

Chapter 18 – The Electron Transport Chain

Objective	In-text reading	Pre-class materials/activities	In-class materials/activities	Practice problems from text
1. Identify the important roles that coenzymes and prosthetic groups play in biochemistry.	18.2	Ch. 18: The Electron Transport Chain (Hayden Lecture) Electron Transport Chain (Music Video)	S34 – Electron Transport	4 th Edition: S34 – Post Skill Exercises
2. Predict if ATP production is possible when coupled to particular reactions or processes.	18.2	Ch. 18: The Electron Transport Chain (Hayden Lecture)	S34 – Electron Transport	4 th Ed: #29, S34 – Post Skill Exercises
3. Calculate E° values to predict the direction of reactions and the sequence of reactions, and to apply the principles of electron transport to a new situation.	18.2	Ch. 18: The Electron Transport Chain (Hayden Lecture) Oxidation-Reduction Reactions (Professor Dave Explains)	S34 – Electron Transport	4 th Edition: #5, 7, 11, 13, 15 S34 – Post Skill Exercises
4. Analyze and discuss the effects of ETC inhibitors such as those found in weight loss and dieting drugs.	18.2	Ch. 18: The Electron Transport Chain (Hayden Lecture) DNP Case Study Handout The Devastating Effects of Gold Mining	DNP Case Study	4 th Edition: #9
5. Hypothesize how the inhibition of the ETC will impact oxidative phosphorylation and the production of ATP.	18.2	Ch. 18: The Electron Transport Chain (Hayden Lecture)	DNP Case Study	4 th Edition: #27
6. Explain the chemiosmotic theory	18.2	Ch. 18: The Electron Transport Chain (Hayden Lecture)	DNP Case Study	
7. Discuss how the ETC can be utilized to generate warmth in human infants and hibernating mammals.	18.2	Ch. 18: The Electron Transport Chain (Hayden Lecture)	DNP Case Study	
8. Discuss and evaluate the relationship between ATP synthesis via oxidative phosphorylation and electron transport in eukaryotic cells.	18.2	Ch. 18: The Electron Transport Chain (Hayden Lecture)	DNP Case Study	

Also see additional practice on the Sapling Online Homework page.