

## Title: Jurassic Park - Genetics, Heredity, and DNA

NAME \_\_\_\_\_

Instructions: Watch the movie Jurassic Park and answer the following questions related to genetics, heredity, and DNA. Use your knowledge of these topics to analyze the events and concepts presented in the movie. Write your answers in complete sentences and include specific biological vocabulary (e.g., DNA, genes, alleles, cloning, genetic engineering, mutation, etc.). For longer responses, aim for 4–6 sentences unless otherwise noted.



- 1. In *Jurassic Park*, how are the dinosaurs created? What role does genetics play in their creation?**  
*Describe the step-by-step process used to bring dinosaurs back to life. In your answer, explain how scientists use DNA and genetic technology, and identify at least two specific genetic techniques shown or implied in the film.*
- 2. What is DNA, and why is it important in the context of *Jurassic Park*?**  
*Provide a detailed description of DNA, including its structure and function. Then explain why DNA is essential for recreating dinosaurs and what information it contains that makes this possible.*
- 3. How is DNA extracted from the mosquitoes in amber? What is the significance of this process?**  
*Explain how the scientists in the movie obtain dinosaur DNA from preserved mosquitoes. Then evaluate how realistic this method is based on what you know about DNA degradation and fossilization. Why is this step critical to the entire project?*

4. **Explain the concept of heredity/inheritance and how it relates to the dinosaurs in *Jurassic Park*.** *Define heredity in your own words. Then explain how traits are passed from one generation to the next and how this concept applies (or is complicated) in organisms that are cloned rather than born naturally.*
5. **Discuss the process of cloning as depicted in *Jurassic Park*. How does it relate to genetics and heredity?** *Define cloning and describe how it is used in the film. Compare this process to real-world cloning techniques (such as somatic cell nuclear transfer. Yes you'll have to look that up) and explain how cloning affects genetic diversity.*
6. **In the movie, the scientists manipulate dinosaur DNA by filling gaps with frog DNA. What is the purpose of this manipulation, and what potential consequences does it have?** *Explain why gaps in DNA sequences (think the plan book ) must be filled and how adding DNA from another species might affect the resulting organism. Discuss at least two unintended consequences shown in the film and connect them to real genetic principles.*

7. **Explain the concept of genetic engineering and its role in the creation of the dinosaurs in *Jurassic Park*. Look up bringing back the Woolly Mammoth and incorporate that into your answer.**

*Define genetic engineering and describe at least two ways it is used in the film. Include an explanation of how scientists can alter DNA and what tools or methods they might use in real life.*

8. **Discuss the ethical implications of genetic engineering and cloning as portrayed in the movie.**

*Write a response (6–8 sentences) that considers both benefits and risks for what they did in Jurassic park and are considering doing with the Wolly Mammoth. Include at least one argument in favor of these technologies and one argument against them. Then clearly state your own position and support it with reasoning.*

9. **How does the concept of genetic variation relate to the dinosaurs in *Jurassic Park*? Why do you think genetic variation important in a population?**

*Define genetic variation and explain why you think it might be important for survival of a species. Then analyze how the lack (or presence) of variation in the cloned dinosaurs affects their population and the events in the film.*

10. **Reflect on the events in *Jurassic Park* and discuss potential real-world applications or lessons we can learn about genetics, heredity, and DNA.**

*Write a thoughtful response (6–8 sentences) connecting the movie to real scientific research. Consider topics such as de-extinction, biotechnology, or conservation. What warnings or possibilities does the film suggest about the future of genetic science?*