class: \_\_\_\_\_ (\_\_\_) Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Can a computer work without memory?

**Memory**

|  |  |  |  |
| --- | --- | --- | --- |
| units of length: | meter, feet | units of mass: | gram, kilogram |
| units of time: | second, minute, hour, year | units of temperature: | °C, °F, K |

What is the unit of memory?

The basic unit of memory is BIT (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_). A binary digit can either be 1 or 0. A bit is too small to represent anything significant.

Therefore, the capacity of memory is usually expressed in number of \_\_\_\_\_\_\_. One byte consists of \_\_\_\_ bits.

Large amount of memory is usually expressed as KB, MB, GB or TB.

|  |  |  |
| --- | --- | --- |
| Unit | Exact amount | Approximate amount  and examples |
| B (\_\_\_\_\_\_\_\_) | 1B = 8 bits | 1 English letter :  1 Chinese character : |
| KB (\_\_\_\_\_\_\_\_) | 1KB = bytes = 1,024 bytes | 1 thousand bytes  Text file of a composition |
| MB (\_\_\_\_\_\_\_\_) | 1MB = bytes = 1024KB = 1,048,576 bytes | 1 million bytes  1 MP3 or 1 digital photo |
| GB (\_\_\_\_\_\_\_\_) | 1GB = bytes = 1024MB = 1,073,741,824 bytes | 1 billion bytes ( 10億 )  DVD movie or DV movie |
| TB (\_\_\_\_\_\_\_\_) | 1TB = bytes = 1024GB = 1,099,511,627,776 bytes | 1 trillion bytes ( 1兆 )  large storage system |

Capacity of storage media.

|  |  |
| --- | --- |
| media | capactiy |
| Floppy disk () |  |
| CD-ROM |  |
| DVD-ROM (single / double layer) |  |
| Blu-Ray Disk (single / dual layer) |  |
| USB Flash memory |  |
| Hard disk drive |  |
| SSD (solid state device) |  |
| RAM of a personal computer |  |