

Genetics with a Smile

Name _____

Part A: Smiley Face Traits

- (1) Obtain two coins from your teacher. Mark one coin with a "F" and the other with a "M" to represent each of the parents. The parents are heterozygous for all the Smiley Face traits.
- (2) Flip the coins for parent for each trait. If the coin lands with heads up, it represents a dominant allele. A coin that lands tails up indicates a recessive allele. Record the result for each person by circling the correct letter. Use the results and the Smiley Face Traits page to determine the genotype and phenotype for each trait.

| Trait | Female | Male | Genotype | Phenotype |
|-------------|--------|------|----------|-----------|
| Face Shape | C c | C c | | |
| Eye Shape | E e | E e | | |
| Hair Style | S s | S s | | |
| Smile | T t | T t | | |
| Ear Style | V v | V v | | |
| Nose Style | D d | D d | | |
| Face Color | Y y | Y y | | |
| Eye Color | B b | B b | | |
| Hair Length | L l | L l | | |
| Freckles | F f | F f | | |
| Nose Color | R Y | R Y | | |
| Ear Color | P T | P T | | |

Part B: Is it a boy or girl?

To determine the sex of your smiley face, flip the coin for the male parent. Heads would represent X, while tails would be Y.

| | Female | Male | Genotype | Phenotype |
|-----|--------|------|----------|-----------|
| Sex | X | X Y | | |