Mendelian Genetics Pea Activity

Group Names: ___________________________ Hour _______ Date: ___________________

Date Assignment is due: ___________ Why late? ___________ Score: + ✓ −

Day of Week Date If your project was late, state why

Directions: Follow along as we learn how to cross peas.

Traits:

- Length: Dominant: long; Recessive: short
- Seed shape: Dominant: round; Recessive: angular
- Pod color: Dominant: green; Recessive: yellow

1. **Length**: Coin 1: Heads Tails Coin 2: Heads Tails

   Genetic code: TT Tt tt Physical trait: _____________________________

2. **Seed shape**: Coin 1: Heads Tails Coin 2: Heads Tails

   Genetic code: SS Ss ss Physical trait: _____________________________

3. **Pod color**: Coin 1: Heads Tails Coin 2: Heads Tails

   Genetic code: CC Cc cc Physical trait: _____________________________

Length of pea

Yellow or green

Round or angular seeds

Traits are the outward, physical characteristics of an organism. Physical traits are called **phenotype**.

- Length, Seed shape, Pod color

Phenotypes (physical characteristics) are inherited information from an organism’s internal genetic code, which is called **genotype**.

- TT, Tt, tt

Each genotype has two coded bits of information (one from each parent). This coded bit of information is called an **allele**.

- T, t

Two of the same alleles is called a **homozygous genotype**

- TT, tt

Two different alleles is called a **heterozygous genotype**

- Tt
4. Draw and describe your pea based on the three traits we flipped for.

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

5. After each trait above, state whether it is dominate or recessive.

6. Next, choose another person’s pea to cross with. List the genotypes and phenotypes for your pea’s mate below for all three traits:

Phenotype_________________________________________________________ Genotype

Phenotype_________________________________________________________ Genotype

Phenotype_________________________________________________________ Genotype

7. In the space below, do a Punnett Square for the three traits above. Use the genotype of your pea and the genotype of the mate of your pea (a pea from the other group).

8. In the space below, draw and describe what the offspring of your pea pair will most likely look like.

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This activity sheet is adopted from Craig Kohn’s Goat Mendelian Genetics Worksheet. Agricultural Sciences: Waterford Union High School.