Instructional Days: 10-12

1. Overview of the Lesson: The lesson is going to introduce the binary system and how to count using it. This is a new concept to many of my students.
2. Summary and Sequence of Lesson

 Journal Entry (5 minutes)-How high can you count using your fingers?

 Counting In Binary Video <https://www.youtube.com/watch?v=LpuPe81bc2w> (5 min)

 Group Activity -Counting in Binary with Cards (20 min)

 Group Activity Part 2 Binary Worksheet (40 min)

 Revisit journal entry (5 minutes)

 Journal Entry (5 minutes)- In 5 minutes create a graphic organizer or list all that you know about binary.

 Binary Practice Sheet (15 min)

 Binary Battelship (30 min)

 Importance of Binary in CS Discussion (10 min)

1. CS Content: Binary Code, Bit and Bytes, Computer Storage and Memory, Problem Solving Strategies (See Attached Materials)
2. Objectives:

 Students will be able to (From the curriculum)- Count forward and Backward in Binary, Explain why binary numbers are important in computer science, and use binary digits to encode and decode messages.

 E. Notes: Play the Binary Battleship Game with the students or with another ECS class. It is provides a good opportunity to build a postive and fun learner environment.