

The World In Bytes

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This page provides tables and other information about how many bytes are required (how much computer storage) for various information objects or purposes; it also summarizes some facts that have been gathered about how much information exists in the world and, where appropriate, how much computer storage this requires.

- > The Metric System and Computing
- > How Many Bytes for Anything
- > How Many Bytes for a Web Site
- > How Much Information Produced

The Metric System and Computing	Abbreviation	Equivalent
Byte	B	1
Kilobyte	KB	=1000 B
Megabyte	MB	=1000 KB
Gigabyte	GB	=1000 MB
Terabyte	TB	=1000 GB
Petabyte	PB	=1000 TB
Exabyte	EB	=1000 PB

How Many Bytes for Anything	How many bytes	In Bytes
A binary decision	1 bit	1
A single text character	1 byte	1
A typical text word	10 bytes	10
A typewritten page	2 kilobytes	2,000
A low-resolution photograph	100 kilobytes	100,000
A short novel	1 megabyte	1,000,000
The contents of a 3.5 inch floppy disk	1.44 megabytes	1,440,000
A high-resolution photograph	2 megabytes	2,000,000
The complete works of Shakespeare	5 megabytes	5,000,000
A minute of high-fidelity sound	10 megabytes	10,000,000
One meter (or close to a yard) of shelved books	100 megabytes	100,000,000
The contents of a CD-ROM	500 megabytes	500,000,000
A pickup truck filled with books	1 gigabyte	1,000,000,000
The contents of a DVD	17 gigabytes	17,000,000,000
A collection of the works of Beethoven	20 gigabytes	20,000,000,000
A library floor of academic journals	100 gigabytes	100,000,000,000
50,000 trees made into paper and printed	1 terabyte	1,000,000,000,000
An academic research library	2 terabytes	2,000,000,000,000
The print collections of the U.S. Library of Congress	10 terabytes	10,000,000,000,000
The National Climactic Data Center database	400 terabytes	400,000,000,000,000
Three years' of EOS data (2001)	1 petabyte	1,000,000,000,000,000
All U.S. academic research libraries	2 petabytes	2,000,000,000,000,000
All hard disk capacity developed in 1995	20 petabytes	20,000,000,000,000,000
All printed material in the world	200 petabytes	200,000,000,000,000,000
Total volume of information generated in 1999	2 exabytes	2,000,000,000,000,000,000
All words ever spoken by human beings	5 exabytes	5,000,000,000,000,000,000

How Many Bytes for a Web Site	How Many Bytes	In Bytes
The amount of text on an average print page (converted into HTML)	1 kilobyte	1,000
A button-size image for a Web page	1 KB to 5 KB	1,000
A larger image for a Web page	30 to 60 KB+	30,000
An average Web site	5 megabytes	5,000,000
The range for typical PDF files	100 to 800 KB	100,000
A video or audio downloadable file	500 KB to 10 MB	500,000
An MP3 (music) downloadable file	3 to 5 MB	3,000,000
A program or driver download	Will usually say	

How Much Information Produced	How many bytes	In Bytes
How much information each person on earth produces per year	1 to 2 exabytes	1,000,000,000,000,000,000
How much of the above is printed information	.03% of the total	
How much e-mail information per year	11,265 terabytes	11,265,000,000,000,000
How much radio information	788 terabytes	788,000,000,000,000
How much TV information	14,150 terabytes	14,150,000,000,000,000
How much telephone information	576,000 terabytes	576,000,000,000,000,000
How much postal information	150,000 terabytes	150,000,000,000,000,000
How much office document information	195 terabytes	195,000,000,000,000