**Objective #5 – Practise Problems for 1-trait Punnett Squares**

1. Black (B) hair in hamsters is dominant to white (b). If a homozygous dominant black haired male is mated with a white female, what will the offspring be?

1. Tongue-rolling in humans is dominant to non-rollers. If two hybrids mate, what will the offspring be?
2. Red eyes in flies are dominant to white eyes. If a heterozygous male is mated with a homozygous recessive female, what will be the possible offspring?
3. Brown eyes are dominant to blue in raccoons. A homozygous brown-eyed male mates with a heterozygous female. What percentage of the offspring will be blue eyed?

Ex. Brown eyes are dominant to blue in raccoons. If two blue-eyed raccoons mate, what percentage of the offspring are brown-eyed?

Steps to solving Punnett Squares:

|  |  |
| --- | --- |
| Info: What is dominant & recessive (key) | Brown eyes – B  Blue eyes – b |
| Parent genotypes | bb – male  bb – female |
| The cross | bb X bb |
| The square (see below) |  |
| Genotype fractions & percentages | 4/4 or 1/1= bb; 100% bb |
| Phenotype fractions & percentages | 4/4 or 1/1 blue eyed offspring (100%) |
| Answer any questions. | 0% of the offspring will be brown-eyed. |
|  |  |

The Square:

b b

b

b

|  |  |
| --- | --- |
| bb | bb |
| bb | bb |