You may use your notes, you may use the textbooks in the room, and you may open PDF versions of our powerpoints using your phone at bedfordbiology.weebly.com for this assignment. Today, and possibly at home, you will diagram (illustrate) and explain meiosis as we discussed in class and you saw in the video earlier (Amoeba Sisters on youtube, for reference). Be very specific in your diagrams and explanations to avoid losing potential points.

For this assignment…

* Show meiosis as it would occur if the original diploid number was 6 (3 chromosomes from the biological mother, 3 from the biological father) as opposed to our diploid number of 46 (23 from mom, 23 from dad)
* Use different colors to represent the chromosomes
  + You will need 3 colors for the chromosomes that came from the mother and an additional 3 for the chromosomes that came from the father
    - It may be easiest to use different shades of the same color for the homologues (ie dark blue chromosome from mom, light blue one with same genes from dad)
      * 6 colors total
    - SHOW CROSSING OVER! Explain it, as well. Remember, there is only one time that this will take place (if it happens).
      * Be sure that you show there was an exchange of genetic information in all the cells that follow this step (through shading/color-coding)
* Label each cell as being diploid or haploid. You will be showing ALL phases of meiosis (INTERPHASE-PI-MI-AI-TI/CYTO-PII-MII-AII-TII/CYTO). Label each image as haploid or diploid (this should also be clear based on the DNA you have drawn.
* Use a piece of computer paper (provided) for this mini-project. Do not waste paper. Start with pencil.
* Include the following terms (remember, you will be labeling/explaining each step):

|  |  |
| --- | --- |
| Interphase | Prophase I |
| Prophase II | Metaphase II |
| Anaphase II | Sister Chromatids |
| Individual Chromosomes | Telophase II |
| DNA Replication | Cytokinesis (use more than once) |
| Crossing Over | Tetrad (homologous chromosomes) |
| Metaphase I | Anaphase I |
| Telophase I | Spindle Fibers |

Points:

* Diagrams: up to 10 points
* Explanation of each step: up to 10 points
* Use of terms: 5 points
* Neatness: 5 points

TOTAL: max 30 points **YOU WILL EARN A 0% if your name is left behind by our sub!**