Mitosis/Meiosis Activity

Go to week 6 folder in D2L

Download the powerpoint (click on the black arrow) that is titled **Meiosis Exercise**

1. Slide 1

A. Copy and paste the link

B. Click on the blue square to expand to full screen

C. Before each stage click on the green flag

For this activity, the genes are for the Blood type (Both ABO and +/-) and for hemophilia (H, h). The short green chromosome is the Y chromosome.

D. Mitosis: Click the mitosis button: Drag the chromosomes to the metaphase plate; the screen will say “good”

E, When all of the chromosomes are lined up sketch what you have. Note how the chromosomes are arranged. You can also take a screen shot and save. To do this click on print screen (or prt sc) at top right of keyboard. Then do a “Ctrl C” (copy) . Open a word document. Put your name on it and then do a “Ctrl V” (paste). Print your document

F. Click Anaphase Mitosis to finish mitosis

G. Click the green flag

H Click meiosis 1 and drag as before. Drag to the green dots; it will say “good”. For this exercise, there is only one “correct” arrangement, though in actual meiosis, there will be other possibilities. Again sketch or take a screen shot. How are the homologues arranged in M1? How does this compare to mitosis?

I. Click on anaphase M1

J Click the green flag. Repeat Meiosis 1 but this time, after all of the chromosomes are in their correct positions; click alt m1.This will give you an alternative m1 arrangement. Take a screen shot

K. How many possible arrangements are there?

L. Click the green flag. Click Meiosis 2

M. Drag as before. It will say good. Take a screen shot Click on the anaphase M2.

O, If this sperm fertilizes an egg from a female who is O negative and is homozygous for the dominant non disease hemophilia allele, what will be the genotype and phenotype of the offspring? Will it be male or female?

P. Repeat the Meiosis 1 but do not hit the anaphase button. Instead click on the label button. It will give you a term and you need to touch the clicker to the corresponding figure. When you get it right it will say “correct”.