# How to make a **Personal Computer**

# SAFETY FIRST

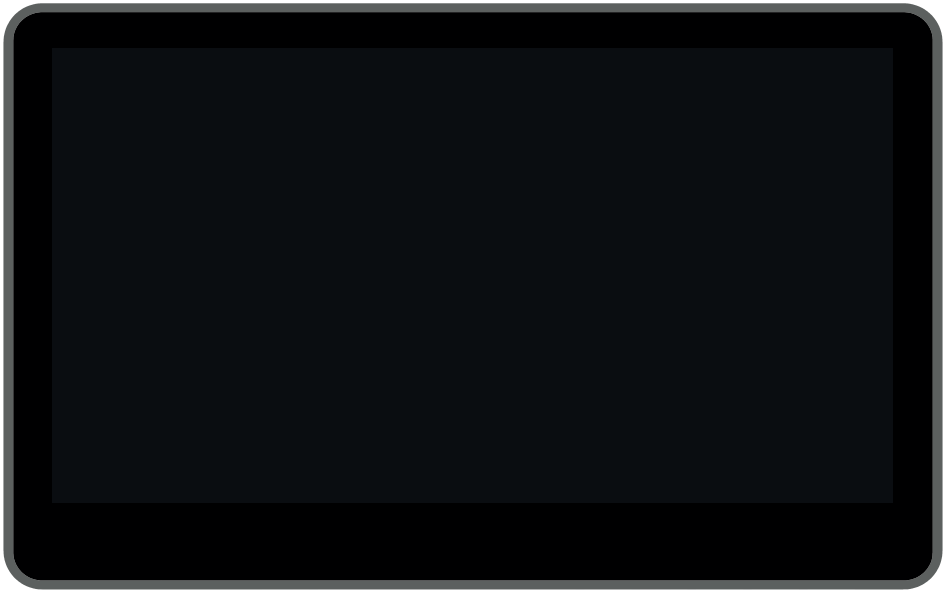
For your safety, and to avoid damaging your computer, make sure you read all the instructions before you begin.

- Never touch the heat sink because it can get hot!
- Only use the battery and power supply unit that come with this computer. Using a different battery or power supply unit can cause a fire or damage the computer!
- Don't charge your computer near anything that can burn, or when no one else is home!
- Do not remove or tamper with the PCB
- If you think your Kano PC might be damaged, stop using it, and visit the Kano Help Center at **help.kano.me**

Now let's begin!

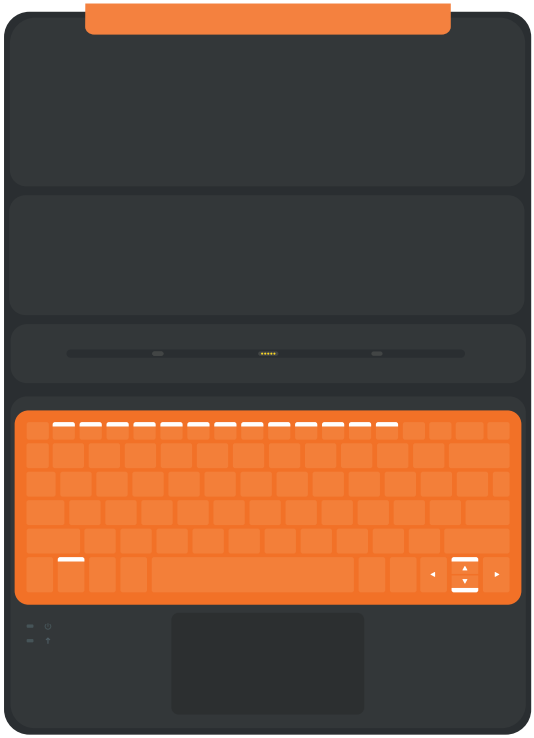
**If you see a comment in red that looks like this, it means you have to pay attention! Follow the instructions to avoid getting hurt, or damaging your computer**

Take out the pieces!

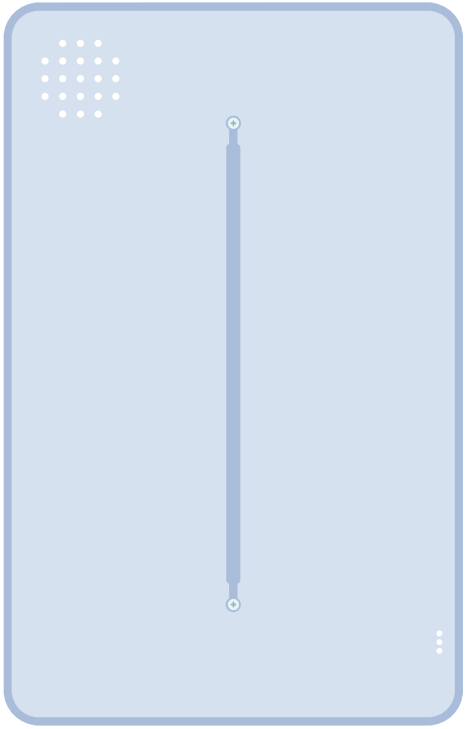


Screen + Printed Circuit Board

Keyboard + Sleeve



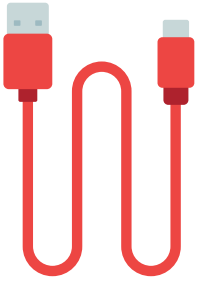
Case



Power Supply Unit

Battery


Power Cable



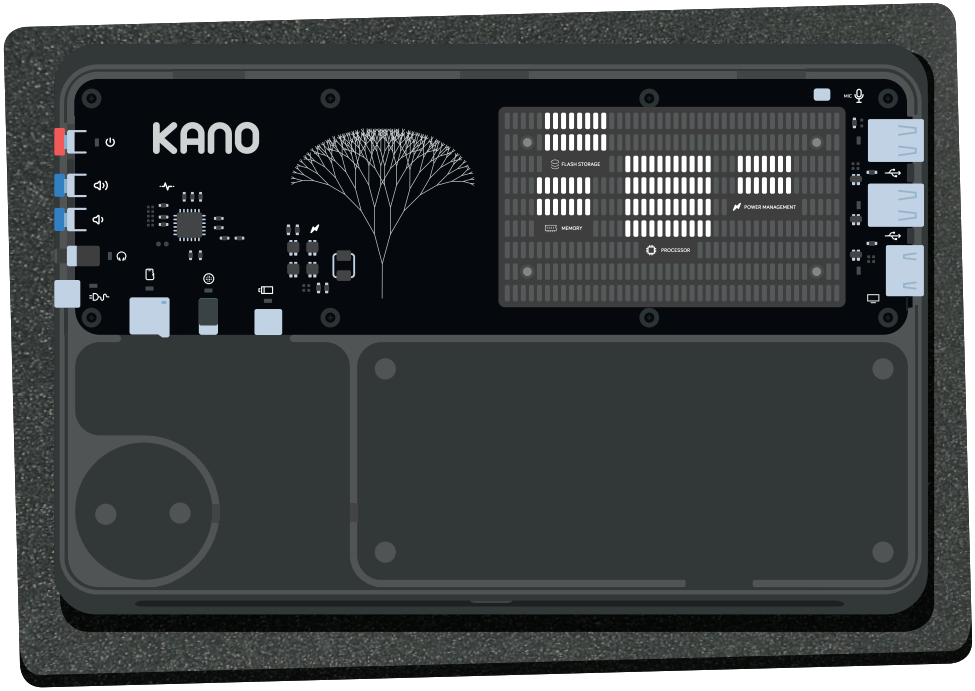
Speaker

Magnifying Glass

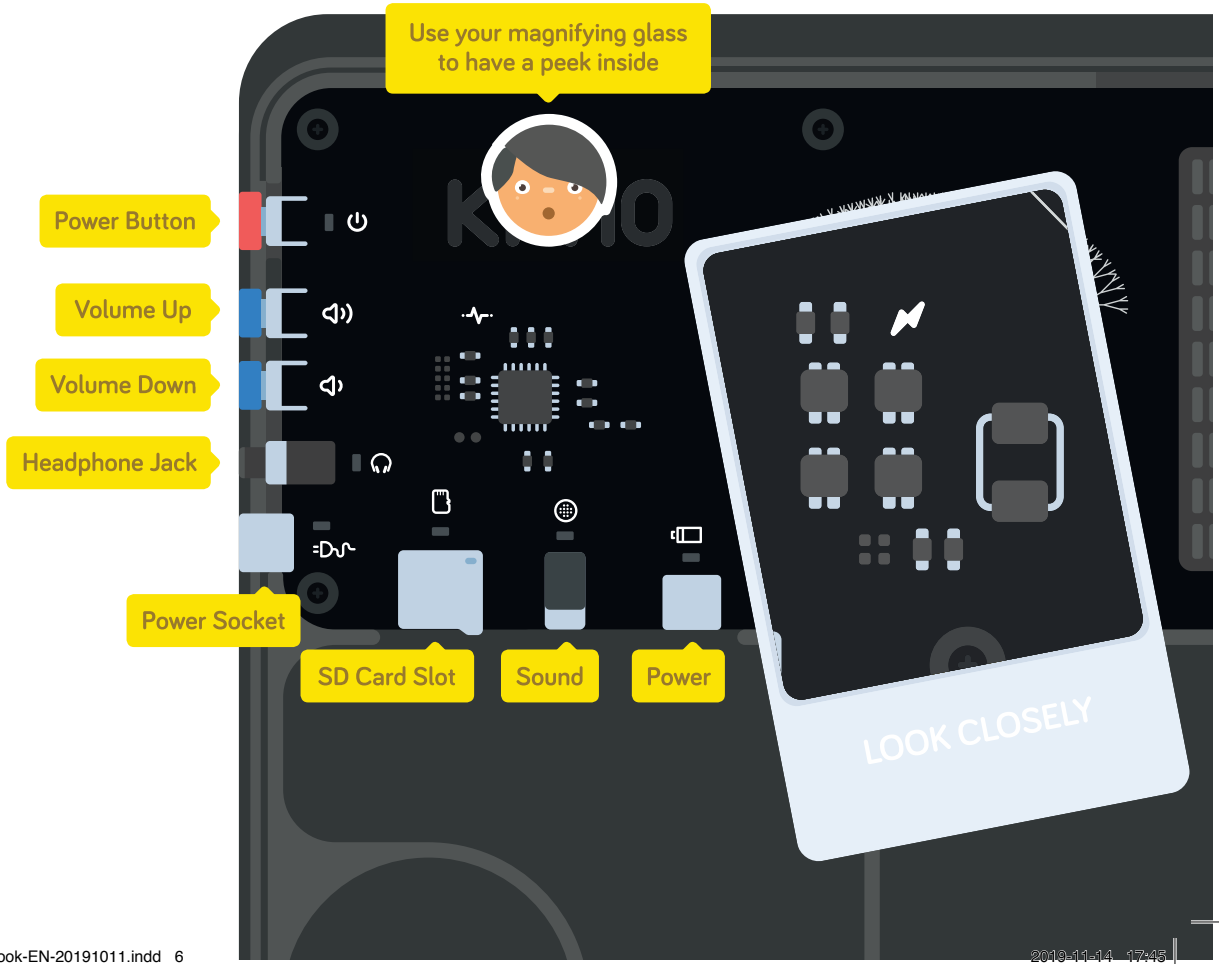
Pick up the touch screen

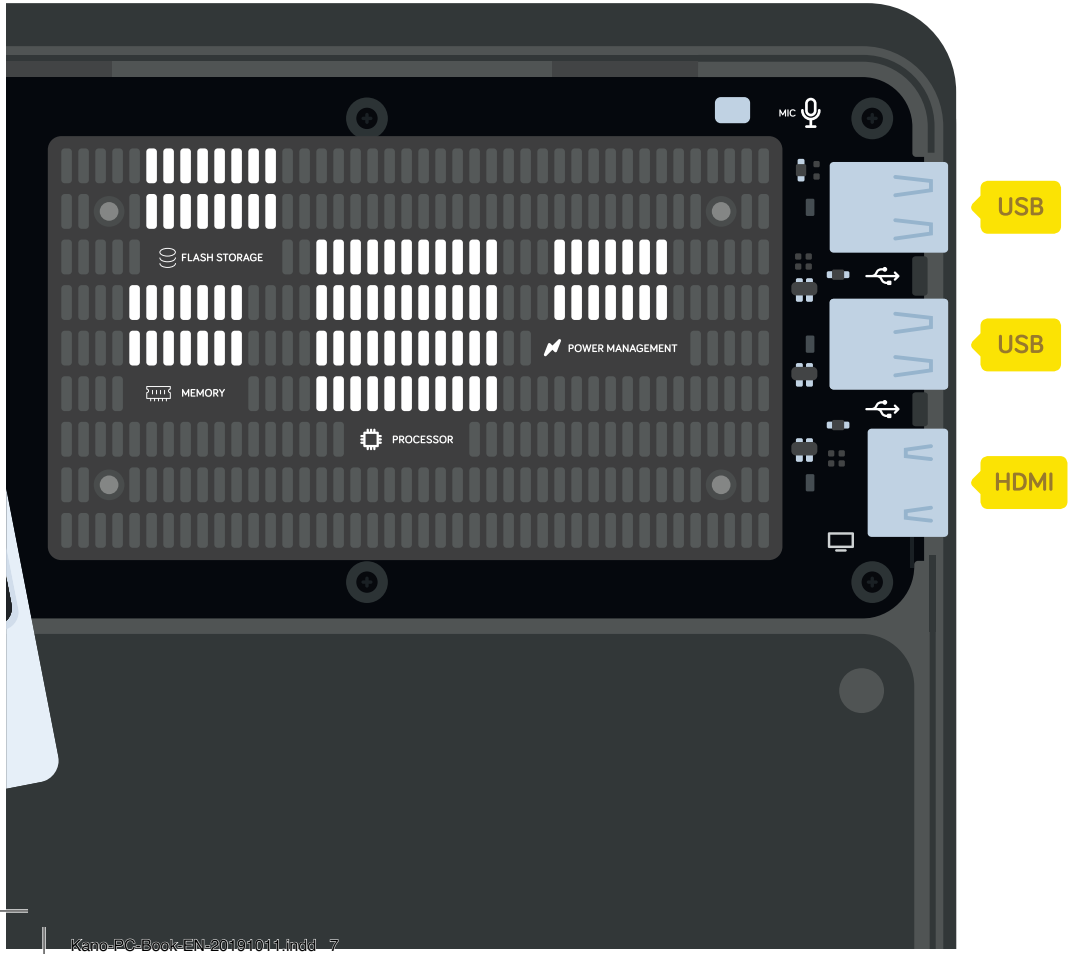
The front has over 1,000,000 pixels!

Lay it screen-down onto the black foam sheet

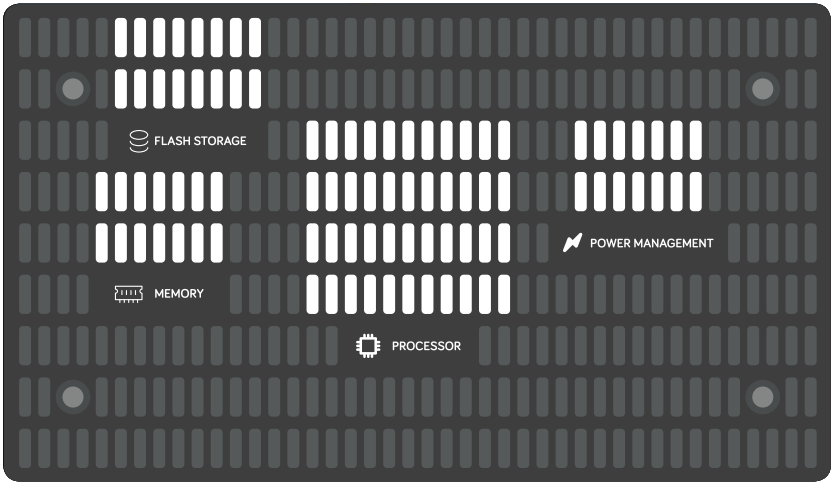



The back has a Printed Circuit Board, or PCB





This part is called a heat sink

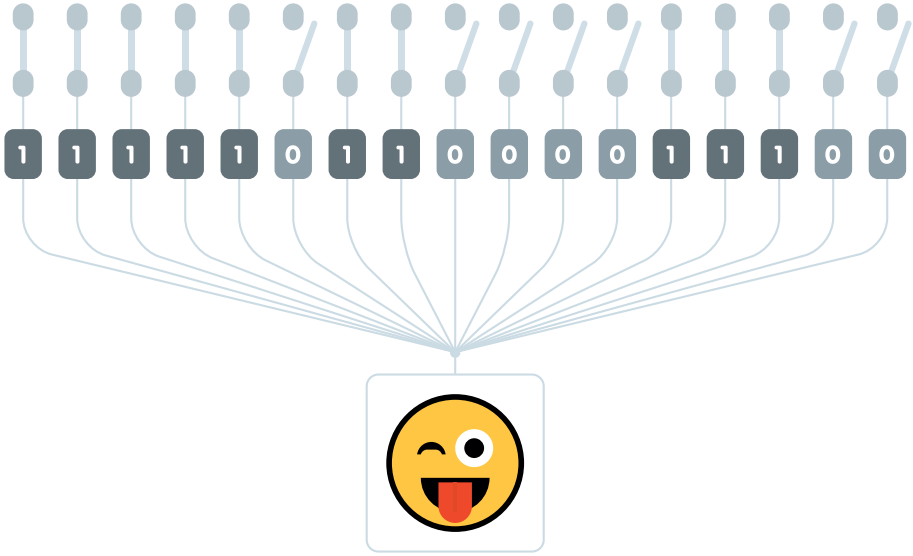



It protects very important chips from over-heating

How does your computer think?

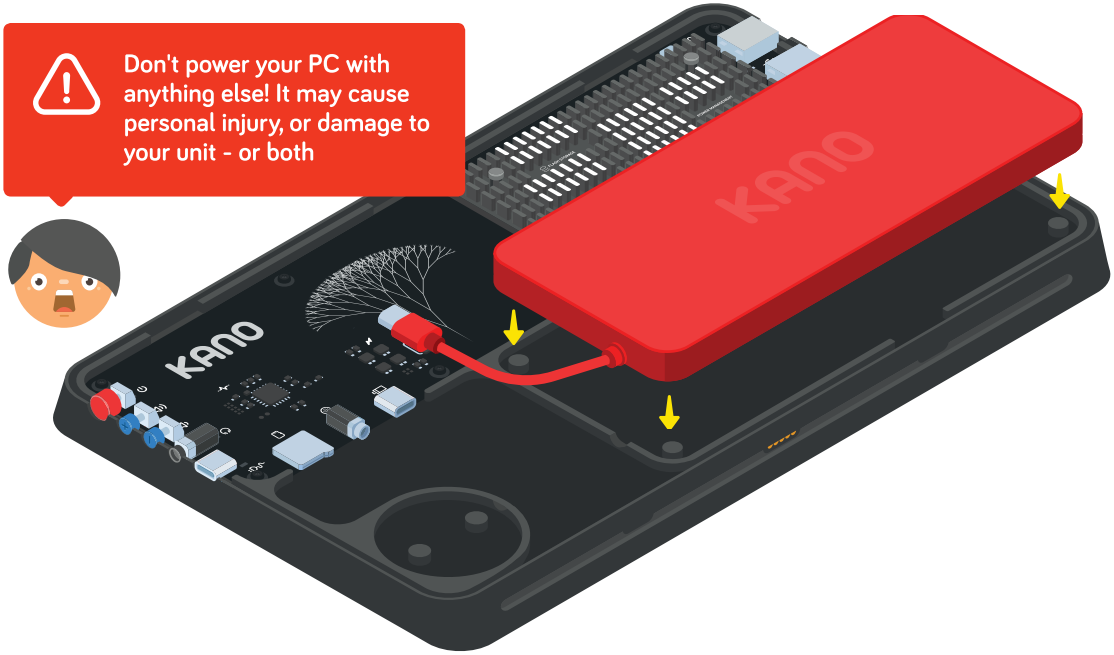

Underneath the heat sink is a CPU (Central Processing Unit)
with billions of electric switches inside of it

If a switch is on, that means 1. If it's off, that means 0



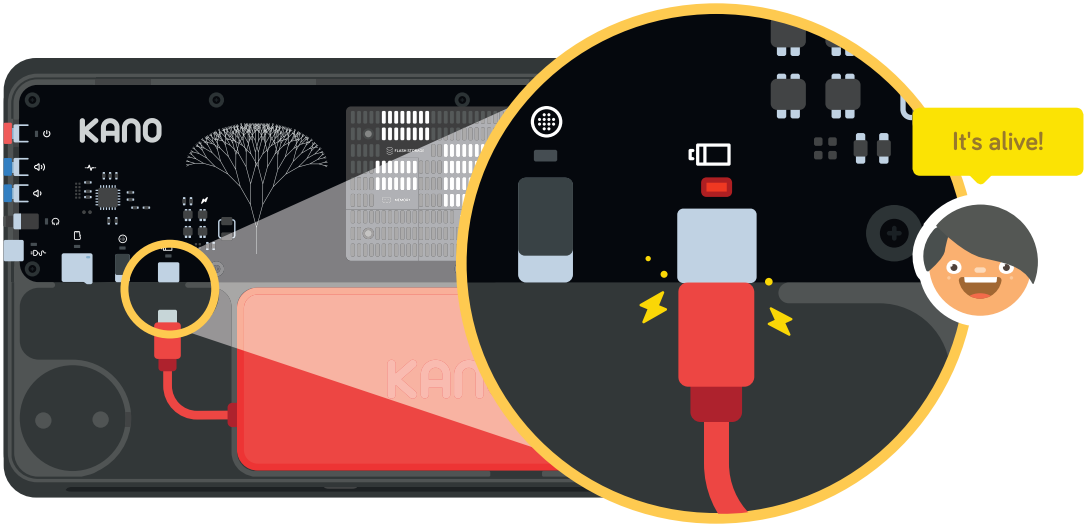

Your computer turns specific sequences of 0s and 1s - called binary code - into words, pictures, and logical rules

Let's give your computer some power




Take the battery, and push it onto the screen

Plug in the red cable, the battery LED will come on

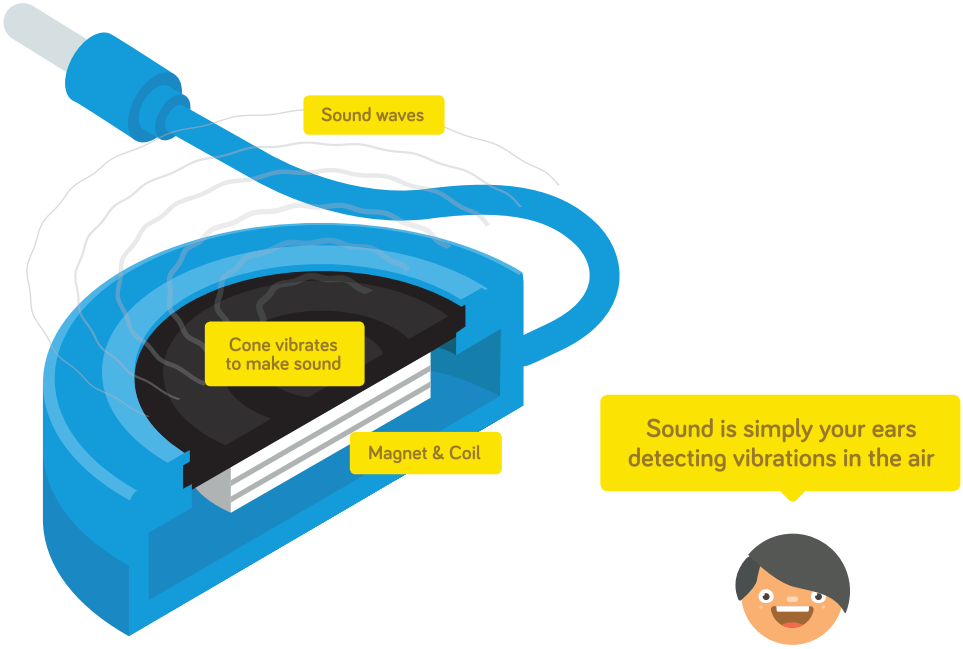



Electricity is now flowing from the battery into your computer!

Time to give your computer a voice

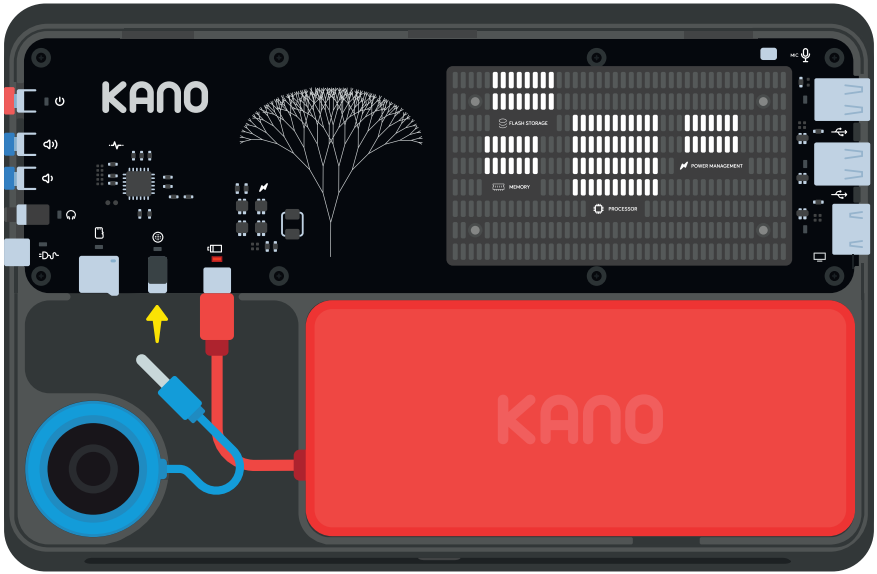

Grab the speaker, and push it onto the screen

On the outside we can see a black membrane




but inside is a magnet, and space for air

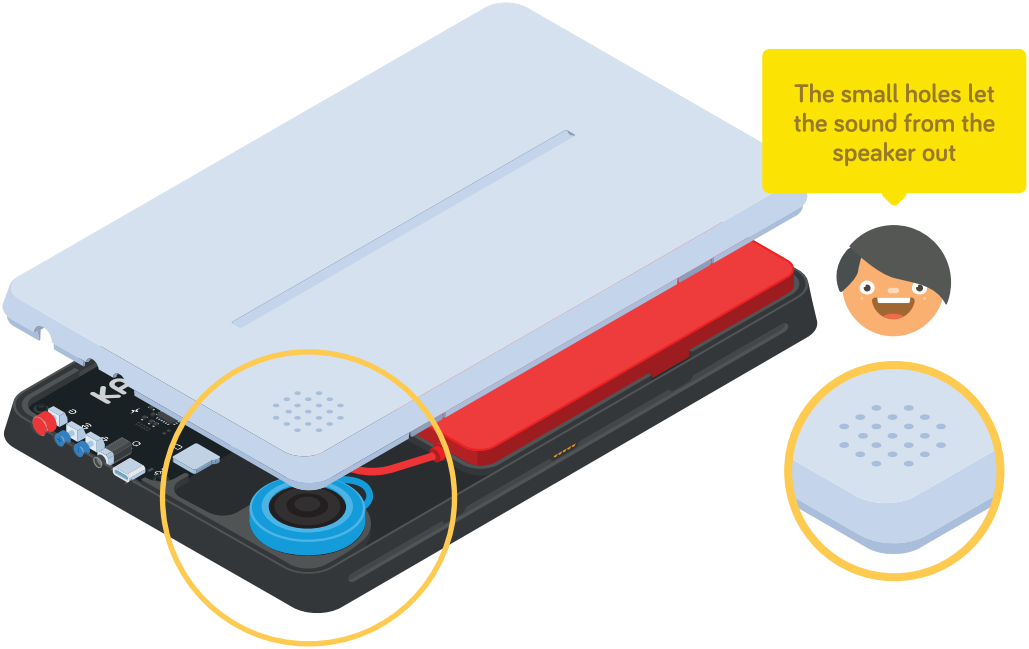
Plug in the audio cable




The light will come on to show it's connected

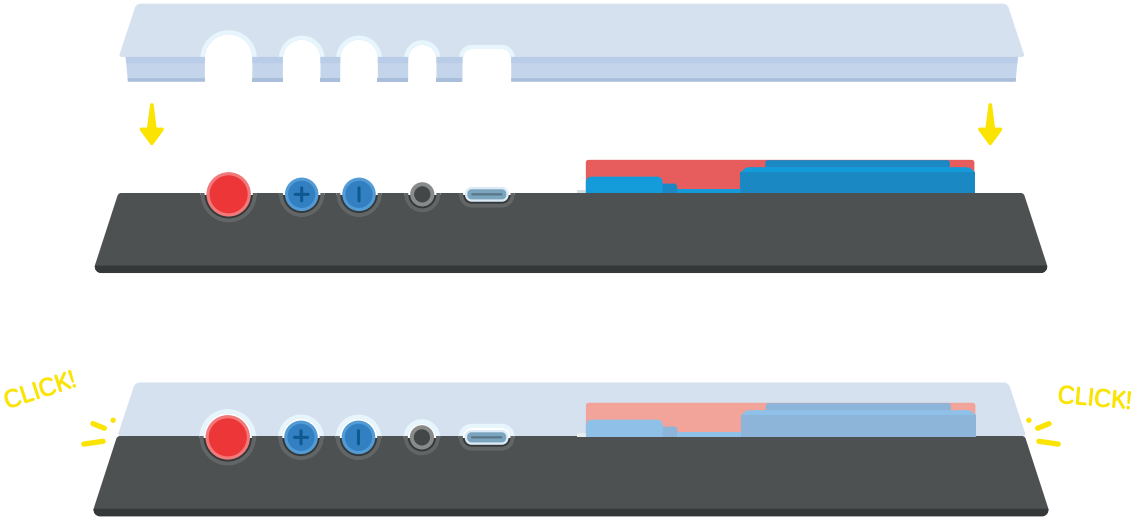

The cable sends signals to your speaker and
they vibrate the magnet, membrane, and the air inside

Pick up the clear case




Hold it above the screen

Line up the grooves and push the edges into place

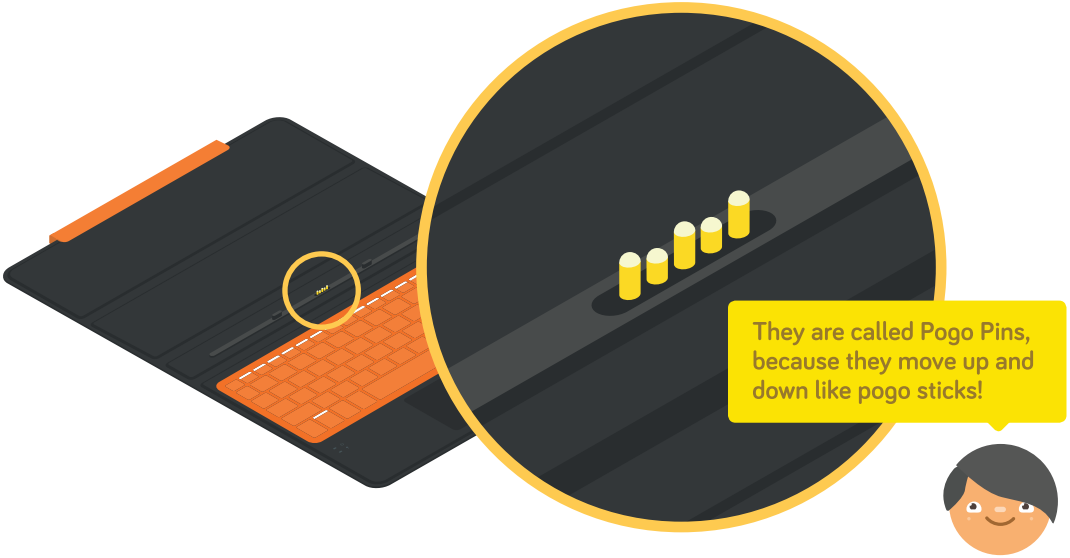



Make sure the case is snug and secure

You need a way to control your computer

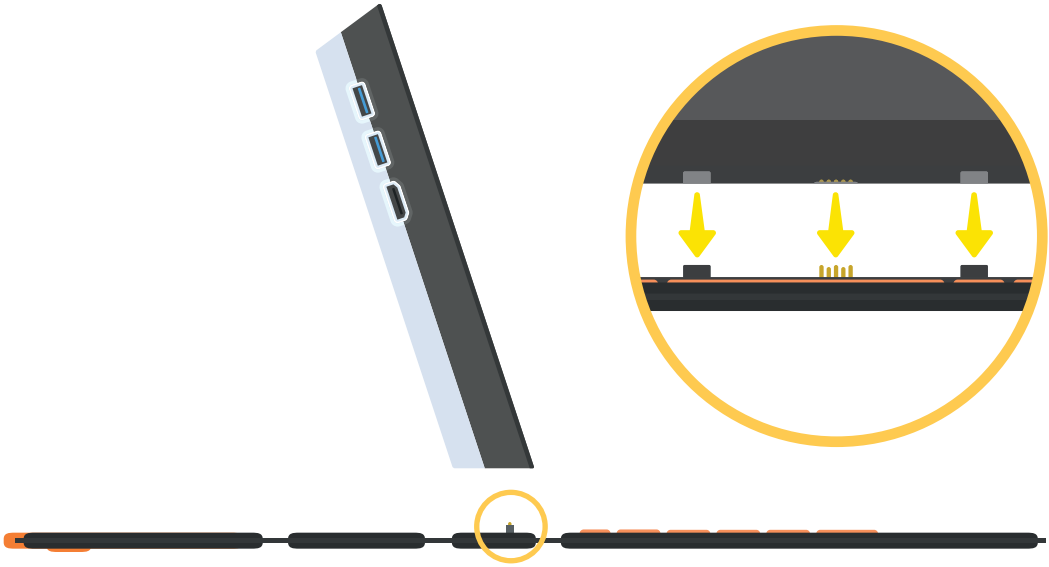
Flatten out the keyboard

See the pins? They draw electricity from your computer to power the keyboard



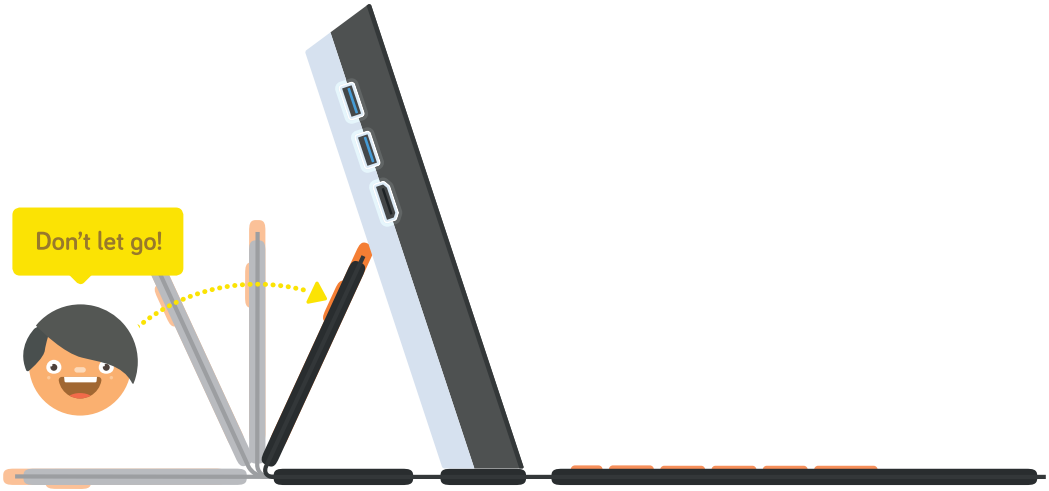

and send your commands from the keyboard to your computer

Place your computer onto the Pogo Pins



Can you feel the magnetic pull?

Hold the screen in place...

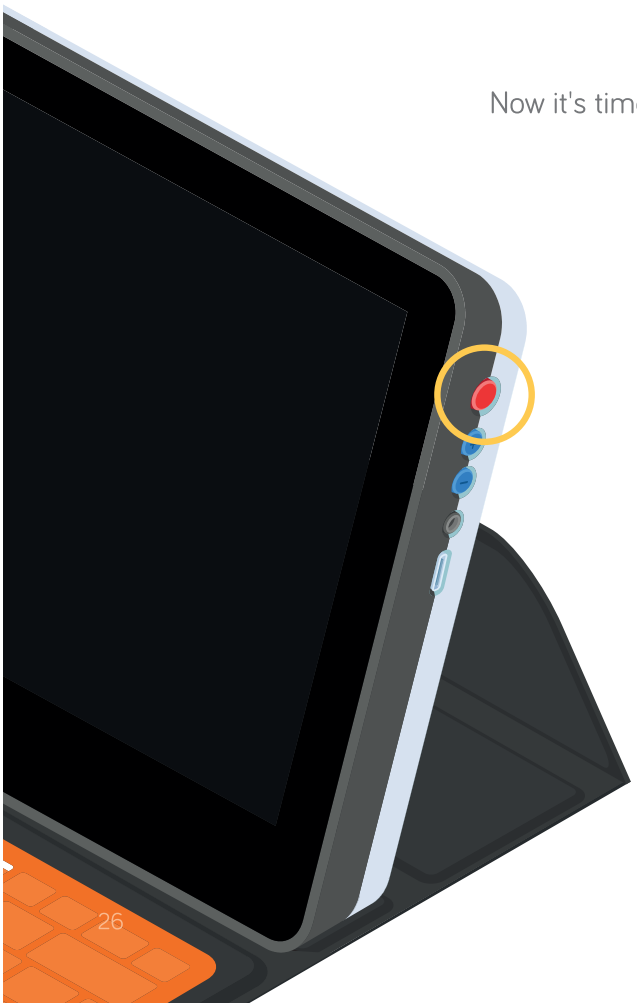


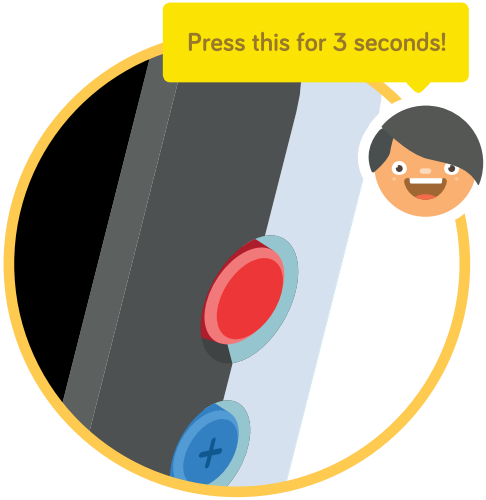

then lift the back of the keyboard

Slot the orange piece into the groove in the clear case

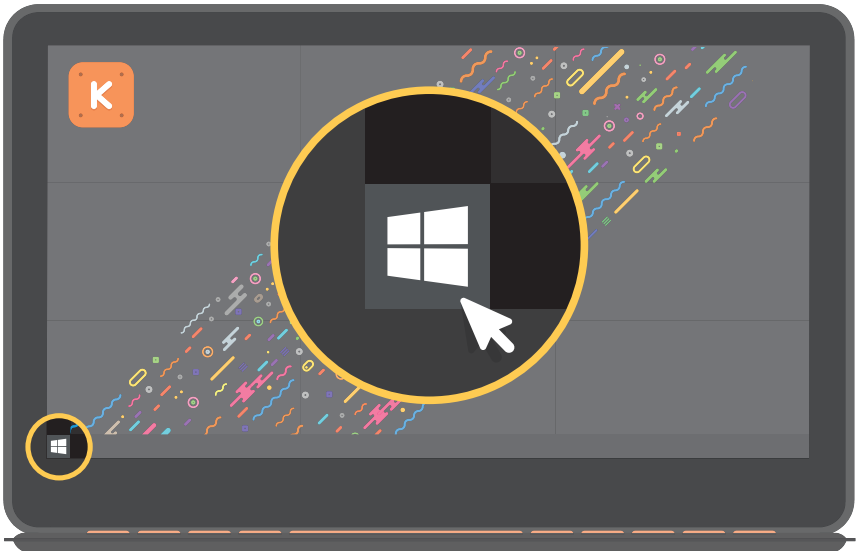
Congratulations! You've built your computer

Now it's time to turn it on





Open the start menu



and click on ‘How Computers Work’

# How Computers Work

Look inside your computer, see how it works. Make emojis with binary code, tinker with touch and sound, play with the processor, and more