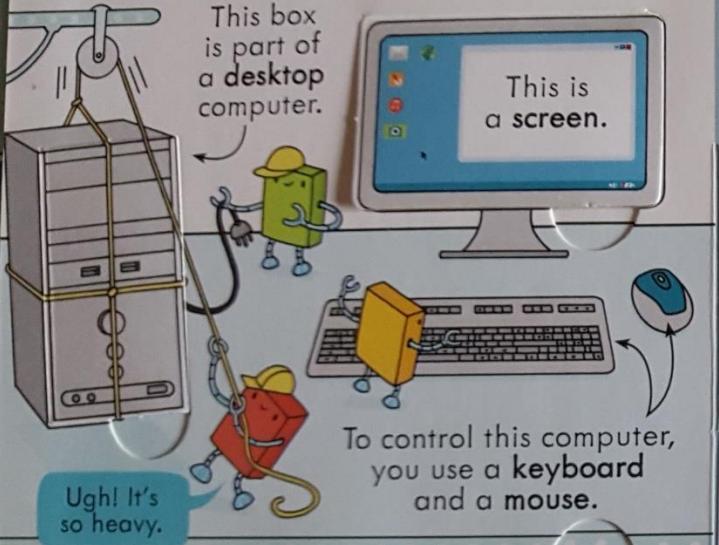


Hardware Basics

IPOMS

Computers all around

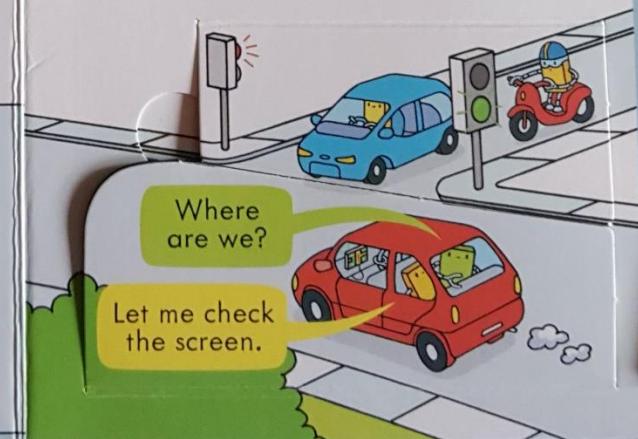
Computers are machines that follow instructions. They come in all shapes and sizes – sometimes hidden inside other machines.



Many people use computers every day.



Sometimes people don't even know they're using computers...



If you want to do something incredibly fast, or amazingly big, you can use a computer.



Inside a computer

Lift this flap to see what's behind the screen, and lift the keyboard below to see the electronic parts that make the computer work.

This line is called a **cursor**. It shows you where letters will appear when you type them.

This arrow is called the **pointer**.

These little pictures are called **icons**.

Sound comes out of these holes.

This is the **keyboard**.

Tapping on the keys is one way to tell the computer what to do.

This is called a **trackpad**.

This box on the screen is called a **window**.

Some laptops have a touchscreen, just like tablet computers (see right).

This computer is running on battery power. This symbol shows how much power is left.

Tablet computers have a touchscreen.

Lift the flaps to see how touchscreens work.



Inside the tablet is a **microphone**.

Speaking into the microphone can control the tablet, too.



Smartphones work in the same way as tablets.



These little pictures
are called **icons**.

This symbol
shows how much
power is left.



Sound comes out of these holes.

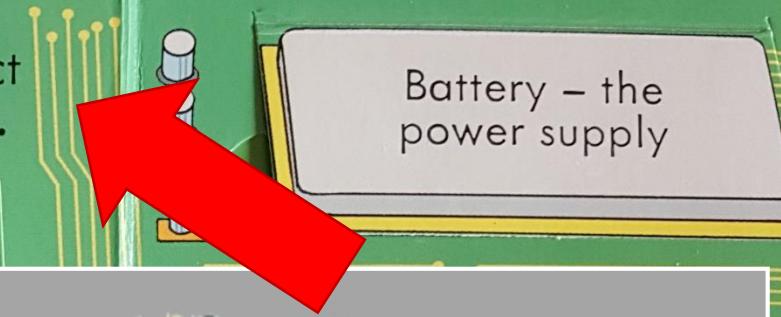


Storage drive – where information is kept

Central Processing Unit

CPU – the big boss

Inside, a computer is a series of parts attached to a hard sheet called the **motherboard**. Thin lines connect the parts together, in arrangements known as **circuits**.



Battery – the power supply



Connectors

USB

USB

Wireless
connectors

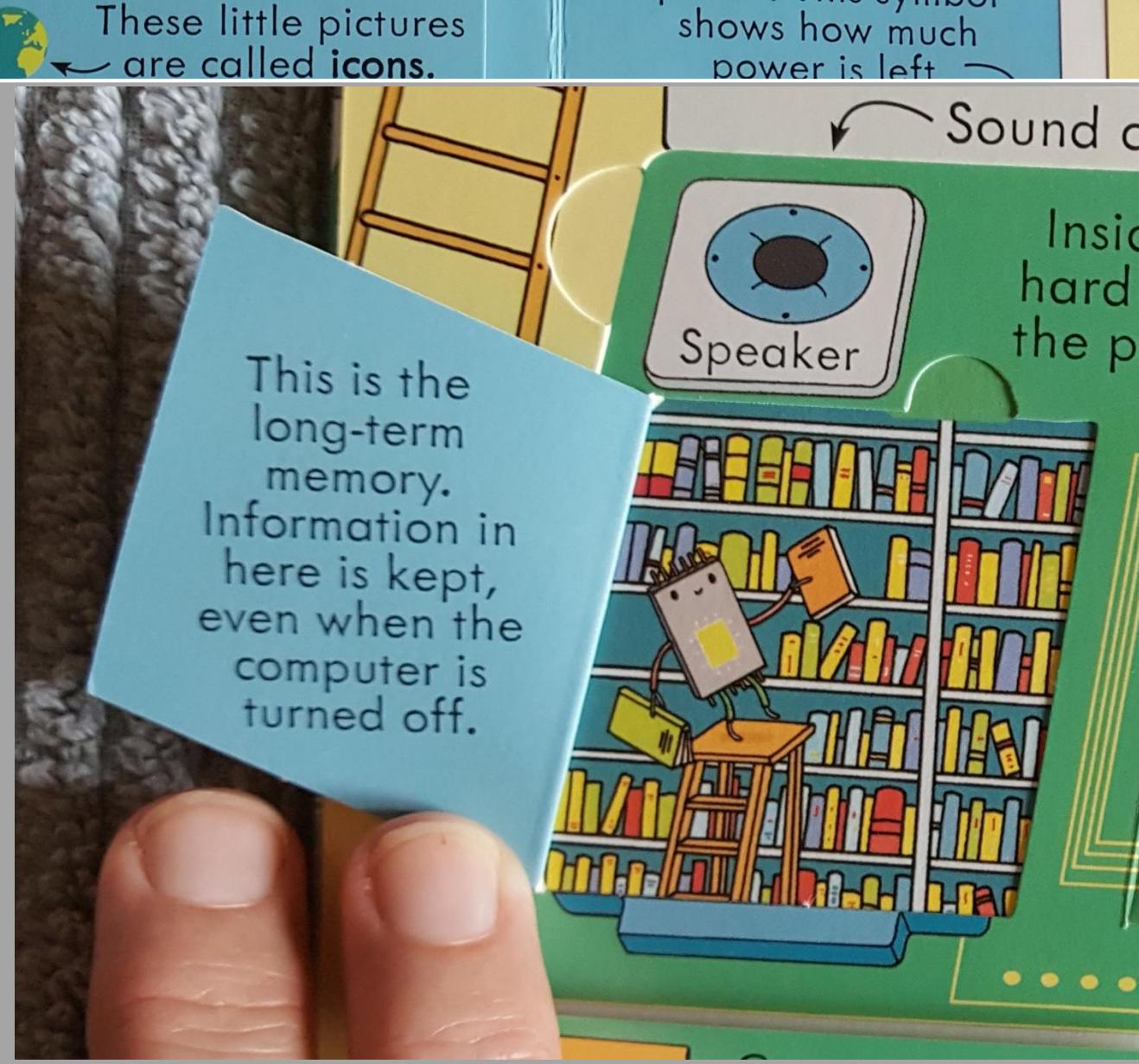
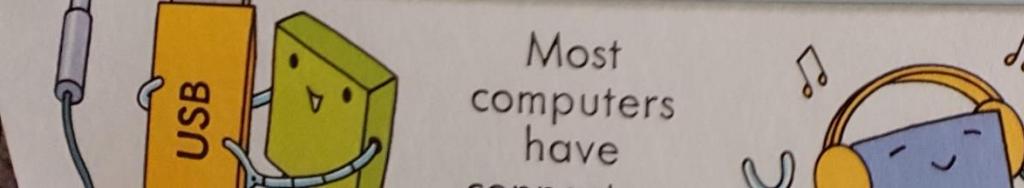
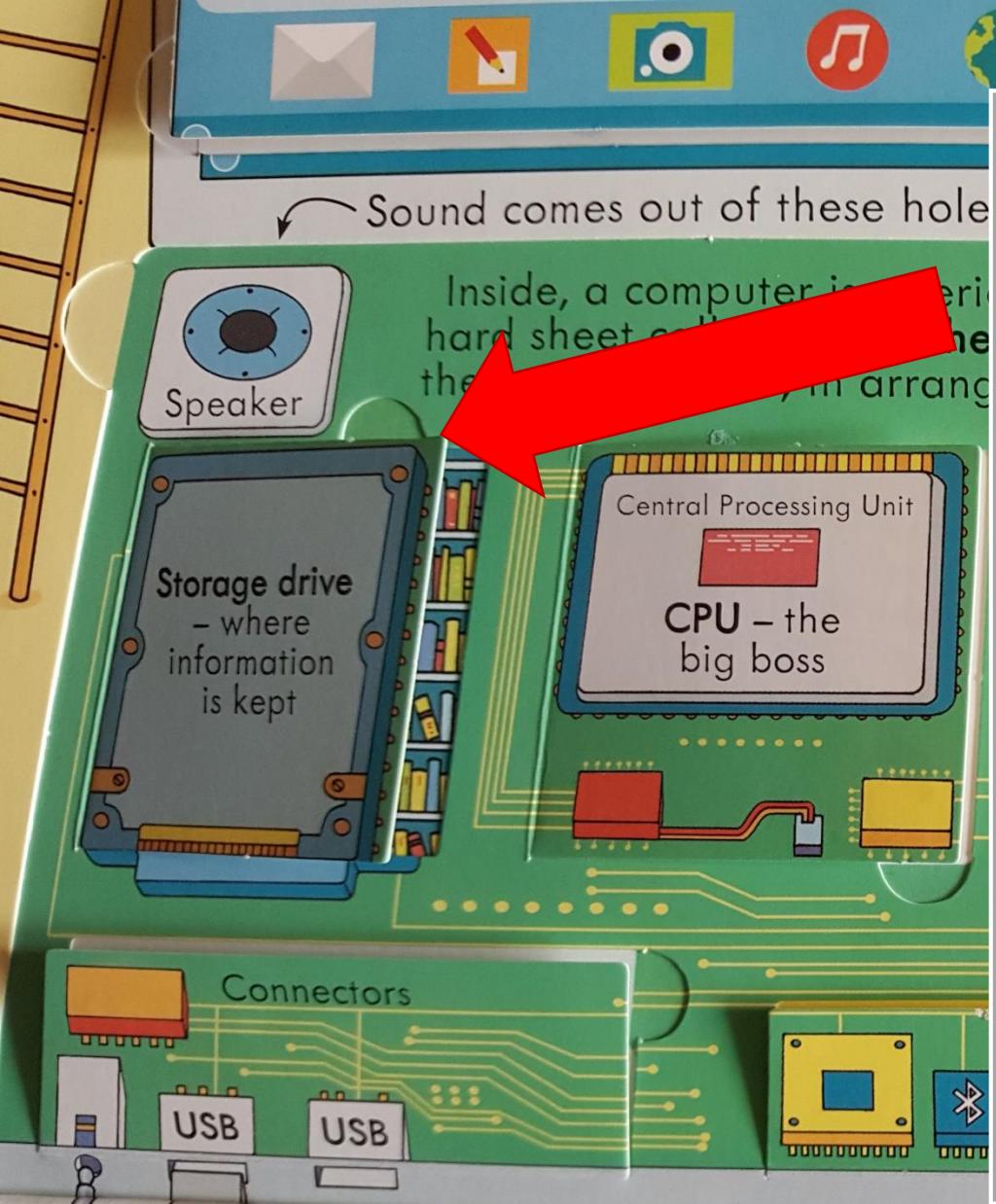
Trackpad
sensor

Fan

Most

Brainy chips

All the information inside a



The symbol shows how much power is left.

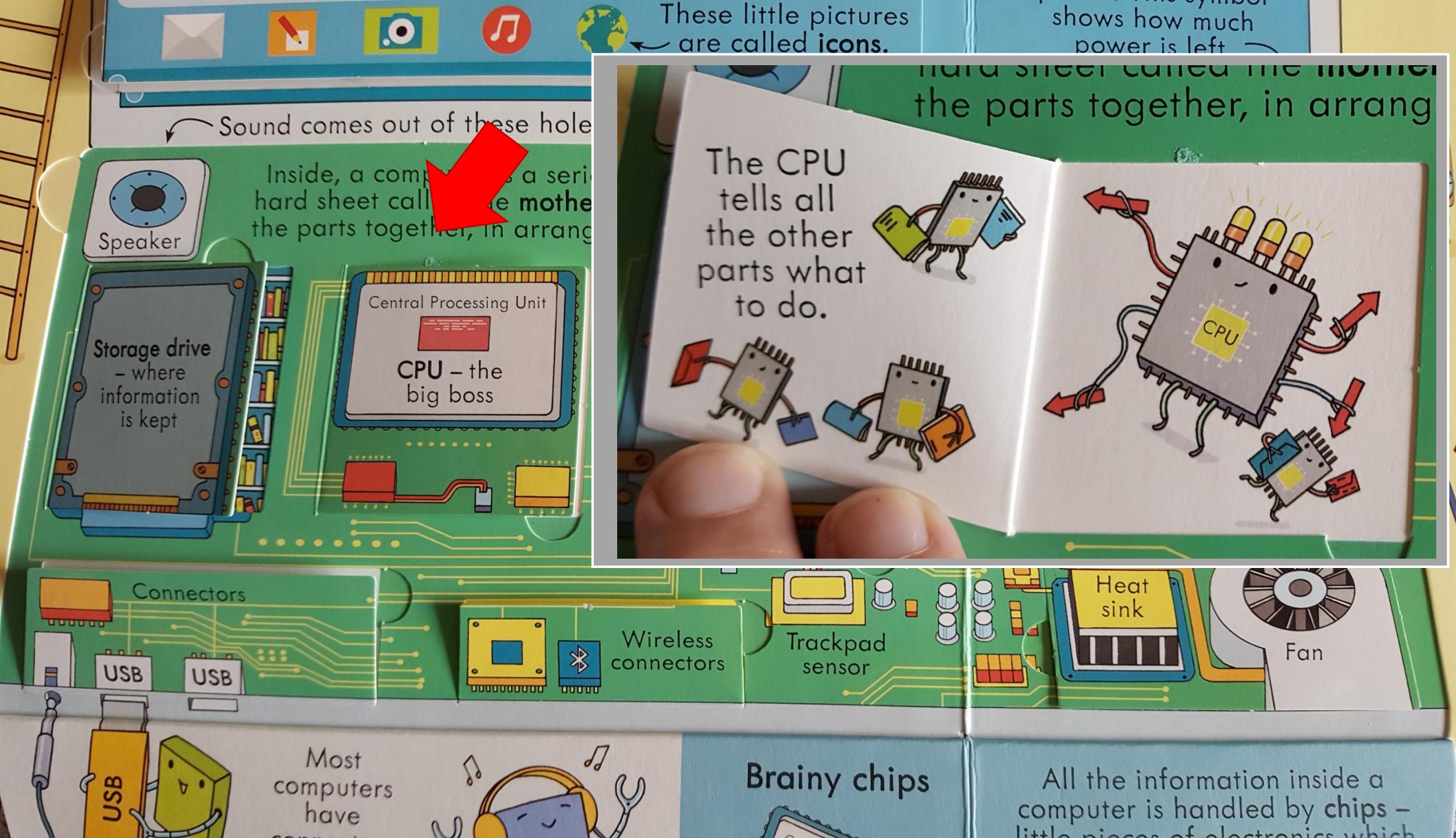
Sound comes out of these holes

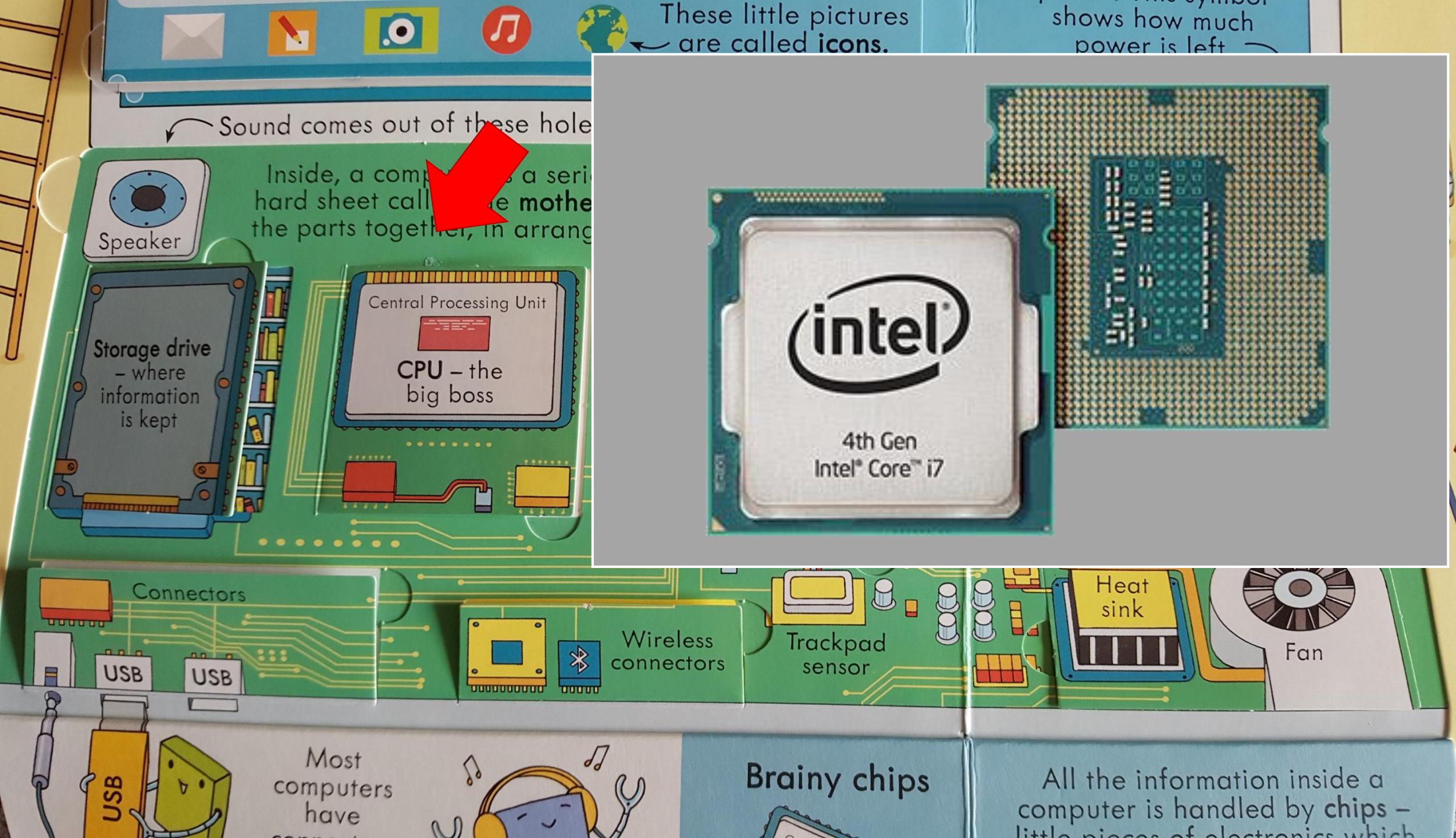
Inside, a computer is made of a hard sheet of metal with lots of wires in an arrangement called a circuit board.



All the information inside a computer is handled by chips – little pieces of electronics which





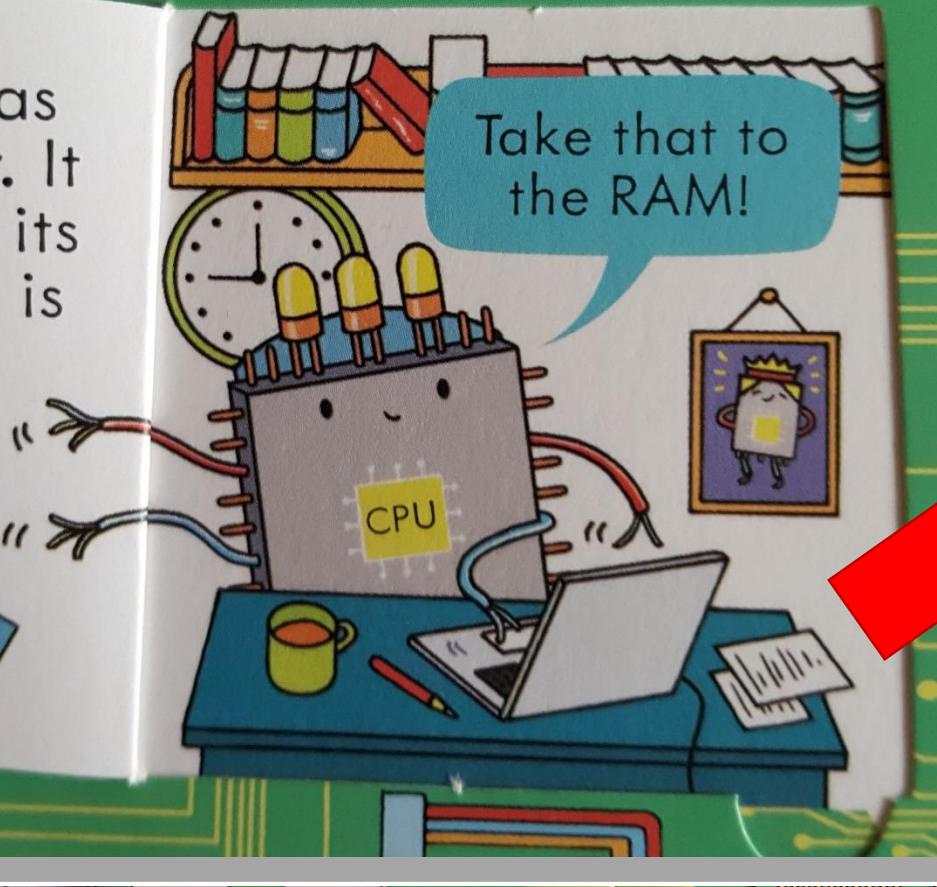
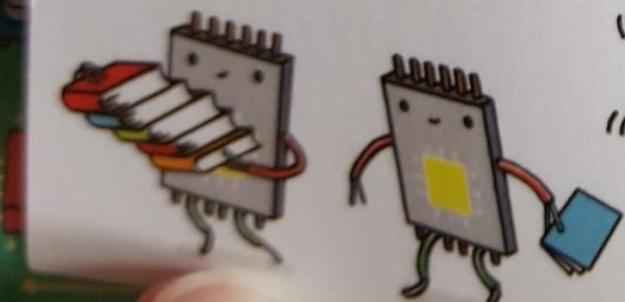




These little pictures
are called **icons**.

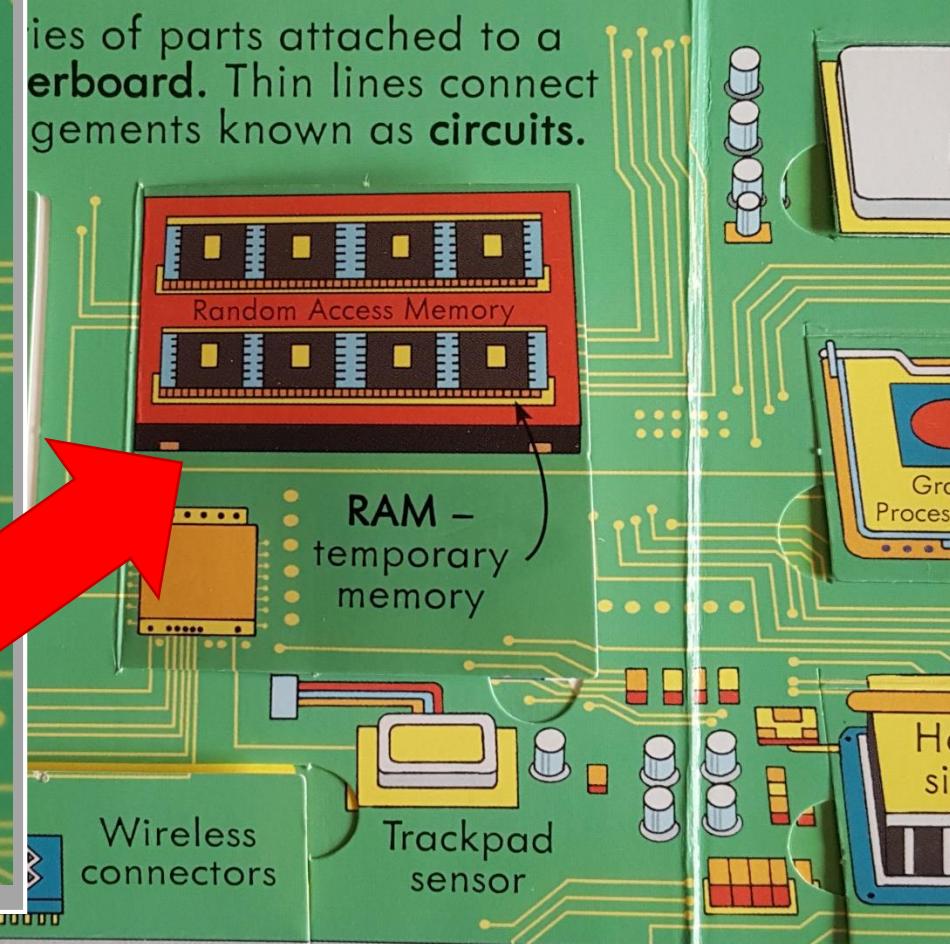
s together, in arrangements known as **CIRCUITS**.

The computer has lots to remember. It uses the RAM as its memory while it is working.



es.

ies of parts attached to a erboard. Thin lines connect gements known as **circuits**.



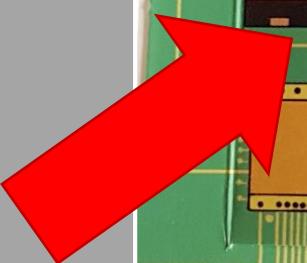
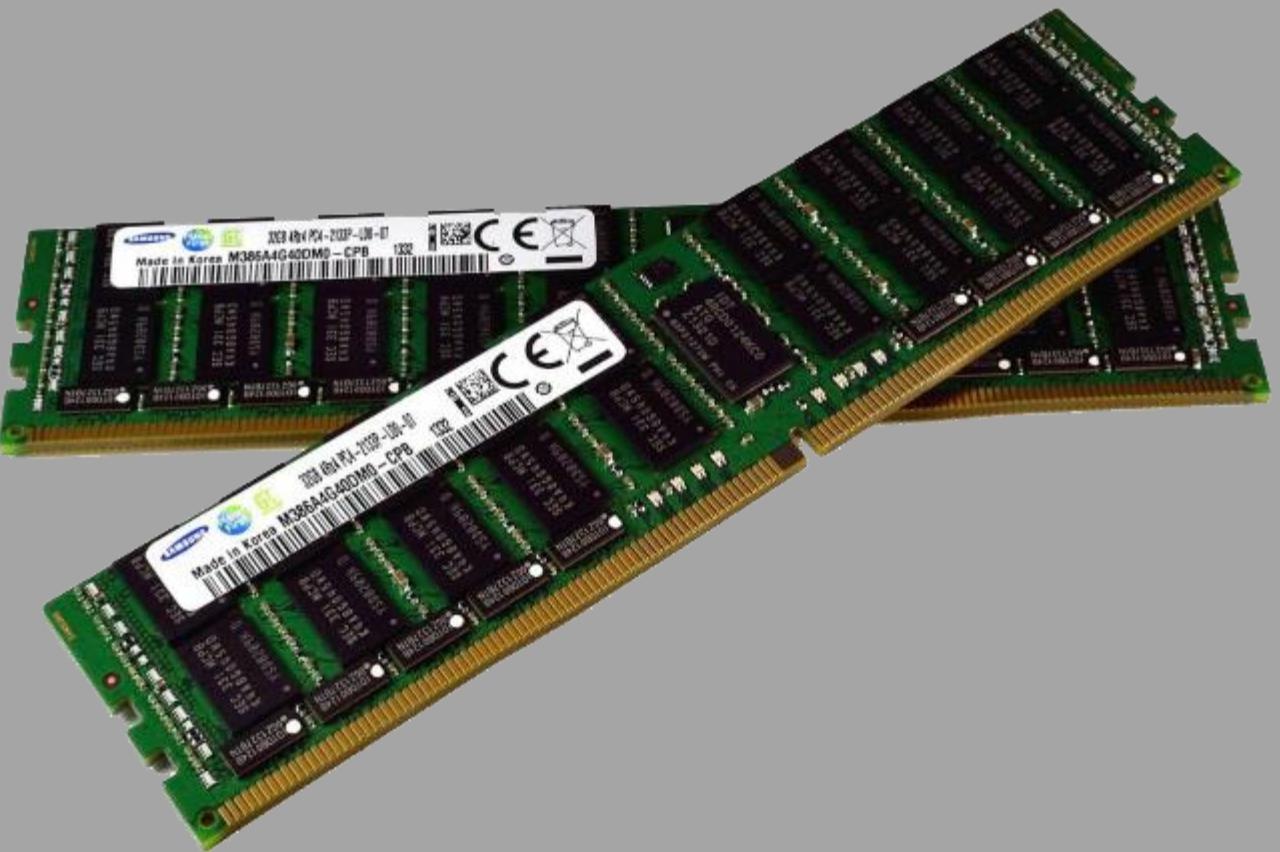
Most computers have

Brainy chips

All the
computer
little pic

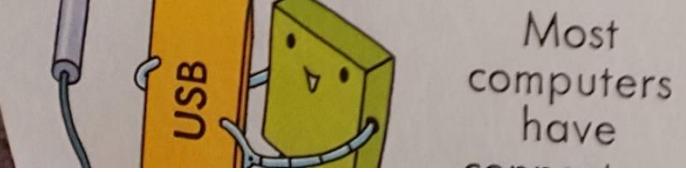
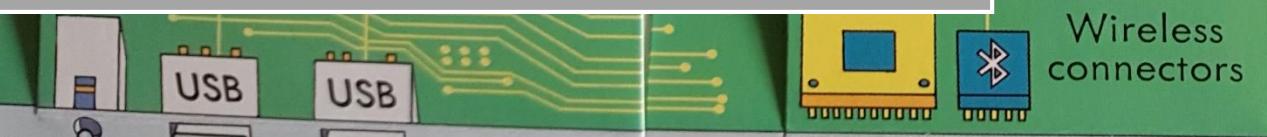
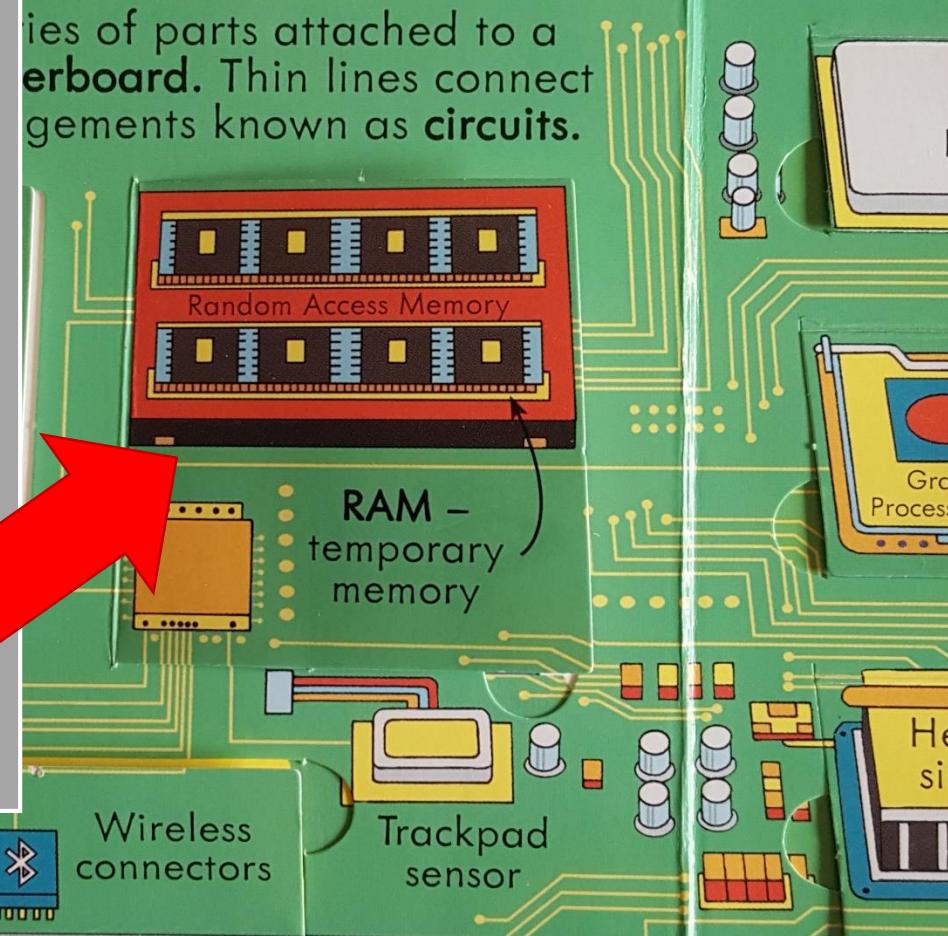
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are called **icons**.

shows
pow



es.

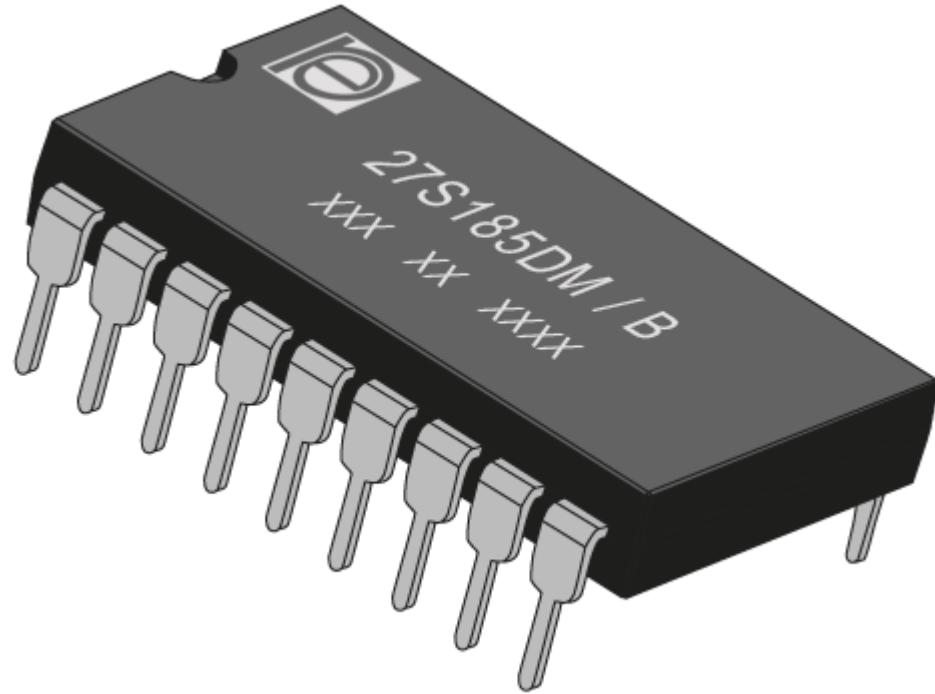
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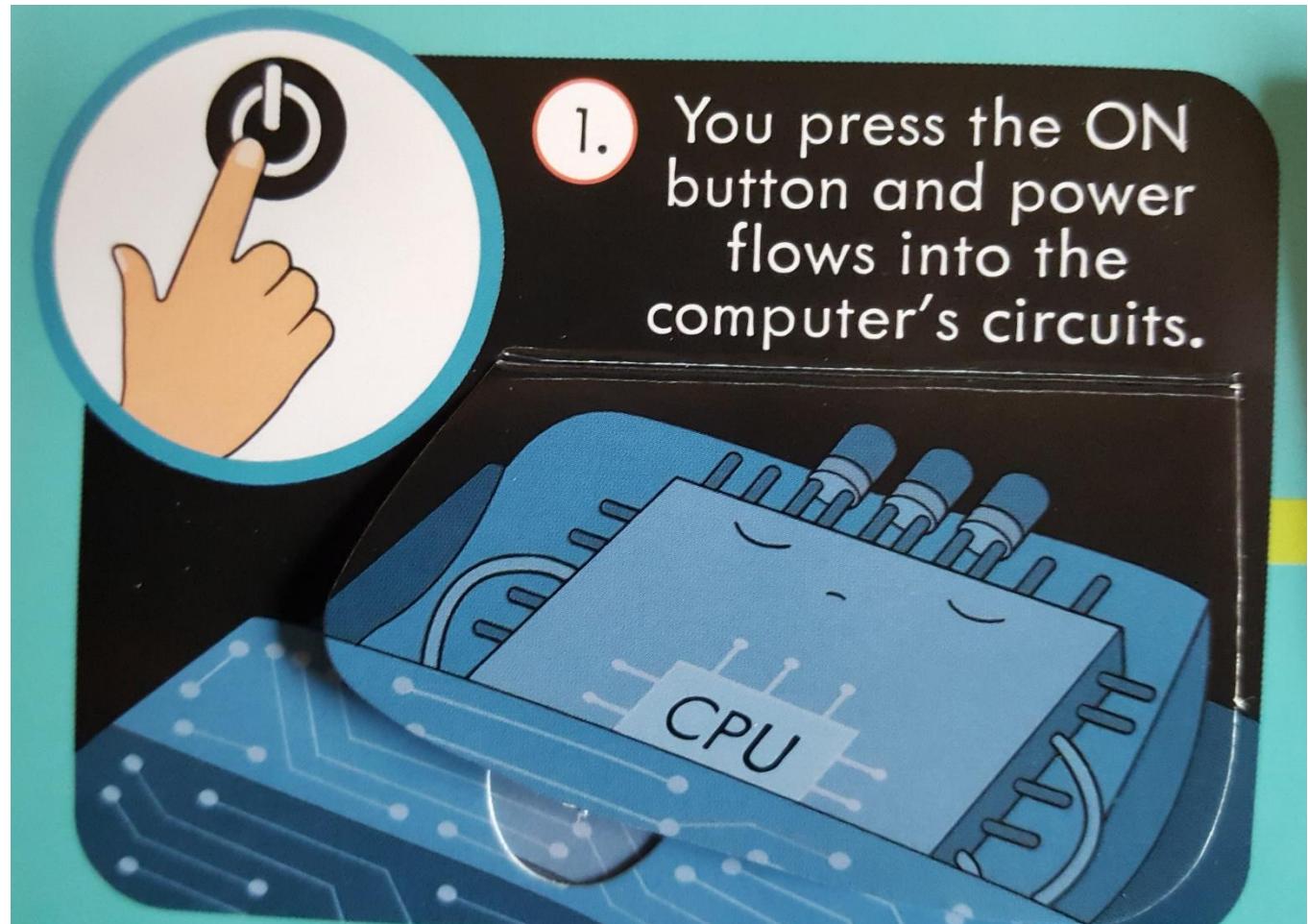
Most
computers
have

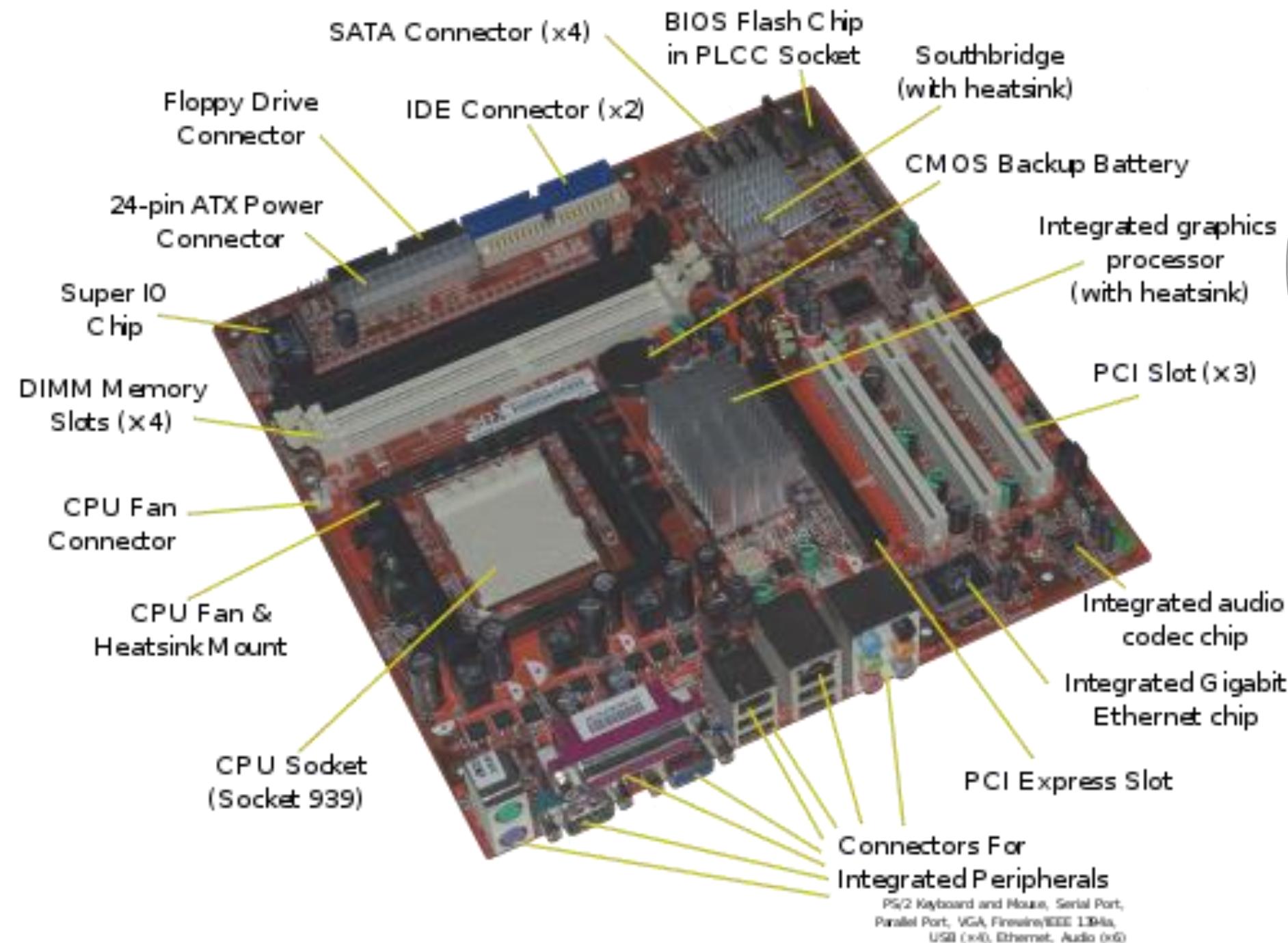
Brainy chips

All the
computer
little pic



The ROM's job is to turn on – or wake up the computer. It is also on the motherboard.





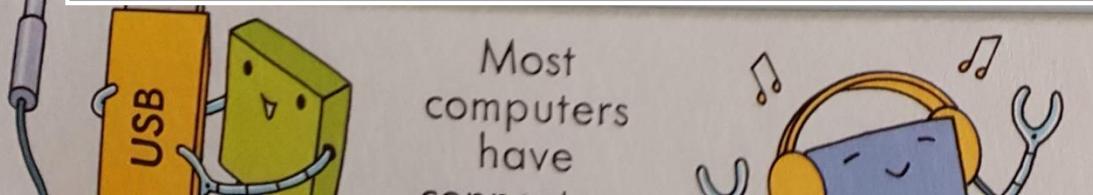
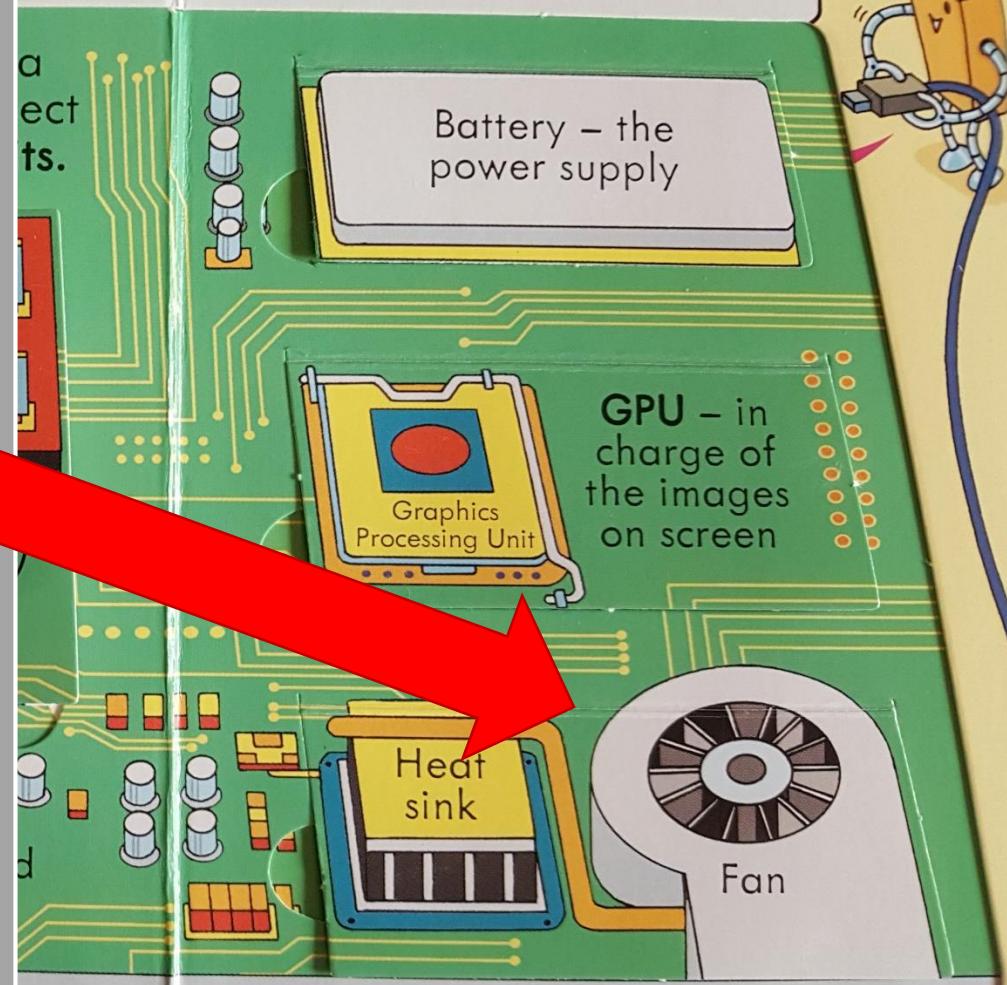
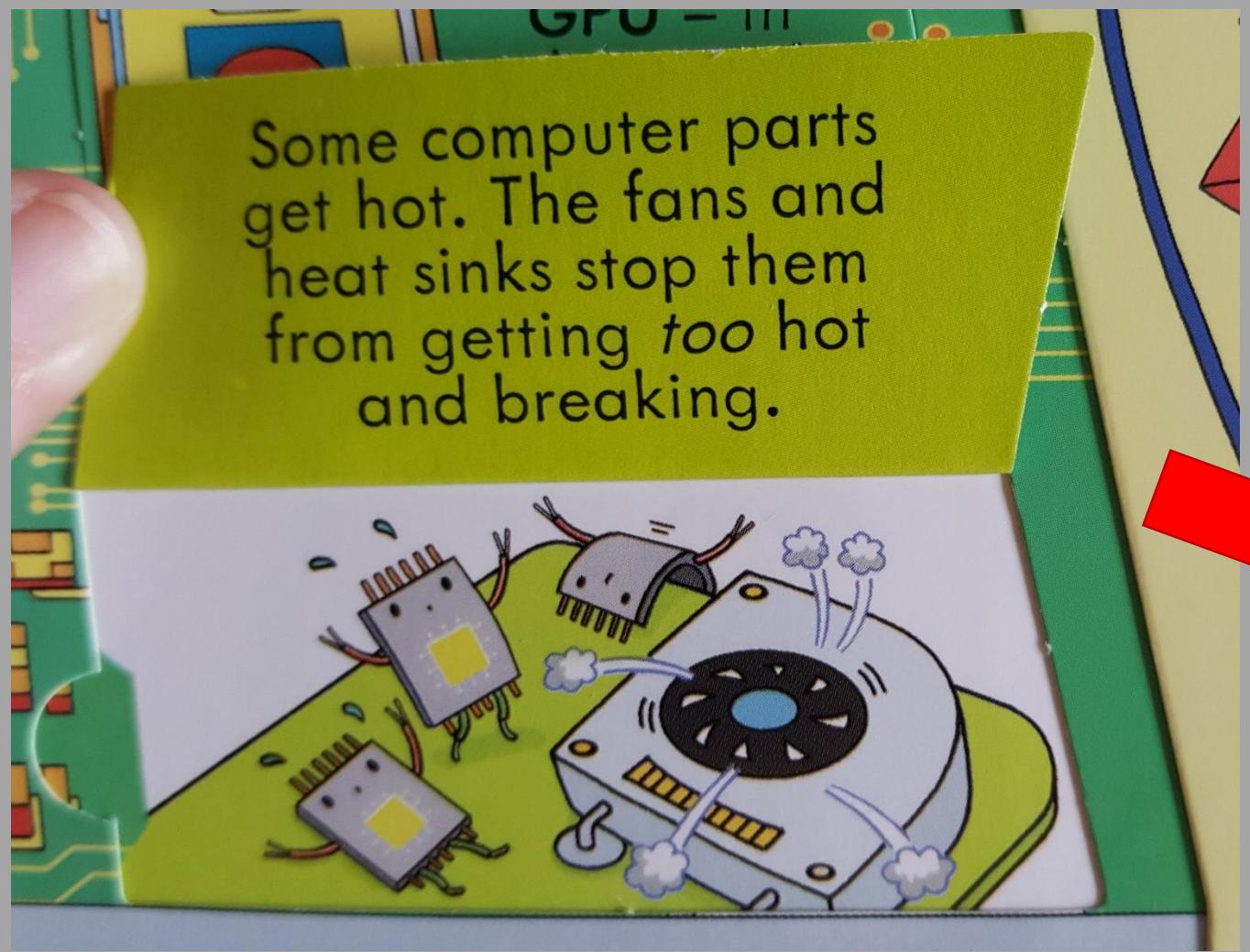
This is a labelled motherboard – with more detail that we need.

Locate the RAM, ROM, Motherboard and CPU. Where is the HD?



These little pictures
are called **icons**.

The symbol
shows how much
power is left.



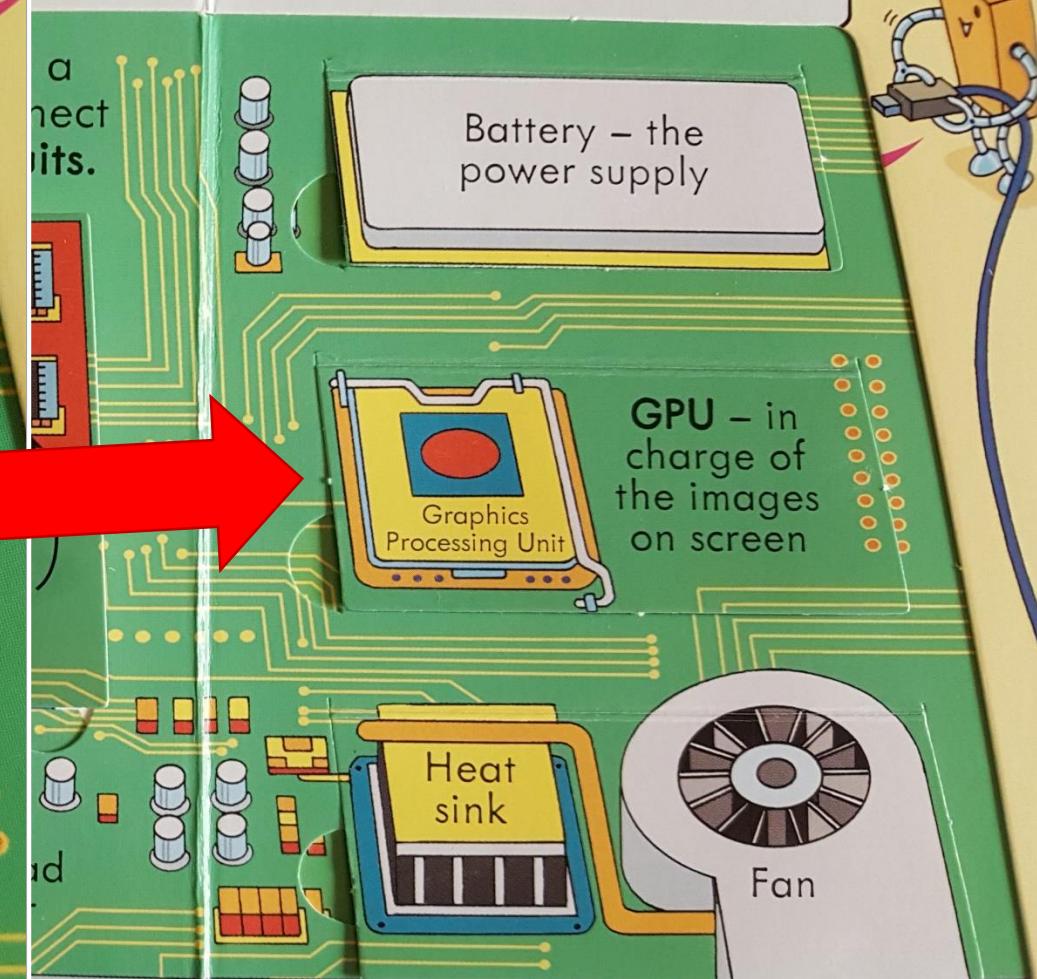
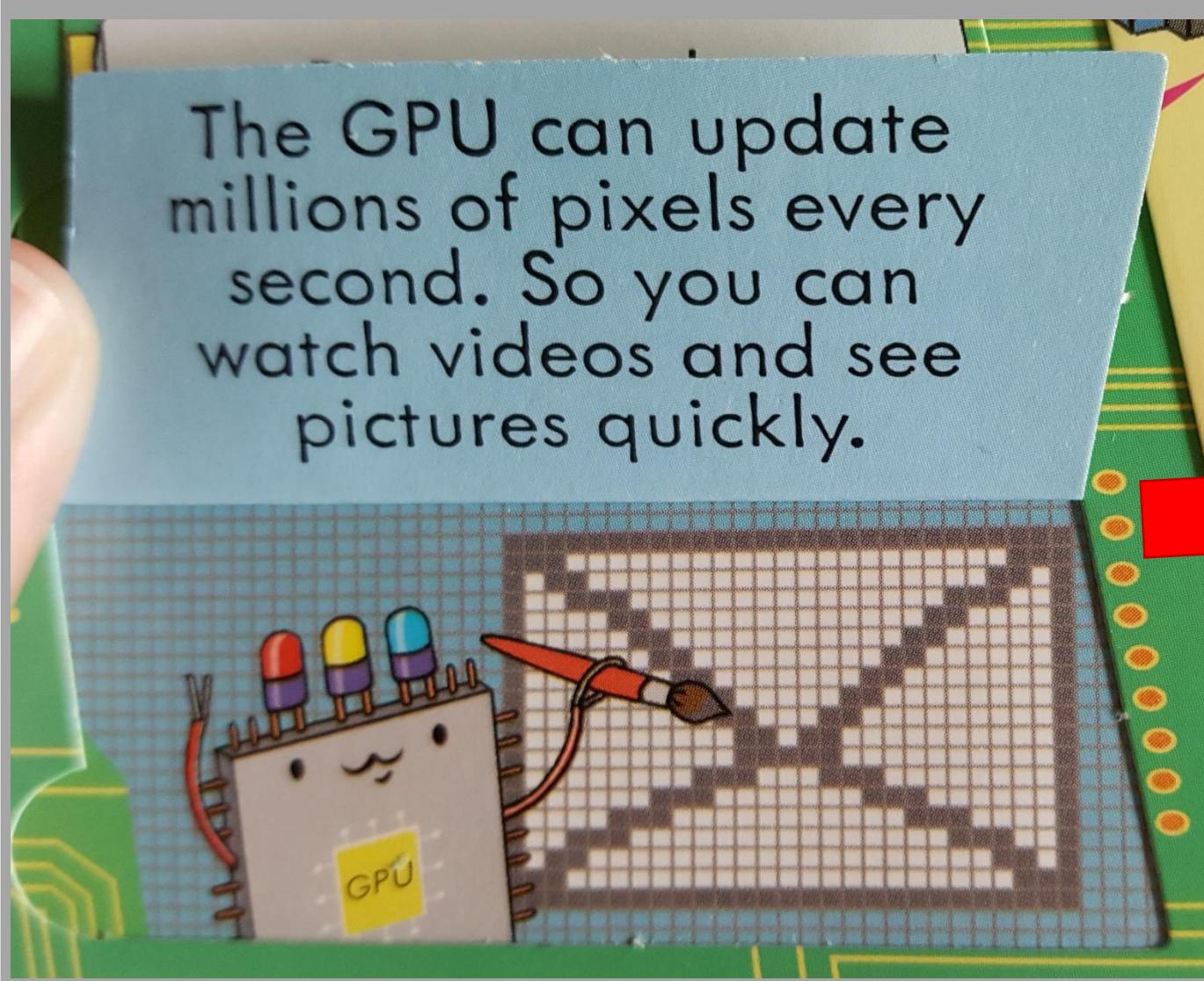
Brainy chips

All the information inside a computer is handled by chips – little pieces of electronics which



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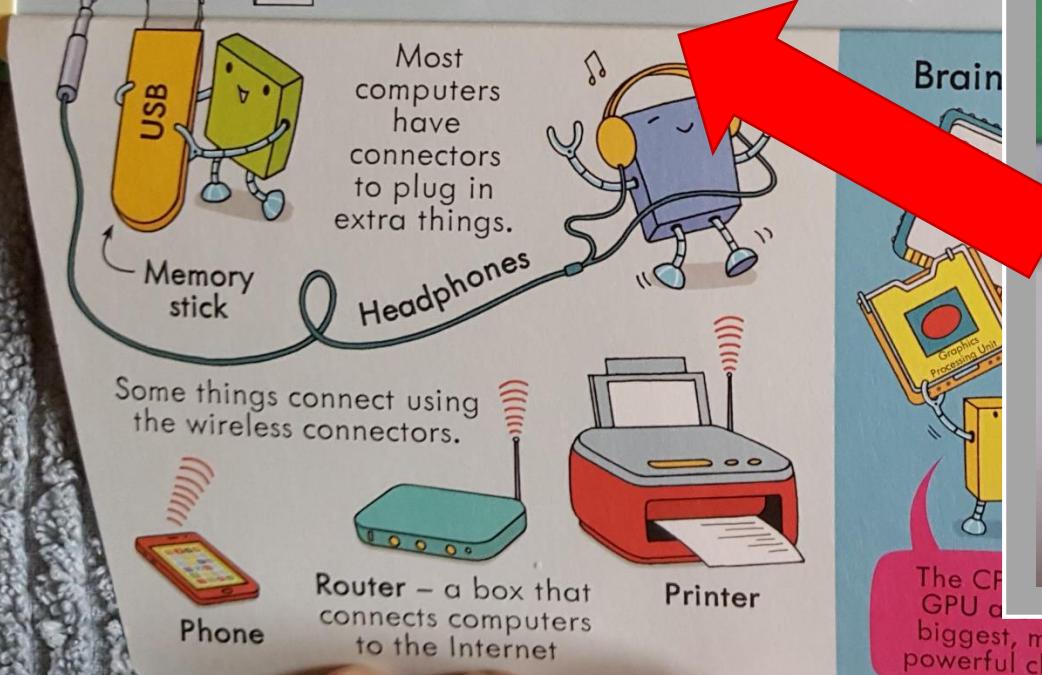
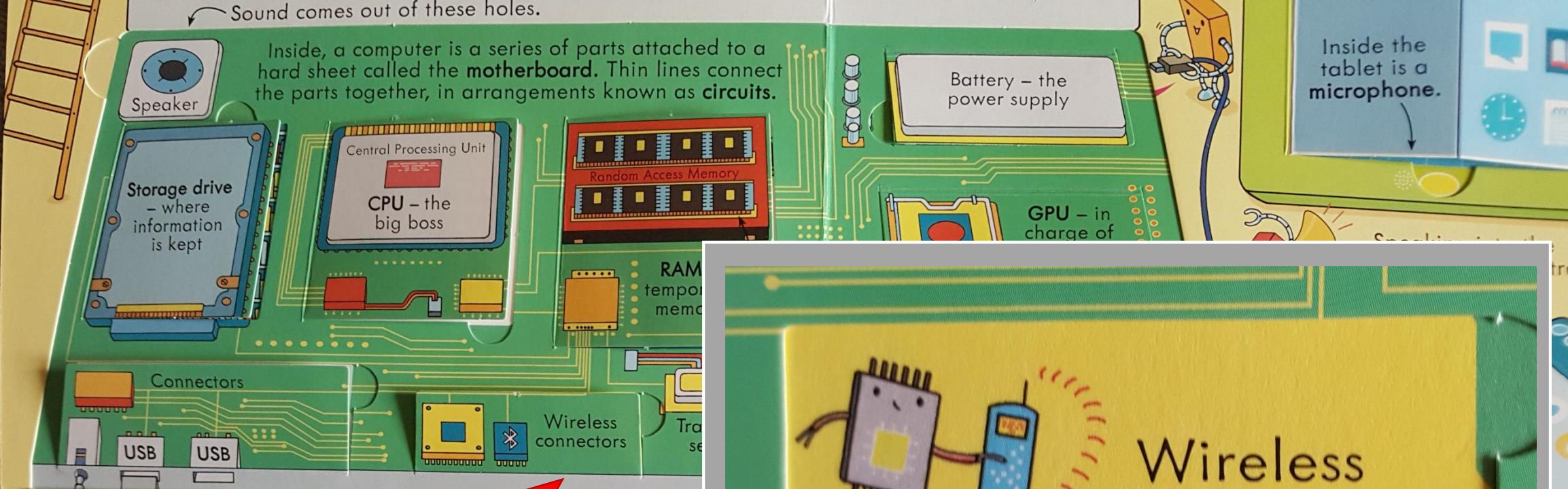
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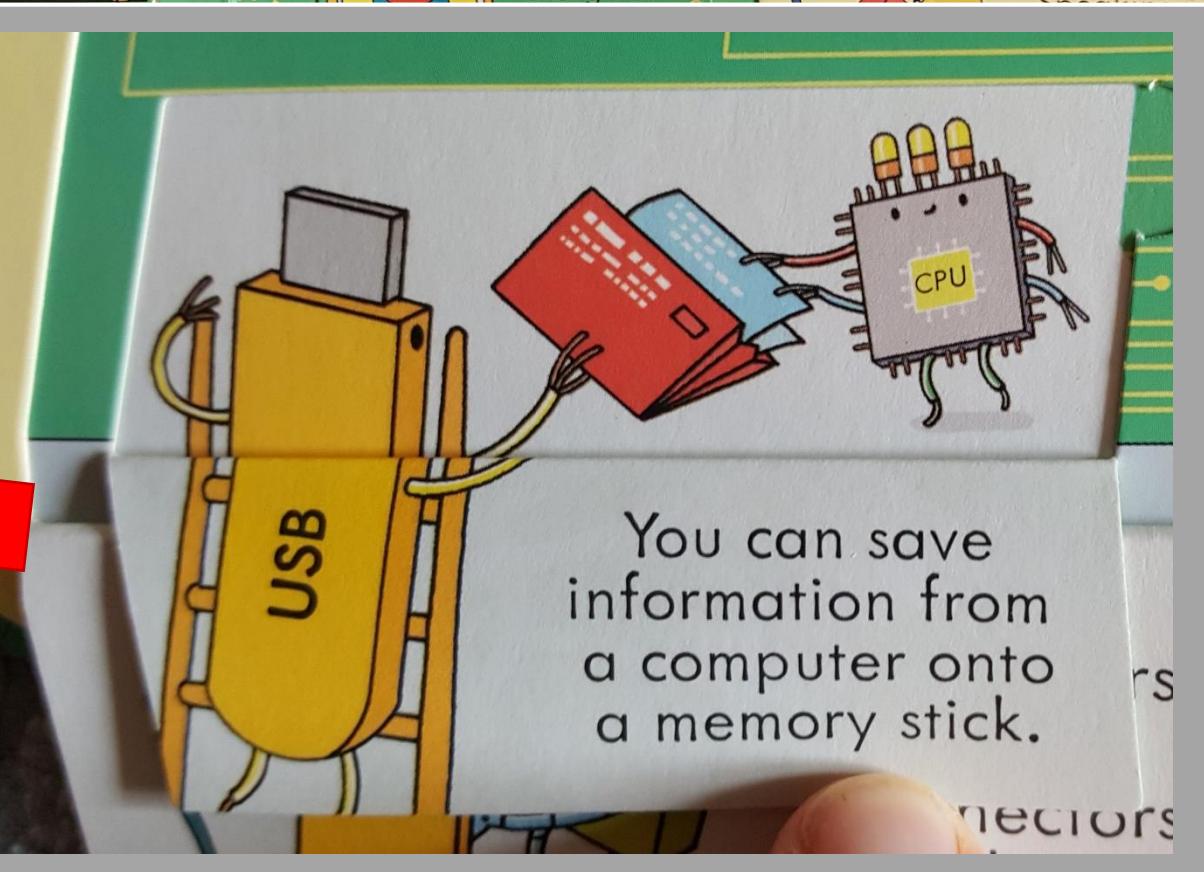
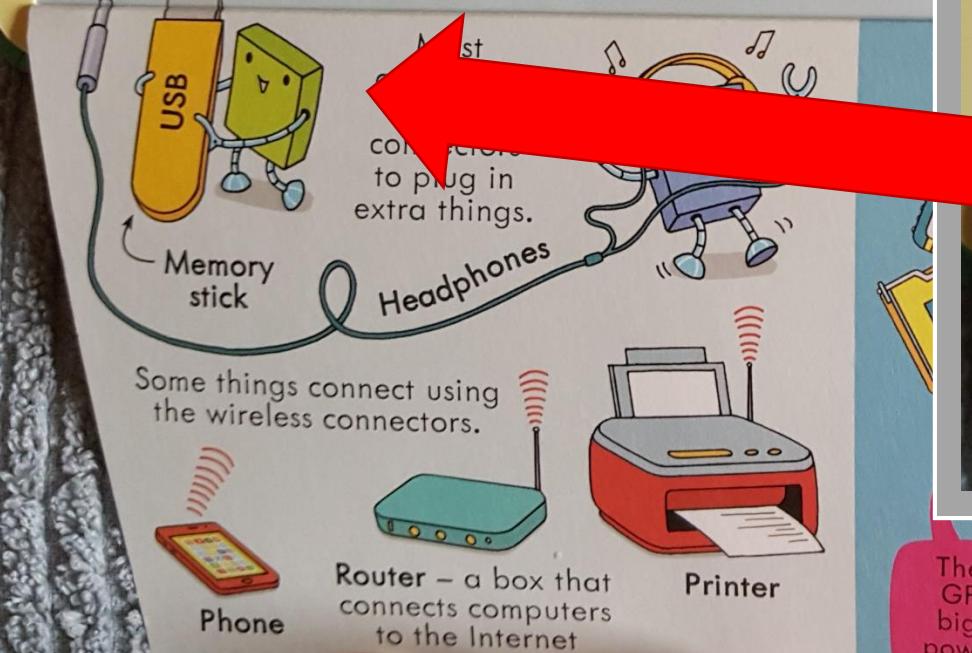
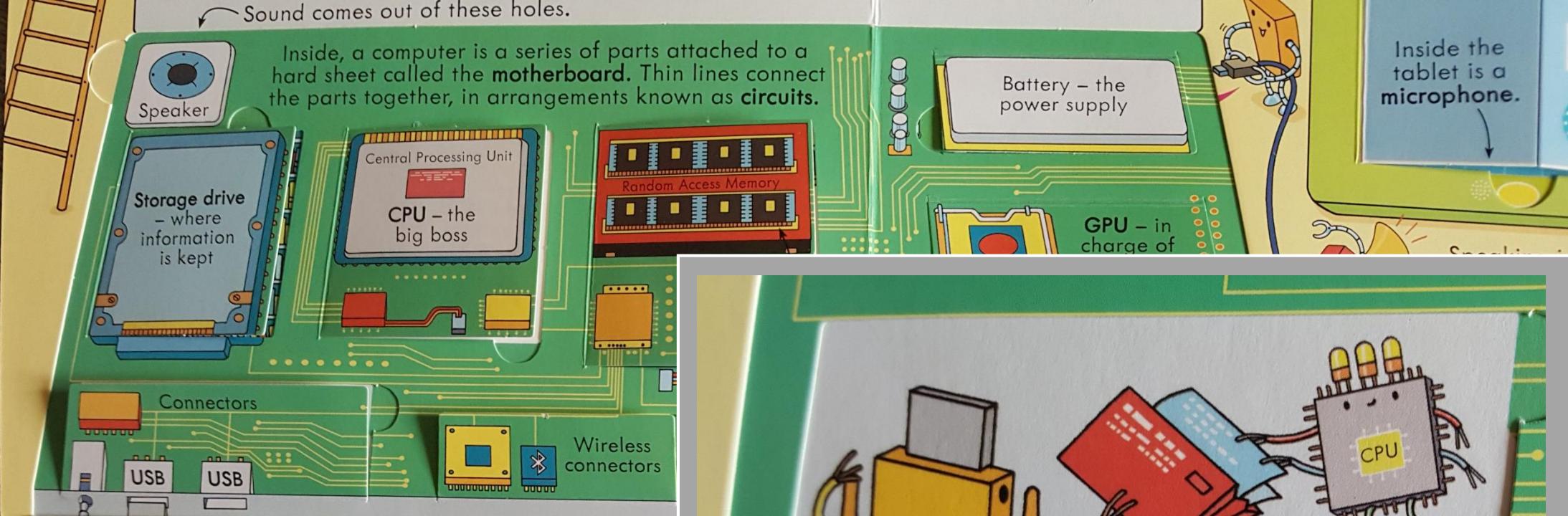


Most computers have

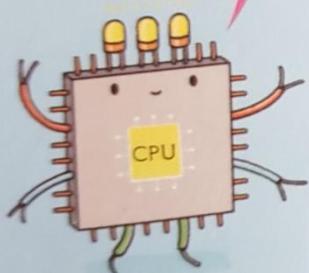
Brainy chips

All the information inside a computer is handled by chips – little pieces of electronics which





The screen
senses
flows of
electricity.



For example,
when you
tap to open
an app...

That
was a
double
tap...

...over this
spot. That
means...

Open the
music app!

A grid
helps the
computer work
out where
things are.

A tiny
amount of
electricity
flows out of
the screen
when you
touch it.

Sensors
use this to
track your
fingers.

So the
computer
knows if
you touch
or move
something
on-screen.

Tablet computers have a touchscreen.

Lift the flaps
to see how
touchscreens
work.

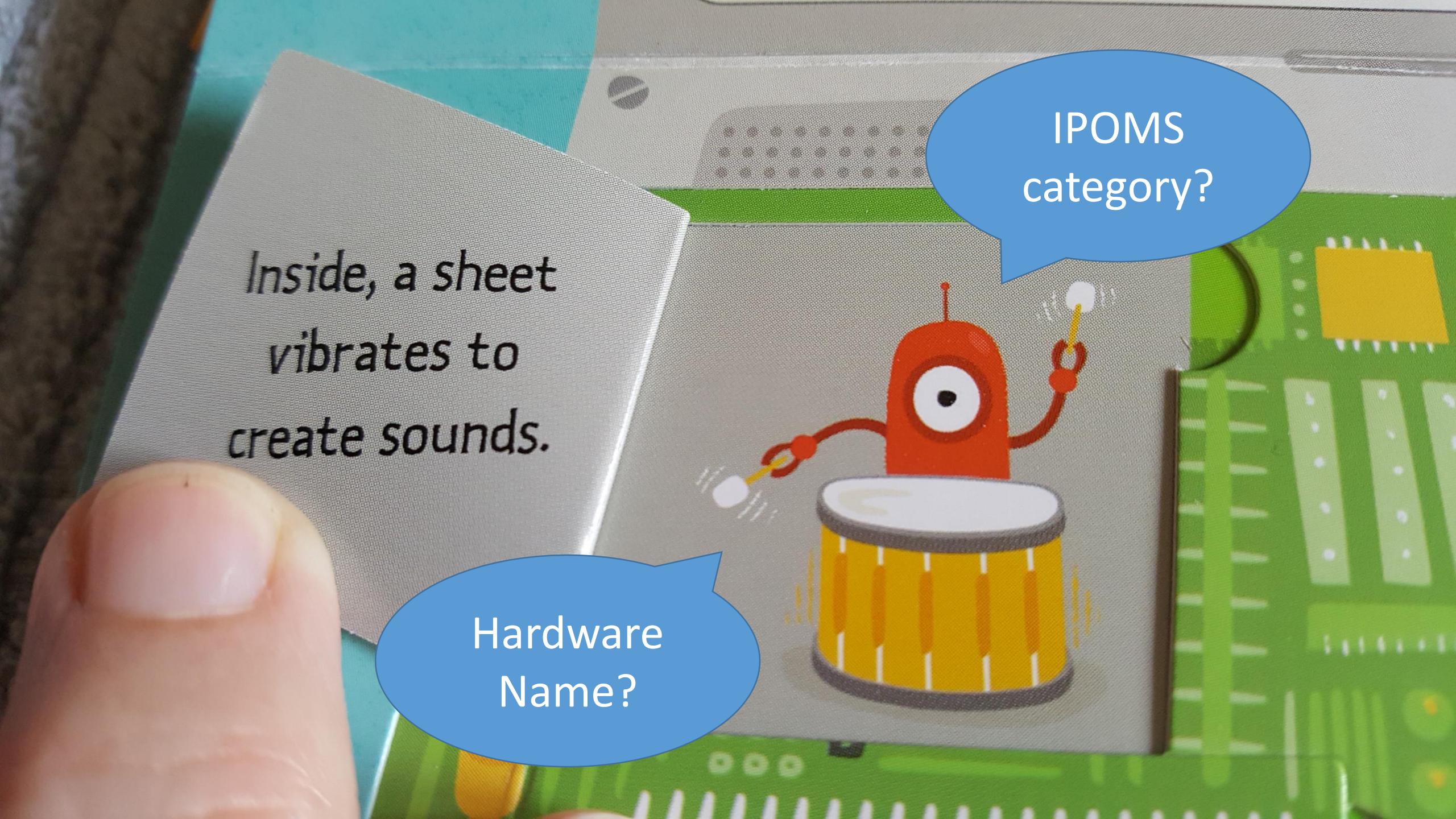
Inside the
tablet is a
microphone.

Speaking into the
microphone can control
the tablet, too.

Smartphones
work in the same
way as tablets.

Hardware Basics Summary

Name	Examples	Purpose
Input	Keyboard, Mouse, Trackpad, Touchpad, Camera, Microphone, Touchscreen, Game Controller, RFID Tags, Barcodes	To get instructions from the user.
Processing	(all different names for the same thing) CPU, Processor, Chip	The brain of the computer.
Output	Screen, Printer, LCD Projector, Speakers, Touchscreen, 3D Printer, Robots	To give results to the user.
Memory	RAM (ROM too)	To remember small things for the CPU.
Storage	Hard Drive, USB Memory Stick (Flash Drive), SD Card, CD-ROM, DVD, Blu-Ray.	To remember big things, when power is off.



*Inside, a sheet
vibrates to
create sounds.*

Hardware
Name?

IPOMS
category?

IPOMS
category?

This large chip
is the control centre
in charge of input, output
and all the other chips.

Hardware
Name?



This is the long-term memory. Information in here is kept, even when the computer is turned off.

Hardware Name?

CPU (Central Processing Unit)

IPOMS category?

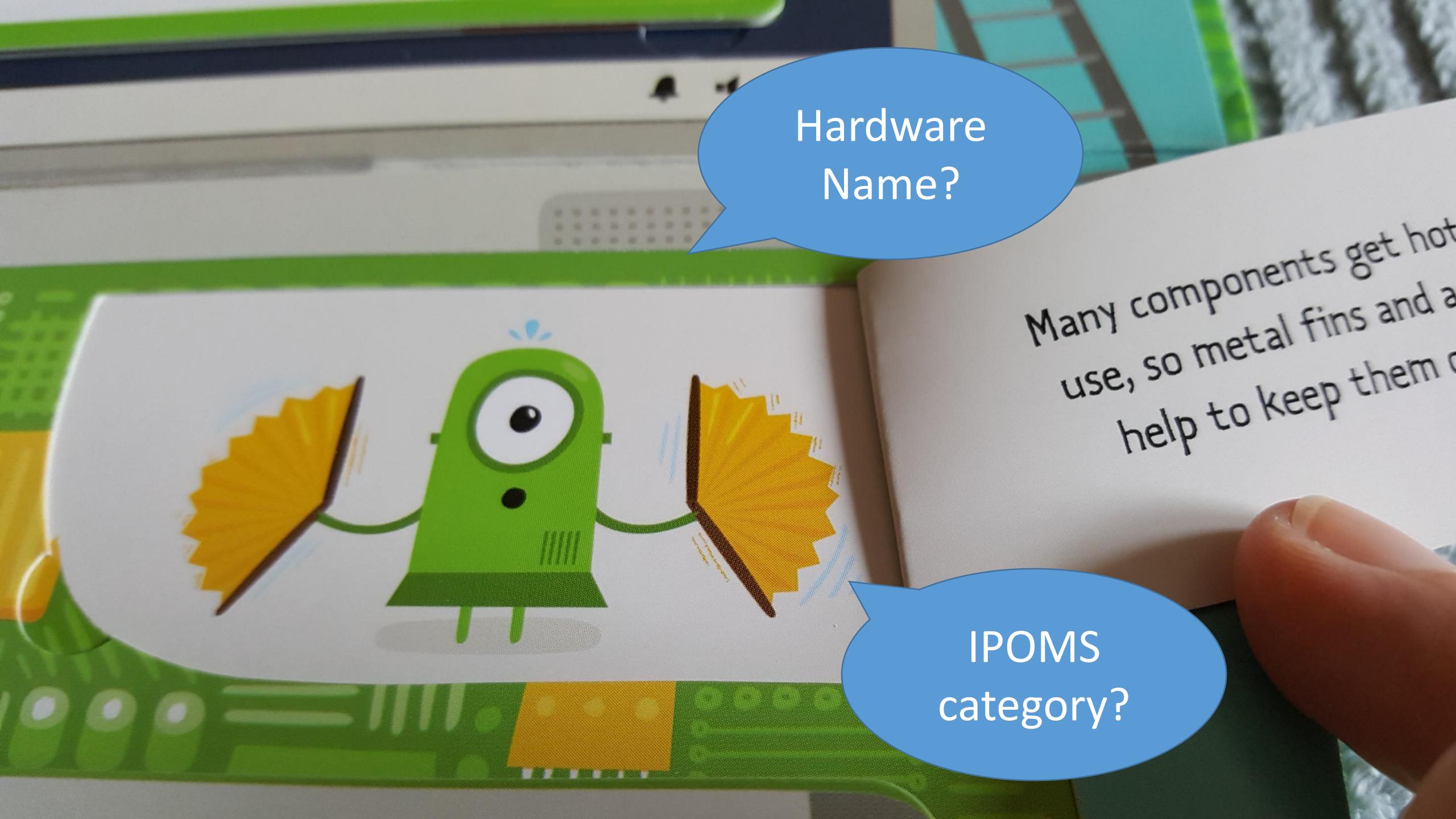
USB

IPOMS
category?

memory. They store information for programs which are running, but need power to work. When the computer is turned off, the information is lost.

Hardware
Name?

Fan and
heatsinks



Hardware
Name?

Many components get hot
use, so metal fins and a
help to keep them c



IPOMS
category?