

Shortest Message Challenge

In this activity, you and your group will be given a short message that you must encode into a binary system. Your goal is to encode the message with as few bits as possible. Then, you will exchange paper chains and letter codes with another group.

You will receive a packet with the following items:

- Worksheet & message
- 120 paper strips (60 each of two different colors)
- Tape

Your binary message will be encoded as a chain of two different colored paper rings. The criteria for your message are as follows:

- 1) The message must be unambiguous. The other group must be able to decode your message without guessing.
- 2) The message must use a binary system. You may only use two colors of paper, and they must be in a single chain.
- 3) Each letter must have its own code. You may not make codes for groups of letters.
- 4) Your code only need work for your message.

After you are finished filling out the form with your letter codes and creating your paper chain, tear off the codes and give them to another group with the paper chain to see whether they can decode it. You will decode that group's message.

Discussion Questions

What advantages does this system have in comparison to ASCII?

What disadvantages does it have?

In what kinds of situations might the two types of systems be appropriate?