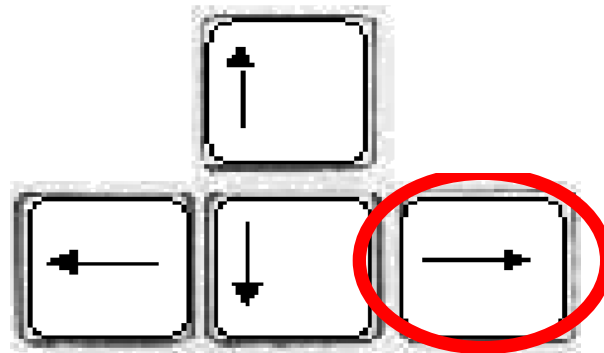# Big Spring Middle School Computer Lab, Rm. 521

Disks, Files and Memory

Press this button on the keyboard

Disks and Memory

"Computers are not smarter than us; *we* are smarter. Computers are just faster and have better memory."

Mr. Mistishen

Believe it or not, computers only understand two things…

1 and 0

Computers don't even know what letters or the other numbers are. Only…

1 and 0

The Binary System

- Computers use a code of zeros and ones to understand the symbols, or letters, of our alphabet.

- This is called the **binary number system**. Binary means 'two', referring to '1' and '0'. The ones and zeros make a circuit inside the computer turn on and off, or open and close.

5

The Binary System

- When used in a computer code, the ones and zeros are called **bits** (short for **Bi**nary digi**T**s).

- Information is stored in blocks of 8 bits. Each block is called a **byte**.

- An 8-bit byte makes 256 codes, which is more than enough for all the alphabets, digits, special characters and commands needed for a computer.

The Binary System

- For example, when you press the S key on the keyboard, the computer knows that you pressed 'S' and not 'g'.

- But the computer doesn't understand the symbol 'S' or 'g'. Instead, it gets the code made up of zeros and ones.

Bit

- A single number, either a **1** or **0** **(ON or OFF)**, used for counting in the binary number system.

- A single bit can't tell you much, so bits are gathered into groups of **8** to make a byte.

Byte

- A series of 8 bits that means something to the computer, like a letter, number, or punctuation mark.

- For example, the byte 01001000 means a capital "H".

Bit

↓

01001011

Byte

Bit (each individual or 0)

↓

01001011

Byte

Bit

↓

01001011

Byte (all eight bits together)

Bit (each individual 1 or 0)

↓

01001011

Byte (all eight bits together)

Memory sizes

- **Bit** = 1 or 0 (on or off)
- **Byte** = 8 bits (1 letter, or number, or symbol)
- **Kilobyte (KB)** = 1,024 bytes
  - (*kilo* means thousand)
- **Megabyte (MB)** = 1,048,567 bytes
  - (*mega* means million)
- **Gigabyte (GB)** = approx. 1,000,000,000 bytes
  - (*giga* means billion)

Memory sizes

- **Bit** = 1 or 0 (on or off)

- Byte = 1 character or letter or symbol.

- **Kilobyte (KB)** = approximately one thousand characters, or one page of double spaced text.

- **Megabyte (MB)** = approximately one million characters, or one small novel.

- **Gigabyte (GB)** = Approximately one billion characters, or one thousand novels.

MEMORY CAPACITY

The amount of information a computer can store in memory. Bytes are used to measure both computer memory (RAM) and the storage capacity of floppy disks, CD-ROM drives, and hard drives.

LIBRARY

BYTE

One character. A character can be a number, letter or symbol. *Note: A byte consists of 8 bits.*

KILOBYTE (K)

Approximately one thousand characters, or one page of double spaced text.

GIGABYTE (GB)

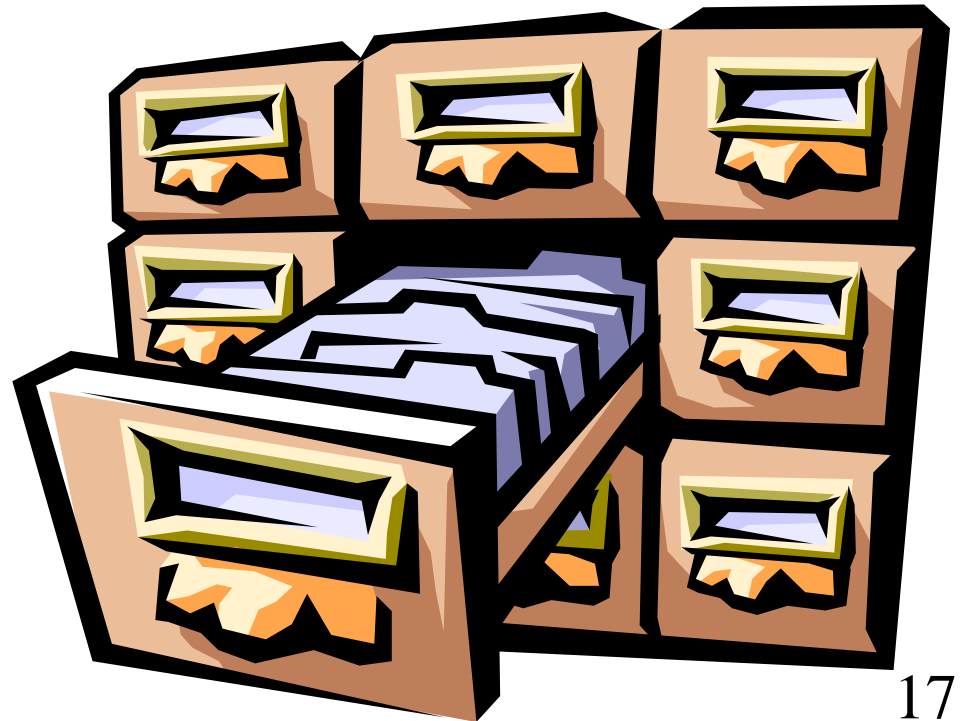Approximately one billion characters, or one thousand novels.

MEGABYTE (MB)

Approximately one million characters, or small one novel.

16

A **Drive** is a place from where you can…

- Find and open files,
- Save files.

Computers have different **drives**…

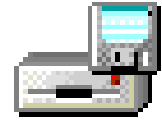# A computer drive will have a letter assigned to it…

- The **C:** drive is the letter given to the **computer's hard drive**.

- When a file is saved to the **C** drive, the file is saved inside the computer.

- Anyone who uses that computer will be able to open and change the file.
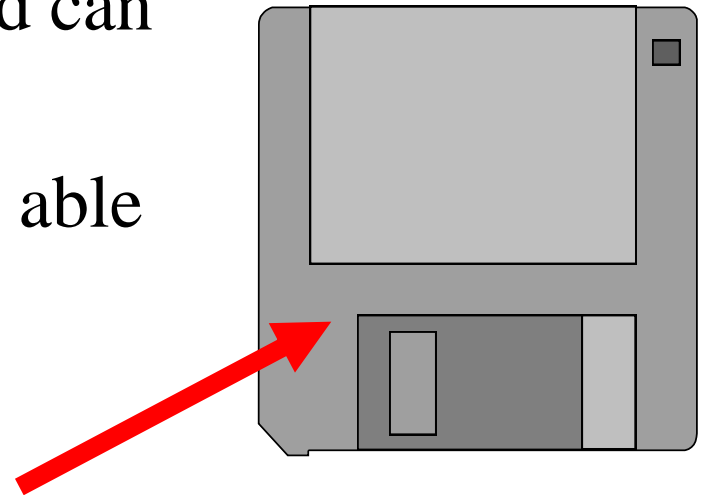
Local Disk (C:)

A computer drive will have a letter assigned to it…

3½ Floppy [A:]

- The **A:** drive is the letter given to the **3½" floppy diskette drive**.

- When a file is saved to the **A** drive, the file is saved on the floppy and can be taken with you.

- You must have the diskette to be able to open and change the file.

20

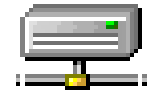# A computer drive will have a letter assigned to it…

DVD Drive (D:)

- The **D:** drive is the letter given to the **CD/DVD-ROM drive** in Rm. 521.

- CD-ROM means Compact Disc-Read Only Memory.

- DVD-ROM means Digital Video Disc-Read Only Memory.

- You can save to CDs and DVDs with most DVD drives.

A computer drive will have a letter assigned to it…

Shared on 'Admin01\W...

- The **S:**, or **Shared** drive is the letter given to the **network drive** where you can access files that teachers have prepared for you.

- Anyone can open and look at files here. But…

- **You** cannot save to this drive; only the teachers who have rights and permission to the drive can save files here.
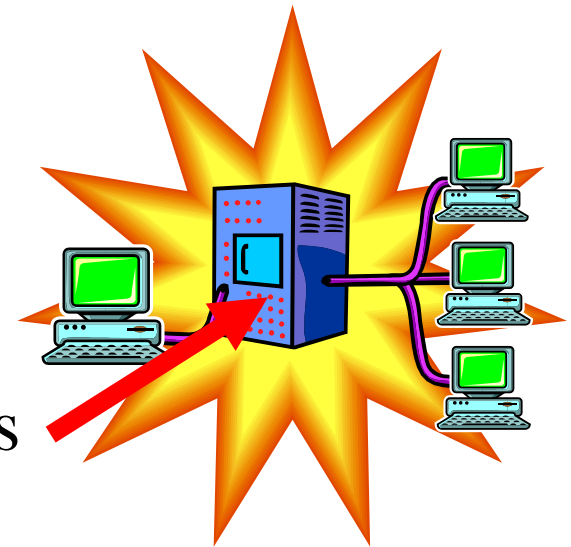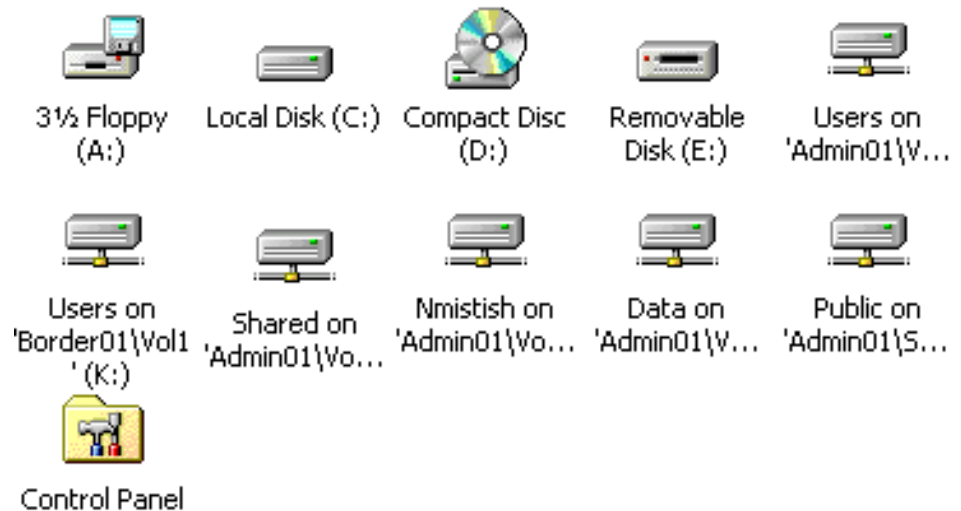
A computer drive will have a letter assigned to it…

Astudent on 'Admin\Vol1 …

- The **U:** drive is the letter given to the **network drive** where **you** are to save your files. This is where your home directory is located.

- Access to this drive is limited to
  - You,
  - The network administrator,
  - Your computer teacher
  - Anyone who knows your password.

ABASTRES	ABITNER	ABIXLER	ABUSSER
ADENNISO	AESHENOU	AFAHNEST	AFRY
AGAUTHIE	AGLASS	AHOVETTE	AJARDINE
AKULP	ALLONG	ALONG	ALOVINGO
AMCDONAL	AMERKEL	AMILLER	AMOREHOU
ANBITNER	APROBERT	ARATHGEB	ARINKENB
ASHEELER	ASHUMAN	ASMITH	ASPRECHE
ASTOVER	ASTROUSE	AUSMITH	AWARNOCK
BBARRICK	BBENDER	BCARPENT	BCLOUSE
BFINK	BJARUSEW	BKEEBAUG	BLAUTSBA
BMETZGER	BRHOADS	BRUGH	BSTOUFFE
BTETKOSK	CAGAR	CALLEN	CBEARD
CBODEN	CCASEY	CCASSELL	CFOULTZ
CHAIR	CIANNUZZ	CIRWIN	CKECK
CLEHMAN	CLESCALL	CMCGOWAN	CMCKEE
CMILLER	CNEWHOUS	CNOYES	COYOUNG
CPRICE	CRICKABA	CROGERS	CSAWDY
CSHEAFFE	CSMYSER	CSTEVENS	CYOUNG

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A computer drive will have a letter assigned to it…

- There are other drives available, such as flash drives, and other network drives.

- The letters of these drives can vary and can be changed.

3½ Floppy (A:) Local Disk (C:) Compact Disc (D:) Removable Disk (E:) Users on 'Admin01\V…

Users on 'Border01\Vol1 ' (K:) Shared on 'Admin01\Vo… Nmistish on 'Admin01\Vo… Data on 'Admin01\V… Public on 'Admin01\S…

Control Panel

3½"High Density Floppy Diskette

- A removable disk that stores information magnetically.

- Also called a diskette.

- There are also low-density diskettes, but we use high-density.

- Keep diskettes away from magnets and heat.
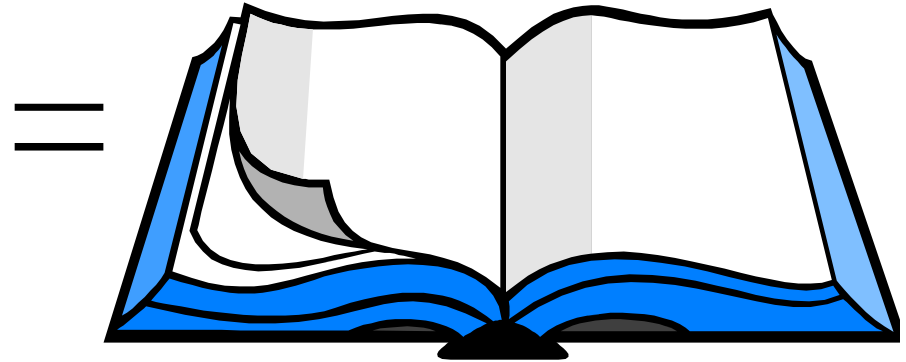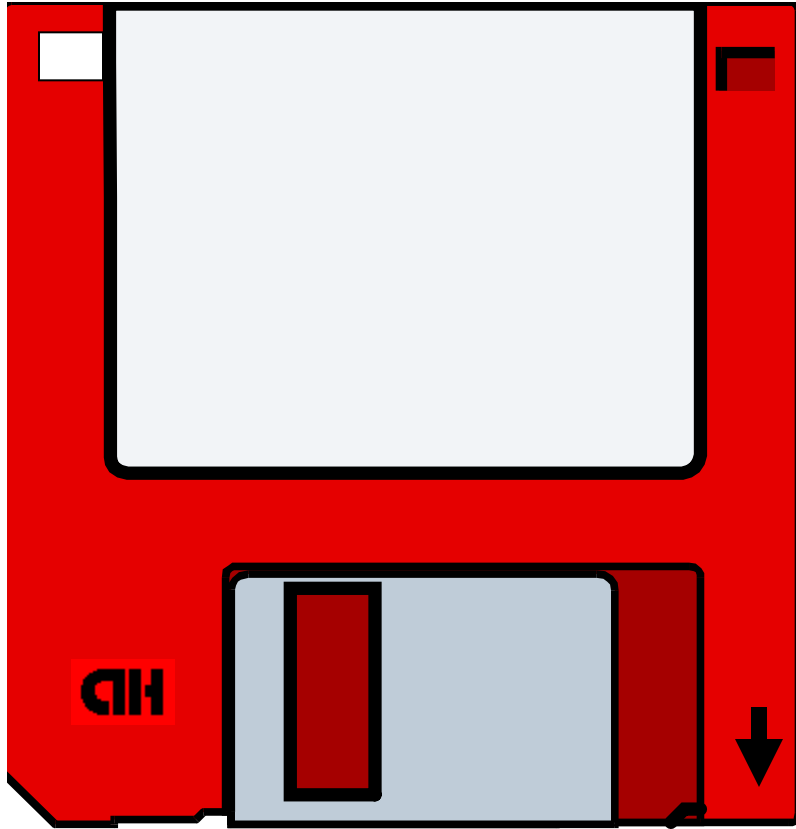
25
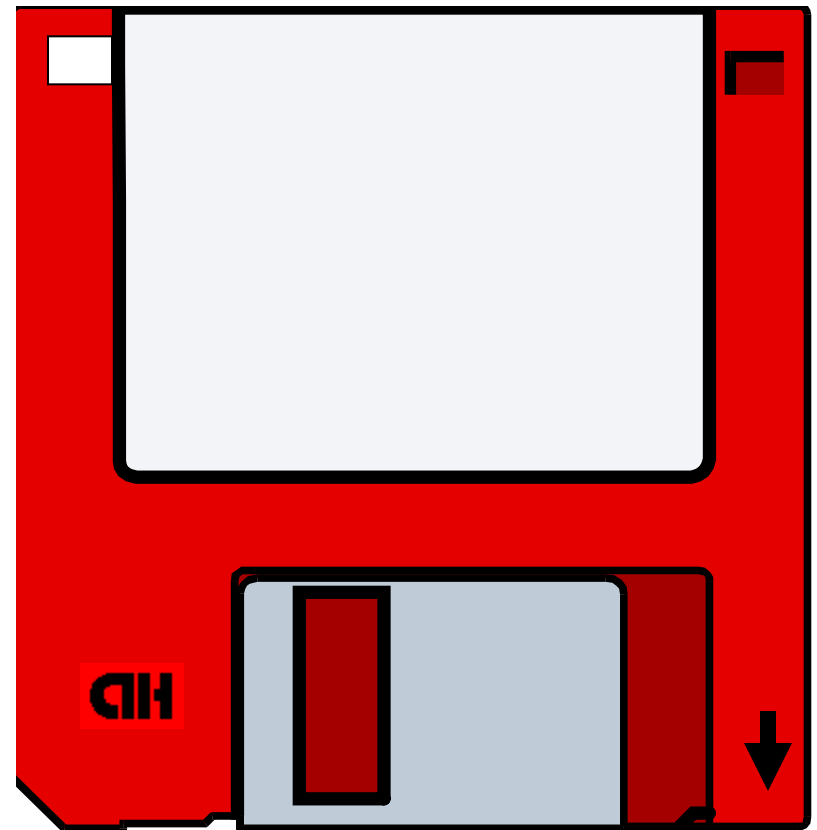
3½"High Density Floppy Diskette

- It holds 1.4 Megabytes (MB) of information...

- Which is the same as 1,457,664 Bytes...
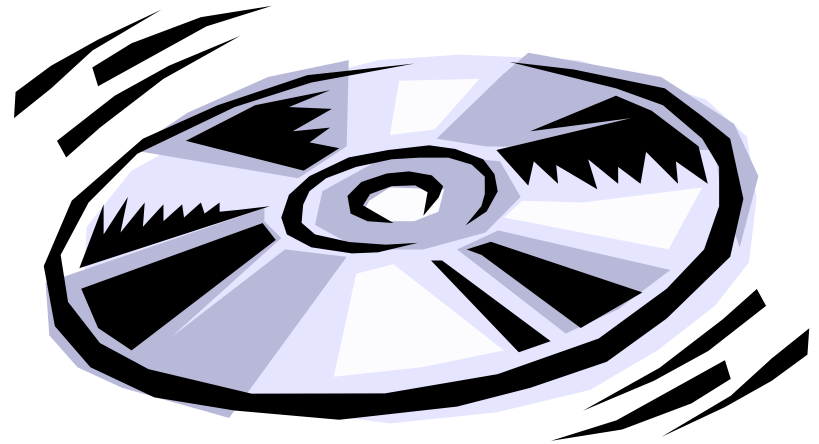
- Which equals 1,440 pages of words.
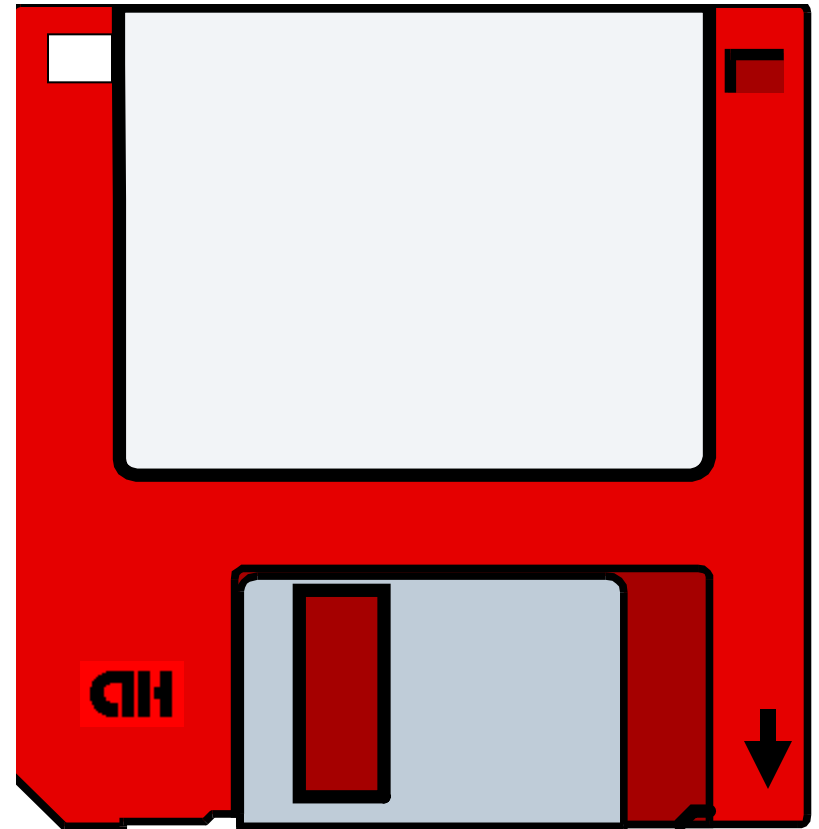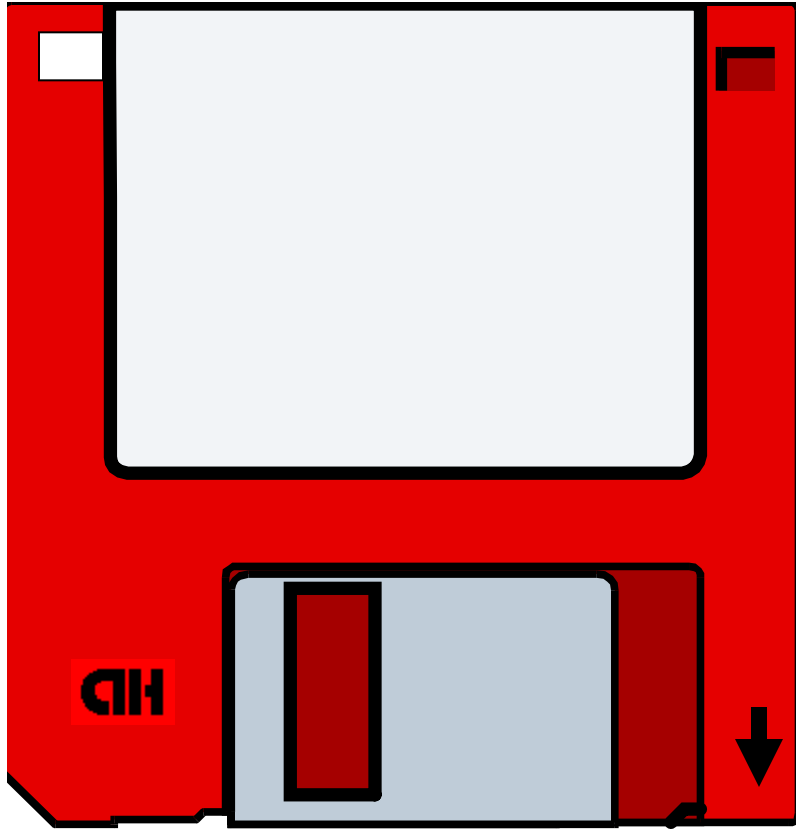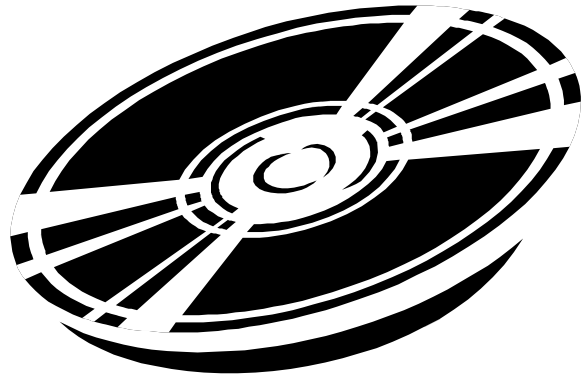
One 3½"high density floppy diskette   =

One 3½"high density floppy diskette = approximately one book

CD ROM

- It holds about 700 Megabytes (MB) of information...

- Which is the same as 700,000,000 Bytes...

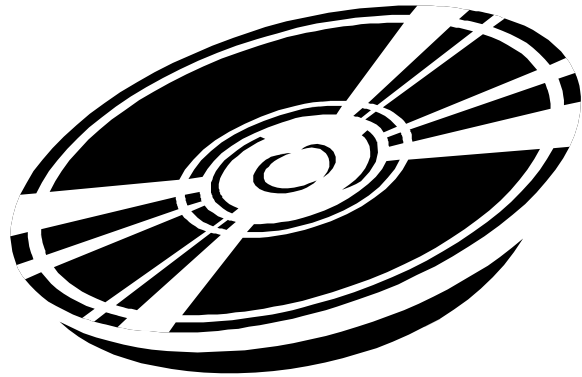- Which equals approx. 300,000 pages of words.
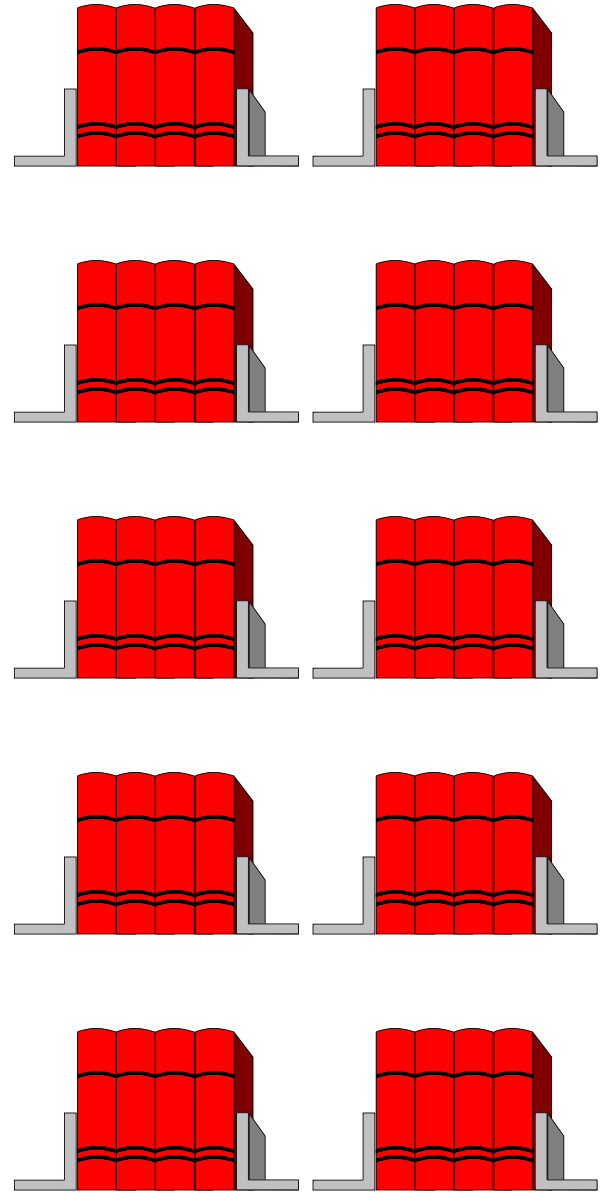
29

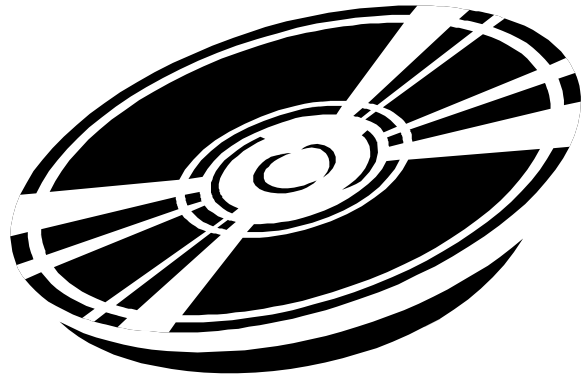1 CD-ROM   =

One CD-ROM   =

1 CD-ROM

=

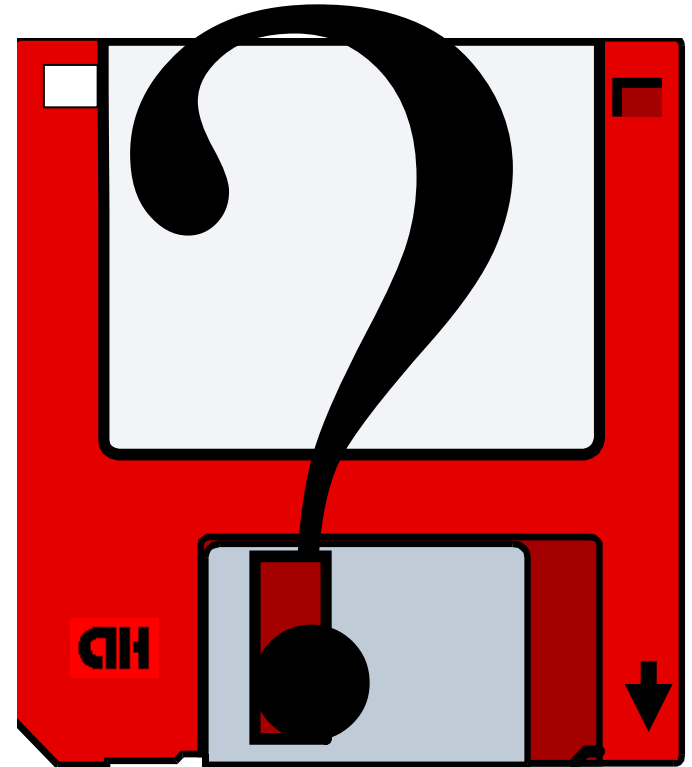One CD-ROM   =   an entire set of encyclopedias!

1 CD-ROM = ?

One CD-ROM =
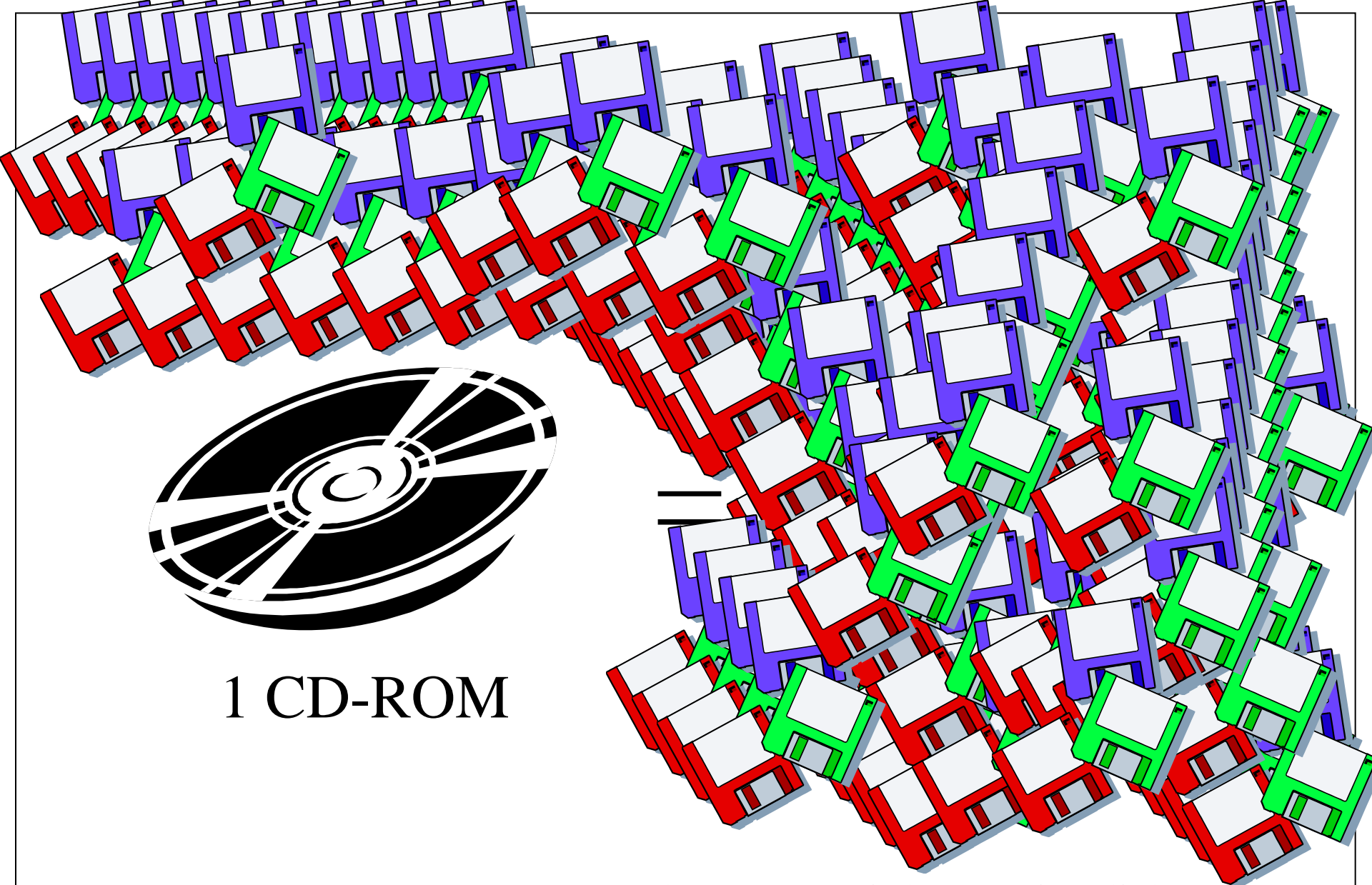
1 CD-ROM

One CD-ROM = About 466 High-Density diskettes!

Flash Drives

- They current hold from 1 Gigabyte to 4 and 8 Gigabytes (GB) of information...

- One Gigabyte equals 1,073,741,824 bytes…

- Which equals approx. 559,240 pages of words.

34
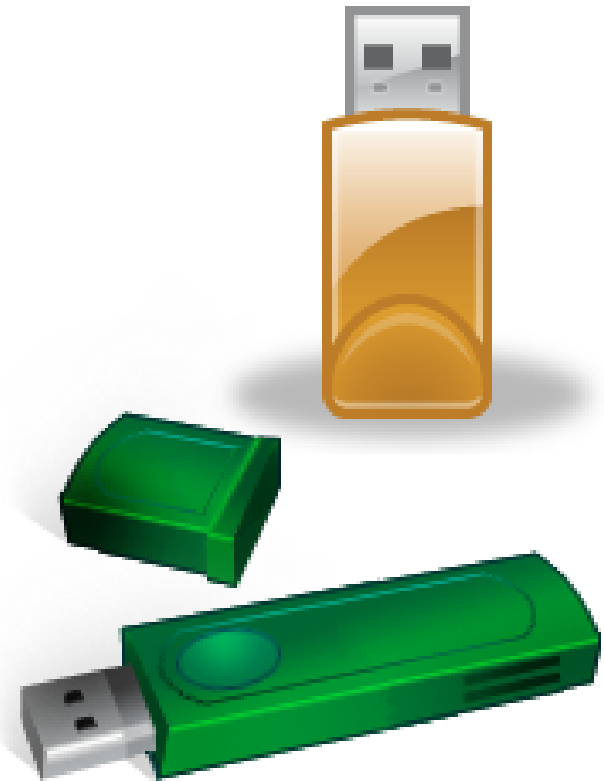
Flash Drives

- Flash drives are inserted into Universal Serial Bus (USB) ports…
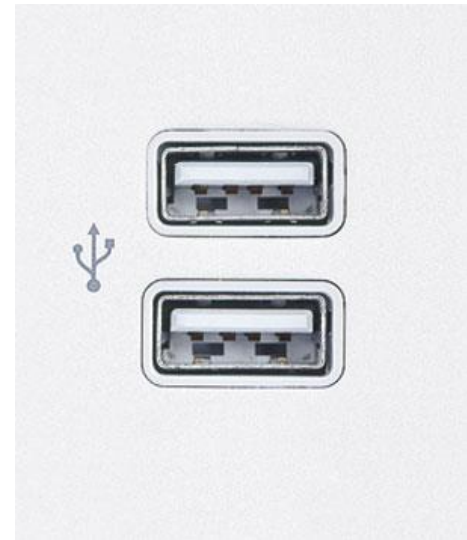
Flash Drives

- When you insert a flash drive into a USB port, this icon will appear in the task bar…
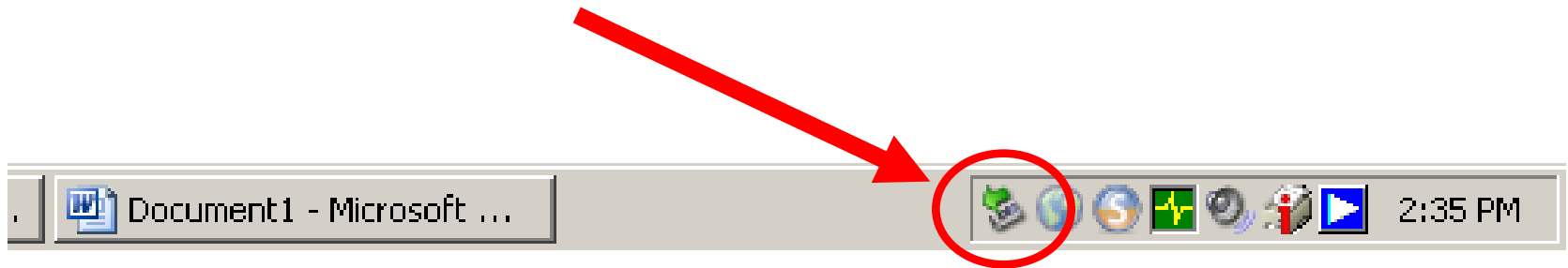
Flash Drives

- DO NOT remove a flash drive from a USB port until you do the following…

- Click this icon…

Flash Drives

- Then click this message bar…

Safely remove USB Mass Storage Device - Drive(E:)

Document1 - Microsoft …   2:37 PM
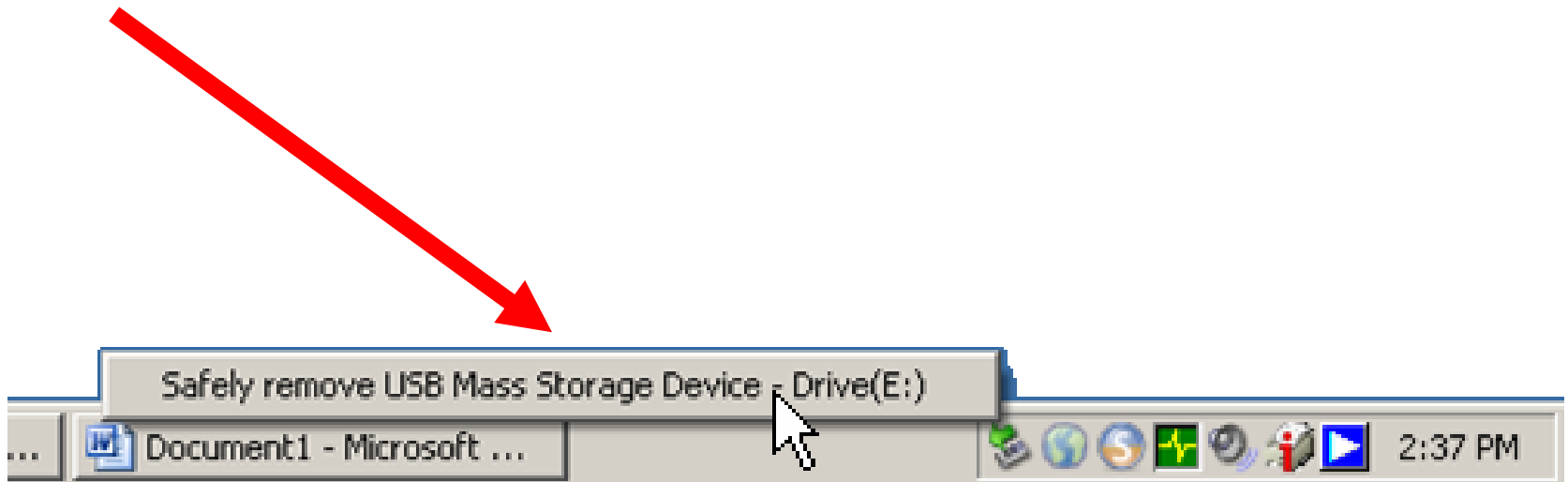
Flash Drives

- When you see this message, then you can safely remove the flash drive from the computer…
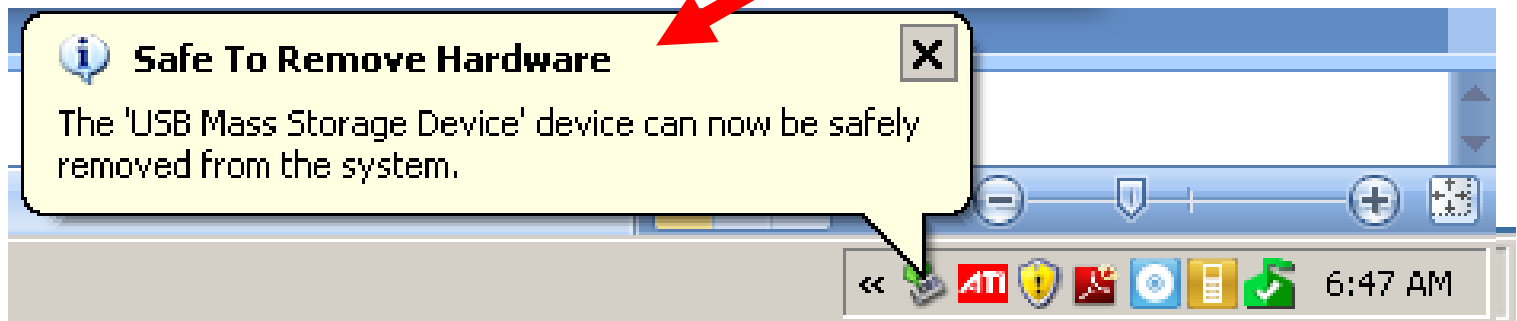
When you are saving the work you are doing on the computer, you are creating a file.

All files have properties that include…

- The name of the file,

Business Description Properties

| Contents | Custom | NetWare Version |
| General | Summary | Statistics |

Business Description

Type: Microsoft Word Document
Location: A:\
Size: 23.5KB (24,064 bytes), 24,064 bytes used

MS-DOS name: BUSINE~1.DOC
Created: Friday, April 27, 2001 2:09:59 PM
Modified: Friday, April 27, 2001 2:45:34 PM
Accessed: Tuesday, November 06, 2001

Attributes: ☐ Read-only   ☐ Hidden
                ☑ Archive   ☐ System

OK   Cancel   Apply

All files have properties that include…

• The name of the file,

• The icon that quickly associates which program the file was created in, or will open the file,

Business Description Properties

Contents | Custom | NetWare Version
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OK | Cancel | Apply

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• The name of the program the file was created in, or will open the file,

Business Description Properties

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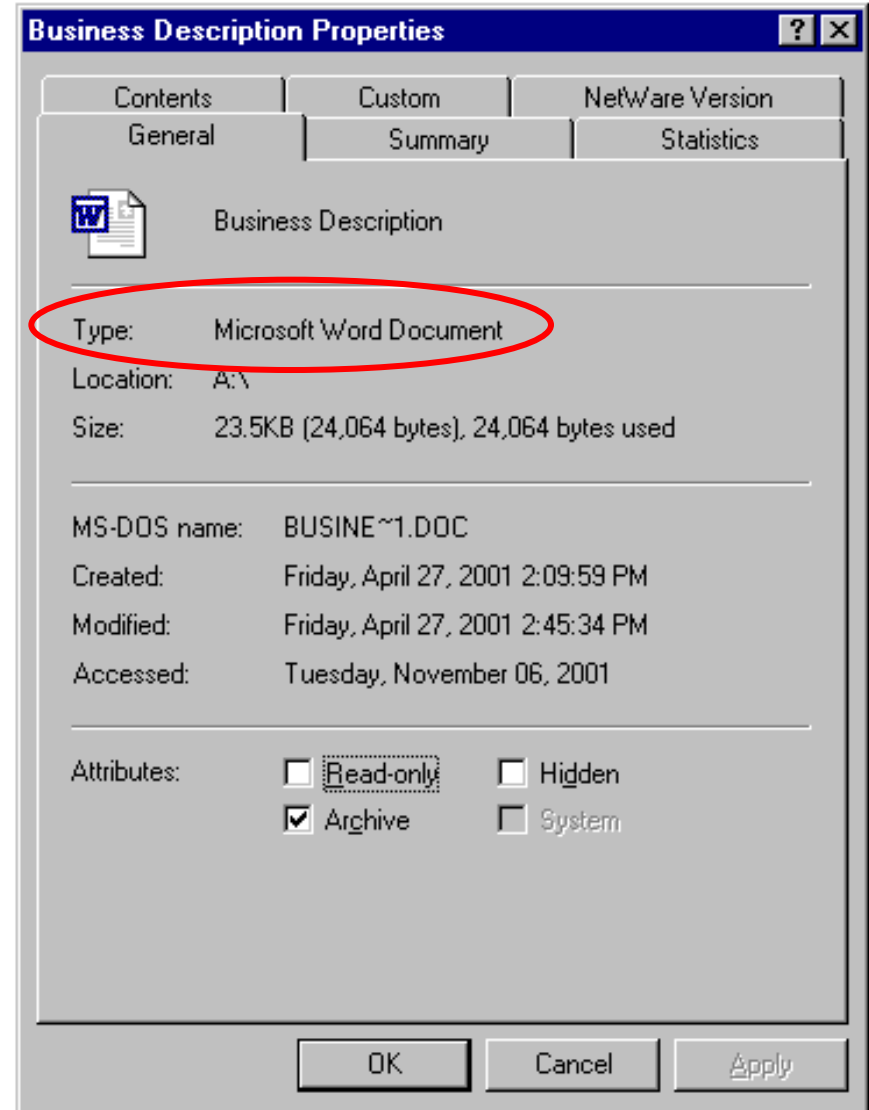☑ Archive ☐ System

OK | Cancel | Apply

All files have properties that include…

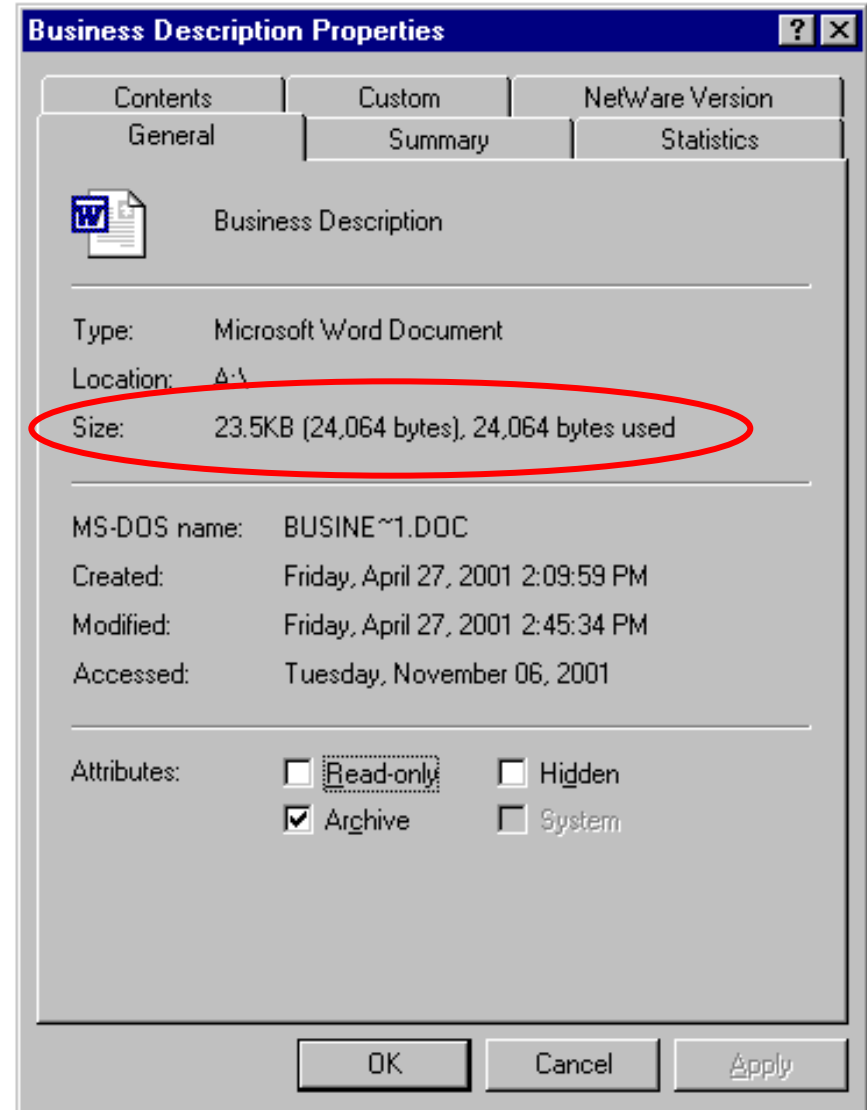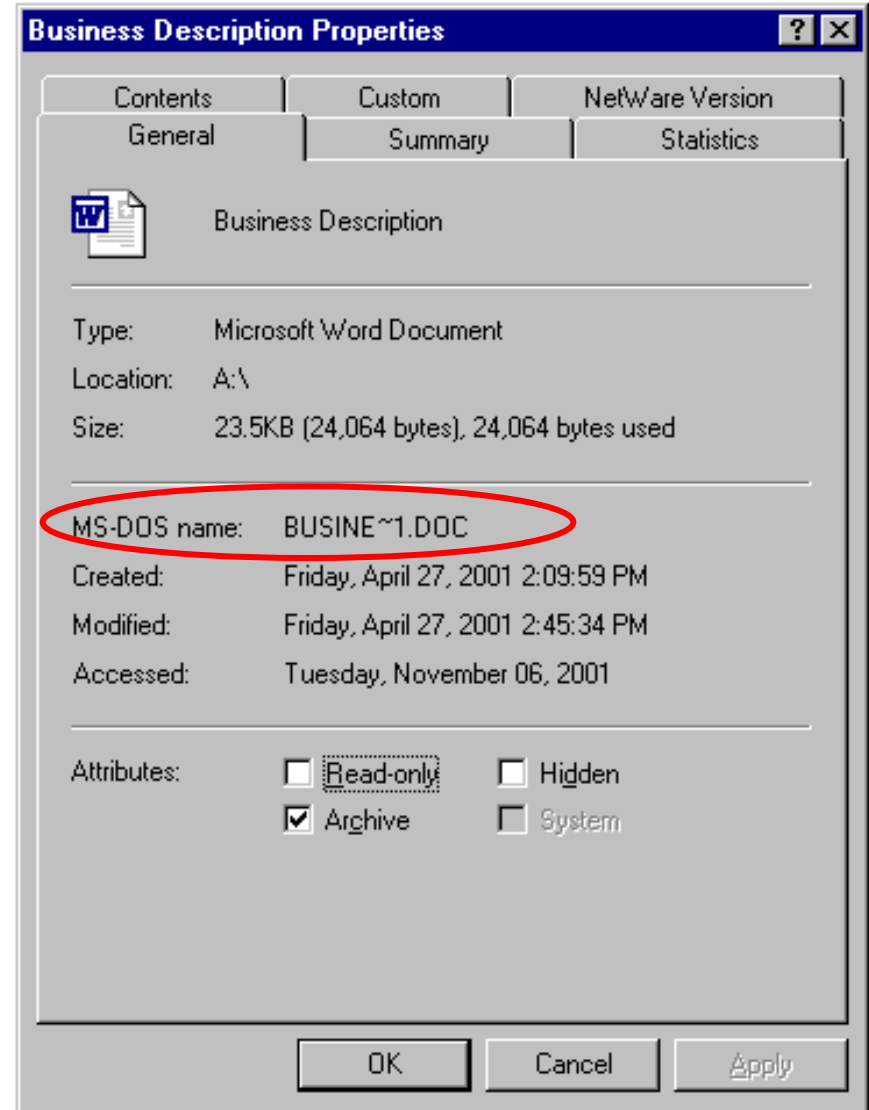• The drive in which the file is located,
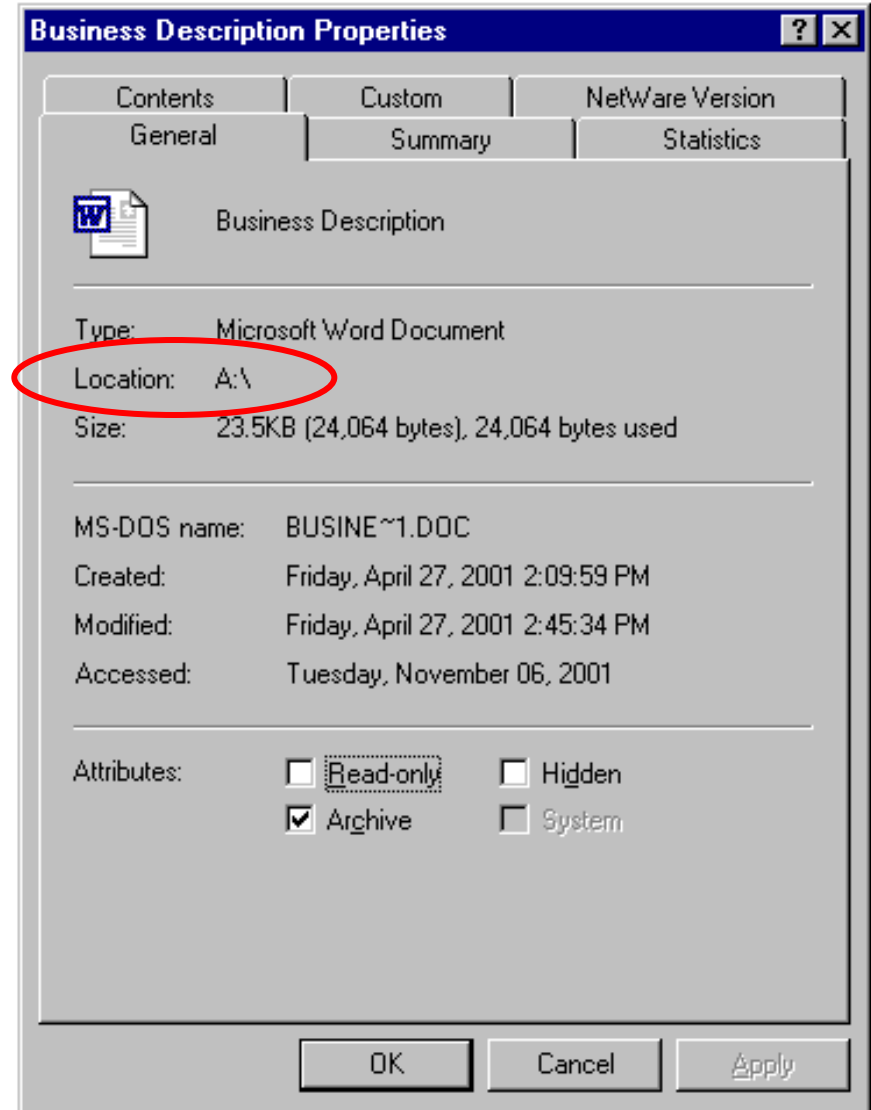
All files have properties that include…

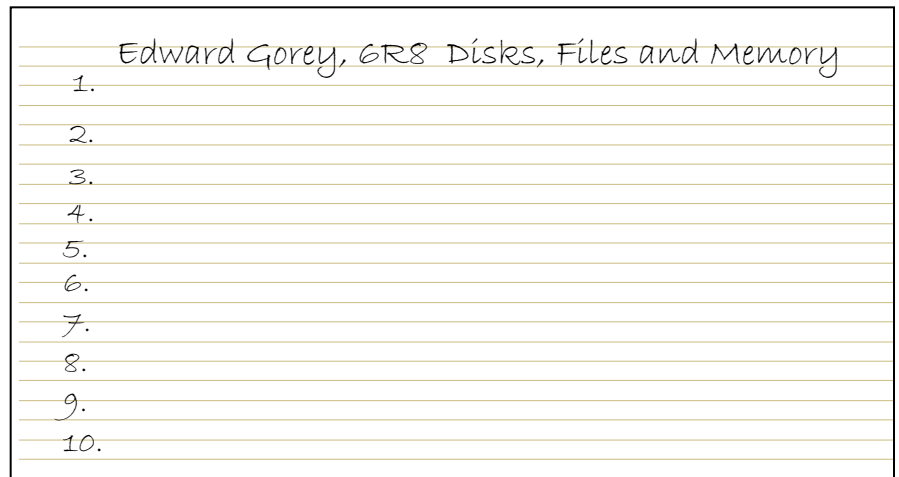- The drive in which the file is located,

- The size of the file,

All files have properties that include…

• The drive in which the file is located,

•The size of the file,

•The name of the file as recognized by older computers that do not have Windows 95, Windows 98, or newer.

Business Description Properties

| Contents | Custom | NetWare Version |
| General | Summary | Statistics |

Business Description

Type: Microsoft Word Document
Location: A:\
Size: 23.5KB (24,064 bytes), 24,064 bytes used

MS-DOS name: BUSINE~1.DOC
Created: Friday, April 27, 2001 2:09:59 PM
Modified: Friday, April 27, 2001 2:45:34 PM
Accessed: Tuesday, November 06, 2001

Attributes: ☐ Read-only   ☐ Hidden
             ☑ Archive   ☐ System

OK   Cancel   Apply

46

Please write the following information on the answer sheet...

- Your name and section,

- The name of the worksheet, *Disks, Files and Memory*

- The numbers 1 to 10.

Edward Gorey, 6R8 Disks, Files and Memory
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

1. _____ are bits of information.

A. alpha, beta

B. in, out

C. a, b

D. 1, 0

2. 8 bits in a group are called____.

A. megabyte

B. kilobyte

C. byte

D. gigabyte

3. *Mega* means_____.

   A. million

   B. billion

   C. very large

   D. thousand

4. Floppy diskettes use the ___ drive.

A. A:\

B. hard

C. C:\

D. D:\

5. Flash drives can currently store _____ of information.

A. 1 KB

B. 700 MB

C. 1 to 8 gigabytes

D. 300 gigabytes

6. *Kilo* means____.

   A.   million

   B.   billion

   C.   very large

   D.   thousand

7. Who can **save** files to the **S:**, or shared drive?

A. anybody

B. all teachers

C. only those teachers who have been given permission to do so.

D. all students

8. What is the system called where the computer recognizes only ones and zeros?

A. megabyte system

B. byte system

C. guard system

D. binary system

9. Which icon must you **first** click before removing a flash drive from a computer?

A.

B.

C.

D.

10. In which drive are you to save your files when in Rm. 521?

A. A:\ drive

B. J:\ drive

C. C:\ drive

D. U:\ drive

You are now finished with the Disks, Files and Memory worksheet. Press the Esc key to exit this file and go to the Paint program.