

Packets and Protocols (Teacher Version)

Corresponding Material

The Internet, Packets and Protocols

Discussion

In order to send information from one computer to another, each computer must use the same protocols. Protocols are the official rules and sets of procedures that computers follow to make sure that other computers know how to read and transmit the data being sent.

Sending a Letter

We use communication protocols in the non-digital world as well. If you wanted to send a letter to a friend in a different country, you would first write your letter on paper, then place it into an envelope. The envelope then needs to be addressed with your sender address and your friend's recipient address, and the correct postage stamps need to be placed on the letter. The full envelope would look something like this:



Internet Protocols and Packets

Computers use similar protocols to communicate over the Internet. First, the message you want to send is placed into an "envelope," called a **packet**. Like mailing envelopes, packets have a source address and a destination address that tell any computers along the way where the packet is going.



Exercise: Passing Notes

Let's use some basic addressing protocols to send "packets" across the classroom. First, write a message on a piece of paper. Once you've written your message, fold the paper in half and write a classmate's name on the center of the paper, and your name in the upper left corner.

What if there are two Johns in the room? How can we uniquely identify each individual classmate? Will your message make it to your classmate even if you don't hand it directly to them?

Try having your classmate send your packet back to you after reading the message. Will it make it all the way back across the classroom? Try passing your packet along with your class!