

The Journey InsideSM: The Internet Student Handout: Did You Get the Message?

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Computer networks are able to transmit any digital information. You might use the Internet to contact a friend to verify your homework assignment. Or, if your friends are online at the same time you are, you could all interact using an instant messaging feature. You can exchange written words as easily as the phone allows you to exchange spoken words.



Other types of information can be shared on a network. You can send photographs, the latest hit song, or a movie clip. You can send software. Regardless of the type of information you want to send, the network has to translate it into a format that can be transmitted. The information you send is called a signal and can be in electrical, light, or radio format.

You may have already used a network to send text or pictures. Suppose you wanted to send some music you created for a friend across the Internet. The music would have to be translated into a digital format that the Internet could handle.

Activities

1. Work with several other students and create some "music." This music does not have to use traditional instruments. For example, your music might include two thumps on the floor, a light rap on the desktop, and a bang created by dropping a heavy object on the floor. Or, bang on glasses of water or tap pencils together. Once you have agreed on the "instruments" that you are going to use, develop a way to transmit the music that does not involve using sound.

For our four-note example, you might write on a piece of paper t, t, r, b, for thump, thump, rap, bang. With these four simple notes, think about how you can adjust the music that is heard. How does real music sound? What makes it interesting to hear? Find ways to make your music fun to play and hear.

2. Split into two groups. Each group is to (secretly) create some music and then, instead of using letters as you did previously, use a numerical code. Your groups should then walk to another group to exchange the numerical information. (Note that the format that you have developed to transmit your information is your protocol.)

3. Next, each group should try to reproduce the music of the other. After each group has performed, discuss how well your protocol worked. Does it need to be changed? Did your system of recording your music allow the group to easily reproduce your original music? How could you improve your protocol so that the music is more exactly reproduced by the other group?