

Activity Title: Decoding a positive complement with a cipher Subject: CS/ELA/Math Grade: 4		Teacher: Duration time: 40 minutes
Summary and Details of Activity: The students will complete an “cipher” activity using a document pushed out via Google Classroom. The teacher will use students to model how to create a cipher to send a positive message, complimenting another student in the class. Introduced with the sender's name, then the cipher message, then the receiver's name could be a guess from fellow classmates. The vocabulary and terms are shared information with fellow classmates using the cipher to reflect their responses. Once students have completed the document they can change their font colors and sizes for presentation. Finally, the teacher will model how to use a Method in which each letter in the plaintext is replaced by a letter some fixed number of positions down the alphabet. The class will discuss that this method is named after Julius Caesar, who used it in his private correspondence. The teacher will lead students to think about why a leader like Caesar might have needed to use encryption. The class will then brainstorm what circumstances do they think/know encryption is used today and, in particular, with computing technologies? During the following session the students will be given time to make corrections/changes and then present their slides to the class.		
Desired Results		
NYS CS & DF Standards: 4-6.CT.4 Decompose a problem into smaller named tasks, some of which can themselves be decomposed into smaller steps. 4-6.CT.5 Identify and name a task within a problem that gets performed multiple times while solving that problem, but with slightly different concrete details each time. 4-6.CT.8 Develop algorithms or programs that use repetition and conditionals for creative expression or to solve a problem. 4-6.CY.1 Explain why different types of information might need to be protected. 4-6.CY.4 Model and explain the purpose of simple cryptographic methods.	Vocabulary: - Decode - Communication - Compliment - Reflection - Numerical - Alphabetical - Encryption	Resources (provide URLs if necessary): Grade Band Standards https://cryptii.com/pipes/caesar-cipher

Learning Objectives:

The student will be able to...

- Expand on the lesson presented in Google Classroom
- Code and Decode
- Change font, font size, and font color for display
- Create a positive connection with a fellow student

Assessment Evidence

Summative Assessment:

A presentation conducted by the paired students at the Smart Board to read and extend what they would like to express about the experience. One pair each day?
 Compliments conclude with a round of applause.
 Following day: Are there any changes or corrections needed?
 Teacher would assess if the criteria was accomplished by the student.

Extensions:

- Students can apply this knowledge to decode other challenges.
- Students can learn to create other types of ciphers.