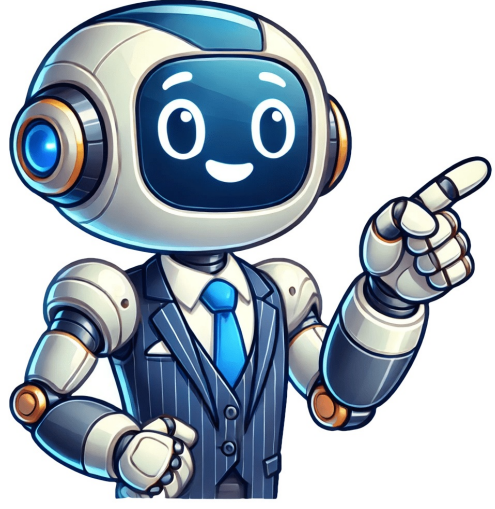


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Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism. Emphasis is on conceptual understanding that changes in genetic material may result in making different proteins. Assessment does not include specific changes at the molecular level, mechanisms for protein synthesis, or specific types of mutations. Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation. Emphasis is on using models such as Punnett squares, diagrams, and simulations to describe the cause and effect relationship of gene transmission from parent(s) to offspring and resulting genetic variation. Menu Introduction What is genetics? What are traits and why are they passed from parents to offspring? What makes you, you? You will use this WebQuest in order to find out!

Task The objective of this WebQuest is to help identify important information about genetics. Students will work together in a group to carry out a genetics WebQuest using online resources. We will discuss the answers to the questions as a class, and ask each group to contribute. By the end of this activity, students should be able to: explain the key terms DNA, gene, chromosome, trait, genotype, and phenotype; describe where DNA is found in the body; explain that genes code for specific proteins; explain the basic concept of inheritance that parents pass chromosomes on to their children; explain how our phenotypes are a result of an interaction between genetic make-up and environmental factors; give some examples of environmental factors that affect our phenotypes. Process Fill out the answers in the spaces provided below. Watch the video below to correctly answer questions 1-3. 1. What is heredity? 2. What are traits influenced by? 3. What are genes and what do they code for? Use the following link to answer questions 4-16. 4. The passing of _____ is the basis of heredity. 5. Our _____ encode the instructions that define our traits. 6. Each of us has thousands of genes, which are made of _____ and reside in our chromosomes. 7. In addition to our genes, the _____ we live in also helps define our traits. 8. Humans have two complete sets of _____ chromosomes. 9. When parents conceive a child, each parent contributes _____ set of chromosomes. 10. Every child receives _____ of its chromosomes from the mother and half from the father. 11. This transfer takes place at _____ when the father's sperm joins the mother's egg. 12. While most cells in our bodies have two sets of _____ chromosomes, or a total of _____, egg and sperm each have _____ chromosomes. 13. When egg and sperm unite they create a single cell called a _____. 14. Each parent contributes _____ complete set of chromosomes to their child. 15. Since the parents contribute the chromosomes _____ to each new child, every child inherits a unique set of chromosomes. 16. As a result, every baby will have a _____ combination of traits. Use the following link to answer question 17. 17. Find Monohybrid Crosses ONLY, for the first two questions under monohybrid crosses answer the question for each of the choices in the drop-down box. The first choice is bb genotype, and you pick the chance of having it. Then you change the bb genotype to another and pick the chances again, it will tell you if you are right or wrong. Using the information you learned above, answer the following question, showing your OWN work, in the space provided. 18. What are the chances of having a child with a hitchhiker's thumb if both parents are hybrids? Conclusion Can you: explain the key terms DNA, gene, chromosome, trait, genotype, and phenotype; describe where DNA is found in the body; explain that genes code for specific proteins; explain the basic concept of inheritance that parents pass chromosomes on to their children; explain how our phenotypes are a result of an interaction between genetic make-up and environmental factors; give some examples of environmental factors that affect our phenotypes. 100% (3) 100% found this document useful (3 votes) 3K views The document provides instructions for answering questions about heredity and genetics by watching three educational videos. It includes the questions and space to write answers. The question AI-enhanced title and description Save Save Intro to Genetics WebQuest (2) (1) For Later 100% 100% found this document useful, undefined This product has not yet been rated. Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism. Emphasis is on conceptual understanding that changes in genetic material may result in making different proteins. Assessment does not include specific changes at the molecular level, mechanisms for protein synthesis, or specific types of mutations. In this activity, students use an interactive or paper-based graphic organizer to explore common alternative conceptions about genetics. This activity ...

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