Three main points questions notes

Chemistry 4-1 - definitions

Main points of that video:

* We won’t be dealing with ionic bonds like the one in sodium chloride
* We won’t be dealing with ionic bonds that involve electron theft
* We won’t be dealing with ionic bonds that involve differences in electronegativity
* We will be dealing with ionic bonds between full positive and full negative charges
* We won’t be dealing with ionic bonds with partial charges
* Unlike charges attract
* Solid lines indicate covalent bonds only
* Dotted, squiggly, other than solid lines indicate non-covalent bonds
* Covalent bonds hold the parts of a molecule together
* Van Der Waals bonds are extremely weak
* VDW are the weakest bonds
* VDW bonds can form between any two atoms
* VDW bonds are formed by transient polarities in atoms that allow them to attract each other
* VDW are always possible but usually only important when no other bonds possible
* VDW are the only forces involved in hydrogen being a liquid

MoBo 4 – a process one

Main points of that video:

* Splicing only happens in eukaryotes
* Splicing doesn’t happen in bacteria
* Splicing comes after transcription and before translation
* Splicing converts the pre-mRNA into the mature mRNA
* In splicing, introns are removed
* In splicing, exons are joined
* After removal, introns are depolymerized and recycled
* Signal sequences in the pre-mRNA indicate the start and end of introns
* In splicing, a polyA tail is added to the 3’ end
* In splicing, a cap is added to the 5’ end
* After splicing is complete, the mature mRNA is exported from the nucleus to the cytoplasm
* The majority of human pre-mRNAs are introns
* The cap and tail signal that the mRNA has been completely spliced
* Splicing can happen in the middle of a codon
* RNA polymerase does not ‘know’ about introns and exons
* Promoters and terminators are different in different species
* Start and end intron sequences are different in different species
* The genetic code is the same in all species

Genetics 5-2 – problem solving

Key points:

* You can get the genotype of some individuals without knowing their parents – just from their phenotype
* For autosomal recessive, little d little d is diseased
* For autosomal recessive, anyone with at least one big D is normal
* For autosomal recessive, big D big D is normal
* For autosomal recessive, big D little d is normal
* For autosomal recessive, both parents of an affected child must carry at least one little d
* For autosomal recessive, an unaffected child of two carrier parents can be big D big D or big D little d
* We can write big D blank when we don’t know or don’t care if the other allele is big D or little d
* Autosomal recessive diseases are usually rare
* Autosomal recessive diseases have carriers