Introduce Activity: Binary Message Device Challenge
Students will build a device from classroom supplies in order to send information to a classmate on the other side of the room.

Challenge 1: Send a Binary
For the first challenge partners will get together and have 5 minutes to construct a **Device and a Process** out of any supplies they see in the class. They will be using this device and process to respond to a simple binary message - (Partner B will be using the device to answer a Binary question sent from Partner A. It must be answered with: Yes or No, True or False, Either/Or.)- to your partner on the other side of the room.
You should try to make it fail-proof. Consider obstacles that might be thrown in your way.

    Rules:
1. After 5 minutes, partners will split to separate parts of the room. They must stay on their side. You may not walk to the other side of the room.
2. Partner A will write a Binary Question on a card and hand it to me. I will pass it to the partner.
3. Partner B will now answer the question using the device and process they constructed.
4. No language. That means no writing or talking to communicate & No projectiles!
5. Now Go onto the next question.
6. The game ends when the first group has 5 questions answered correctly.

GO!
(Give students 5 minutes to put together their **Device and a Process.)**

Challenge 2: Four Possible Messages
Not all questions have only two possible answers. First, write a question that has at least four possible answers. Second, invent a way to use your device to send an answer to a question that has 4 possible answers! Think about these things:

- Should you modify your device?
- Should you use it in a different way - in other words, change the Process?
- Should you make a new device entirely?

Challenge 3: Eight Possible Messages
What if you wanted to ask an even more complex question with at least 8 possible answers?
First, write a question that has at least eight possible answers. Second, invent a way to use your device to send an answer to a question that has 8 possible answers!

You have 5 minutes…
GO!

Journal: (*With Partner*)
- Could we keep increasing the number of messages forever?
- Now that you have seen the other group's devices, could you successfully use the other group's devices to answer the questions you developed??