Computing

Lesson 6: Optical and magnetic storage

Computer systems

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Optical storage (Use each word only once)

Optical storage devices use _____ to store and read data.

A _____ burns marks into the reflective surface of the disc.

These marks are called ____ and the gaps between them are called _____.

laser

lands

light

pits

Optical storage (Use each word only once)

On an optical storage device, binary data is represented as follows:

When the laser is over a _____ the sensor reads a 1.

If the light hits a _____, then a 0 is read.

land

pit

Task title

Complete the sentences on the right to explain magnetic storage.

Make sure to mention the following pieces of equipment in your answer.

1. A set of discs — called platters
2. An arm with a read/write head

To write data...

To read data...

Comparing storage devices

Type	Cost per GB	Capacity	Access speed	Durability	Reliability	Portability
Solid state						
Optical						
Magnetic						

Comparing storage devices

Device	Type	Cost per GB	Capacity	Access speed	Durability	Reliability	Portability
USB stick	Solid state	£0.80 - £3.00	2GB-2TB	Fast	Very robust	Reliable	Very portable
SSD	Solid state	£0.10	128GB-4TB	Very fast	Robust	Reliable, but prone to wear	Only external drives
SD card	Solid state	£0.80 - £1.60	1GB-1TB	Fast	Robust	Reliable	Very portable
HDD	Magnetic	£0.02 - £0.03	500GB-12TB	Slow	Damaged if dropped	Very reliable	Only external drives
CD-R/RW	Optical	£0.20	640MB	Very slow	Easily scratched	Very reliable, if looked after	Very portable
DVD-R/RW	Optical	£0.03	4.7GB	Slow	Easily scratched	Very reliable, if looked after	Very portable
Blu-ray-ROM/R	Optical	£0.03	50GB	Slow	Easily scratched	Very reliable, if looked after	Very portable