

BIOLOGY 11 – PRE-LAB EXERCISE

18+20

Name:

Lab Day & Time:

Human Genetics & Inheritance

1. What is a gene?

- How did you get two copies of each of your genes?
- What are alleles?
- Define the term “homozygous.”
- Define the term “heterozygous.”

2. What is the difference between your genotype and your phenotype?

- What is the difference between a dominant trait and a recessive trait?

3. What is a “Punnett Square”?

4. The symbol for the “Freckles” allele is “**F**” and the symbol for the “No freckles” allele is “**f**”.

- Which allele is recessive? And which is dominant? How do you know?
- What is the genotype of someone without freckles?
- What is/are the genotype(s) of the gametes from someone without freckles?
- What is the phenotype of someone heterozygous for freckles? What is their genotype?
- What is the phenotype of someone homozygous dominant for freckles? What is their genotype?

5. What are homologous chromosomes (= homologues)?

- Which gender, in humans, has sex chromosomes that are homologous? Name the chromosomes.
- Which gender, in humans, has sex chromosomes that are not homologous? Name the chromosomes.

6. What is meant by a sex-linked trait?

- Why are males more often affected by X-linked diseases than are females?

7. Give an example of a recessive genetic disorder.

- Give an example of a dominant genetic disorder.
- In a pedigree, what symbol indicates a normal female?
- In a pedigree, what symbol indicates a male affected with the genetic disorder?