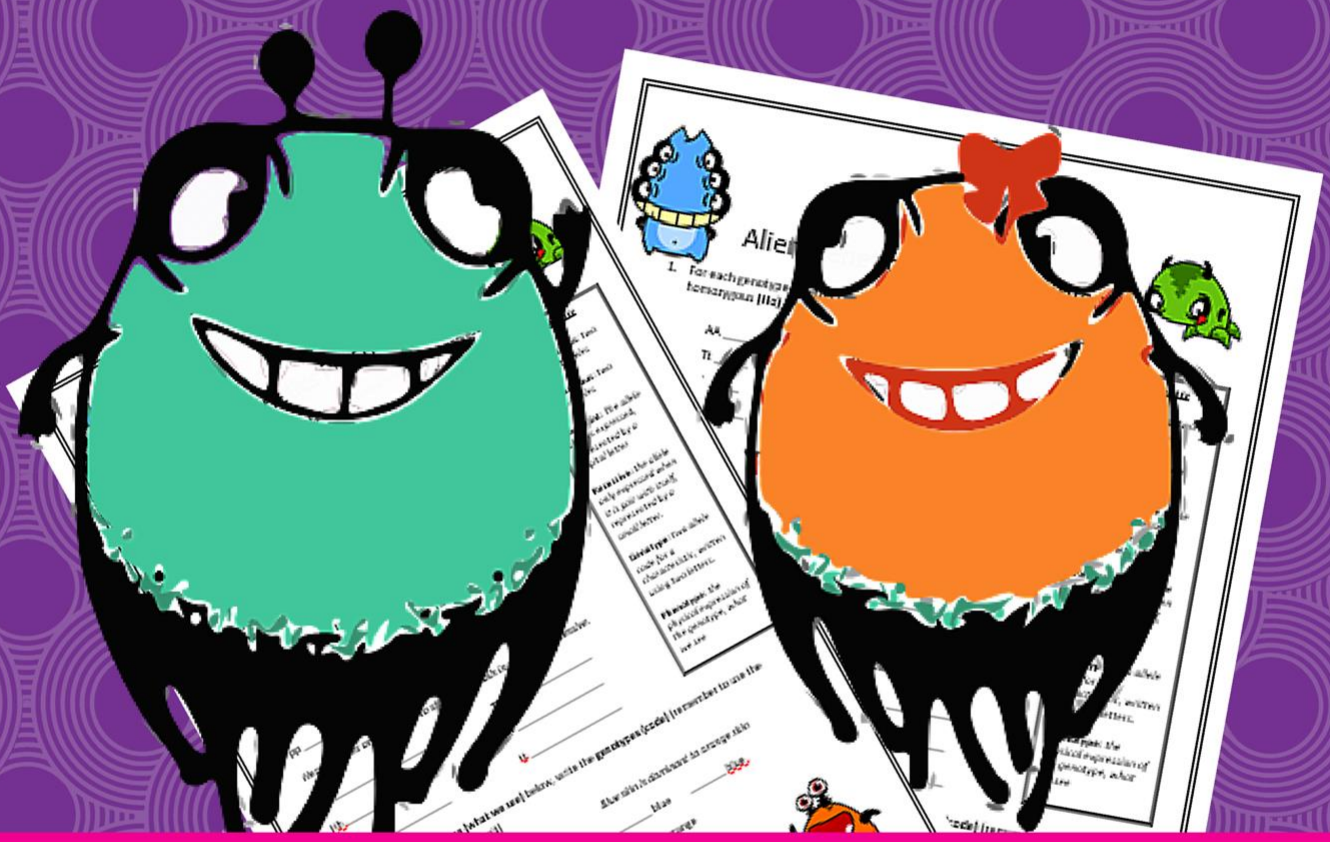
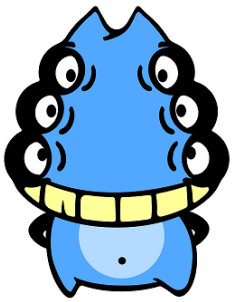
Biology



Genetics Practice Problems

3 alien practice worksheets with answers



Alien Genetics Practice Problems

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

AA _____	Ii _____	Mm _____
Tt _____	Bb _____	Cc _____
Jj _____	QQ _____	oo _____
DD _____	Ll _____	Pp _____

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

Pink skin is dominant to green skin.

PP _____

Pp _____

pp _____

No horns are dominant to horns

NN _____

Nn _____

nn _____

Head set eyes are dominant to stalks

HH _____

Hh _____

hh _____

Tails in aliens are recessive.

TT _____

Tt _____

tt _____

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

Antennas are dominant to no antennas

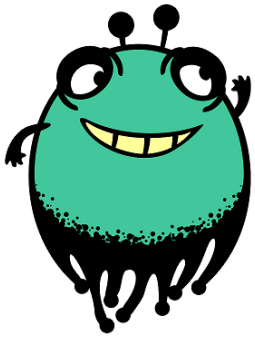
_____ antenna _____ antenna

_____no antenna

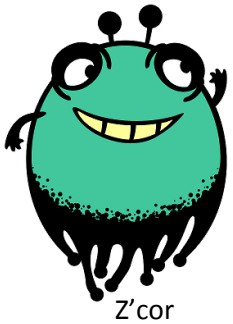
Blue skin is dominant to orange skin

_____ blue _____ blue

_____ orange



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



Z'cor

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*** determine the chances their children will have green skin.

<u>Genotypes</u>

Z'cor: _____

Esmegog: _____

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

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

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.***

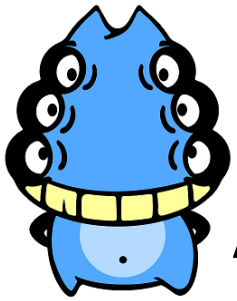
<u>Genotypes</u>

Z'cor: _____

Esmegog: _____

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

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



Alien Genetics Practice Problems

1. For each genotype (2 allele code) below, indicate whether it is heterozygous **(He)** or homozygous **(Ho)**

AA _____ Ii _____ Mm _____

Tt _____ Bb _____ Cc _____

Jj _____ QQ _____ oo _____

DD _____ Ll _____ Pp _____

2. For each of the **genotypes (code)** below determine what **phenotypes (physical expression)** would be possible.

Pink skin is dominant to green skin.

PP _____

Pp _____

pp _____

No horns are dominant to horns

NN _____

Nn _____

nn _____

Head set eyes are dominant to stalks

HH _____

Hh _____

hh _____

Tails in aliens are recessive.

TT _____

Tt _____

tt _____

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

Antennas are dominant to no antennas

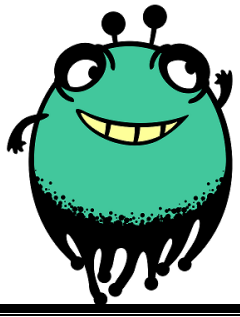
_____ antenna _____ antenna

_____no antenna

Blue skin is dominant to orange skin

_____ blue _____ blue

_____ orange



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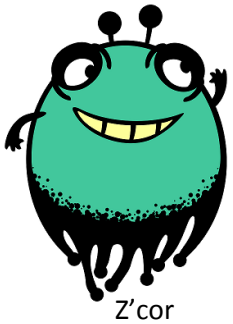


Z'cor

Esmegog

Z'cor is ***homozygous dominant***
Esmegog is ***homozygous recessive***

Complete the punnett square to see what possible outcomes there are.

Genotypes

Z'cor: _____ _____

Esmegog: _____ _____

What are the possible **genotypes (codes)** for the children?

Z'cor \ Esmegog	_____	_____
_____		
_____		

What are the possible **phenotypes (physical expression)** for the children?

5. Antennas are dominant to no antennas.

Z'cor is ***heterozygous***
Esmegog is ***homozygous recessive.***

Complete the punnett square to see what possible outcomes there are.

Genotypes

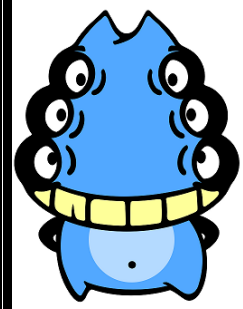
Z'cor: _____ _____

Esmegog: _____ _____

What are the possible **genotypes (codes)** for the children?

Z'cor \ Esmegog	_____	_____
_____		
_____		

What are the possible **phenotypes (physical expression)** for the children?



Alien Genetics Practice Problems

1. For each genotype (2 letter code) below, indicate whether it is heterozygous **(He)** or homozygous **(Ho)**

AA _____	Ii _____	Mm _____
Tt _____	Bb _____	Cc _____
Jj _____	QQ _____	oo _____
DD _____	Ll _____	Pp _____

Vocabulary

Heterozygous: *two different alleles*

Homozygous: *two same alleles*

Dominant: *The allele always expressed, represented by a capital letter*

Recessive: *the allele only expressed when it is pair with itself, represented by a small letter.*

Genotype: *two allele code for a characteristic, written using two letters.*

Phenotype: *the physical expression of the genotype, what we see*

2. For each of the **genotypes (code)** below write the **phenotypes (what we see)**.

Pink skin is dominant to green skin.

PP _____

Pp _____

pp _____

No horns are dominant to horns

NN _____

Nn _____

nn _____

Head set eyes are dominant to stalks

HH _____

Hh _____

hh _____

Tails in aliens are recessive.

TT _____

Tt _____

tt _____

3. For each **phenotype (what we see)** below, write the **genotypes (code)** (remember to use the letter of the dominant trait)

Antennas are dominant to no antennas

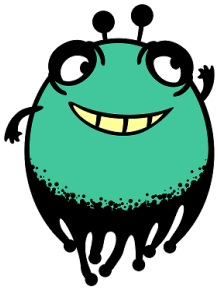
_____ antenna _____ antenna

_____no antenna

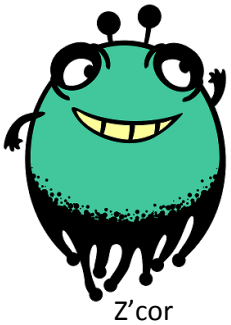
Blue skin is dominant to orange skin

_____ blue _____ blue

_____ orange



4. Skin colour punnett square


Z'cor


Esmegog

G = green
g = orange

Z'cor is ***homozygous dominant***
Esmegog is ***homozygous recessive***

Complete the punnett square to see what possible outcomes there are.

Genotypes
Z'cor: _____ _____

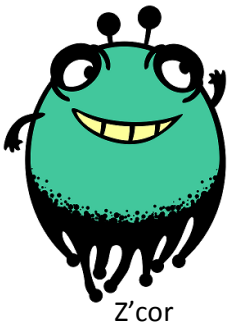
Esmegog: _____ _____

Genotypes (codes)

Z'cor \ Esmegog	_____	_____
_____		
_____		

Phenotypes (what we see)

5. Antenna punnett square


Z'cor


Esmegog

A = antenna
a = no antenna

Z'cor is ***heterozygous***
Esmegog is ***homozygous recessive.***

Complete the punnett square to see what possible outcomes there are.

Genotypes
Z'cor: _____ _____

Esmegog: _____ _____

Genotypes (codes)

Z'cor \ Esmegog	_____	_____
_____		
_____		

Phenotypes (what we see)

Alien Genetics Practice Answers

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

AA ***Ho***	Ii ***He***	Mm ***He***
Tt ***He***	Bb ***He***	Cc ***He***
Jj ***He***	QQ ***Ho***	oo ***Ho***
DD ***Ho***	Ll ***He***	Pp ***He***

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

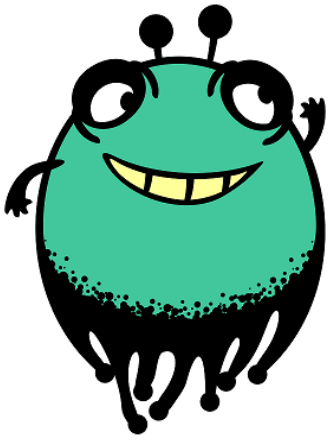
Pink skin is dominant to green skin.	*No horns are dominant to horns*
PP ***Pink***	NN ***No horns***
Pp ***Pink***	Nn ***No horns***
pp ***green***	nn ***horns***
Head set eyes are dominant to stalks	*Tails in aliens are recessive.*
HH *Head set eyes*	TT *Tail*
Hh *Head set eyes*	Tt *Tail*
hh S*talks*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

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

Antennas are dominant to no antennas

AA antenna ***Aa*** antenna

aa no antenna

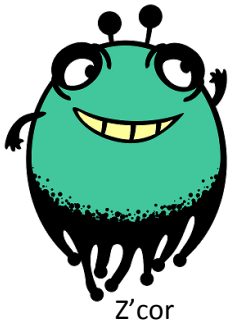


Blue skin is dominant to orange skin

BB blue ***Bb*** blue

bb orange

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



Z'cor

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*** determine the chances their children will have green skin.

Genotypes

Z'cor: ***GG***

Esmegog: ***gg***

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

Gg

	G	***G***
g	***Gg***	***Gg***
g	***Gg***	***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

Z'cor: ***Aa***

Esmegog: ***aa***

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

Aa ***aa***

	A	***a***
a	***Aa***	***aa***
a	***Aa***	***aa***

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

Antenna and no antenna