coreBio II - genetics: Wed. 7 Feb 2018

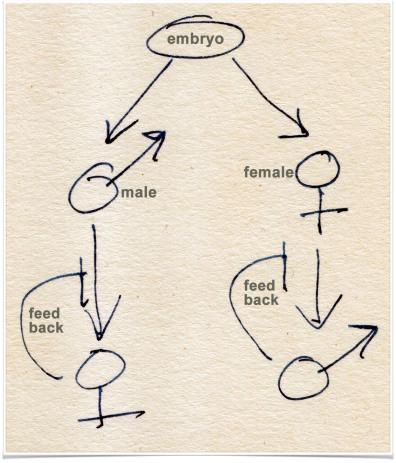
hand in questions

review: **draw & describe how chromosomes interact with chromosome segregation machinery during mitosis. :**

- How do chromosomes interact with one another during mitosis/cytokinesis?

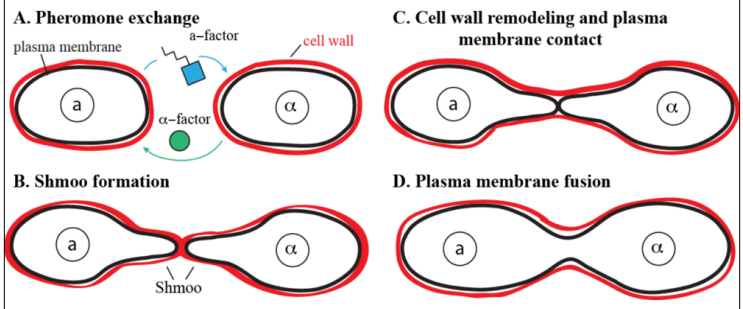
Draw and explain:

What is happening (molecularly & cellularly) when a male switches to a female or visa versa?

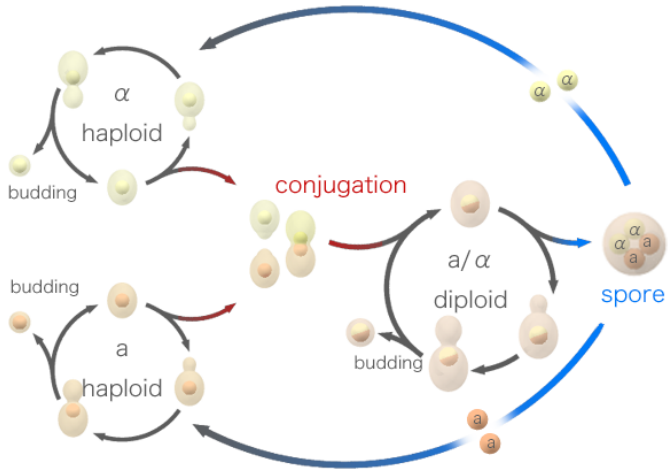


what is sex (basically)?

mating types (non-dimorphic)



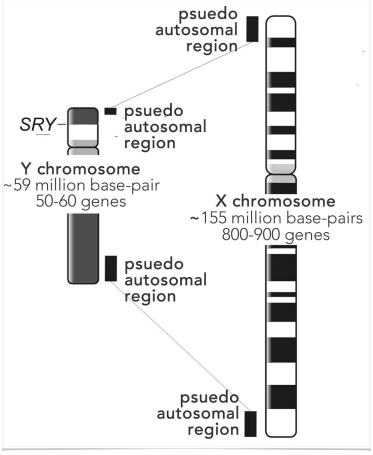
mating types (non-dimorphic)



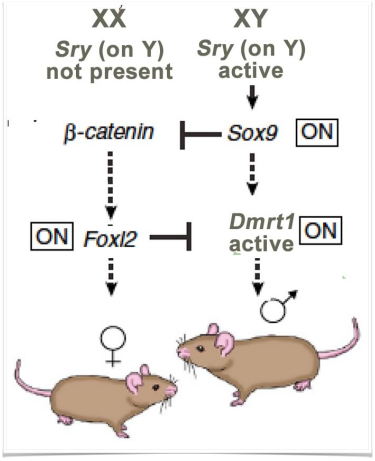
Mating types into dimorphic "sexes"

- any speculations on why?

sex determination in mammals



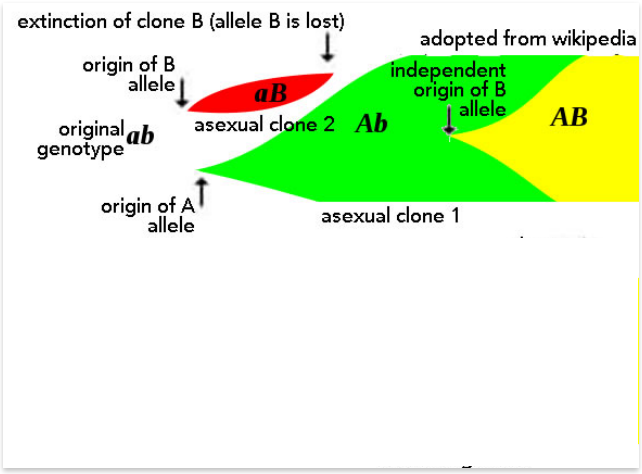
sex determination in mammals



Questions to answer and ponder:

- If you were design a temperature sensitive form of sex determination, how would you go about it?
- What might happen if you removed the regions of the Y chromosome that are homologous to the X?
- Any thoughts on why different vertebrates would have adopted such different modes of sex-determination, and their evolutionary benefits and drawbacks?

Value of sexual reproduction

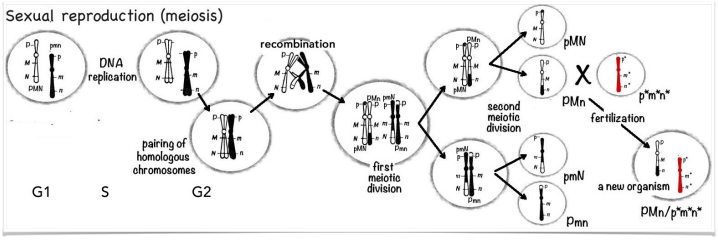


Questions to answer and ponder:

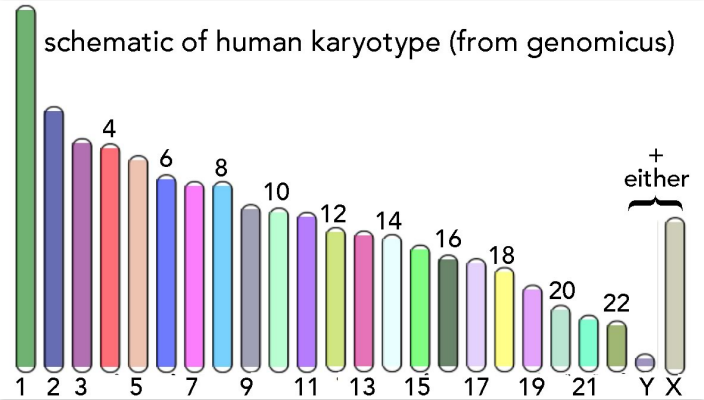
Consider the odds of an organism obtaining the 3 new mutations necessary for the appearance of a new trait.

If you were to predict, which would be faster (in terms of the number of generations required) in achieve this goal, a sexual or an asexual organism. Generate a drawing that illustrates your thinking.

introducing meiosis: diploid to haploid



First step - pairing of homologous chromosomes



Aidan: most meaningful problematic question

next:

Friday 9 February	11.Meiosis completed	Read: Chapter 13. pp. 244- 248