

STEM CELL Tutorial (NIH) – link #20 under Cellular Biology on the links and videos page (jmazzabiology.com)

1. Introduction: What are stem cells, and why are they important?
2. What is a blastocyst? What types of stem cells can be found in a blastocyst?
3. What are the unique properties of all stem cells?
4. What is differentiation? How is an understanding of differentiation important in the field of regenerative medicine (you may have to do some research for this one).
5. What are embryonic stem cells?
6. Where do embryonic stem cells used for research come from?
7. Why are embryonic stem cells said to be pluripotent? Why is this feature attractive to stem cell researchers?
8. What are adult stem cells?
9. What are the similarities and differences between embryonic and adult stem cells?
10. What is the ethical dilemma for some people surrounding the use of embryonic stem cells for research?
11. What are induced pluripotent stem cells? Why is the potential use of these cells significant to question #10 above?
12. What are the potential uses of human stem cells and the obstacles that must be overcome before these potential uses will be realized?