

# Genetics Practice Problems

3 alien practice worksheets with

answers

Alie	n Genetics F	Practice Problems
<ol> <li>For each genotyp</li> </ol>	e below, indicate whethe	r it is heterozygous <b>(He)</b> or homozygous <b>(Ho)</b>
AA	li	Mm
Tt	Bb	Cc
Jj	QQ	00
DD	LI	Pp
2. For each of the <b>g</b>	<b>enotypes</b> below determin	ne what <b>phenotypes</b> would be possible.
Pink skin is domii	nant to green skin.	No horns are dominant to horns
PP		NN
Рр		Nn
pp		nn
Head set eyes are	e dominant to stalks	Tails in aliens are recessive.
нн		π
Hh		Tt
hh		tt
3. For each <b>phenot</b> y trait)	<b>ype</b> below, list the <b>genoty</b>	<b>pes</b> (remember to use the letter of the dominant
Antennas are domino	ant to no antennas	Blue skin is dominant to orange skin
antenna	antenna	blueblue
no antenna		orange

4. Z'cor is a proud green skinned alien who has recently fallen in love with the lovely orange skinned alien, Esmegog.		
They want to know what the chances are that their children would have green skin. If Z'cor is <i>homozygous dominant</i> and Esmegog is <i>homozygous recessive</i> determine the chances their children will have green skin.	Z'cor	Esmegog
<u>Genotypes</u> Z'cor:		
Esmegog:		
What are the possible <b>genotypes</b> for the children?		
What are the possible <b>phenotypes</b> for the children?		
5. Antennas are dominant to no antennas. Next, determine what children to have antennas. If Z'cor is <i>heterozygous</i> and Esmeg		
<u>Genotypes</u> Z'cor:		
Esmegog:		
What are the possible <b>genotypes</b> for the children?		
What are the possible <b>phenotypes</b> for the children?	I	I

. For each genotype (2 homozygous <b>(Ho)</b>	2 allele code) below, ir	ndicate whether it is heterozygous (He) or
Α	li	Mm
't	Bb	Cc
i	QQ	00
DD	LI	Pp
. For each of the <b>geno</b> would be possible.	<b>types (code)</b> below de	etermine what <b>phenotypes (physical expression)</b>
Pink skin is dominan	t to green skin.	No horns are dominant to horns
PP		NN
Рр		Nn
рр		nn
Head set eyes are do	ominant to stalks	Tails in aliens are recessive.
нн		тт
Hh		Tt
hh		tt
For each <b>phenotype</b> use the letter of the		below, list the <b>genotypes (code)</b> (remember to
Antennas are dominant t	to no antennas	Blue skin is dominant to orange skin
antenna	antenna	blueblue
no antenna		orange

	0		
<ol> <li>Z'cor is a proud green skinned alien who has recently fallen in love with the lovely orange skinned alien, Esmegog.</li> </ol>			
Z'cor is <b>homozygous dominant</b>			
Esmegog is <i>homozygous recessive</i>	Z'c	or I	Esmegog
Complete the punnett square to see what possible outcome	es there are.		
<u>Genotypes</u>			Esmegog
Z'cor:			
Esmegog:			
What are the possible genotypes (codes) for the children?			
7'		-	
<ol> <li>Antennas are dominant to no antennas.</li> <li>Z'cor is <i>heterozygous</i></li> </ol>			
Esmegog is <i>homozygous recessive</i> .			
Complete the punnett square to see what possible outcome	es there are.		
Construct			Esmego
<u>Genotypes</u> Z'cor:			
Esmegog:			
What are the possible genotypes (codes) for the children?			
7'		-	
-			
What are the possible <b>phenotypes (physical expression)</b> fo	r	-	I
the children?			

<ol> <li>For each genotype (2 lett homozygous (Ho)</li> </ol>	ter code) below, indic	ate whether it is heterozyį	gous (He) or <u>Vocabulary</u>	
AA	li		Heterozygous: two	
Tt	Bb		different alleles	
Jj DD	QQ		Homozygous: two same alleles	
<ol> <li>For each of the genotype see).</li> <li>Pink skin is dominant to gree</li> </ol>		the <b>phenotypes (what we</b> as are dominant to horns	represented by a capital letter	
PP			Recessive: the all only expressed wh it is pair with itsel	
Рр	Nn		represented by a small letter.	
pp	nn		<b>Genotype</b> : two alle code for a	
Head set eyes are dominant a	to stalks Tails in	aliens are recessive.	characteristic, write using two letters.	
НН	Π		<b>Phenotype</b> : the physical expression	
Hh	Tt		the genotype, what we see	
hh	tt			
3. For each <b>phenotype (wh</b> letter of the dominant tr		ite the <b>genotypes (code)</b> (r	remember to use the	
Antennas are dominant to no	o antennas	Blue skin is dominant to	o orange skin	
antennaa	ntenna	blue	blue	
no antenna		orange		

	0		
4. Skin colour punnett square			P' P
G = green			· · · ·
g = orange	A Report		Sum/
Z'cor is <b>homozygous dominant</b> Esmegog is <b>homozygous recessive</b>	۲	Z'cor	Esmegog
Complete the punnett square to see what possible outcome	s there are.		
<u>Genotypes</u>		1	Esmegog
Z'cor:			
Esmegog:			
Genotypes (codes)			
Z'o	or		
_ `			
Phenotypes (what we see)			~
			<b>O</b>
5. Antenna punnett square	AT I		1 - p
A = antenna		Second and the second second second	The second
a = no antenna			
Z'cor is <i>heterozygous</i>		Z'cor	Esmegog
Esmegog is <i>homozygous recessive.</i>		2 001	2011/0808
Complete the punnett square to see what possible outcome	s there are.		
Genotypes		1	Esmegog
Z'cor:			
Esmegog:			
Genotypes (codes)			
Z'o	or —		
Phonotypes (what we see)			
Phenotypes (what we see)			

# **Alien Genetics Practice Answers**

1. For each genotype below, indicate whether it is heterozygous (He) or homozygous (Ho)

AA <del>Ho</del>	li <b>He</b>	Mm <del>He</del>
Tt <i>He</i>	Bb <del>He</del>	Cc <del>He</del>
Jj <b>He</b>	QQ Ho	00 <b>Ho</b>
DD <mark>Ho</mark>	LI <del>He</del>	Рр <b>Не</b>

2. For each of the genotypes below determine what phenotypes would be possible.

Pink skin is dominant to green skin.	No horns are dominant to horns
PP <b>Pink</b>	NN <i>No horns</i>
Pp <b>Pink</b>	Nn <i>No horns</i>
pp <b>green</b>	nn <i>horns</i>
Head set eyes are dominant to stalks	Tails in aliens are recessive.
HH Head set eyes	TT Tail
Hh Head set eyes	Tt <i>Tail</i>
hh S <u>talks</u>	tt <i>No Tail</i>

3. For each **phenotype** below, list the **genotypes** (remember to use the letter of the dominant trait)

Antennas are dominant to no antennas

Blue skin is dominant to orange skin

**Bb** blue

AA antenna Aa antenna

aa no antenna



**bb** orange

**BB** blue



4. Z'cor is a proud green skinned alien who has recently fallen in love with the lovely orange skinned alien, Esmegog.

They want to know what the chances are that their children would have green skin. If Z'cor is *homozygous* dominant and Esmegog is homozygous recessive determ the chances their children will have green skin.

**Genotypes** Z'cor: **GG** 

Esmegog: gg

What are the possible genotypes for the children?

## Gg

What are the possible **phenotypes** for the children?

### Green skin

5. Antennas are dominant to no antennas. Next, determine what the chances are for their children to have antennas. If Z'cor is *heterozygous* and Esmegog is *homozygous recessive*.

#### Genotypes

<u>Genotypes</u> Z'cor: <b>Aa</b>			
Esmegog: aa		A	а
What are the possible <b>genotypes</b> for the children?		Aa	аа
Aa aa	а	Aa	aa
What are the possible <b>phenotypes</b> for the children?		I	I

Antenna and no antenna

ly			
mine	Z'cor	Esi	negog
		G	G
	g	Gg	Gg
	g	Gg	Gg