

Data Powers of Ten

- **Byte [8 bits]**
 - 0.1 bytes: a binary decision;
 - 1 byte: a single character;
 - 10 bytes: a single word;
 - 100 bytes: a telegram OR a punched card;
- **Kilobyte [1,000 bytes OR 10^3 bytes]**
 - 1 Kilobyte: A very short story;
 - 2 Kilobytes: A typewritten page;
 - 10 Kilobytes: An encyclopaedic page OR a deck of punched cards;
 - 10 Kilobytes: static web page;
 - 50 Kilobytes: A compressed document image page;
 - 100 Kilobytes: A low-resolution photograph;
 - 200 Kilobytes: A box of punched cards;
 - 500 Kilobytes: A very heavy box of punched cards;
- **Megabyte [1,000,000 bytes OR 10^6 bytes]**
 - 1 Megabyte: A small novel OR a 3.5 inch floppy disk;
 - 2 Megabytes: A high resolution photograph;
 - 5 Megabytes: The complete works of Shakespeare OR 30 seconds of TV-quality video;
 - 10 Megabytes: A minute of high-fidelity sound OR a digital chest X-ray;
 - 20 Megabytes: A box of floppy disks;
 - 50 Megabytes: A digital mammogram;
 - 100 Megabytes: 1 meter of shelved books OR a two-volume encyclopaedic book;
 - 200 Megabytes: A reel of 9-track tape OR an IBM 3480 cartridge tape;
 - 500 Megabytes: A CD-ROM OR the hard disk of a PC;
- **Gigabyte [1,000,000,000 bytes OR 10^9 bytes]**
 - 1 Gigabyte: a pickup truck filled with paper OR a symphony in high-fidelity sound OR a movie at TV quality;
 - 2 Gigabytes: 20 meters of shelved books OR a stack of 9-track tapes;
 - 5 Gigabytes: 8mm Exabyte tape;
 - 20 Gigabytes: A good collection of the works of Beethoven OR 5 Exabyte tapes OR a VHS tape used for digital data;
 - 50 Gigabytes: A floor of books OR hundreds of 9-track tapes;
 - 100 Gigabytes: A floor of academic journals OR a large ID-1 digital tape;
 - 200 Gigabytes: 50 Exabyte tapes;
 - 500 Gigabytes: The biggest FTP site.
- **Terabyte [1,000,000,000,000 bytes OR 10^{12} bytes]**
 - 1 Terabyte: An automated tape robot OR all the X-ray films in a large technological hospital OR 50000 trees made into paper and printed OR daily rate of EOS data (1998);
 - 2 Terabytes: An academic research library OR a cabinet full of Exabyte tapes;
 - 10 Terabytes: The printed collection of the US Library of Congress;
 - 50 Terabytes: The contents of a large Mass Storage System;
 - 400 Terabytes: National Climactic Data Center (NOAA) database;
- **Petabyte [1,000,000,000,000,000 bytes OR 10^{15} bytes]**
 - 1 Petabyte: 3 years of EOS data (2001);
 - 2 Petabytes: All US academic research libraries;
 - 8 Petabytes: All information available on the Web;
 - 20 Petabytes: Production of hard-disk drives in 1995;
 - 200 Petabytes: All printed material OR production of digital magnetic tape in 1995;
- **Exabyte [1,000,000,000,000,000,000 bytes OR 10^{18} bytes]**
 - 2 Exabytes: Total volume of information generated worldwide annually.
 - 5 Exabytes: All words ever spoken by human beings.
- **Zettabyte [1,000,000,000,000,000,000,000 bytes OR 10^{21} bytes]**
- **Yottabyte [1,000,000,000,000,000,000,000,000 bytes OR 10^{24} bytes]**