

Name(s) _____ Period _____ Date _____

Activity Guide - Packets

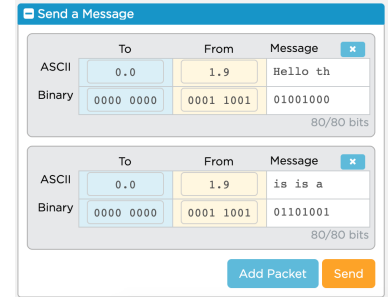


Why Packets?

When you send messages over the Internet there's always a chance for errors. If you're sending a huge file, and in the middle of the transmission you have a single error, you'd need to resend the entire file. The solution to this problem is to split the message into smaller chunks called packets. While errors could still occur, now they'll only affect the single packet, rather than the entire message. This of course introduces new challenges that we'll explore in this activity.

Protocol 1 - Just Send All the Packets

Write a single sentence that uses 5 - 10 packets. Send all the packets at once to your partner. Then click "Log Browser". **Set the Router logs to "show my traffic" and "show all routers"**



Question 1: Do all of the packets in your sent messages always follow the same path? If not, describe at least two different paths packets took.

Question 2: Did every packet arrive in the correct order? Describe what went wrong and whether your partner was able to read the message. If neither you nor your partner had an issue try sending another message.

Protocol 2 - Check for Errors

Create a protocol that will solve the problems you saw with Protocol 1 by doing some error-checking. The sender should be able to construct a single multi-packet message that is sent at once. Afterwards they can keep communicating to fix any errors in the transmission. Things to consider:

- How will the receiver know the order of the packets or if any are missing?
- How will the receiver request missing packets and what will the sender do in response?
- How will both sender and receiver know the full message arrived successfully?

Write the details of your protocol in the space below or the back of this sheet.
