Human-Hard Drive-Operating System Modeling Review **name**:_____

Word bank:

binary	hexadecimal	encoding	permanent storage
buffer	write/writing	read/reading	bytes
bit	convert	hard drive	volatile memory
operating system	software	eight	two
sixteen	processor	lookup	search
time	idle	digital	analog
data	faster	slower	hardware

Directions: Using the word bank above, fill in the missing elements in the following paragraph. Words may be used once, more than once, or zero times. (Don't forget to arrive at meaningful definitions for unknown words.)

Computers carry out useful functions by organizing _____(1) for efficient writing to and _____(2) _____(3) devices, such as a _____(4). Components within the computer work together to _____(5) user-inputted information from human friendly forms to formats that can be manipulated by the _____(6) under the direction of the computer's governing software package called the _____(7).

The smallest unit of information that computers can manipulate is a single _____(8) which can take on one of _____(9) possible values which we represent often as a one or a zero. In other words, we can think of a computer as a machine only capable of manipulating numbers in a base _____(10) system. Since nearly all chunks of data require more than a single _____(11) of data storage, we often group _____(12) bits together and measure the size of a chunk of data in a computer using a count of the number of _____(13) of memory required to hold the information.

Representing this digital information on screens and print outs, however, is most conveniently done by converting the base _____(14) encoded information in _____(15) notation which involves each position taking on one of _____(16) possible values. While computers don't really care how we represent this more compact form of presenting digital data, the convention is to use the symbols _____(17) through nine and capital A through F to do so.