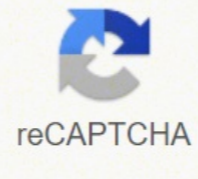


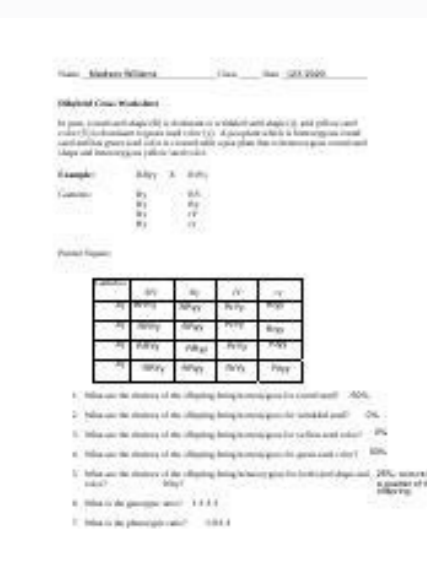


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# Dihybrid cross worksheet in peas



Name \_\_\_\_\_ 142

## DIHYBRID CROSS

Parents (P)

Gametes: BL, BL, BL, BL (from BBLL) and bl, bl, bl, bl (from bbll)

Offspring (F1)

Female Gametes: BL, Bl, bL, bl

Male Gametes: BL, Bl, bL, bl

Phenotypic ratios - How many, out of 16 are:

Black, Short	Black, Long	White, Short	White, Long

BB = black  
 Bb = black  
 bb = white  
 Ll = short hair  
 ll = long hair

Fill out the genotypes of each of the offspring to determine how many of each type of offspring are produced.

Name \_\_\_\_\_ Period \_\_\_\_\_

### Worksheet: Dihybrid Crosses

**KEY GENETICS**

STEP 1: Determine what kind of problem you are trying to solve.  
 STEP 2: Determine letters you will use to specify traits.  
 STEP 3: Determine parent's genotypes.  
 STEP 4: Make your parent's square and make gametes.  
 STEP 5: Complete cross and determine possible offspring.  
 STEP 6: Determine genotypic and phenotypic ratios.

**Two-Factor Crosses (Dihybrid)**

Ex) A tall green pea plant (TTGg) is crossed with a short white pea plant (ttgg).

Tt or Tt = tall    tt = short    Gg or Gg = green    gg = white

TG	TG	TG	TG
tg	TtGg	TtGg	TtGg
tg	TtGg	TtGg	TtGg
tg	TtGg	TtGg	TtGg
tg	TtGg	TtGg	TtGg

Phenotypes = 16 Tall/Green : 0 Tall/White : 0 Short/Green : 0 Short/White

1.) A tall green pea plant (TTGg) is crossed with a tall green pea plant (TtGg) \_\_\_\_\_ x \_\_\_\_\_

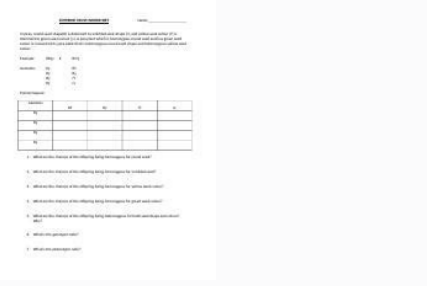
TG	TG	TG	TG
Tg	TtGg	TtGg	TtGg
Tg	TtGg	TtGg	TtGg
Tg	TtGg	TtGg	TtGg
Tg	TtGg	TtGg	TtGg

Phenotypes = \_\_\_\_\_ Tall/Green    \_\_\_\_\_ Tall/White  
 \_\_\_\_\_ Short/Green    \_\_\_\_\_ Short/White

2.) A tall green pea plant (TtGg) is crossed with a short white pea plant (ttgg) \_\_\_\_\_ x \_\_\_\_\_

TG	TG	TG	TG
tg	TtGg	TtGg	TtGg
tg	TtGg	TtGg	TtGg
tg	TtGg	TtGg	TtGg
tg	TtGg	TtGg	TtGg

Phenotypes = \_\_\_\_\_ Tall/Green    \_\_\_\_\_ Tall/White  
 \_\_\_\_\_ Short/Green    \_\_\_\_\_ Short/White



### Dihybrid Cross Practice Problems

**Analyze the following dihybrid crosses and answer the questions that follow.**

**Cross of F<sub>1</sub> Generation**

round, yellow

	RY	Ry	rY	ry
RY	RRYY	RRYy	RrYY	RrYy
Ry	RrYY	RrYy	RrYy	Rryy
rY	RrYY	RrYy	rrYY	rrYy
ry	RrYy	Rryy	rrYy	rryy

round, yellow

How many out of 16 offspring are yellow and smooth? \_\_\_\_\_

How many out of 16 offspring are yellow and wrinkled? \_\_\_\_\_

How many out of 16 offspring are green and smooth? \_\_\_\_\_

How many out of 16 offspring are green and wrinkled? \_\_\_\_\_

Genotypic Ratio: \_\_\_\_\_ Phenotypic Ratio: \_\_\_\_\_

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