



Name: _____

Class: _____

Student worksheet

1.6 Alleles can produce dominant or recessive traits

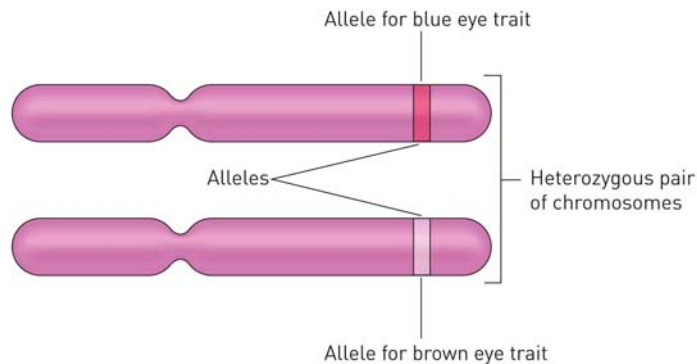
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Alleles

1 What is an allele?

2 Describe the difference between the terms genotype and phenotype.

3 The diagram below is of a pair of chromosomes and shows the alleles for hair colour.



For eye colour (B) of this individual, determine

a genotype: _____

b phenotype: _____



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- 4 Write definitions for the following terms.

Term	Definition
Gene	
Loci	
Chromosome	
Carrier	

- 5 Attached earlobes (E) is dominant to unattached earlobes. Write down the possible genotypes of
- a attached earlobes: _____
 - b unattached earlobes: _____
 - c carriers: _____
- 6 Long eyelashes (L) is dominant to short eyelashes. A woman and man, both with long eyelashes, have two children. The daughter has long eyelashes and the son has short eyelashes. Write the possible genotypes for each parent and child.
- a Mother: _____
 - b Father: _____
 - c Daughter: _____
 - d Son: _____
- 7 Right-handedness (H) is dominant to left-handedness. A right-handed man and a right-handed woman have two children that are both left-handed. Complete the Punnett square below and indicate how two right-handed parents can have two left-handed children.

		Father	
Mother			



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Extend your understanding

8 Short hair is dominant over long hair in guinea pigs. A student has a female guinea pig with short hair. The student wants to purchase a male guinea pig and breed the guinea pigs safely and ethically to produce only short-haired babies.

a What phenotype male guinea pig would the student need to buy?

b Explain why the student could not guarantee that all the babies will also have short hair.
