Punnett Squares

Homozygous/Purebred Recessive	Homozygous/Purebred Dominant	Heterozygous
(Both Lower Case, bb)	(Both Capital, BB)	(One Capital One Lower Case, Bb)

1. Highlight the genotypes that are homozygous dominant. TT Bb DD Hh zz ee Gg
2. Highlight the genotypes that are heterozygous. Ff MM qq RR tt Ee jj
3. Highlight the genotypes that are purebred recessive. Kk LL nn Oo PP aa HH
4. Highlight the genotypes that are hybrid. TT Bb DD Hh zz ee GG
5. Highlight the genotypes that are homozygous recessive. Ff MM qq RR tt Ee Jj

Genotype: The two letters used to represent a trait.
The letters can be capital (dominant) or lowercase (recessive)

Phenotype: Words that explain what the two letters of the genotype stand for and explains if the offspring will have that trait or not.

6. Determine the phenotype for each genotype. Round (R) shape is dominant to square (r).
   RR _____ Rr _____ rr _____
7. Determine the Phenotype for each genotype. Brown eyes (B) are dominant to green eyes(b).
   bb _____ BB _____ Bb _____
8. Determine the Phenotype for each genotype. Black fur (B) is dominant to white fur (b).
   Bb _____ bb _____ BB _____
9. Determine the Phenotype for each genotype. Tall stalks (T) are dominant to short (t).
   TT _____ Tt _____ tt _____
10. Determine the Phenotype for each genotype. Freckles (F) are dominant to no freckles (f).
    Ff _____ ff _____ FF _____

Set up the Punnett Squares, with the parent's alleles, fill in the boxes for the offspring and answer the questions.

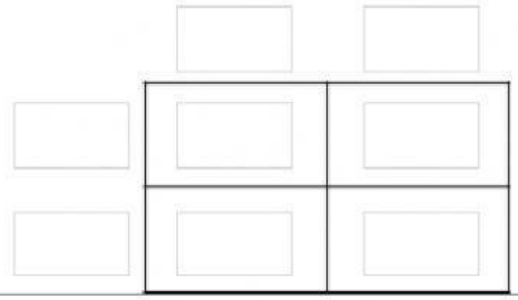
11. Blue (B) body color is dominant to yellow (b). Parent 1 = BB, Parent 2 = bb

	B	B
b	Bb	Bb
b	Bb	Bb

a) What is the chance of having yellow-bodied offspring? ____%
b) What is the chance of having Blue-bodied offspring? ____%

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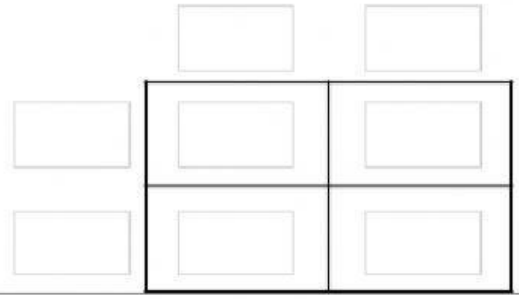
12. Brown hair (B) is dominant to blonde (b). Parent 1 = Bb, Parent 2 = BB



a) What is the chance of having brown-haired offspring? _____

b) What is the chance of having blond-haired offspring? _____

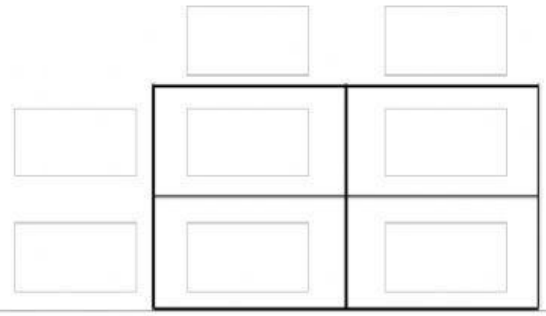
13. Red eyes (R) in fruit flies is dominant to white eyes (r). Parent 1 = rr, Parent 2 = Rr



a) What is the chance of having a red-eyed offspring? _____

b) What is the chance of having a white-eyed offspring? _____

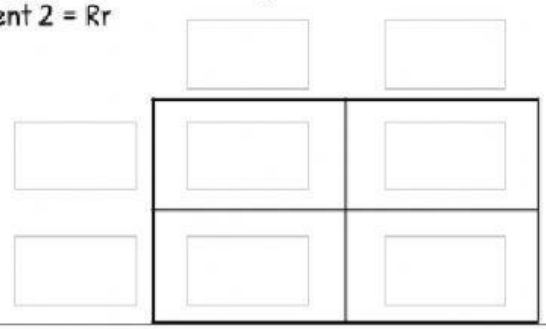
14. Brown eyes (B) in dogs is dominant to blue eyes (b). Parent 1 = bb, Parent 2 = BB



a)What are the chances of having brown-eyed offspring? ____

b)What is the chance of having blue-eyed offspring? ____

15. Being able to roll one's tongue (R) is dominant to not being able to roll one's tongue (r). Parent 1 = RR, Parent 2 = Rr



a) What is the chance of having offspring that cannot roll their tongue? _____

b) What is the chance of having offspring that CAN roll their tongue? _____

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