

Punnett Square Practice

1. Hand use is designated by “R” for dominant (right-handed people), and by “r” for recessive (left handed people). Cross a heterozygous right-handed male with a left-handed female, and list the genotypic and phenotypic ratios of the F₁ offspring.

GENOTYPES

PHENOTYPES

2. Tongue rolling is designated by “T” for dominant (those who can roll their tongue), and by “t” for recessive (those who cannot roll their tongue). Show how two tongue-rollers can be crossed to get an offspring that cannot roll its tongue.

3. The trait for ear lobes is designated by “E” for dominant (unattached) , and by “e” for recessive (attached). Cross two heterozygous parents, and list the genotypic ratios and phenotypic ratios of the F₁ offspring.

GENOTYPES

PHENOTYPES

4. The trait for hair color is designated “D” for dominant (dark or brown colored) , and “d” for recessive (light or blonde). Show how a brown haired male crossed with a black haired female can result in a child with blonde hair.

5. Michael cannot roll his tongue, but his 3 sisters and his father can. Show how this situation is possible using the Punnett Square, and list the mother's genotype. (remember, tongue rolling is designated by "T" for dominant, and "t" for recessive).

MOTHER'S GENOTYPE:

6. Donna has right thumb clasp trait. Using the Punnett Square, show how this situation is possible. (Left thumb is designated by "L" for dominant, and right thumb is designated "l" for recessive)

GENOTYPE

PHENOTYPE

7. Lisa is the daughter of Marge, both mother and daughter are right-handed, but only Lisa is homozygous for this trait. Of the following three men, who is the only one that can be Lisa's father? Show using the Punnett Squares. (remember, hand use is designated by "R" for dominant (right handed) and "r" for recessive (left handed)).

- a. Homer – phenotype = left handed
 b. Moe – genotype = heterozygous
 c. Monty – genotype = recessive

Who is Lisa's Father?

Homer

Moe

Monty
