Name_____ Date_____ Period_____

Punnett Squares

Two capital letters, or two lower case letters = purebred (homozygous)
One capital letter and one lower case letter = hybrid (heterozygous)

Examples: RR= homozygous dominant Rr= heterozygous* rr = homozygous recessive

*any time a capital letter is present in the genotype, the dominant trait will be expressed in the phenotype

Directions: Read each problem carefully and complete them using a Punnett square.

1. In lizards, having a long tail is dominant to having a short tail. If a long-tailed lizard (Tt) mates with a short-tailed lizard (tt), what are the genotypic and phenotypic frequencies of the offspring?

Genotype
TT
Tt
tt

Phenotype

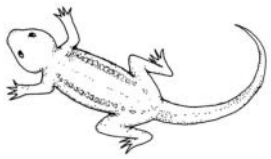
% of TT offspring _____

% of Tt offspring _____

% of tt offspring _____

% Long Tails _____

% Short Tails _____



2. In Great Alpine Eagles, speckled eggs are dominant to plain eggs. If a speckled egg laying eagle (Ee) mates with another speckled egg eagle (Ee), what are the genotypic and phenotypic frequencies of the offspring?

Genotype
EE
Ee
ee

Phenotype

% of EE offspring _____

% of Ee offspring _____

% of ee offspring _____

% Speckled Eggs _____

% Plain Egg _____

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3. A certain desert cactus has two forms of spines, long and short. If Long spines is the dominant trait and a cactus with long spines (LL) mates with another cactus with long spines (Ll), what are the genotypic and phenotypic frequencies of the offspring?

Genotype
LL
Ll
ll

Phenotype

% of LL offspring _____

% of Ll offspring _____

% of ll offspring _____

% Long Spines _____

% Short Spines _____

4. A silver dragon can either breathe fire or ice. If breathing fire is dominant to breathing ice and an ice breathing dragon (ff) mates with a fire breathing dragon (FF), what are the genotypic and phenotypic frequencies of the offspring?

Genotype
FF
Ff
ff

Phenotype

% of FF offspring _____

% of Ff offspring _____

% of ff offspring _____

% Fire-breathing _____

% Ice-breathing _____