3 Brown : Blond 1
→ *testcross* → the crossing of unknown genotype with a homozygous recessive one individual (bb) in order to see whether the unknown genotype is Bb or BB

3. Non-Mendelian Genetics

→ *incomplete dominance* → neither allele is dominant, and thus they "blend" together; when a heterozygous genotype results in an intermediate phenotype that is somewhere in-between the parents' phenotypes
→ *codominance* → both alleles are dominant and present; when a heterozygous genotype results in a phenotype where both of the parents' phenotypes are expressed
→ *karyotype* → visualization of a person's chromosomes
→ → → **Types of Chromosomes:**
→ *sex-chromosome* → chromosome involved in determining biological gender, X & Y
→ *autosome* → all other chromosomes that are not sex chromosomes
→ → → **Types of Genetic Diseases:**
→ *autosomal* → caused by genes located on autosomes
→ *sex-linked* → caused by genes located on sex-chromosomes
→ *dominant* → caused by a dominant allele (you only need 1 disease allele to be sick)
→ *recessive* → caused by a recessive allele (you need 2 disease alleles to be sick)
→ *Polygenic inheritance* → the additive effects of many genes on a single phenotype
→ → → **Eye Color Alleles**
→ Brown → *always dominant* [A] → AA, AB, AC
→ Blue [B] → BB, BC
→ Green → *always recessive* [C] → CC
→ → → **Blood Type Alleles**
→ I^A → [A]
→ I^B → [B]
→ i → [O]
→ I^A & I^B are co-dominant to each other and dominant over i [O]
→ → → **Sex-Linked Diseases**→ *X & Y*
female (H → dominant, healthy; h → recessive, diseased)
→ X^HX^H → healthy
→ X^hX^h → diseased
→ X^HX^h → carrier
→ in women, a recessive allele on one X chromosome can be masked by a dominant allele on the other
→ women are *frequently carriers* of X-linked traits but more rarely have them expressed in their own phenotypes (*hemophilia*)
male
→ X^HY → healthy
→ X^hY → diseased
→ males will *always* express the single allele they inherit

→ **incomplete dominance** → **blending** → neither allele is dominant, and thus they "blend" together (all capital letters)
→ → → heterozygous genotype results in an intermediate phenotype that is somewhere in-between the parents' phenotypes P generation (red + white) → F_1(pink → C^RC^W / RW)