

Bangalie koroma, Antonette Simms, Lassine P Guindo , Lucky Uchendu , Marcus Jackson,  
Tyrek Kelly, Ulises Servellon

Dr Lethia Jackson

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## **Reflection on Collaboration**

Working with Group 4, who studied the Rail Fence Cipher, helped us learn about different ways to hide messages. Comparing the Pigpen Cipher and the Rail Fence Cipher showed us how codes can work in different ways. We also learned that different ciphers have different levels of security, and some are easier to break than others.

### **What We Learned**

The Pigpen Cipher changes letters into symbols, making it more about pattern recognition, while the Rail Fence Cipher mixes up the order of letters, focusing on rearrangement. Seeing these differences helped us understand how ciphers work and why they are useful. We also realized that while the Pigpen Cipher is easy to recognize, the Rail Fence Cipher can be harder to decode without knowing the key.

### **How Collaboration Helped**

Talking with another group gave us a better way to understand ciphers. Group 4 explained the Rail Fence Cipher, and we explained the Pigpen Cipher. Teaching each other made learning easier. We also saw how different approaches to explaining a concept can make it clearer. This helped us reinforce our own understanding and gave us new ways to think about cryptography.

### **Challenges We Faced**

Figuring out how to decode the Rail Fence Cipher was tricky at first. Since it moves letters around, it was confusing. Drawing it out and practicing helped us understand it. Another challenge was seeing the real-world applications of these ciphers, but discussing examples, like how messages were hidden in history, made it more interesting. Also, making sure both groups got time to talk was a challenge, so we made sure to listen and take turns, which improved our communication skills.

In the end, working together helped us understand ciphers better and showed us that teamwork makes learning easier and more fun. We also learned that cryptography is not just about hiding messages but also about problem-solving and thinking critically.