

### Punnett square worksheet

Complete the following monohybrid crosses: draw a Punnett square, list the ratio and describe 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

GenoType= 2 GG: 2 Gg ; 0 gg

Phenotype= 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

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

	T	T
T	TT	TT
t	Tt	Tt

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

	T	t
t	Tt	tt
t	Tt	tt

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

	R	r
r	Rr	rr
r	Rr	rr

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

	r	r
r	rr	rr
r	rr	rr

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

	B	B
B	BB	BB
B	BB	BB

### Punnett square problems continued

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).

	<b>B</b>	<b>B</b>
<b>B</b>	BB	BB
<b>b</b>	Bb	Bb

Parents: BB (homozygous dominant brown) and Bb (heterozygous brown mouse)

Offspring: 2 brown homozygous dominant, 2 brown heterozygous mice

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

Parents: 2 Ww

Offspring: 1 white fur WW (homozygous dominant), 2 white fur Ww (heterozygous), and 1 brown fur rabbit (homozygous recessive)

	<b>W</b>	<b>w</b>
<b>W</b>	WW	Ww
<b>w</b>	Ww	ww

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

Parents: 2 Rr

Offspring: 1 red RR (homozygous dominant), 2 red Rr (heterozygous), and 1 white flower (homozygous recessive)

	<b>R</b>	<b>r</b>
<b>R</b>	RR	Rr
<b>r</b>	Rr	rr

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

Parents: 1 TT and 1 Tt

Offspring: 2 tall TT (homozygous dominant), 2 tall Tt (heterozygous)

	<b>T</b>	<b>T</b>
<b>T</b>	TT	TT
<b>t</b>	Tt	Tt

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

Parents: 1 Bb and 1 bb

Offspring: 2 black Bb (heterozygous dominant), 2 white bb (homozygous)

	<b>B</b>	<b>b</b>
<b>b</b>	Bb	bb
<b>b</b>	Bb	bb