BIOL10005

What does double cross over mean?
It means that, on a three gene chromosome, there are two crossover regions. We can figure out whether this has happened if the middle gene is the only one which has appeared to have crossed over. Double recombinant patterns will occur in the lowest frequencies.

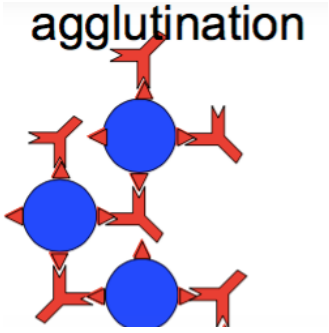
How is the Drosophila and Lucilia different in terms of recombination?
There is no crossing over (chiasma) and recombination in the male species. Therefore, there can only be two types of gametes produced.

How is notation different in Drosophila notation?
Drosophila is all about writing with a + for the wild type. Also with this information, offspring isn't written explicitly with "wild type". I.e. if the offspring is just described as "eagle" it means that it will be wild type at frizzle and hairy.

What are the antigens present in each bloody type? Predict which introduced antibody would create an adverse immune effect for each blood type.

Phenotype	Antigen present	Antibody present
Type A	A	B
Type B	B	A
Type AB	A and B	neither A or B
Type O	neither A or B	Both A and B

What is the relationship between I^A and I^B and i^o?
I^A and I^B are codominant (creating type AB). I^A and I^B are dominant to **i^o.**



What would happen if you were to transfuse blood to a person with the wrong blood type for what you have introduced?
If you introduce a blood type which has a *matching* antibody to the antigen present on the red blood cell, then agglutination will occur. e.g. type B and type AB blood will result in agglutination with the type A. This is because type B will have the antibody A present, which will stick to the antigen A of the type A blood.

What is the Bombay phenotype?
A homozygous recessive combination at the Bombay Oh gene (hh) which results in no antigen H being produced ready to develop into other blood types. It acts as inhibitor for this gene sequence and will test like a Type 'O' person because no antigen is produced, like type O. However, people with Bombay phenotype produce antibody H, A and B so they can only receive blood from another Bombay phenotype. i.e. everyone else has antigen H, so bring that in contact with the antibody H and you will get agglutination again

genotype	phenotype	antigen present on red bc
L^ML^M	M	M
L^ML^N	MN	M and N
L^NL^N	N	N