolysis
- Anaerobic pathways - fermentation (alcohol, acetic acid, lactic acid)
- Brief anatomy of the mitochondrion
- Aerobic pathways - Citric Acid/TCA/Krebs Cycle, ETC (electron transport chain)
- Brief anatomy of the chloroplast
- Photosynthesis - light reactions (ETC), dark reactions (Calvin Cycle)
- Stomata and alternatives to Calvin Cycle (C4, CAM pathways)

Readings

Principles of Life (2013), Chpt. 6, Chpt. 25.3 (pp.545-551)

“Grow in the Dark: Bottom-dwelling bacterium survives on geothermal glow” (*Science News* - 25 Jun 2005)

Homework/Activities

- Crossword: Cellular Respiration Due: _____
- Crossword: Photosynthesis Due: _____
- Article Questions: **Science News** photosynthetic microbe article Due: _____

Helpful Web Links

Metabolism and ATP (Prof. Dave Explains)

www.youtube.com/watch?v=-6VyMFQ7rRo

Videos/Tutorials

ATP & Respiration (Crash Course)

www.youtube.com/watch?v=00jbG_cfGuQ

Glycolysis (Prof. Dave Explains)

www.youtube.com/watch?v=SUPQVg1vO0Q

Anaerobic Respiration (Brightstorm)

www.youtube.com/watch?v=mgH_-spn-ew

Mitochondrion (Brightstorm)

www.youtube.com/watch?v=MIDk7pKaBul

Citric Acid Cycle (Prof. Dave Explains)

www.youtube.com/watch?v=FmEm0CgHGdA

Krebs/TCA Cycle (Brightstorm)

www.youtube.com/watch?v=bBraKrm6II4

Oxidative Phosphorylation (Prof. Dave Explains)

www.youtube.com/watch?v=VxCdheLvrX4

Electron Transport System (Brightstorm)

www.youtube.com/watch?v=g44wSRU5LXY

Chloroplast (Brightstorm)

www.youtube.com/watch?v=gwe-SDZyDEo

Chloroplast (Bozeman)

www.youtube.com/watch?v=jTnNGlx5-P8

Photosynthesis (Crash Course)

www.youtube.com/watch?v=sQK3Yr4Sc_k

Photosynthesis (Prof. Dave Explains)

www.youtube.com/watch?v=dAF5FngVa7A

Photosynthesis (Brightstorm)

www.youtube.com/watch?v=2pk_ZIGdJZk

Photosynthesis (Bozeman)

www.youtube.com/watch?v=g78utclQrJ4

Light Dependent Reactions (Brightstorm)

www.youtube.com/watch?v=SWku2NkWXfM

Calvin Cycle (Brightstorm)

www.youtube.com/watch?v=6Xyjpj4tJl

C4 and CAM Plants (Craig Savage)

www.youtube.com/watch?v=Dq38MpYO8w

C4 and CAM Photosynthesis (Scott Collins)

www.youtube.com/watch?v=KneqOXKdXSU