

# Dihybrid Cross Worksheet

1. Set up a punnett square using the following information:
- Dominate allele for tall plants = D
  - Recessive allele for dwarf plants = d
  - Dominate allele for purple flowers = W
  - Recessive allele for white flowers = w
  - Cross a homozygous dominate parent (DDWW) with a homozygous recessive parent (ddww)

	DW	DW	DW	DW
dw	DdWw	DdWw		
dw	DdWw	DdWw		
dw	DdWw	DdWw		
dw	DdWw	DdWw		

All will be DdWw

2. Using the punnett square in question #1:
- What is the probability of producing tall plants with purple flowers?  $100\%$  or  $16/16$   
Possible genotype(s)? DdWw
  - What is the probability of producing dwarf plants with white flowers?  $0\%$   
Possible genotype(s)? None
  - What is the probability of producing tall plants with white flowers?  $0\%$   
Possible genotype(s)? None
  - What is the probability of producing dwarf plants with purple flowers?  $0\%$   
Possible genotype(s)? None

3. Set up a punnett square using the following information:
- Dominate allele for black fur in guinea pigs = B
  - Recessive allele for white fur in guinea pigs = b
  - Dominate allele for rough fur in guinea pigs = R
  - Recessive allele for smooth fur in guinea pigs = r
  - Cross a heterozygous parent (BbRr) with a heterozygous parent (BbRr)

	BR	Br	bR	br
BR	BBRR	BBRr	BbRR	BbRr
Br	BBRr	BBrr	BbRr	Bbrr
bR	BbRR	BbRr	bbRR	bbRr
br	BbRr	Bbrr	bbRr	bbrr

BbRr x BbRr

4 Possible Gametes for each

- |       |       |
|-------|-------|
| 1. BR | 1. BR |
| 2. Br | 2. Br |
| 3. bR | 3. bR |
| 4. br | 4. br |

4. Using the punnett square in question #3:
- What is the probability of producing guinea pigs with black, rough fur?  $9/16$   
Possible genotype(s)? BBRR, BBRr, BbRR, BbRr
  - What is the probability of producing guinea pigs with black, smooth fur?  $3/16$   
Possible genotype(s)? BBrr, Bbrr
  - What is the probability of producing guinea pigs with white, rough fur?  $3/16$   
Possible genotype(s)? bbRR, bbRr
  - What is the probability of producing guinea pigs with white, smooth fur?  $1/16$   
Possible genotype(s)? bbrr

