Meiosis Worksheet

Use the links in this worksheet and answer the questions listed.

Fill in all answers – feel free to use another sheet if you would prefer to.

1. Click here http://biologyinmotion.com/cell_division/.
2. Complete the “practice mitosis” and “practice meiosis” exercises:

   Describe:

3. In order to separate the chromosomes in half you will have to use the “shift” key
4. How did the results of the two practice exercises differ? (Your own words)

5. Click here http://www.pbs.org/wgbh/nova/baby/divi_flash.html
6. How many steps to complete Mitosis? _____

   Meiosis? _____
7. Go to the last step in Meiosis. What does it say about “daughter cells”?

8. http://biostudio.com/d_%20Meselson%20Radding%20Model%20Crossing%20Over.htm
9. Work through the animation … What is crossing over?
10. Does crossing over give any advantages to the cell (or ultimately the organism)? (if so what… describe)

11. Recently in the media news there has been a lot of discussion about “stem cells”. Click here http://www.dnalc.org/stemcells.html
12. What is a blastocyst?
13. How many cells does it have?
14. On the next slide what does it say about the potential of stem cells?
15. Where are the cells placed to develop?
16. Look at the last slide. What do they hope these cells can be used for?
17. Here is another picture of a blastocyst the pink cells are the stem cells. Where are they located?
18. This shows you how big it is. Compare to the dime.
19. How many days after fertilization does the blastocycst implant?

    _____
20. Look at the following about cancer ; http://www.pbs.org/wgbh/nova/cancer/grow_flash.html On the second to last slide it talks about why cancer cells are so dangerous. What does “metastasize" mean ?
21. And why is it so dangerous?
22. Here are some more links you can observe on these topics; (just for fun)

Photos of Lilly meiosis stages;

23. Compare them to what you saw under the microscope (if you have completed the lab – or observe them – it will help you on the lab coming up soon.

Lilly Meiosis 1

Lilly Meiosis 2

Lilly Anther (pollen grains to contain sperm cells)

Lilly Ovary (to become egg cells or ova)

** How do the Lilly sperm cells and egg cells compare?

Check out the following videos:

24. Meiosis

25. Mitosis (Click on the video that shows a comparison between Mitosis and Meiosis) Using all we have learned, list at least 3 differences between Meiosis and Mitosis – in well written "high school sentences"!