

Name: Key

Punnett square worksheet

Complete the following monohybrid crosses: draw a Punnett square and list the possible genotypes and phenotypes of the offspring. Be sure to remember that the capital letter is dominant.

Example

A green pea plant (GG) is being crossed with a green pea plant (Gg).

	G	G
G	GG	GG
g	Gg	Gg

Genotypes = 2 GG or 2 Gg

Phenotypes = 4 Green pea plants; 0 other color

- 1) A green pea plant (Gg) is crossed with a yellow pea plant (gg).

	G	g
g	Gg	gg
g	Gg	gg

genotypes: 2 Gg
2 gg
phenotype 50% green
50% yellow

- 2) A tall plant (Tt) is crossed with a tall plant (Tt).

	T	T
T	TT	Tt
t	Tt	tt

Genotypes: 2 TT; 2 Tt
Phenotype: 100% tall plant

- 3) A tall plant (Tt) is crossed with a short plant (tt).

	T	t
t	Tt	tt
t	Tt	tt

Genotypes: 2 Tt; 2 tt
Phenotypes: 50% tall
50% short

- 4) A red flower (Rr) is crossed with a white flower (rr).

	R	r
r	Rr	rr
r	Rr	rr

Genotype: 2 Rr; 2 rr
Phenotypes: 50% red
50% white

- 5) A white flower (rr) is crossed with a white flower (rr).

	r	r
r	rr	rr
r	rr	rr

Genotype: rr
Phenotype: 100% white

- 6) A black chicken (BB) is crossed with a black chicken (BB).

	B	B
B	BB	BB
B	BB	BB

Genotype: BB
Phenotype: 100% black chicken

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Punnett Square Problems

Complete the following problems. List the parent genotypes, draw and fill in a Punnett square, and then list the offspring genotypes and phenotypes.

1. A homozygous dominant brown mouse is crossed with a heterozygous brown mouse (tan is the recessive color).

homozygous dominant BB - brown
heterozygous - Bb - brown
BB x Bb

	B	B
B	BB	BB
b	Bb	Bb

Genotype: 2 BB; 2 Bb
Phenotype: 100% brown mouse

2. Two heterozygous white (brown fur is recessive) rabbits are crossed.

heterozygous Ww rabbits (Ww x Ww)

	W	w
W	WW	Ww
w	Ww	ww

Genotype: 1 WW, 2 Ww; 1 ww
Phenotype: 75% white; 25% brown

3. Two heterozygous red flowers (white flowers are recessive) are crossed.

heterozygous Rr flowers (Rr x Rr)

	R	r
R	RR	Rr
r	Rr	rr

Genotype: 1 RR; 2 Rr; 1 rr
Phenotype: 75% Red; 25% white

4. A homozygous tall plant is crossed with a heterozygous tall plant (short is the recessive size).

homozygous tall = TT
heterozygous tall = Tt (TT x Tt)

	T	T
T	TT	TT
t	Tt	Tt

Genotype: 2 TT; 2 Tt
Phenotype: 100% tall

5. A heterozygous white rabbit is crossed with a homozygous black rabbit.

heterozygous Ww
homozygous = ww
White = dominant (Ww x ww)

	W	w
w	Ww	ww
w	Ww	ww

Genotype: 2 Ww; 2 ww
Phenotype: 50% Ww; 50% ww