**Stem Cells Webquest**

In Google, type “Learn.Genetics” and click on the first link. Click on the “Stem Cells” link.

1st – Click on “The Nature of Stem Cells”

1. What are *differentiated cells?*

2. Are stem cells “differentiated” cells? Explain!

4. True or false, for the first few divisions (during cleavage), cells remain undifferentiated.

4b. According to slide 4, what cause cells to start changing or differentiating? (Hint: the lightning bolts)

5. What is the embryo called after one week of fertilization?

6. What is the name given to the part of the embryo that will eventually form all the cells of the baby?

7. Cell signals \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the potential of the embryo cells about two weeks after fertilization. Each layer will give

rise to a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ set of cell types. (slide 6)

8. How many different types of cells are made from a single fertilized egg?

8b. True or false, after birth, some stem cells remain.

9. What are the possible functions of stem cells in the body? (2 things)

10. True or false, (adult) somatic stem cells are the same as embryonic stem cells.

11. List tissues where (adult) somatic cells have been found.

For example= bone marrow cells

**2nd- Go back to the “Stem Cells” home page and click on “Go Go Stem Cells.”**

16. What is a stem cell niche? (Watch the movie)

17. What happens to a stem cell if it is removed from its niche? (2 things)

18. Explore **three of the five** cell niches shown on the right side of the screen. Write three interesting facts about the cell niches that you have chosen to explore.

Cell Niche Type:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Cell Niche Type:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Cell NicheType:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Interesting Facts: 1. 1. 1.

2. 2. 2.

3. 3. 3.

**3rd- Go back to the “Stem Cells” home page and click on “Unlocking Stem Cell Potential.”**

20. Define regeneration.

21. True or false, regeneration in humans is limited.

22. What is meant by “regenerative medicine”?

23. List three examples of regenerative medicine that scientists are currently using.

1.

2.

3.