

25 Multiple choice questions

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Why do all offspring have brown fur?

- ☐ Because the allele for black fur is dominant
- ☐ Because the allele for brown fur color is recessive
- ☐ Because the allele for brown fur color is dominant
- ☐ Because the allele for black fur color is dominant

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with that in mind, can you now determine if Joseph's children will inherit his colorblindness?

- ☐ Definitely yes
- ☐ We cant know for sure
- ☐ Definitely no
- ☐ Highly likely to inherit

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Knowing that Joseph is colorblind, what is his genotype?

- ☐ Xcx
- ☐ XcY
- ☐ Xcyc
- ☐ No, None Of Them Will Be Colorblind

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What does it mean when a trait is independent of another trait?

- ☐ The inheritance of a trait does not affect the inheritance of another trait
- ☐ The inheritance of a trait is always passed down together with another trait
- ☐ The inheritance of a trait is linked to another trait
- ☐ The inheritance of a trait depends on environmental factors

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During gamete formation, two alleles will end up in different gametes due to?

- ☐ The law of segregation
- ☐ We cant know for sure
- ☐ 50% from each parent
- ☐ The one on the left

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Do you think colorblindness is a recessive trait?

- ☐ XcY
- ☐ Yes
- ☐ Aa
- ☐ It has no effect

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What is the phenotype of an individual?

- ☐ Their observable characteristics
- ☐ Their chromosomes
- ☐ An alternative form of a gene
- ☐ Their genes

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Do the predicted phenotypes from the Punnett square agree with the experiment you performed earlier?

- ☐ Yes
- ☐ XcY
- ☐ Gametes
- ☐ We cant know for sure

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What is the name of the haploid cells that carry the genetic information from each parent?

- ☐ Alleles
- ☐ Gametes
- ☐ Autosomes
- ☐ Spores

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(put this in)

- ☐ an alternative form of a gene

☐

☐

☐

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Which one of these cells is male?

- ☐ The one at the bottom
- ☐ The one on the left
- ☐ The one in the center
- ☐ The one on the right

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Can you tell me if eye color has an effect on colorblindness?

- ☐ It decreases
- ☐ It activates glycogen phosphorylase
- ☐ It has no effect
- ☐ It increases

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What is the genotype of the offspring?

- ☐ The red section
- ☐ Their observable characteristics
- ☐ Their genes
- ☐ Aa

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What is an allele?

- ☐ a mutated version of a gene
- ☐ an alternative form of a gene
- ☐ a deleted form of a gene
- ☐ a duplicate copy of a gene

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(Just put this in, its the answer)

☐

☐

☐ Their genes

☐

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(and put this in)

☐

☐ an offspring with parents from two different breeds

☐

☐

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What is the genotype of an individual?

- ☐ Their parents
- ☐ Their chromosomes
- ☐ Their genes
- ☐ Their environment

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What is the gene for colorblindness represented by?

- ☐ The small green chromosome
- ☐ The blue chromosome
- ☐ No, none of them will be colorblind
- ☐ The red section

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If Joseph marries a girl who doesn't carry the gene for colorblindness, will his children be colorblind?

- ☐ The one on the left
- ☐ No, none of them will be colorblind
- ☐ Genes segregate independently during gamete formation
- ☐ The law of segregation

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How do we represent dominant and recessive alleles?

- ☐ Bold letters for dominant, regular letters for recessive alleles
- ☐ Only uppercase letters for all alleles
- ☐ Capital letters for dominant, lowercase letters for recessive alleles
- ☐ Italic letters for dominant, underlined letters for recessive alleles

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What percent of genetic information is passed on from parents to their offspring?

- ☐ 100% from one parent
- ☐ 75% from one parent, 25% from the other
- ☐ 25% from each parent
- ☐ 50% from each parent

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The law of independent assortment states that

- ☐ Genes segregate independently during gamete formation
- ☐ Genes are linked and cannot segregate
- ☐ Genes are passed down in identical pairs
- ☐ Genes are always inherited together

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Why do all offspring have the same fur color?

- ☐ They possess unique mutations in the relevant genes
- ☐ They have the same alleles for the relevant genes
- ☐ They inherit different alleles for the same genes
- ☐ They have identical genes from one parent

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Look at the offspring of the mice from the cross that we performed. How many brown and black mice are there?

- ☐ Two brown, two black mice
- ☐ Four brown, no black mice
- ☐ Three brown, 1 black mouse.
- ☐ One brown, three black mice

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What is a hybrid?

- ☐ an offspring with identical genetic traits
- ☐ an offspring with mixed traits from the same species
- ☐ an offspring with parents from two different breeds
- ☐ an offspring from the same breed