

Chapter 10: Dihybrid Cross Worksheet

out

Fill

offspring

it

genotype

and

GgBb

determine

the

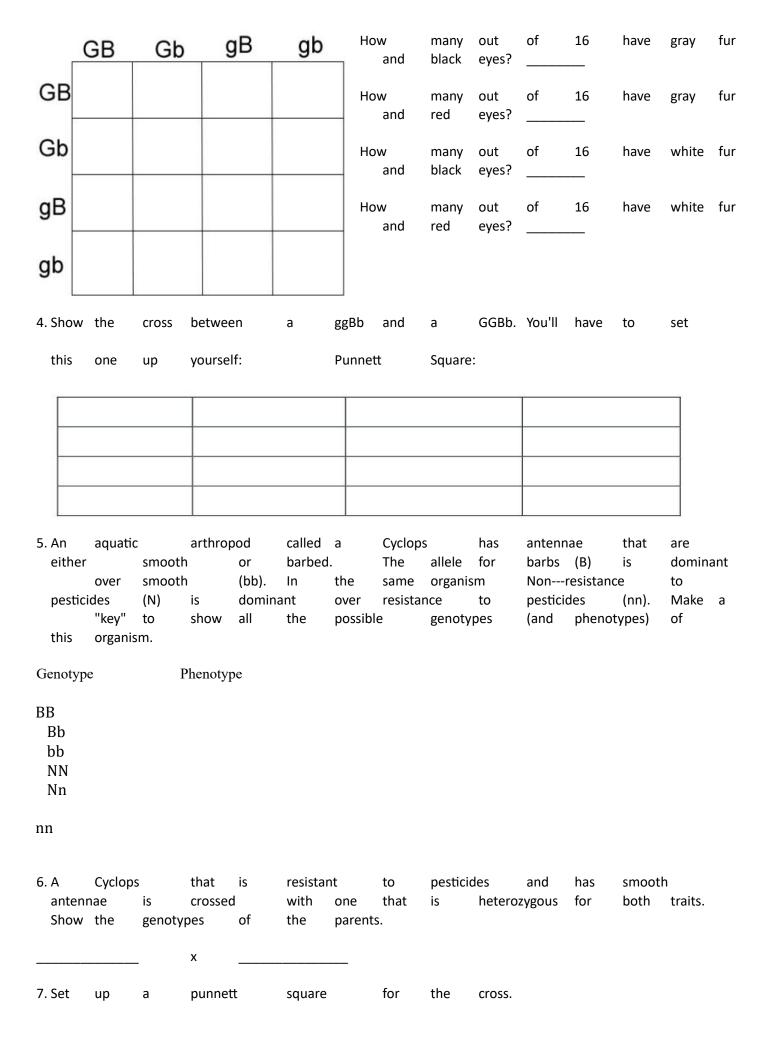
phenotypes

and

proportions

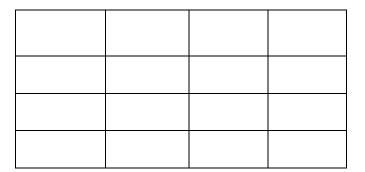
of

In	rabbits black	eyes	gray are	hair		domir		to	white	hair.	Also	in	rabbits	5,
genotyp	black eyes are dominant t genotypes of the rabbits:				to	o red ey		eyes. These		represent	ent	the the		
Gg = g	gray hair gray hair white hai	***			BB = b Bb = b bb = re	lack e	yes							
1. What	are genoty	the pes?	phen	otypes	(descrip	tions)	of	rabbits	5	that	have	the	followi	ing
Ggbb					ggBB					ggbb				
	GgBb													
2. A	male rabbit Fill offspri	rabbit with it ng.	with the out	the genoty and	genotyp pe determi	ggBb	GGbb the the	is square phenot		d is and	with set propor	a up rtions	female below. in	
Г	Gb	G	b	Gb	Gb	7	How and	many black	out eyes?	of	16 	have	gray	fur
gВ							How and	many red	out eyes?	of	16	have	gray	fur
gВ						_	How and	many black	out eyes?	of	16	have	white	fur
gb							How and	many red	out eves	of	16	have	white	fur
gb									-, <u>-</u>					
3. A	male rabbit	rabbit with	with the	the genoty	genotyp pe	e GgBb	GgBb The	is square	crosse	d is	with set	a up	female below.	



8.	What are	the p	henotypic ra	tios of	the o	ffspring?			
Di	Hybrid	Practice	Problems						
w h	1. In man, assume that spotted skin (S) is dominant over non-spotted skin (s) and that wooly hair (W) is dominant over non-wooly hair (w). Cross a marriage between a heterozygous spotted, non-wooly man with a heterozygous wooly-haired, non-spotted woman. Give genotypic and phenotypic ratios of offspring.								
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							_		
							-		
							_		
2. In horses, black is dependent upon a dominant gene, B, and chestnut upon its recessive allele, b. The trotting gait is due to a dominant gene, T, the pacing gait to its recessive allele, t. If a homozygous black pacer is mated to a homozygous chestnut trotter, what will be the appearance of the F ₁ generation?									

3.	In	summer	squas	h,	white	fruit	color	(W)	is	
domir	nant	over yellov	V	fruit	color (w)	and	disk	shaped		fruit
(D)	is	dominant	over	spher	eshaped	fruit	(d)	If	a	squash
	plant	truebreed	ing	for	white,	disk	-shape	d	fruit	is
crosse	ed	with a	plant	true	-breeding	for	yellov	V,	spher	eshaped
	fruit,									



5. In mice, the ability to run normally is a dominant trait. Mice with this trait are called running mice (R). The recessive trait causes mice to run in circles only. Mice with this trait are called waltzing mice (r). Hair color is also inherited in mice. Black hair (B) is dominant over brown hair (b). For each of the following problems, determine the parent genotypes, determine possible gametes then construct a Punnet square to solve.

a. Cross a heterozygous running, heterozygous black mouse with a homozygous running, homozygous black mouse

Parental genotypes	
Possible gametes	
Offspring phenotypic ratio	

b. Cross a homozygous running, homozygous black mouse with a heterozygous running, brown mouse

Parental genotypes Possible gametes Offspring phenotypic ratio							
c. Cross a waltzing brown mouse with a waltzing brow	n mouse						
Parental genotypes							
Possible gametesOffspring phenotypic ratio							
d. Cross a homozygous running, heterozygous black n	nouse with a	waltzing b	rown mous	se			
Parental genotypes Possible gametes Offspring phenotypic ratio							
e. Cross a heterozygous running, brown mouse with a heterozygous running, homozygous black mouse							
	i I						

Parenta	l genotypes _									
Possible	Possible gametes Offspring phenotypic ratio									
Olispilli	g prieriotypic	TallO								
f Cross	a a bataraziya	iouo ruppino	, botorozw	gava blaak	mouse with	a hatarazi	acua ruppin			
	s a heterozyg ozygous blac		j, neterozy	gous black	mouse with	a neterozyt	jous runnin	ıg,		
Parenta	ll genotypes _		 							
	e gametes g phenotypic									
Chopini	g phonotypio									
4.0-4		41	. 	. 						
1.Set up	a punnett squ	lare using the	e following ir	nformation:						
						nate allele fo ssive allele f	•			
						nate allele fo	•			
. Cross						ssive allele f		vers = w		
• Cross					a homozygou (DDWW) with		-	ve parent		
(ddww)						,,,		·		
2. Using					the punnett s	guare in gue	estion #1:			
J					•					
	What is the pro egenotype(s)?	,	oducing tall	plants with p	ourple flowers	?				
1 OOOIDIC	, gonotypo(o).									
	What is the pro egenotype(s)?	•	oducing dwa	arf plants w	ith white flowe	ers?				
	N/batia tha nua	hability of my	المالية مالية	nlanta with v	white flewers?	Doosible				
c. V genotyp	What is the pro e(s)?	ivaviiity of pro	oducing tall	piants with t	wille howers?	LOSSIDIE				
d. V	What is the pro	bability of pro	oducing dwa	arf plants wit	th purple flower	ers?				
Possible	genotype(s)?									

 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)		
4. Using the punnett square in question #3: a. What is the probability of producing guinea pigs with black, rough fur?		
Possible genotype(s)?		
b. What is the probability of producing guinea pigs with black, smooth fur?		

Possible genotype(s)?

c. What is the probability of producing guinea pigs with white, rough fur?

Possible genotype(s)?

d. What is the probability of producing guinea pigs with white, smooth fur? Possible genotype(s)?