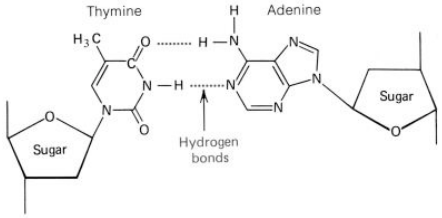
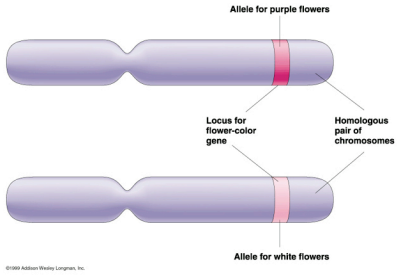
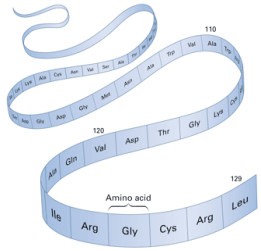
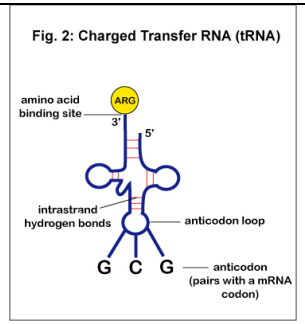
GENETICS UNIT VOCABULARY CHART

Word	Definition	Word Part	Visual/Mnemonic Related Words
1. adenine	Nitrogen base, pairs with thymine in DNA and uracil in RNA		
2. allele	One or more alternate forms of a gene Example: P = Dominant (purple); p = recessive (white)		
3. amino acid	The subunit of a protein, carried in by the tRNA from the cytoplasm to the ribosome during protein synthesis		
4. anticodon	Three bases on a tRNA molecule that match up with the codons	*Anti*= against, opposite *Code*= converting a piece of information from one form to another	

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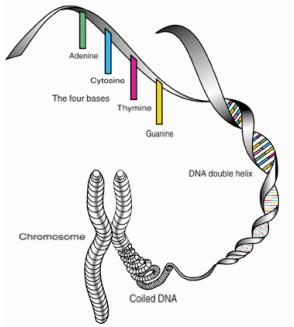
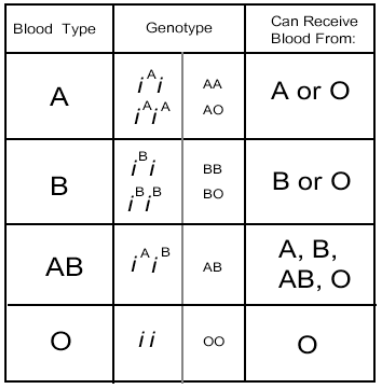
5. chromosome	Compact structure of tightly coiled DNA within the nucleus containing the genetic information that is passed from one generation of cells to the next. Humans have 46 chromosomes; 23 pairs	*khrōma* = color *sōma* = body (because chromosomes readily take up dye)	
6. clone	Genetically identical organism: a plant, animal, or other organism that is genetically identical to its parent	*Klon* = a twig	
7. cloning	The creation of an organism that is an exact genetic copy of another		
8. codominant	Describes genes that each have equal effect in making the character they control appear in offspring. The genes for A and B blood groups are codominant and give rise to the AB blood group if they are both inherited	*Co* = with, together *dominari* = be lord, rule	

Blood Type	Genotype		Can Receive Blood From:
A	$i^A i$ $i^A i^A$	AA AO	A or O
B	$i^B i$ $i^B i^B$	BB BO	B or O
AB	$i^A i^B$	AB	A, B, AB, O
O	$i\,i$	OO	O

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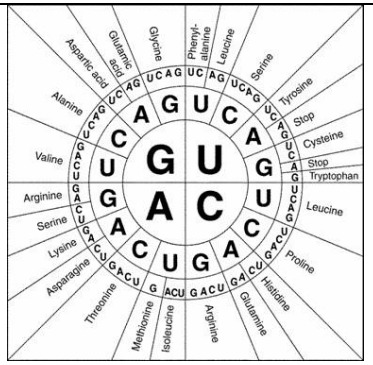
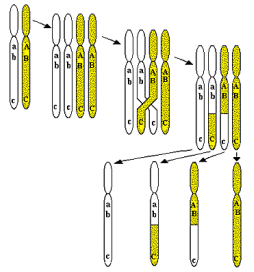
9. codon	A unit in messenger RNA consisting of a set of three consecutive nucleotides that specifies a particular amino acid in protein synthesis	*Code* = converting a piece of information from one form to another	
10. crossbreeding	To breed new strains of plants or animals from genetically different individuals. To create a hybrid	*kross* = both *brod* = fetus, hatching	
11. crossing over	The exchange of genetic material between homologous chromosomes that occurs during meiosis and contributes to genetic variation	*kross* = both *ofer* = above, beyond	 Crossing-over and recombination during meiosis

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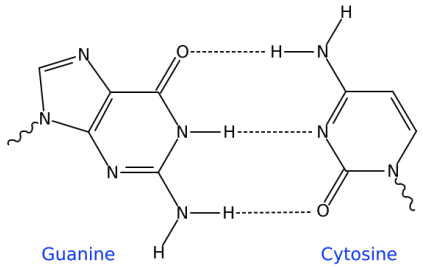
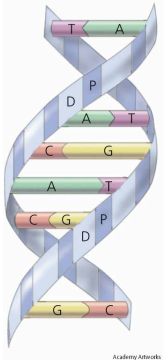
12. cytosine	Nitrogen base, pairs with guanine, in both DNA and RNA		
13. diploid	Term used to refer to a cell that contains both sets of homologous chromosomes	*di* = two	
14. DNA Deoxyribose Nucleic Acid	A nucleic acid molecule in the form double helix that is the major component of chromosomes and carries genetic information	*de* = away from, down *oxy* = oxygen *ribose* = a sugar *nucleic acid* = chain of nucleotides	
15. dominant	A trait that will appear in the offspring if one of the parents contributes it	*dominari* = be lord, rule	

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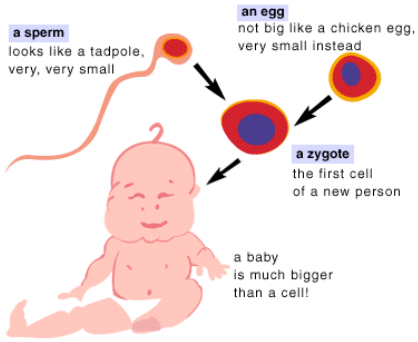
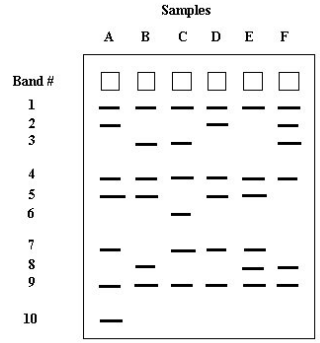
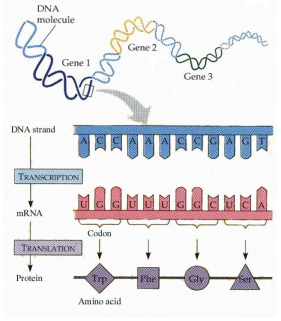
16. fertilization	Process in sexual reproduction in which the male and female gametes join to form a zygote	*fertilis* =fruitful *-ion* = act or condition of	
17. gamete	Sex cells: Female – egg, male – sperm MEiosis makes haploid gametes that have ½ the number of chromosomes	*gamos* = marriage	
18. gel electrophoresis	A process in which fragments of DNA are sorted by size. Used to determine relatedness among organisms	*geleta* = jelly *electro*= electricity *phorēsis* = being carried	
19. gene	Sequence of DNA that codes for a protein and thus determines a trait	*genos* = offspring, birth *genesis* = orign	

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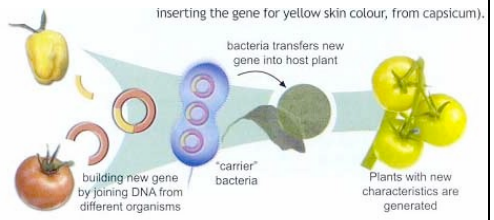
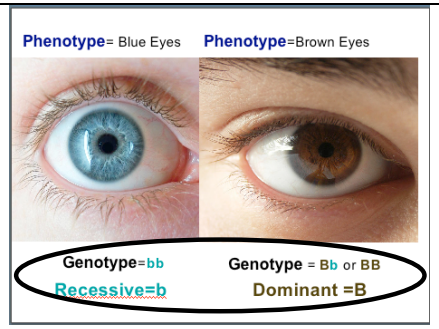
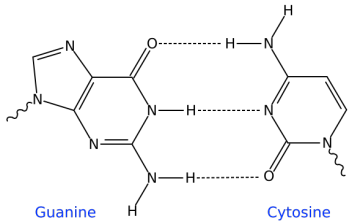
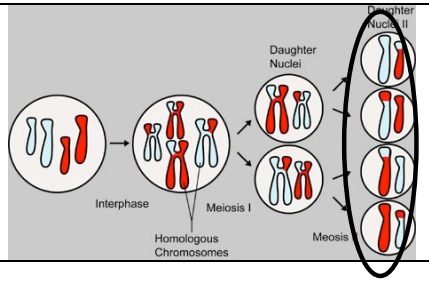
20. genetic engineering	Process of making changes in the DNA code of living organisms. Examples: cloning, genetic recombination, gene splicing	*genesis* – origin *ingenium* - talent, clever device	
21. genotype	Genetic make up of an organism Example: DD – homozygous dominant genotype; Dd – heterozygous genotype; dd – homozygous recessive genotype	*genesis* = origin *type* = kind	
22. guanine	Nitrogen base, pairs with cytosine, in both DNA and RNA		
23. haploid	Refers to a cell that has only a single set of chromosomes and therefore only a single set of genes. Gametes are haploid	*haplous* = single	

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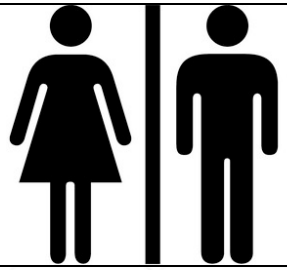
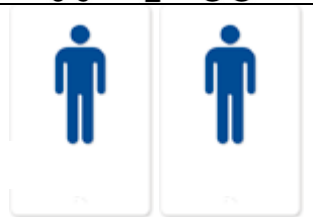
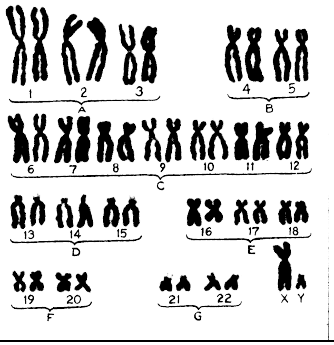
24. heterozygous	Refers to an organism that has two different alleles for the same trait. Example: Aa	*hetero* = different *zygo* = to yoke/bring together	
25. homozygous	Refers to an organism that has two identical alleles for a particular trait. Example: AA or aa	*homo* = same *zygo* = to yoke/bring together	
26. hybrid	The offspring produced by crossing two individuals with different traits	*Hybrida* = offspring of mixed parentage	
27. karyotype	Photograph of chromosomes grouped in order in pairs. Tool used to identify the general appearance, including size, number, and shape of the set of chromosomes	*Karyo*= refers to the nucleus of a cell *type* = kind	

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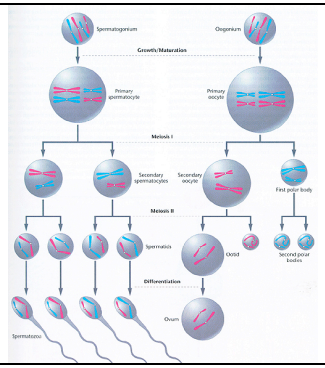
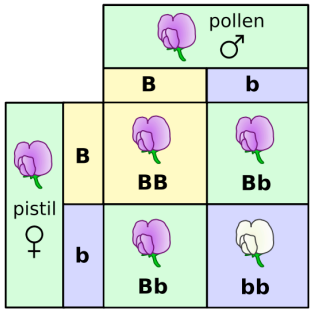
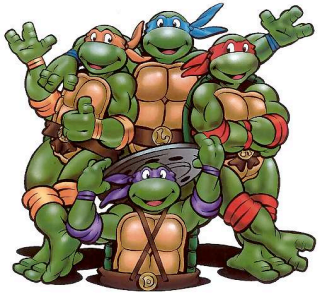
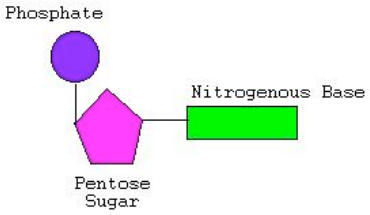
28. meiosis	Process by which the number of chromosomes per cell is cut in half to make haploid gametes	*meioun* = to make smaller *-osis* = condition	
29. monohybrid cross	A method of tracking the inheritance pattern of a single trait between two individual organisms	*mono* = one *hybrida* = offspring of mixed parentage	
30. mutation	Change in a DNA sequence that affects genetic information. Leads to genetic variation.	*mutare* = to change *-ion* = act or condition of	
31. nucleotide	Monomer of a nucleic acid. Composed of a sugar, a phosphate and a base (ACTG)	*nucleo* = having to do with the nucleus	

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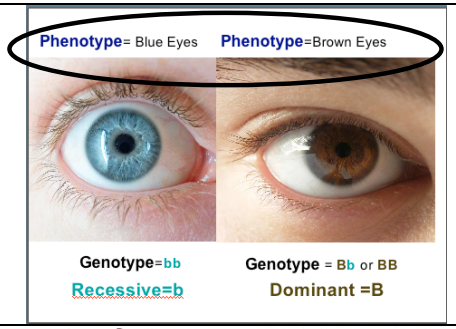
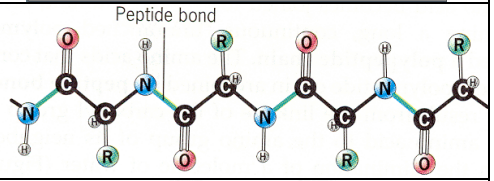
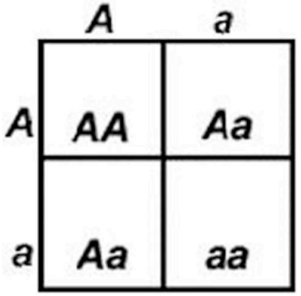
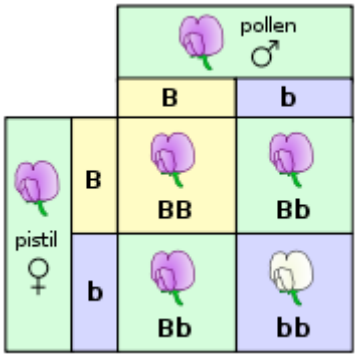
32. phenotype	Physical characteristics of an organism	*pheno* = to appear *type* = kind	
33. polypeptide	Another name for a protein. A substance containing two or more amino acids in the molecule joined together by peptide bonds	*Poly* = many	
34. Punnett square	Diagram showing the possible gene combinations of a genetic cross		
35. ratio	Proportional relationship of two numbers or things being measured	*ration* = relation, reason	 3:1 Ratio of dominant (purple) to recessive (white) phenotypes

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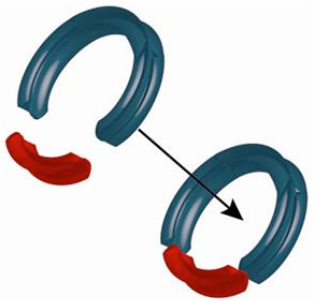
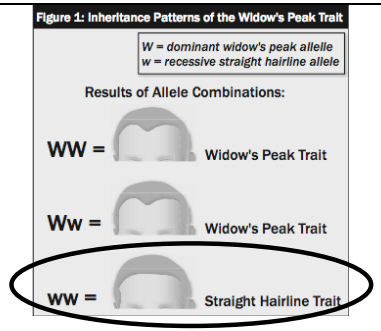
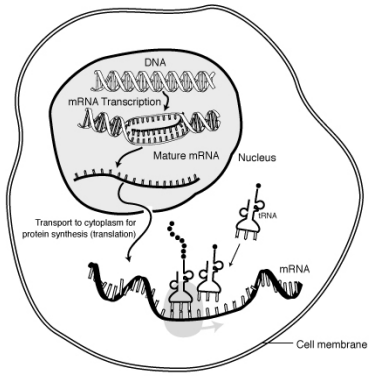
36. recombinant DNA	Molecule formed when fragments of DNA from two or more different organisms are spliced together.	*re* = back, again *combinare* = to bring together	
37. recessive	Describes an allele that is not expressed in heterozygous individuals. Must have two recessive alleles in order for the gene to be expressed	*re* = back *cess = go, yield, move*	
38. RNA – Ribonucleic Acid	A nucleic acid composed of a long, usually single-stranded chain of nucleotide units that contain the sugar ribose and the base uracil mRNA – messenger RNA tRNA – transfer RNA rRNA – ribosomal RNA		

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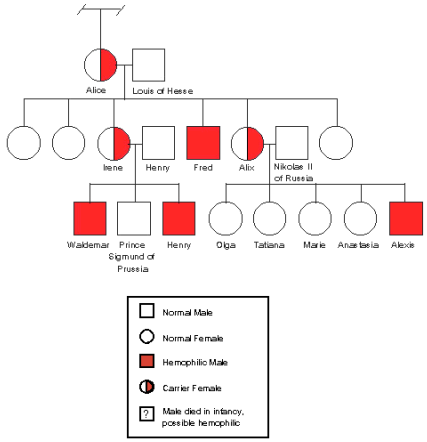
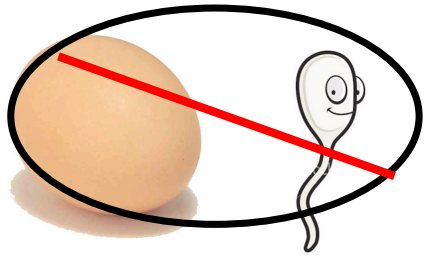
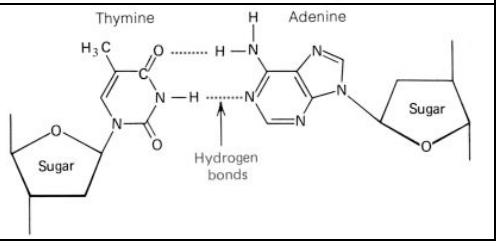
39. sex-linked gene	Gene located on the X chromosome. Males tend to inherit sex-linked traits, such as color blindness, more often than females because they only have one X chromosome		
40. somatic cell	Any of the cells of an organism that become differentiated into the tissues, organs, etc. of the body. Do not include the sex cells (gametes)	*somo* = body	
41. thymine	Nitrogen base, pairs with adenine, in DNA only		
42. transcription	Process in which a portion of DNA (a gene) is copied into complementary RNA (mRNA)	*trans* = across *transcript* = written copy	

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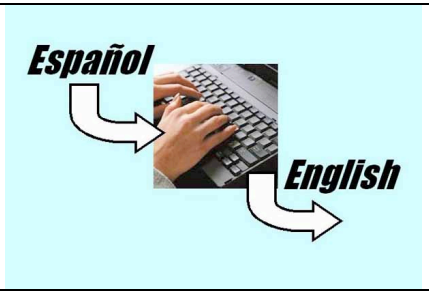
43. translation	Decoding of mRNA into a polypeptide chain. Occurs at the ribosome	*trans* = across *translation* = from one language into another	
44. uracil	Nitrogen base, pairs with adenine, in RNA only