How does a pen drive work?

Very often, you must have seen people inserting a small flat rectangular object into a computer. This small thing, known as a pen drive can hold a great amount of information in all forms.

What is a Pen drive?

It is a type of Universal Serial Cable (USB) flash drive. It is a kind of memory card that can be plugged into a computer’s USB port. It is termed “Pen drive” with reference to its size. It is small and compact thus making it fit into the palm of our hand. It is often flat and rectangular like a highlighter pen. A pen drive is used to store data and has a storage capacity of 64 MB to 32 GB. It is removable and rewritable. It is mostly used as a backup for CD-ROMs or floppy disks.

Mechanism

Pen drive consists of a small printed circuit board. This circuit board provides a strong base for the pen drive’s form and also serves as a means to collect information. The circuit board consists of a small microchip within it. This microchip enables the pen drive to extract or feed in data. This process requires relatively low electrical power compared to CD-R’s or Floppy.

The working

When a pen drive is connected to a USB port, it is activated. The USB port gives the pen drive access to the information on a specific computer drive. Most of the pen drives are designed in such a way that they are compatible with any USB port on a computer.

Transferring the data

The data that is to be transferred is connected through a computer programme. It is then read, transmitted or rewritten from a pen drive to a computer or vice versa. Thus the required data gets copied to any selected drive on the computer for further use.

Internals of a typical USB flash drive

1. USB connector
2. USB mass storage controller device
3. Test points
4. Flash memory chip
5. Crystal oscillator
6. LED
7. Write-protect switch (Optional)
8. Space for second flash memory chip

Why do we have toes on our feet?

Our feet carry the weight of our entire body with the help of the toes. Toes help you to balance and carry your weight. Your big toes bear one-quarter of your weight, your other four toes carry another quarter, and your heels carry the other half. Be thankful for your funny toes. Without them, you would probably flop right over!

Why do we get more sunlight in the summer than in the winter?

You might not have noticed this, but the Earth tilts over slightly. If you have a globe at home or in school, you can see that the line between north and south poles that goes through the centre of the Earth is not vertical. It’s actually tilting over by about 23 degrees. In summer, the North Pole is pointing towards the sun so the sun rises and sets roughly from due east to due west. In winter, the Earth is on the other side of the sun so the North Pole is pointing away from the Sun. This means the Sun rises and sets more towards the southeast and southwest. You might notice this as you look out of the window. Think back to how high in the sky the sun was during summer!

Why can you see your breath when it’s cold outside?

Your breath is reasonably warm and humid with invisible moisture (water vapour) in it. When this warm moist air meets the cooler air outside the body the moisture-laden atmosphere from your lungs becomes chilled to the point where the water condenses into a fog or a small white cloud that you can see. The relative humidity, which depends upon water content and temperature, goes to 100 per cent. As the breath gets further from the person’s face the water content dilutes and the relative humidity goes down and the droplets go back into vapour form.

Why don’t birds sitting on wires get an electric shock?

An electric current can be very dangerous to a living body if it passes through the body to the earth beneath. That is why people were rubber soles while fixing electrical wires, which insulate the body against the electric current. Birds sitting on wires are not in contact with the ground and so the circuit of electric current does not complete keeping them safe.