

THRIPP

SUPPLEMENTAL INSTRUCTION FOR SURVEY OF BIOLOGY by Richard X. Thripp

Week 11, Fall 2009, Nov 10 / 11 / 12. Genetics Ch. 9. daytonastate.org/biology

- 1.) Gregor Mendel discovered genetics (basically) by crossing pea plants.
- 2.) A phenotype is the observable characteristics of an organism (phenomenon).
- 3.) A genotype is the combination of alleles in an organism (think genome).
- 4.) Which of these is visible on a karyotype? (Circle) blue eyes skin color Turner syndrome
- 5.) An allele is a variation of a gene or alternate forms of a gene.
- 6.) The phenotype can be influenced by the genotype and/or the environment.
- 7.) A diploid organism has ONLY 2 alleles per genotype.
- 8.) One allele comes from each parent to make an allele pair (the genotype).
- 9.) A pure-breed purple-flowered pea plant (AA) crossed with a pure-breed white-flowered pea plant (aa) yields all purple flowers (white is recessive).
#16). $I^A i$
- 10.) #9 is an example of complete (simple) dominance.

I^B	$I^A I^B$	$I^B i$
i	$I^A i$	ii
- 11.) In simple dominance, AA expresses the exact same phenotype as Aa.
- 12.) In incomplete dominance, long-tail mates with no-tail giving short-tailed cats.
- 13.) A white mouse mates with a black mouse, yielding a mouse who has pure-black hairs and pure-white hairs. This is an example of codominance.
- 14.) What two blood types ALWAYS have the same genotype? (Circle) O AB A B
- 15.) I^A - means the blood type (phenotype) is A but the ^{genotype} alleles could be $I^A I^A$ or $I^A i$.
- 16.) The man has A blood type ($I^A i$ genotype) and the woman has B blood type ($I^B i$ genotype).
What phenotypes can their children have? (Circle) O AB A B [make a Punnett sq. on the back]
- 17.) When yellow aliens have the aa genotype for the Zypibob gene, they are purple, live ten times longer, and grow twice as tall. This is an example of pleiotropy.
- 18.) Human height is an example of polygenic inheritance (affected by 2+ genes).