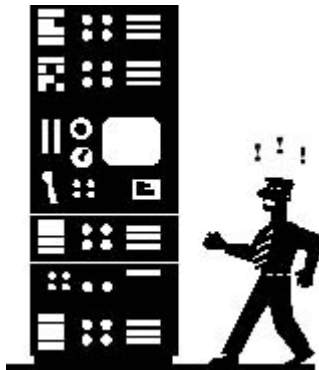


The Journey InsideSM: Introduction to Computers Student Handout: Computers

Computers

How would you answer the question, "What is a computer?" You might say a computer is a machine. You might describe it as something that lets you play games, write papers, or helps you find information. Of course, a computer is all those things and more.

The very earliest computers were large, complex-looking machines housed in special rooms. Access was limited to a few specially trained people. The computers were often called electronic brains. As a result, most people viewed computers as beyond their understanding. They thought computers were magical and intelligent. Many people were afraid that a computer might be much smarter than they were.



Is the computer smart in the same way a person is smart? Computers and people are both complex. Both can process information. Both can store information for later use. Both are able to do a wide variety of things.

Consider computer memory compared to people memory. A computer can store in its memory an entire library of books. People are not very good at memorizing entire books perfectly. It takes a person about two seconds to add together two 3-digit numbers. Computers can do several million long-division problems in one second. This is much faster than a person can do computations.

However, people can do some tasks better than computers. How about judging a cooking contest? Or choosing a cool outfit?

Computers are getting better at performing a wide variety of tasks. But, they still do only what a computer program instructs them to do. Still, modern computers can learn. For example, a personal digital assistant (PDA) is a small computer that can learn to read your handwriting. However, if someone else writes in your PDA, the computer may not read her handwriting correctly. Compare this to people. Once we know how to read handwriting, we can read any handwriting, regardless of the writer.

Activities

1. The comparison between a computer and a person is a common one.

Make a table like the one below. Make as many rows as you need. Show the things you can do that your computer can also do. List the things that you can do that your computer is not able to do. Explain why you think the computer is unable to do each item on your list.

Use this information to write a short paragraph stating what you think works well in the comparison of a person to a computer. Include the reasons you think the comparison does not work well.

| Both Can Do | Only I Can Do | Computer Cannot Do Because... |
|-------------|---------------|-------------------------------|
| | | |

2. Old dictionaries define the word "computer" as a person who does calculations. The mental work done by these people has gradually been passed along to computers and calculators. Consider the analogy, "The computer is like a high-speed calculator." Make a table like the one below. Add as many rows as you need for your answers.

When your lists are complete, use them to help you state some strengths and some weaknesses of this analogy.

| Only Calculator Can Do | Both Can Do | Only Computer Can Do |
|------------------------|-------------|----------------------|
| | | |