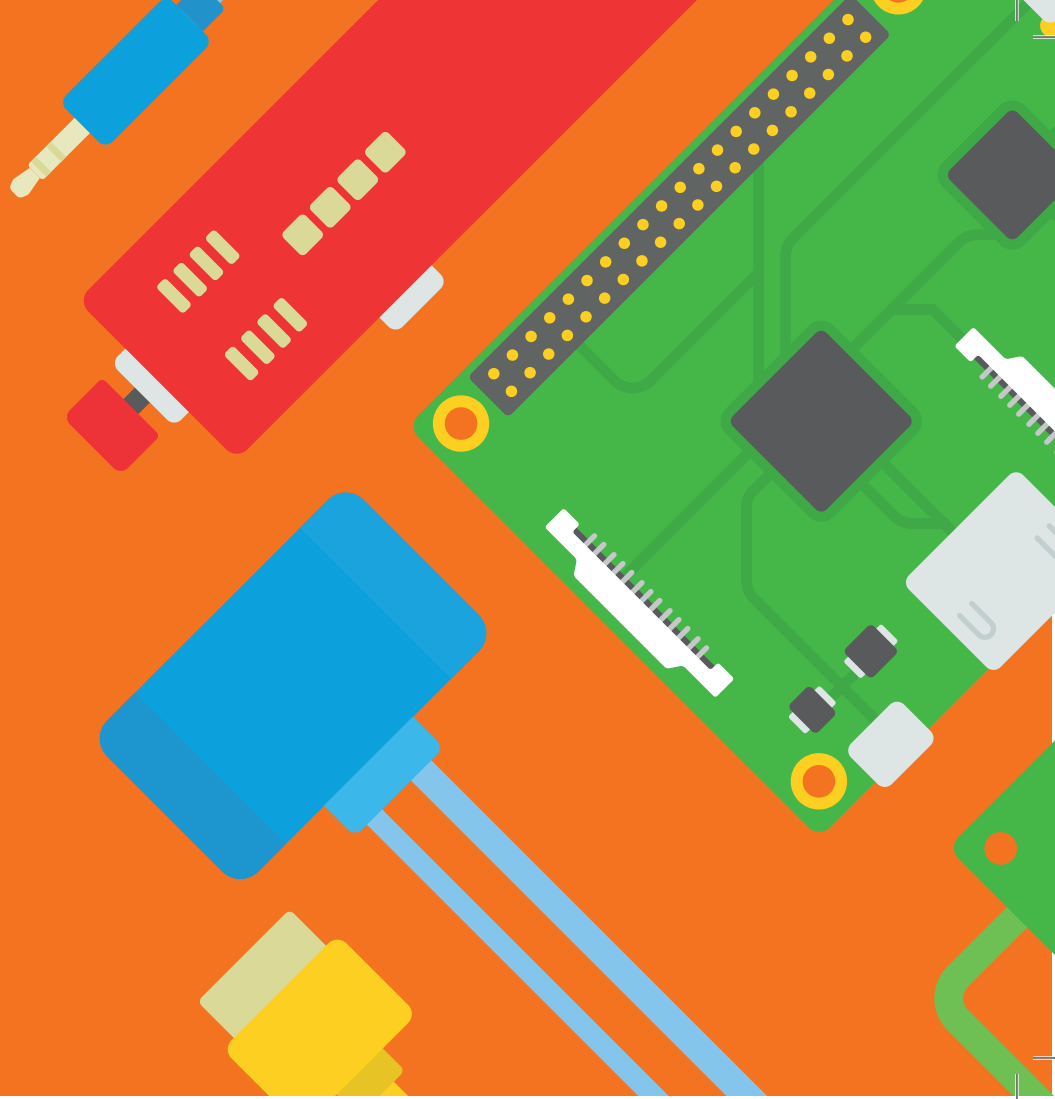
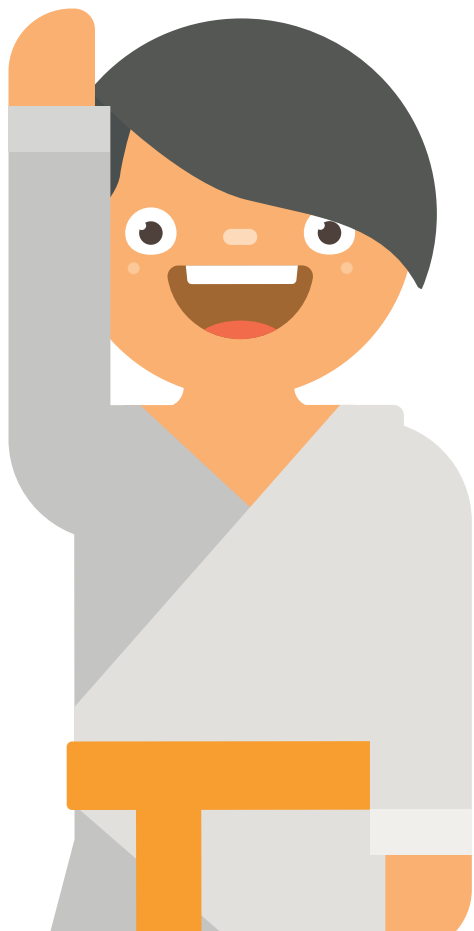
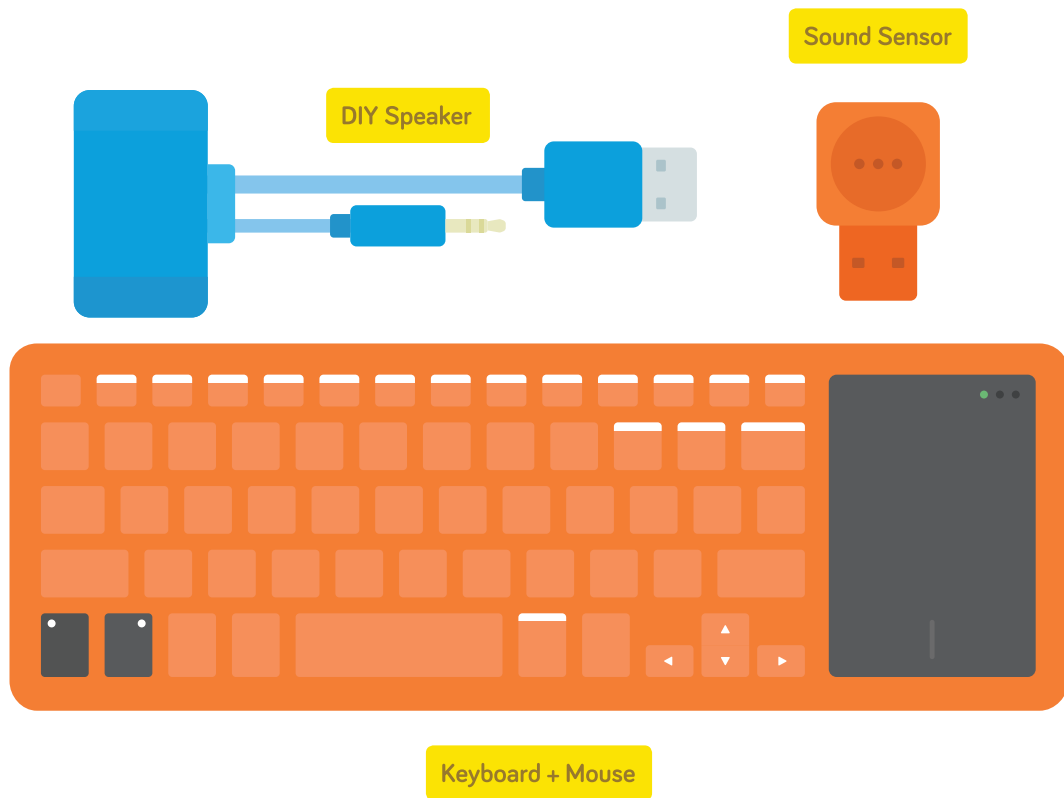


How to make a computer



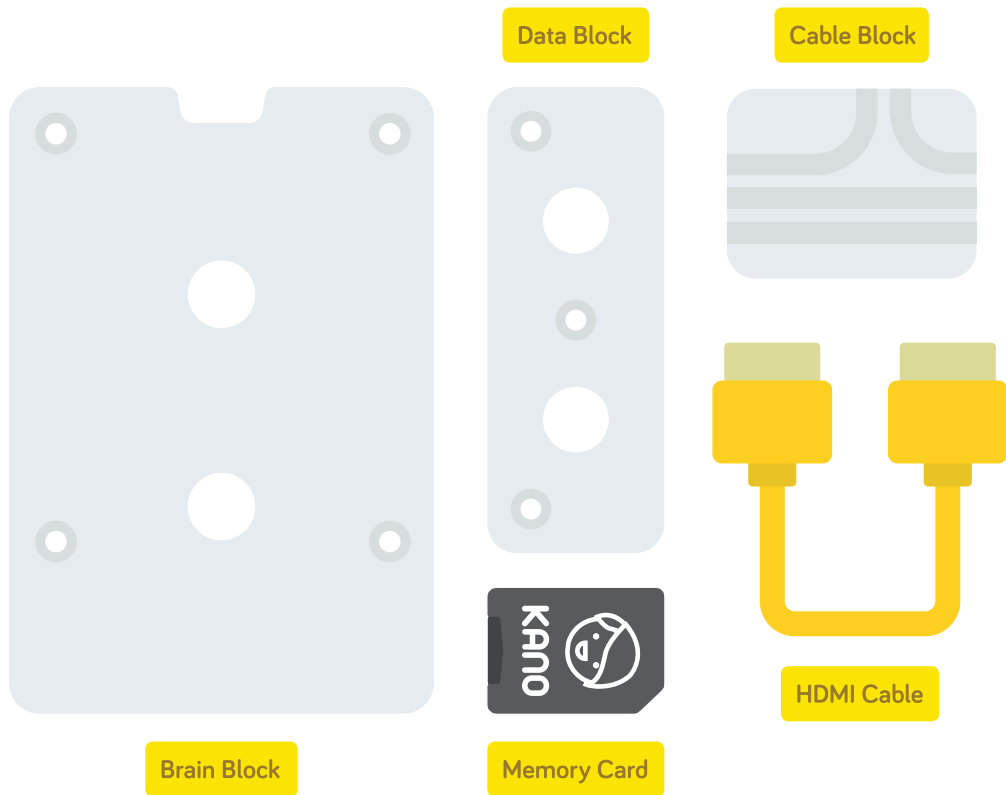


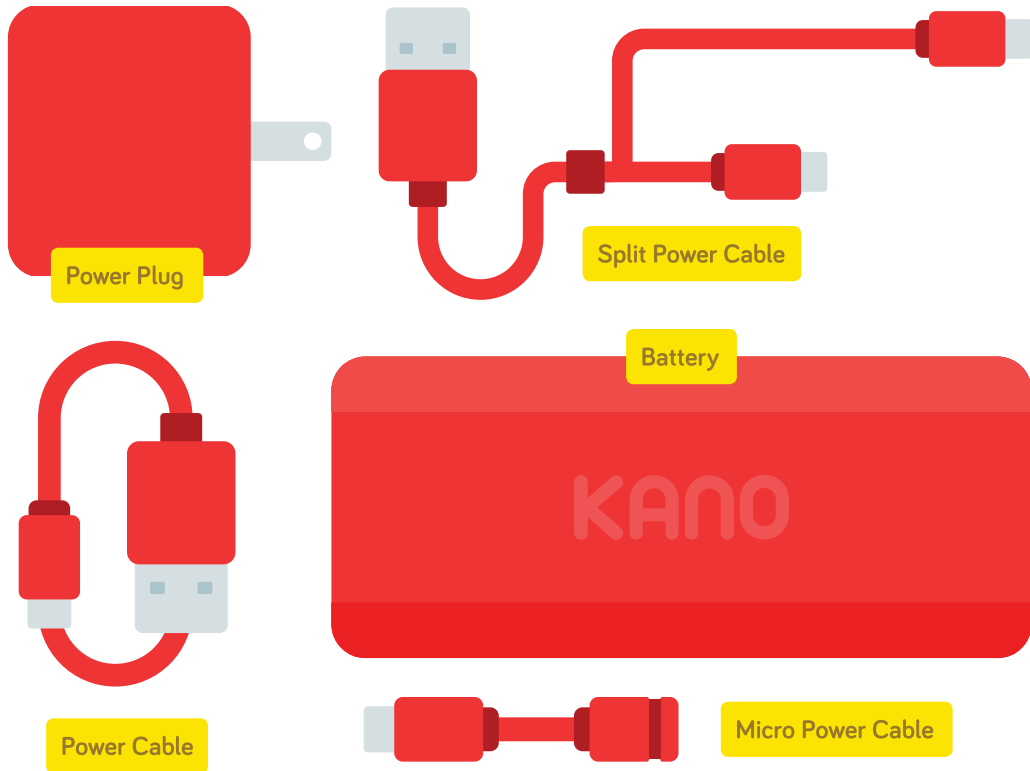
Hey! I'm Judoka, your computer companion. Ready to go?
Take out the pieces!

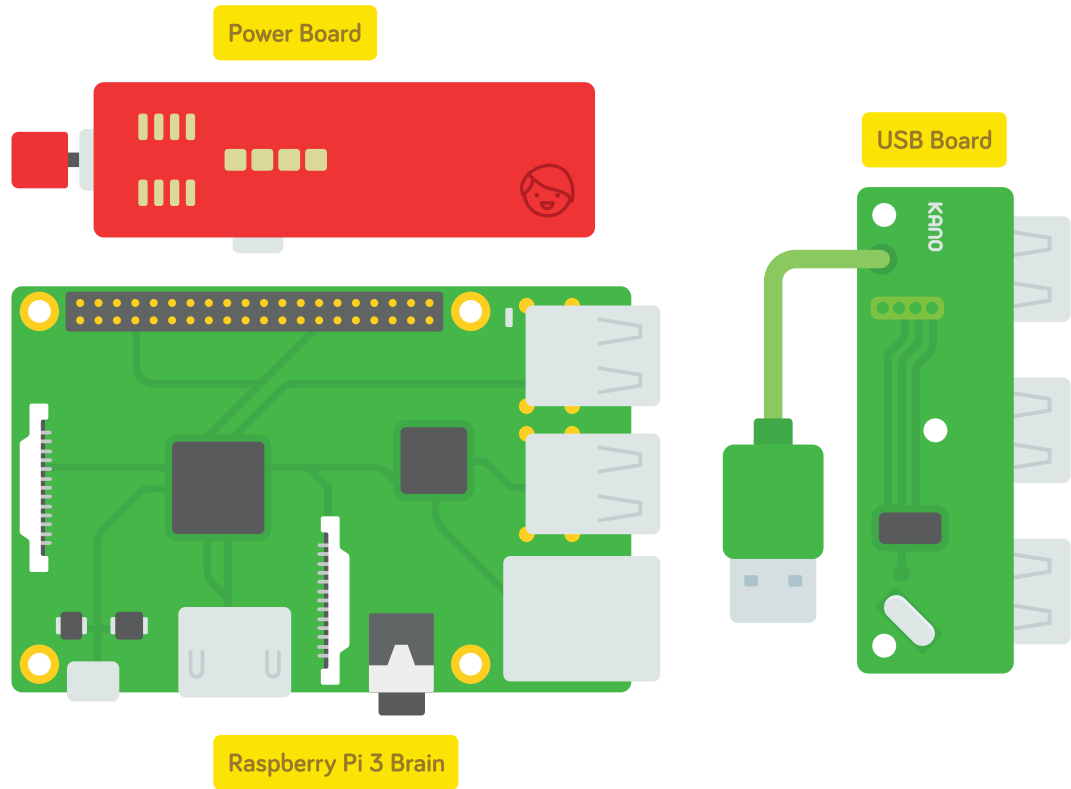




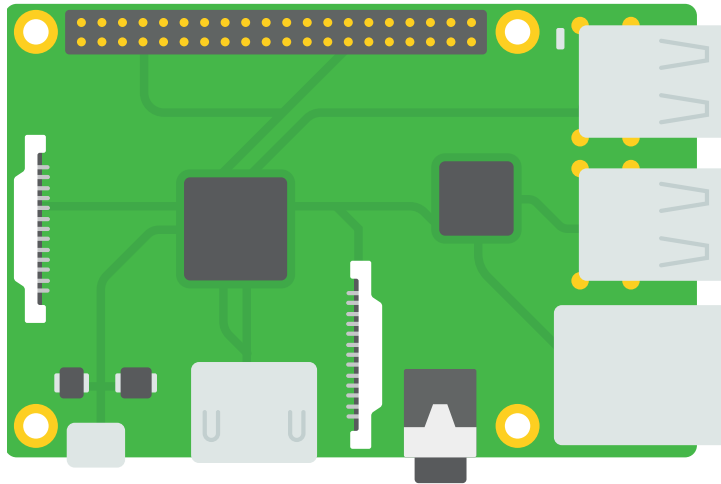
Screen







This is your computer's brain



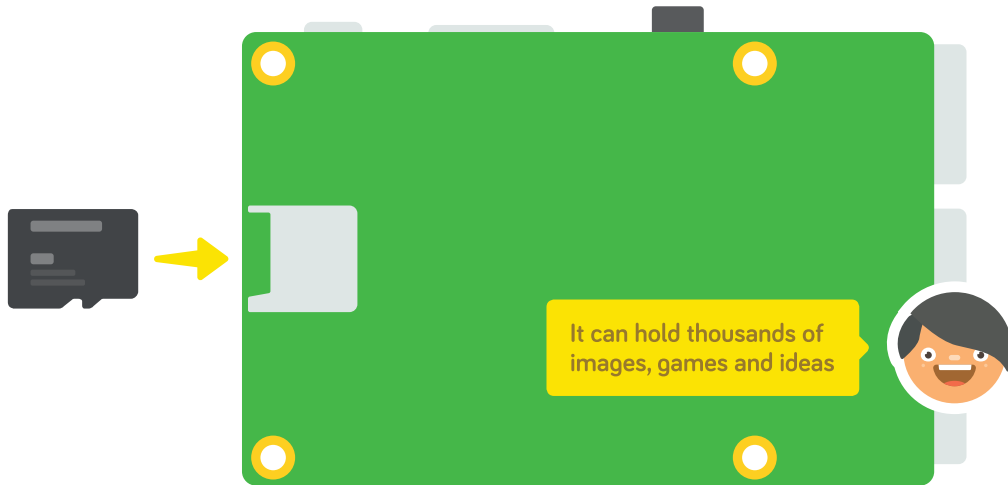
It's tiny, but powerful

Let's give your brain new powers



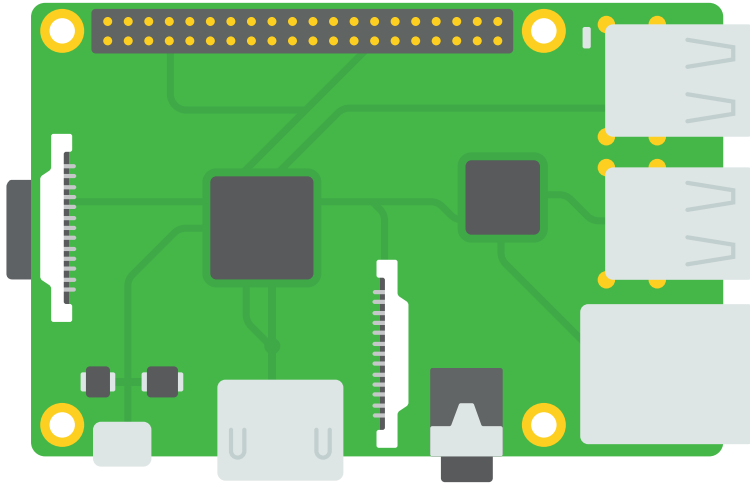
Grab the memory card, and slide out the micro card

Turn the brain over



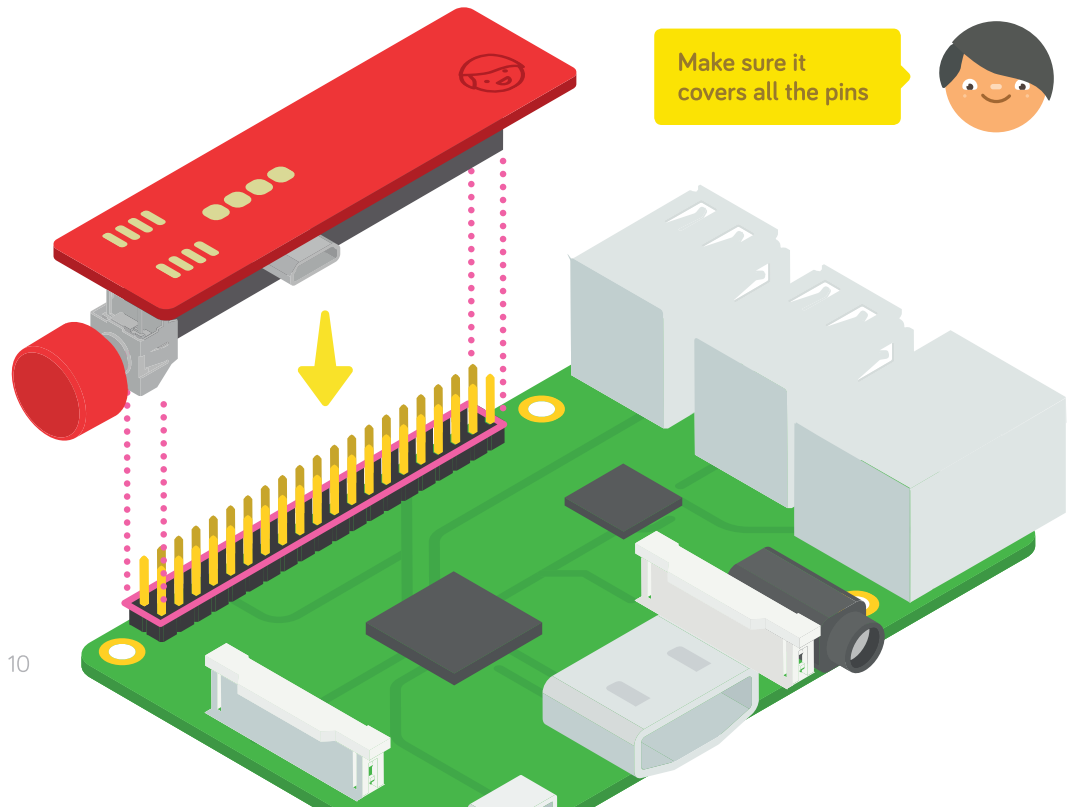
Slide in the micro card securely

Great!

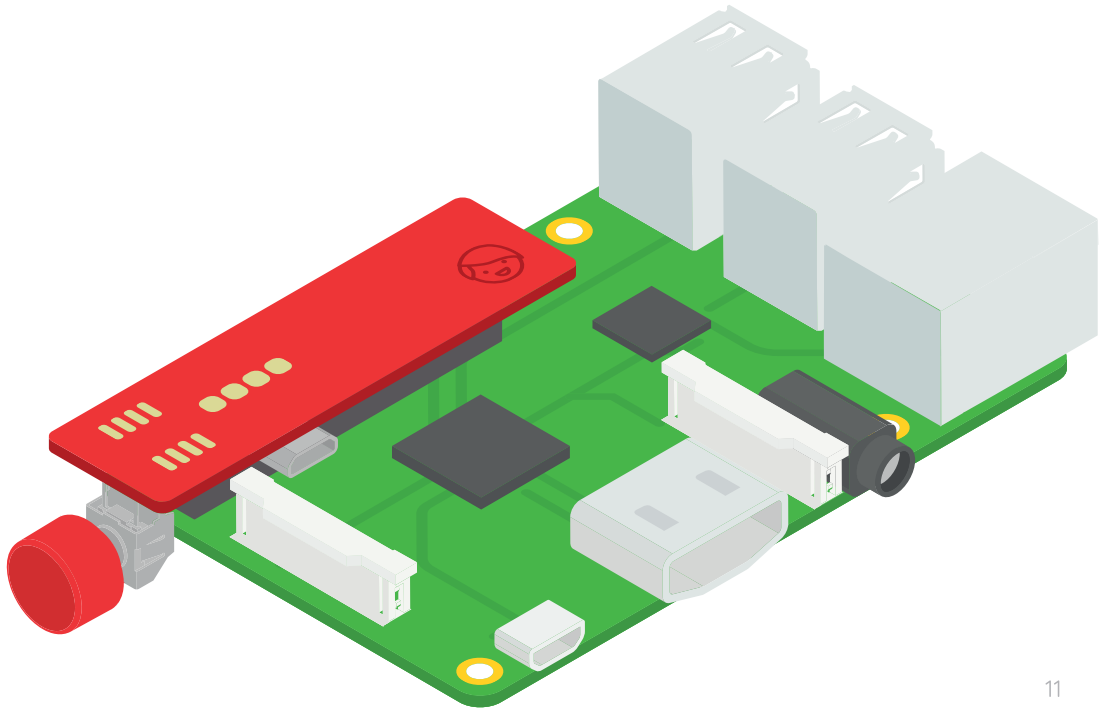


Let's add a button

Grab your power board and line it up with the brain's pins



Push it onto the brain



Now push it all the way down



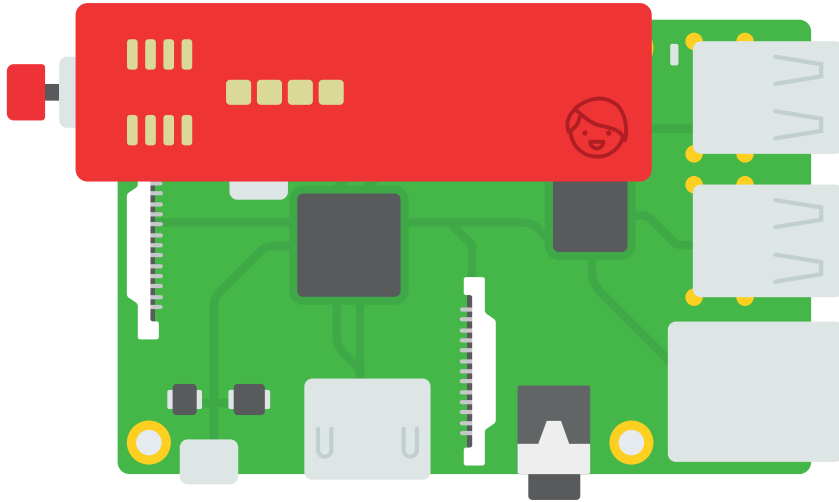
Great!



You connected the board to the
General Purpose Input and Output pins

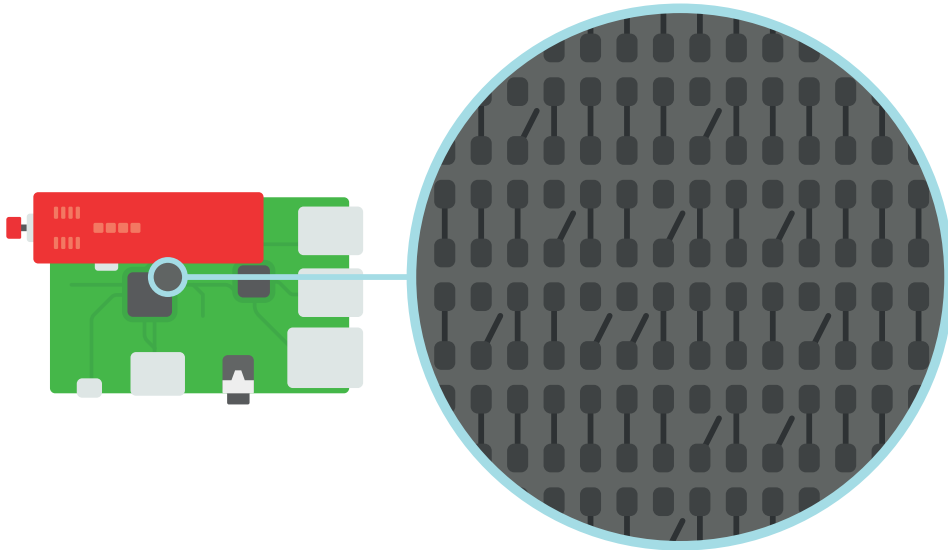


Now you have a power button



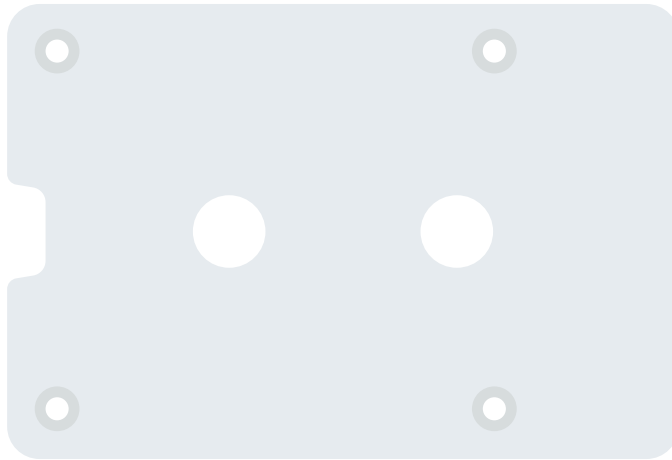
Fantastic!

How does your computer think? If you look deep inside...



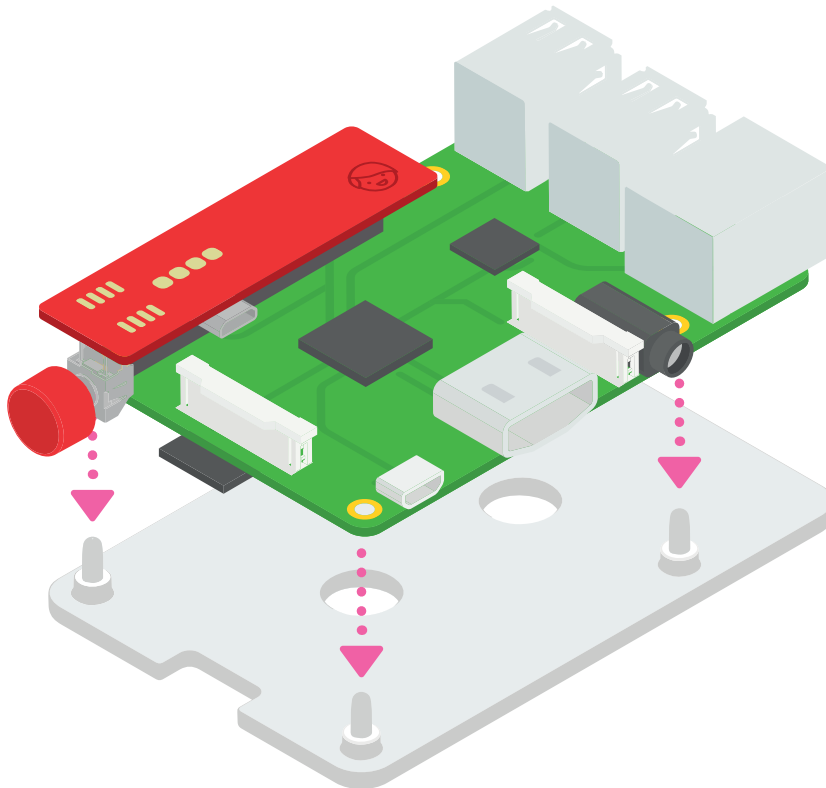
It's made of billions of electric switches

Grab the brain block

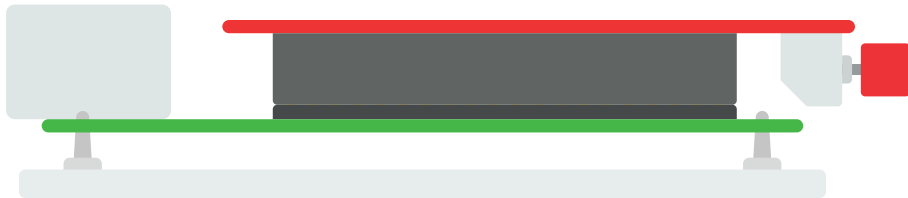


This will keep the brain in place

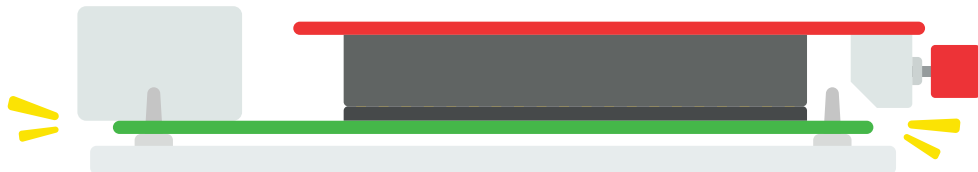
Push the brain onto the block, using the holes



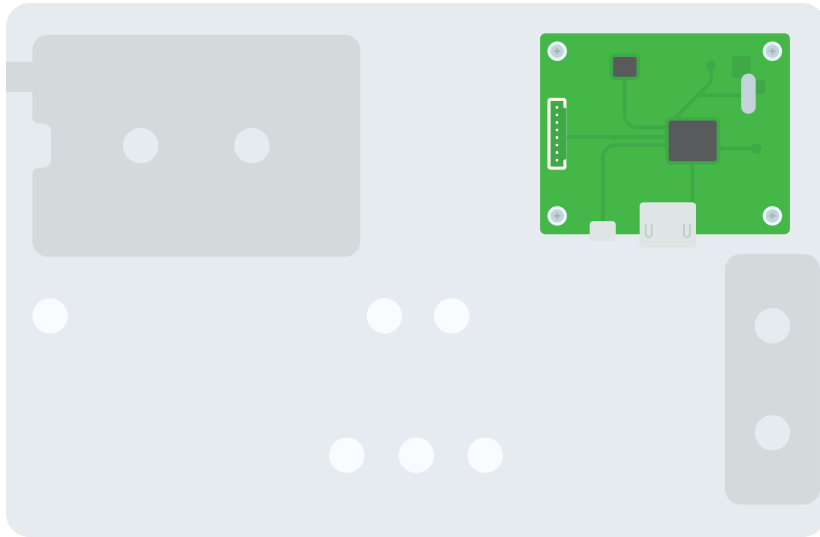
Push it all the way down



Make sure it's snug

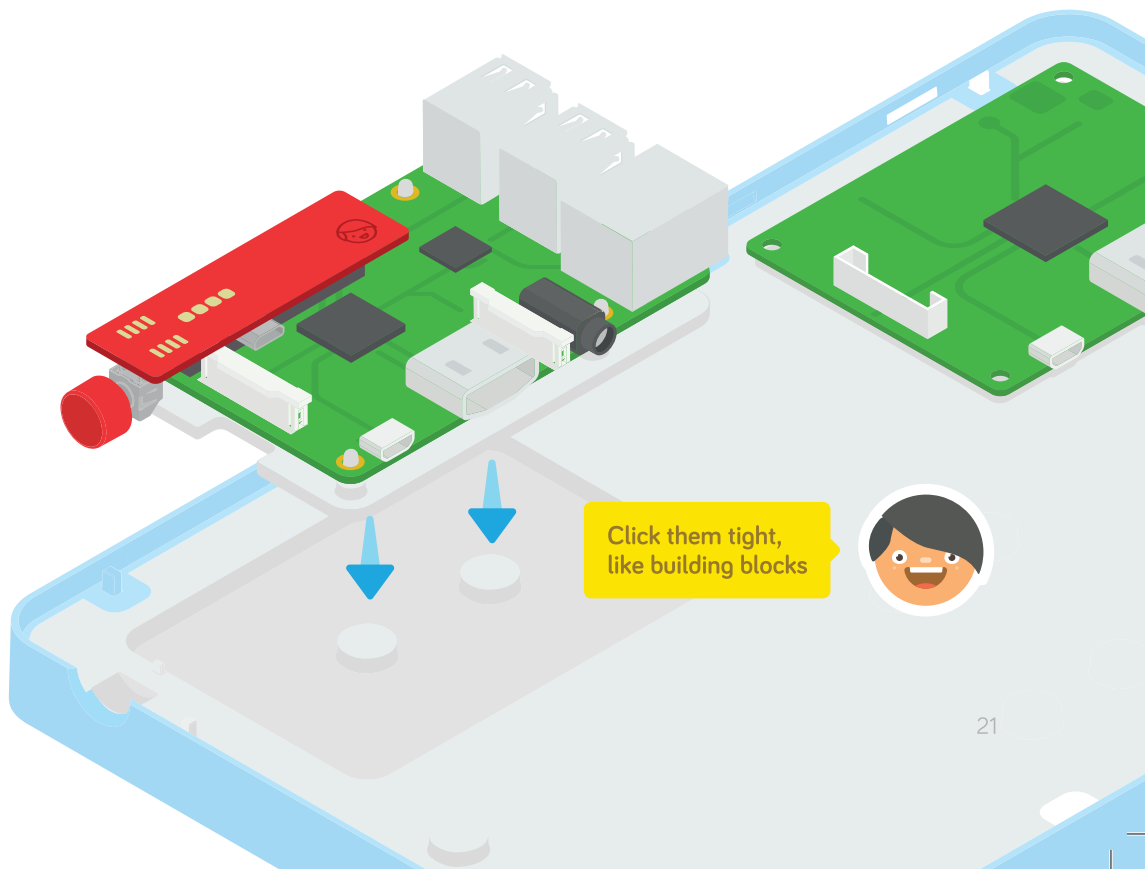


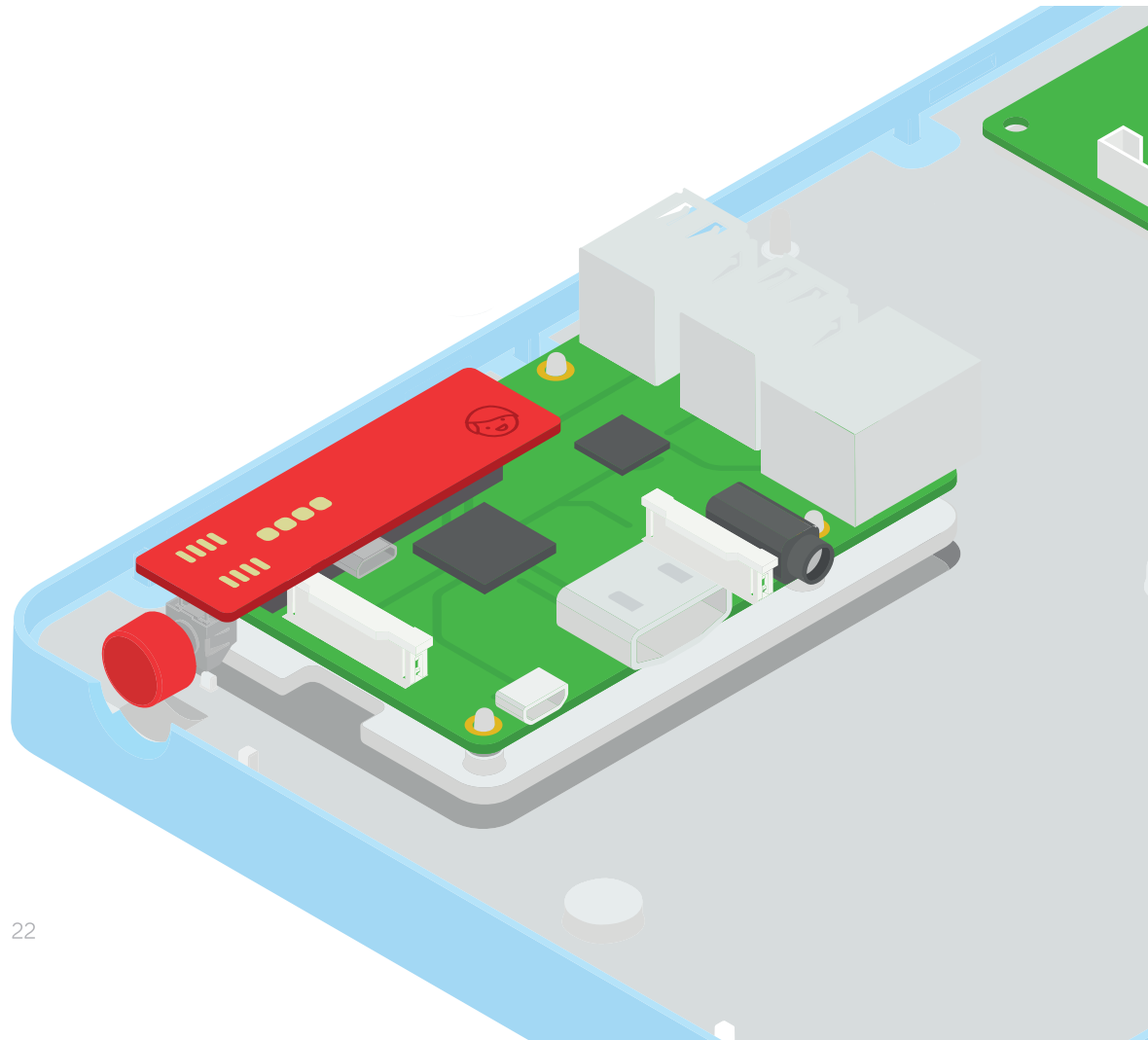
Pick up the screen



Flip it over

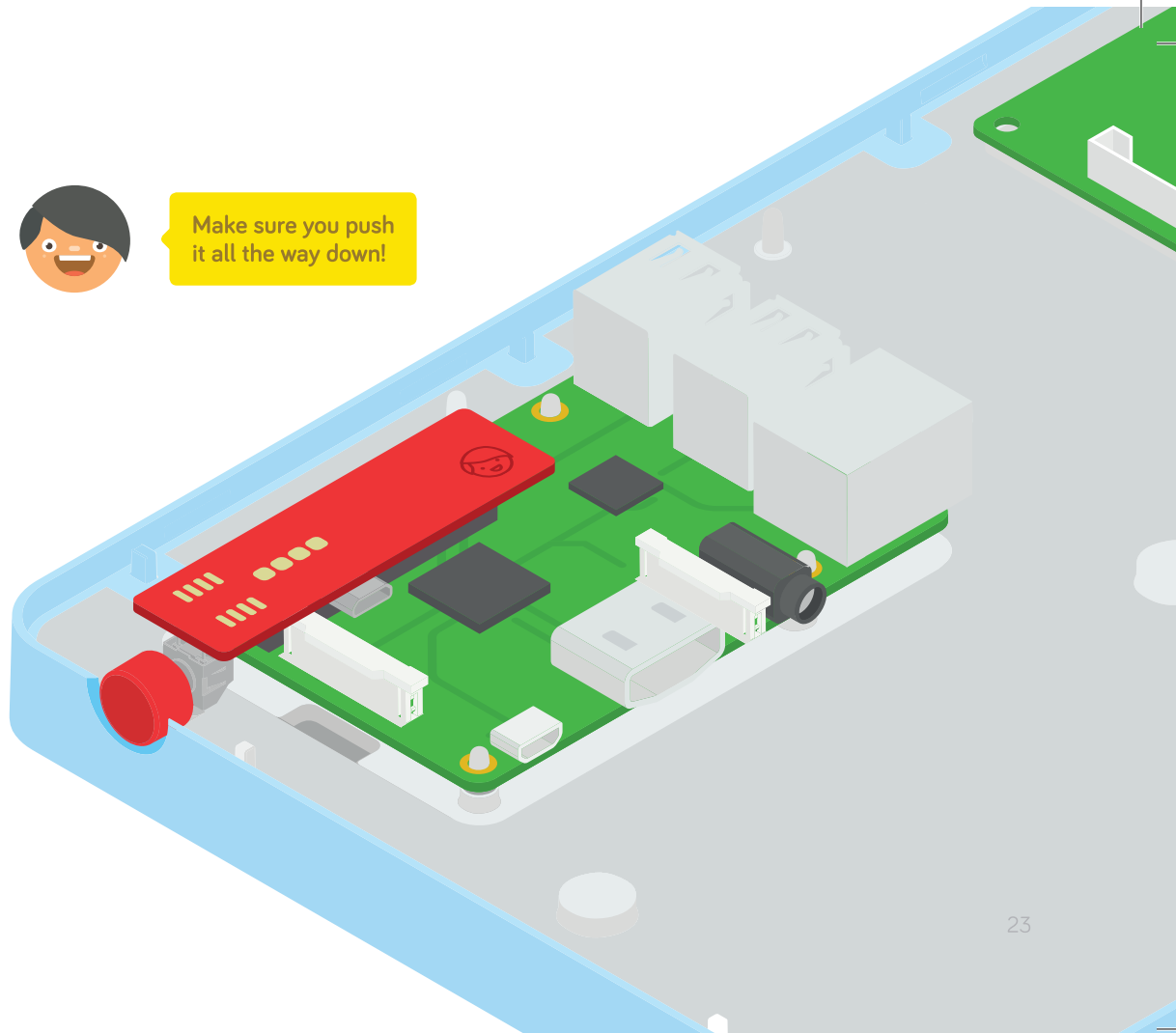
Now plug the brain onto the screen



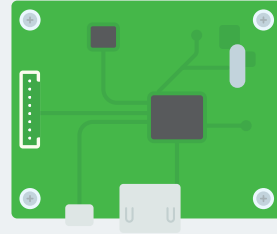
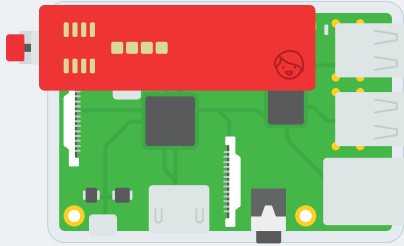




Make sure you push
it all the way down!

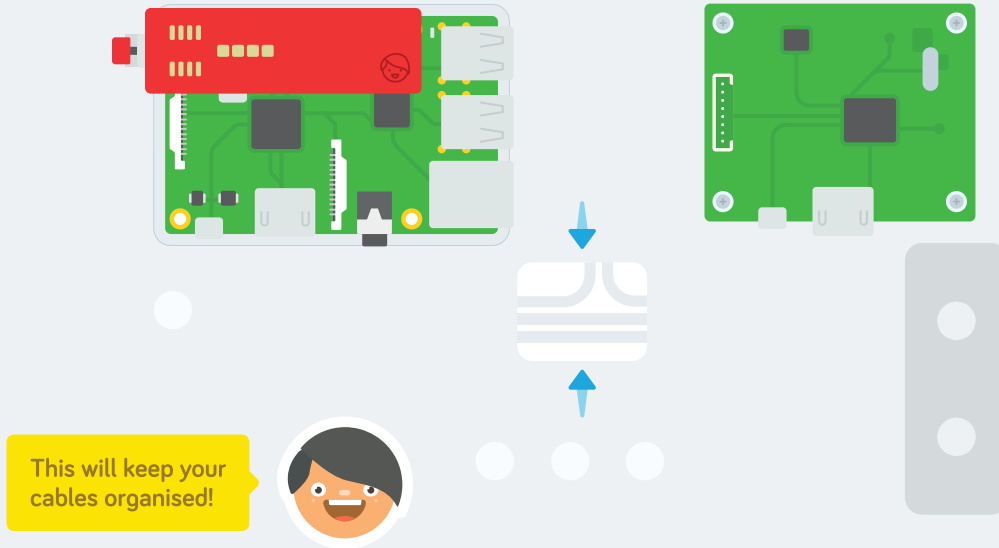


Great! Brain in place



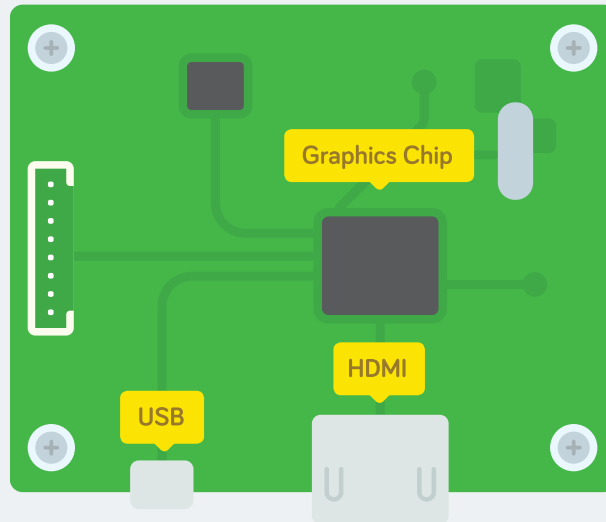
Let's prepare for cables!

Grab the cable block



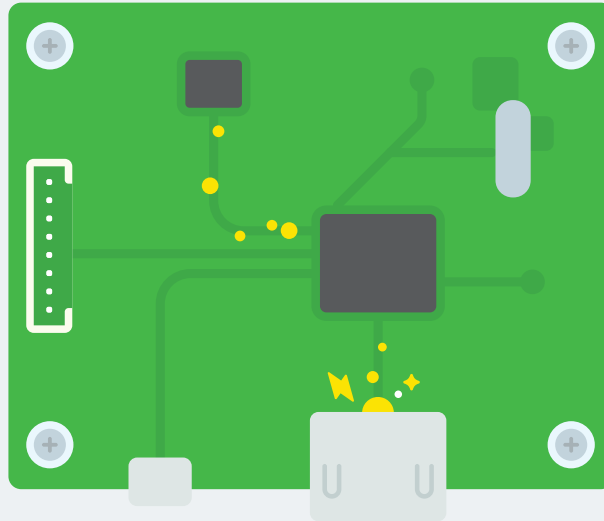
Snap it onto the screen

Can you see the driver board?



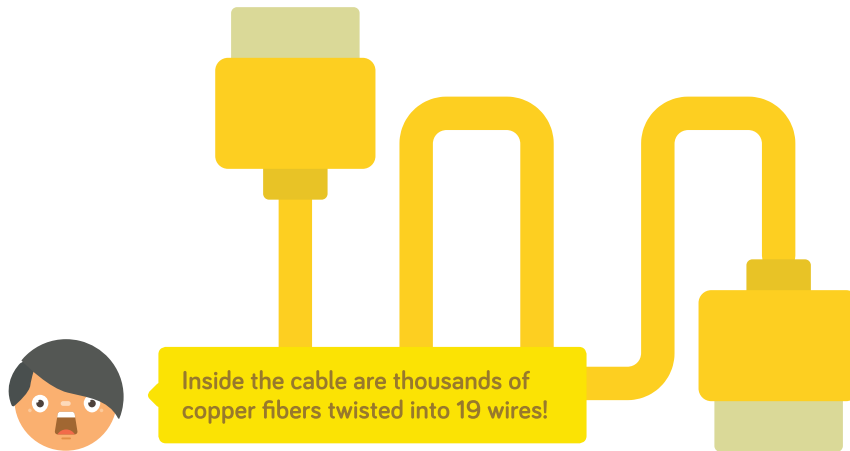
It's the screen's command center

The driver board gets millions of messages from your computer every second

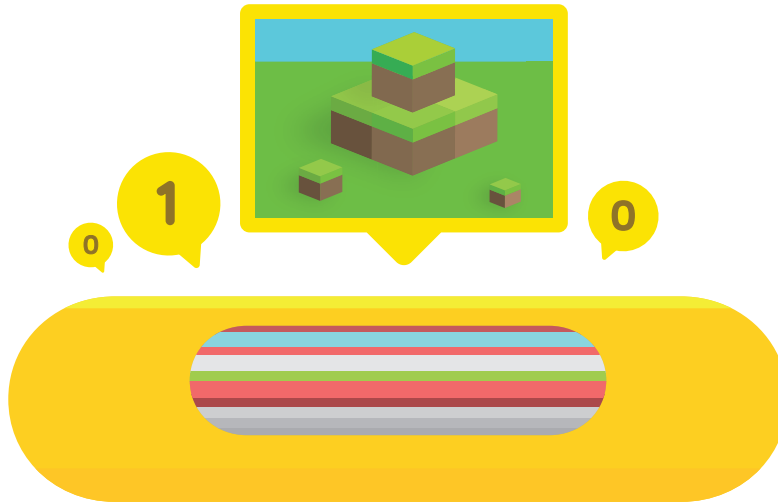


...and passes them to your screen

Grab the yellow HDMI cable

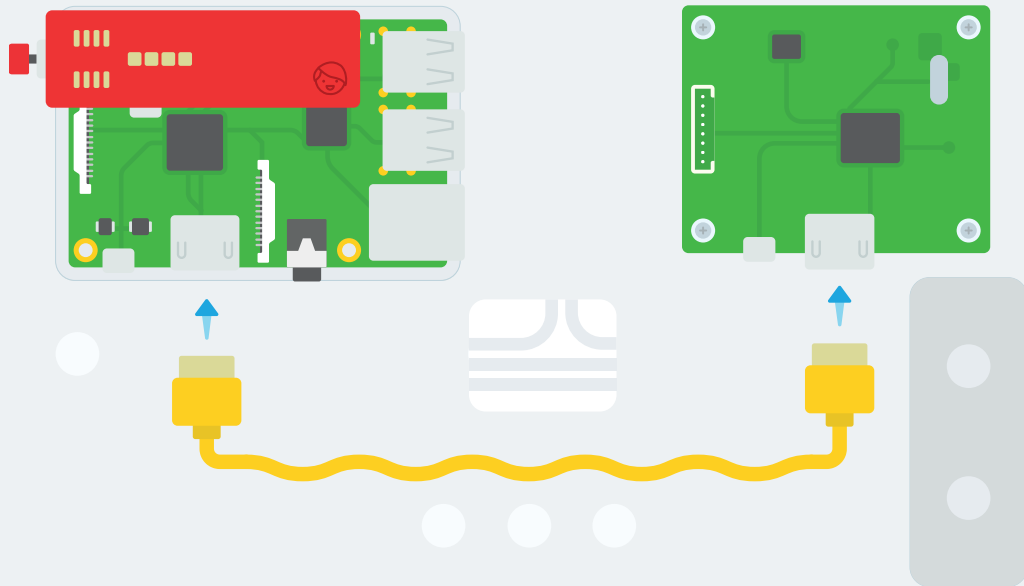


This cable will carry pictures from your computer to your screen



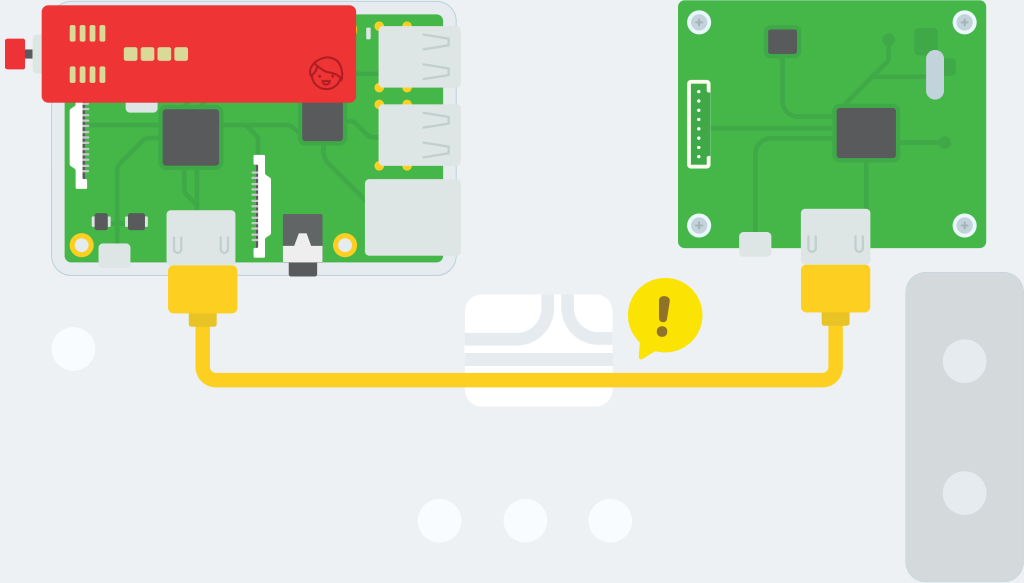
It sends images, videos, and more, as binary code

Plug the yellow cable into the brain...



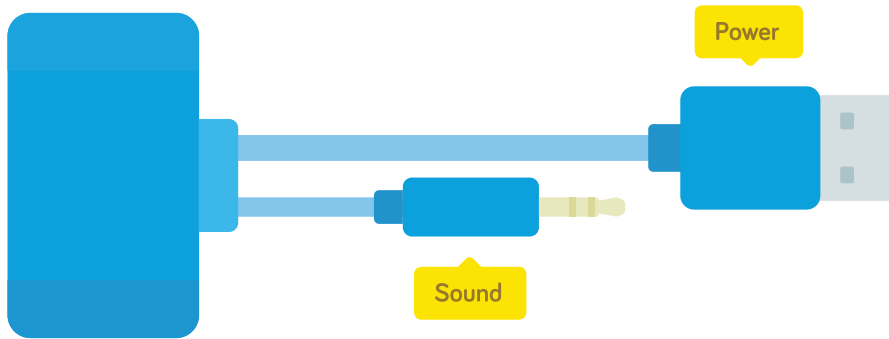
...then into the driver board

Once they're plugged in...



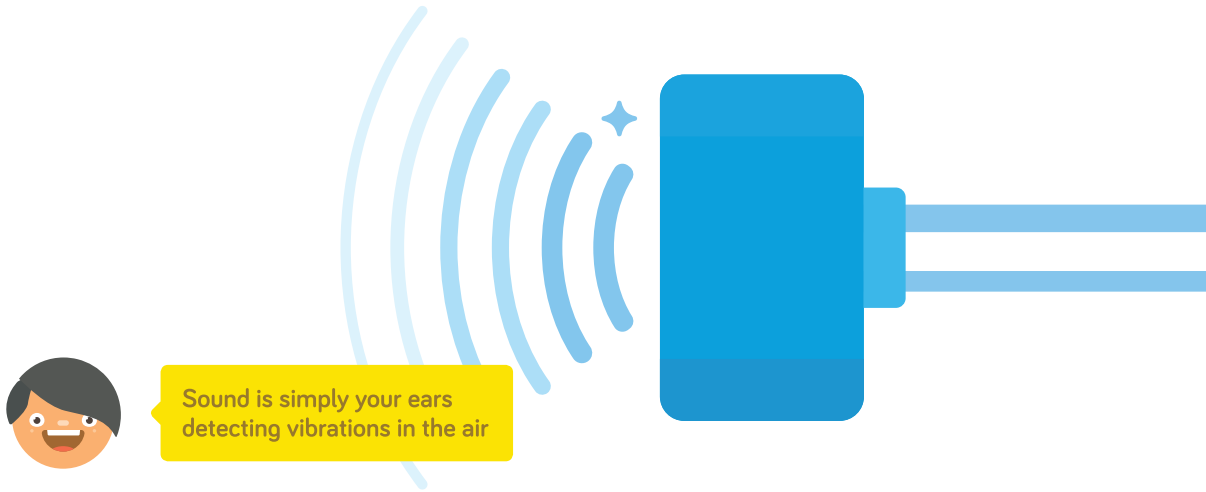
...push the cable into the channel

Time to give your computer a voice. Pick up the DIY Speaker



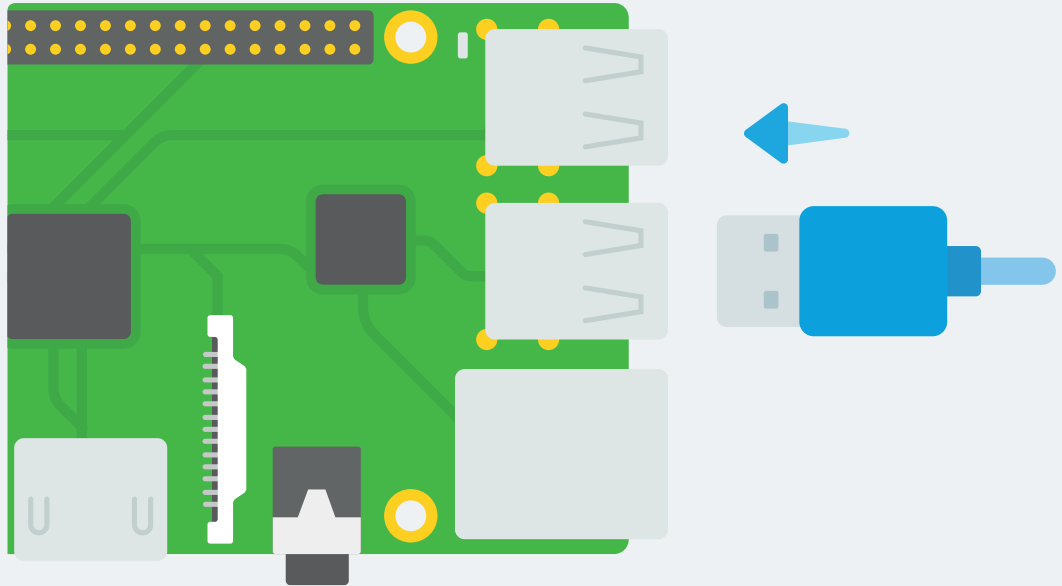
It has two cables. An audio jack for sound, and a USB cable for power

The audio cable sends signals

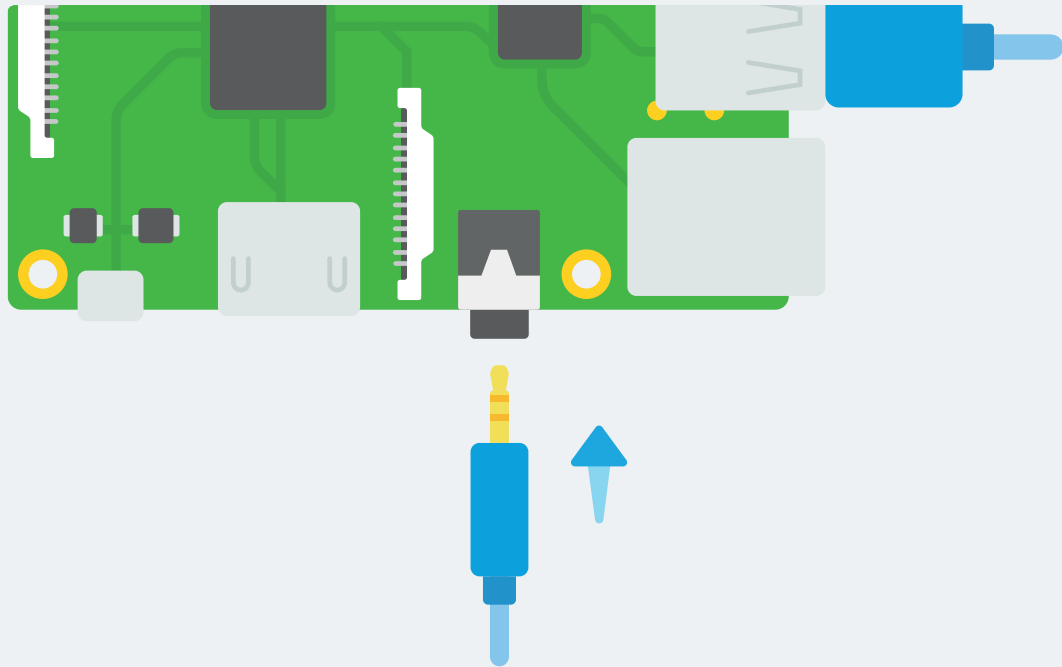


and they vibrate the magnet, membrane, and the air inside

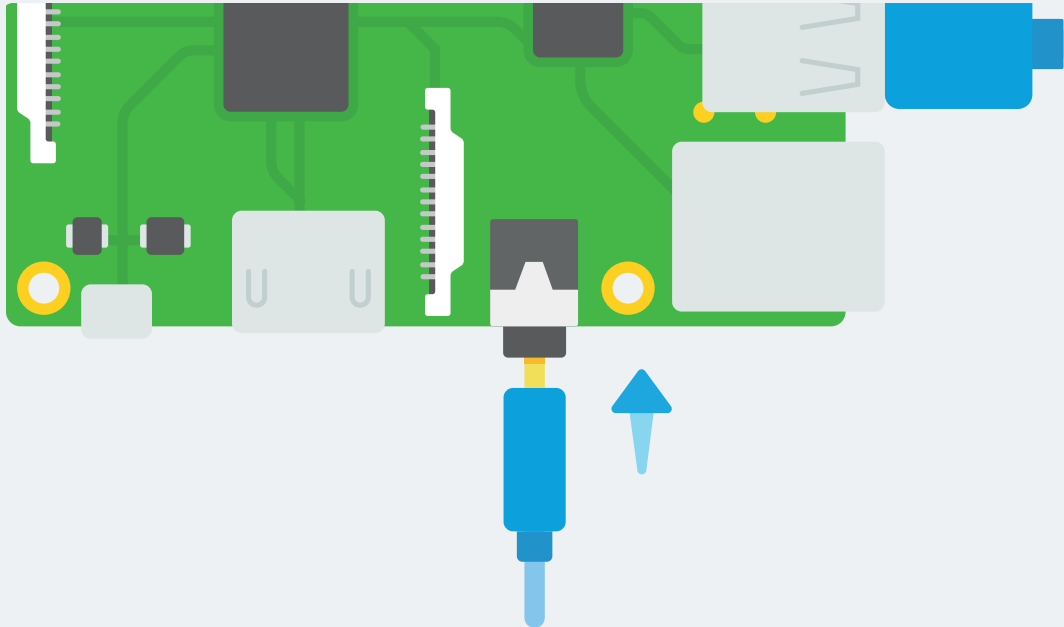
Plug the power cable into the brain's USB



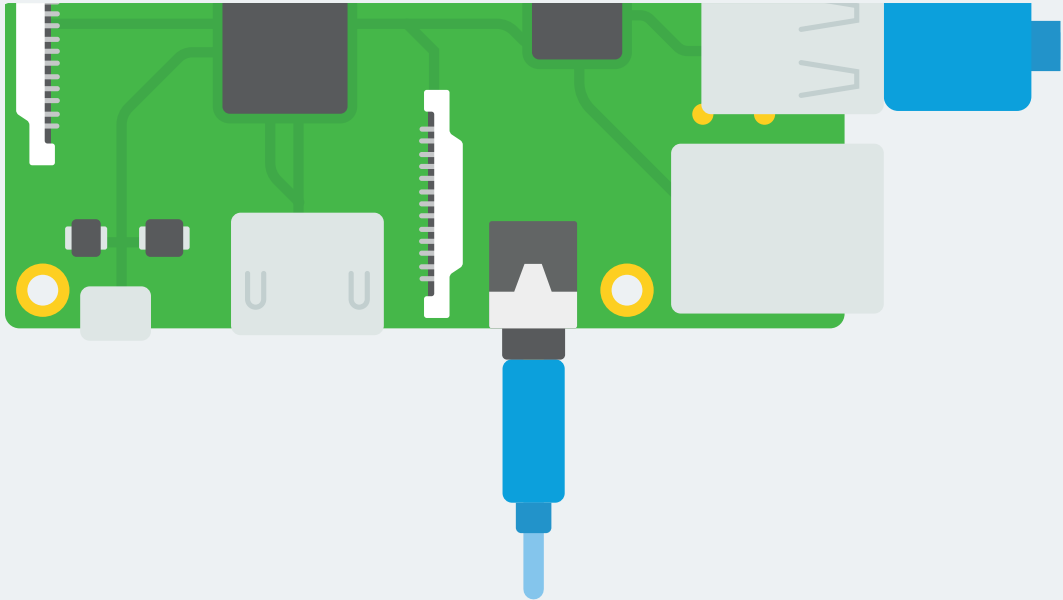
Now the audio jack

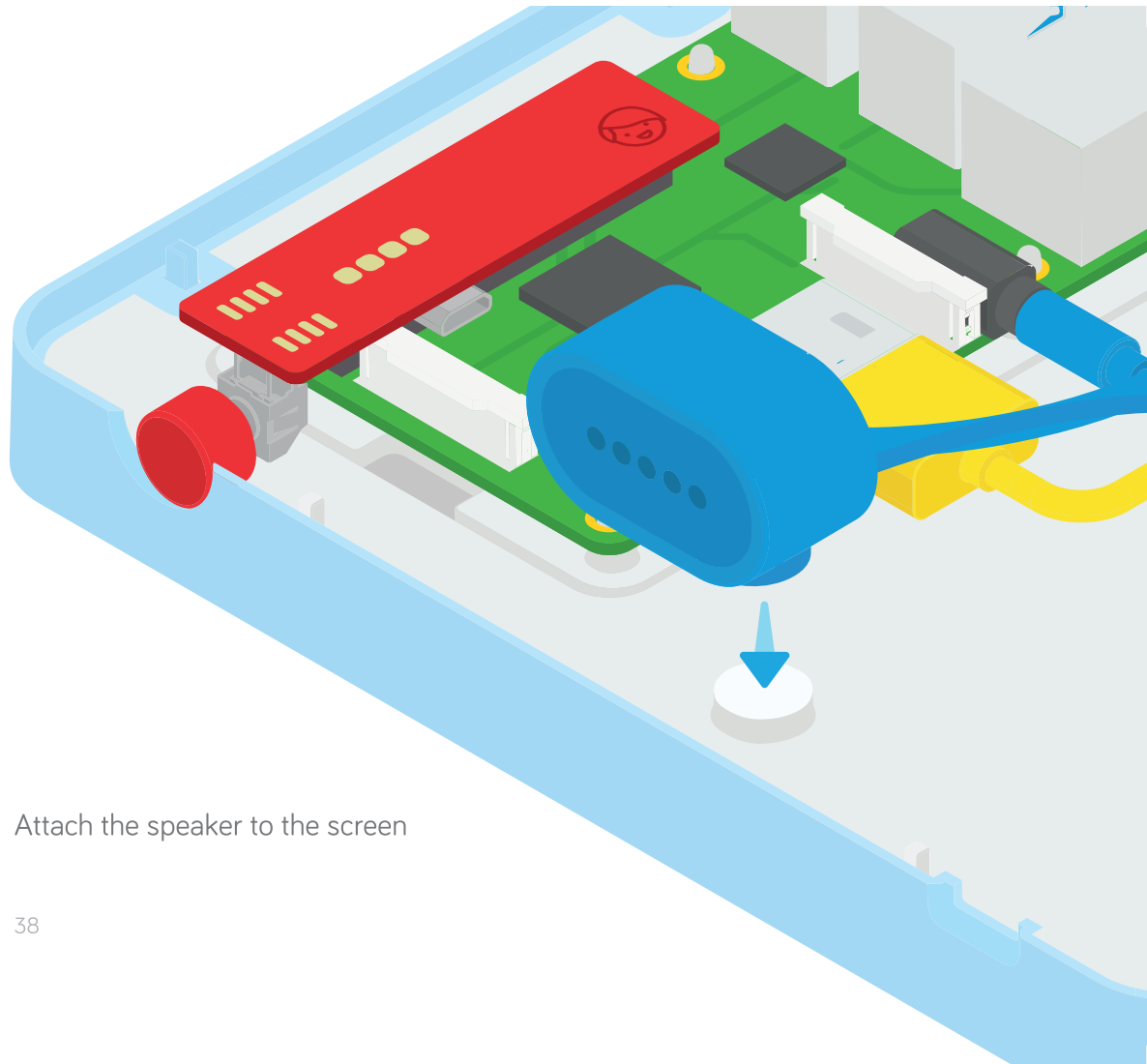


Make sure you plug the cable all the way in



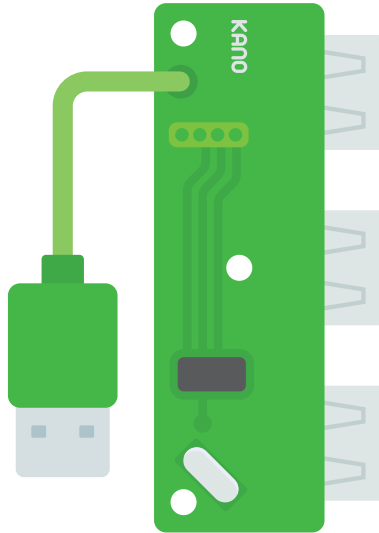
Great!





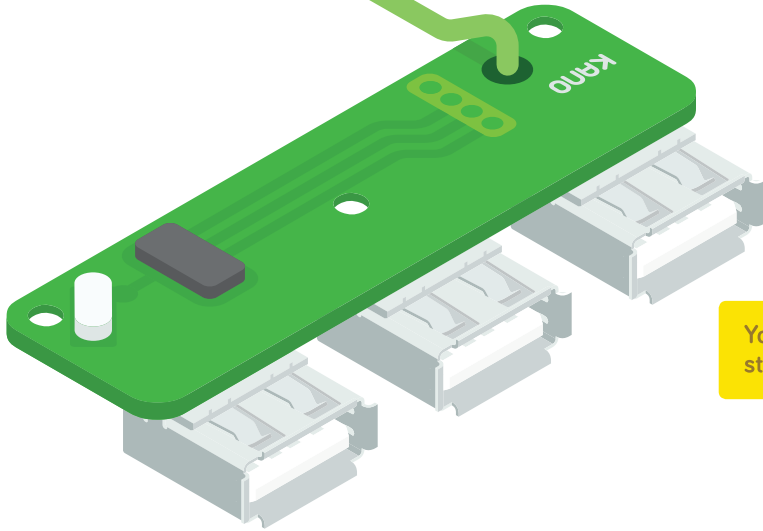
Attach the speaker to the screen

Now, let's give your computer new powers



Grab the USB hub

It has three USB ports

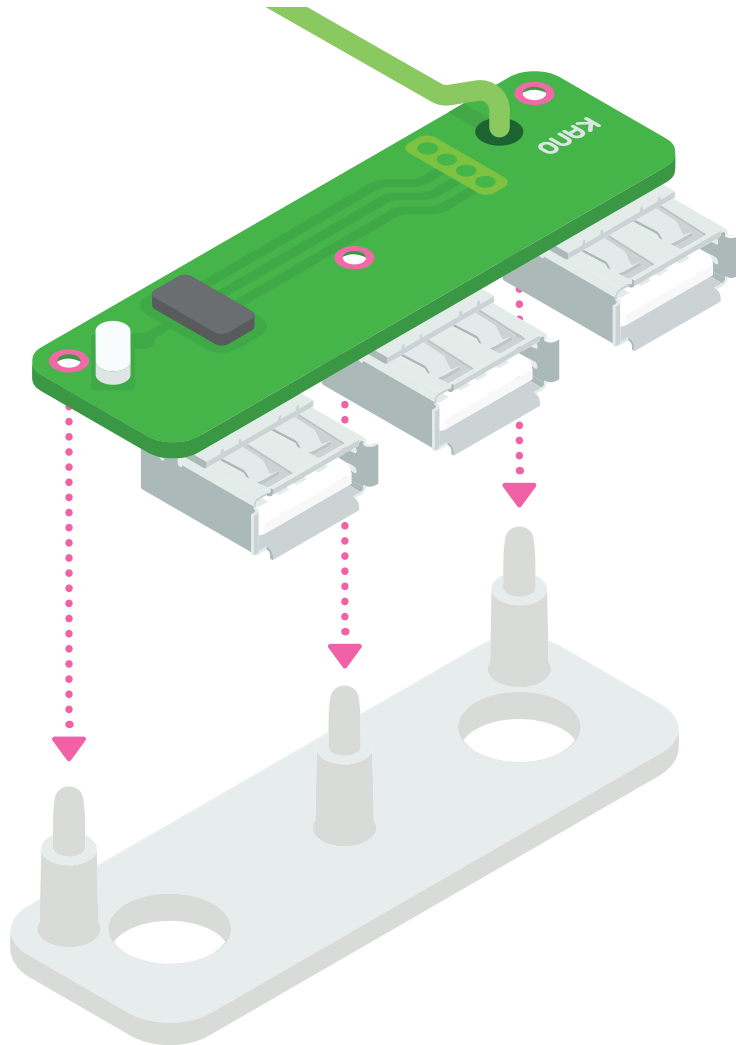


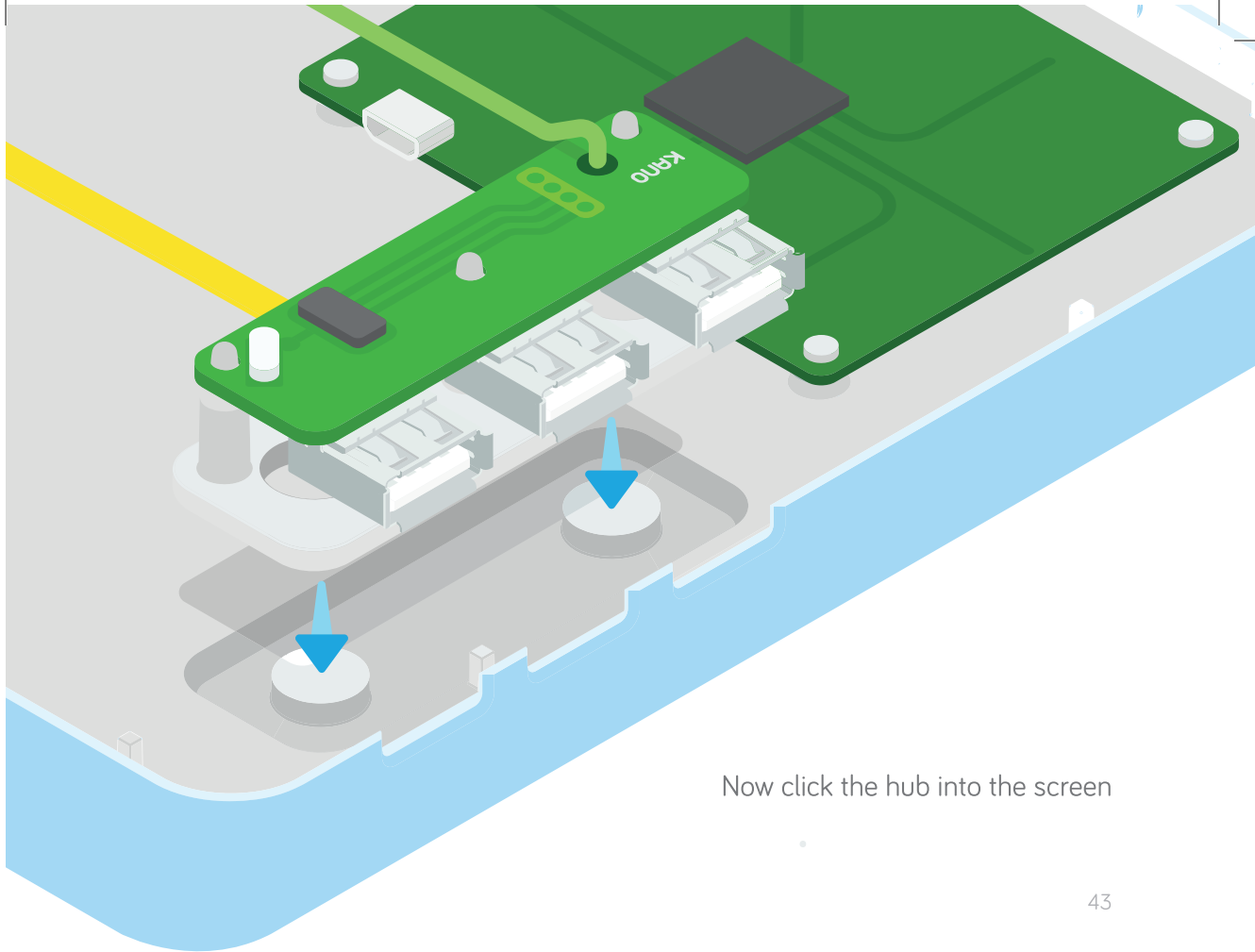
You can plug in memory sticks and Kano sensors



Use them to connect other technology to your computer

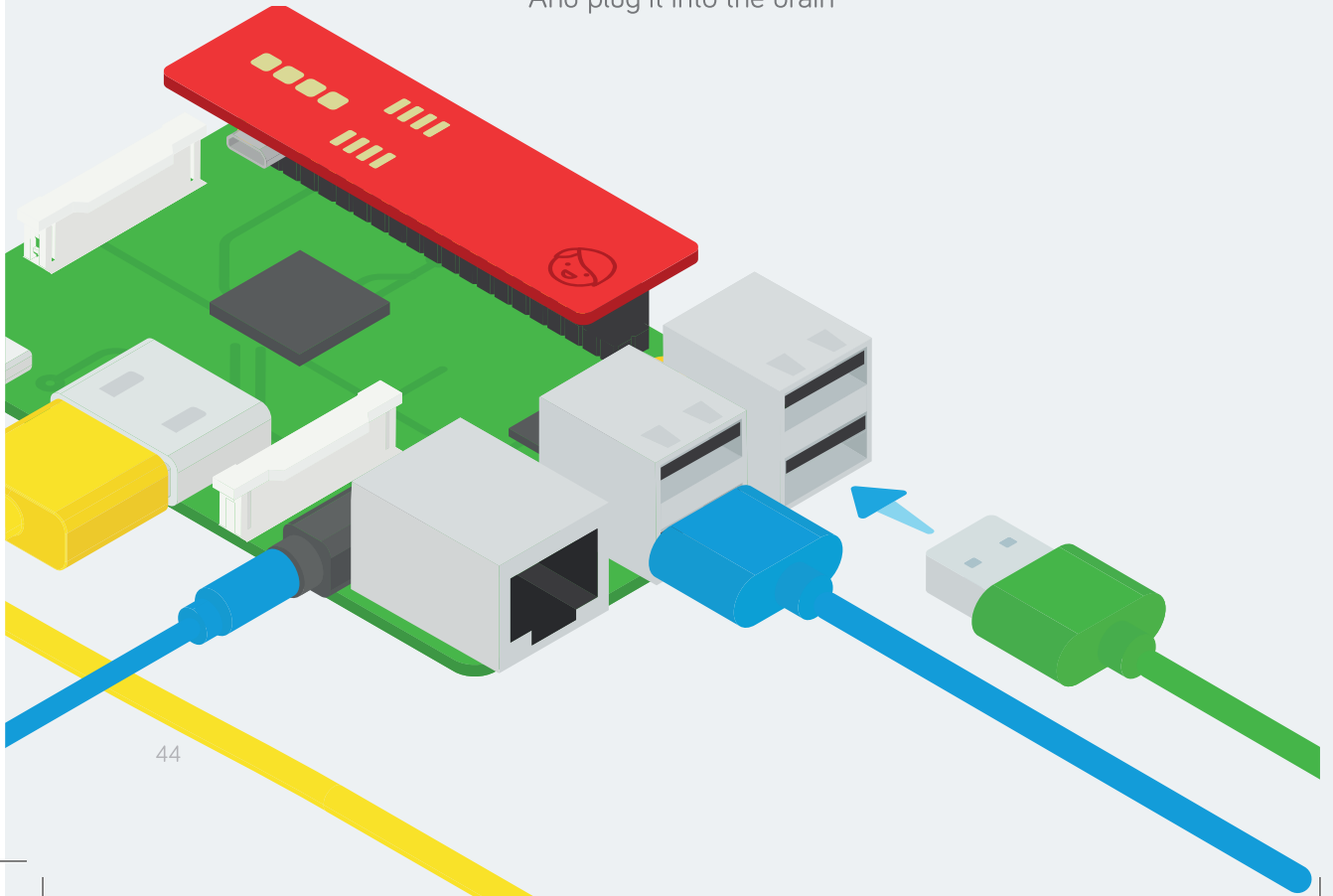
Push the hub onto the block, using the holes



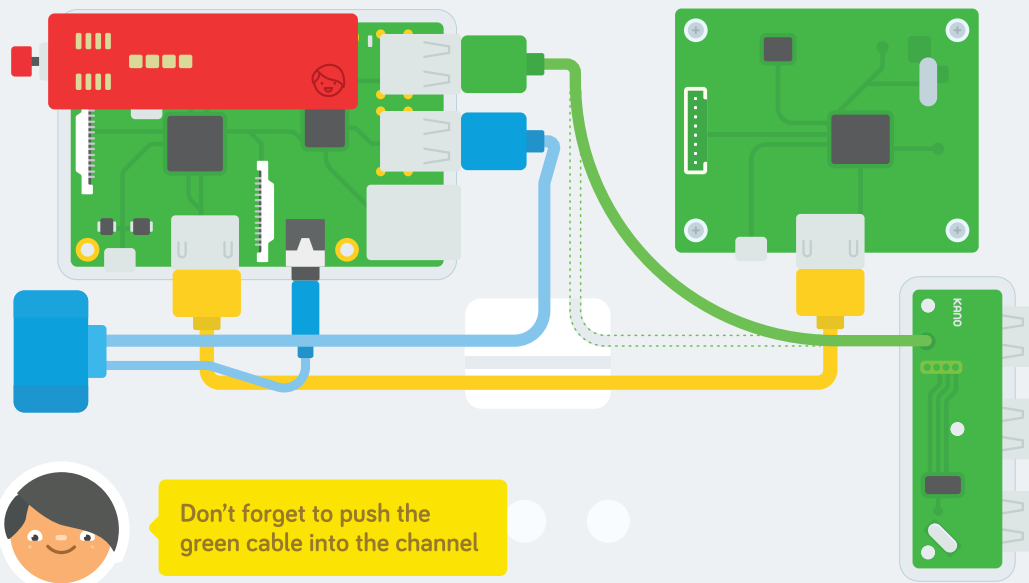


Now click the hub into the screen

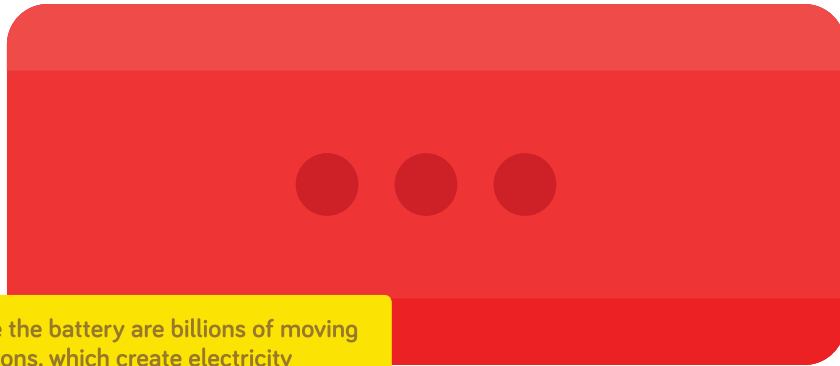
And plug it into the brain



Great job, you're almost done. But there's something missing...

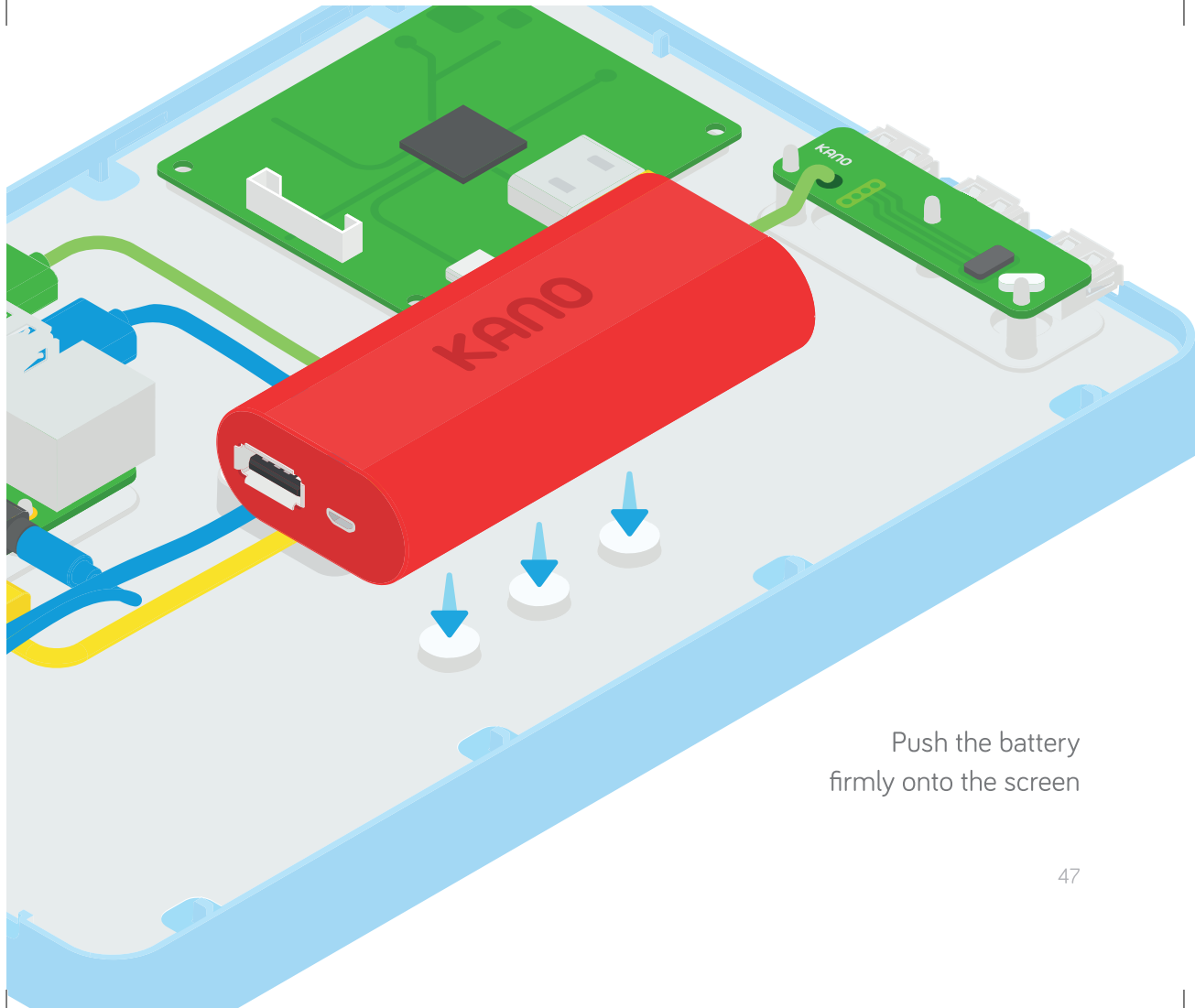


Lets add some electricity! Grab the battery



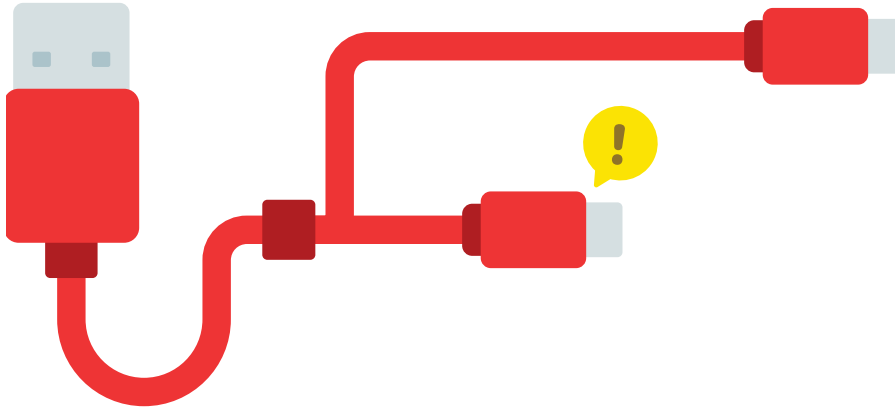
Inside the battery are billions of moving electrons, which create electricity



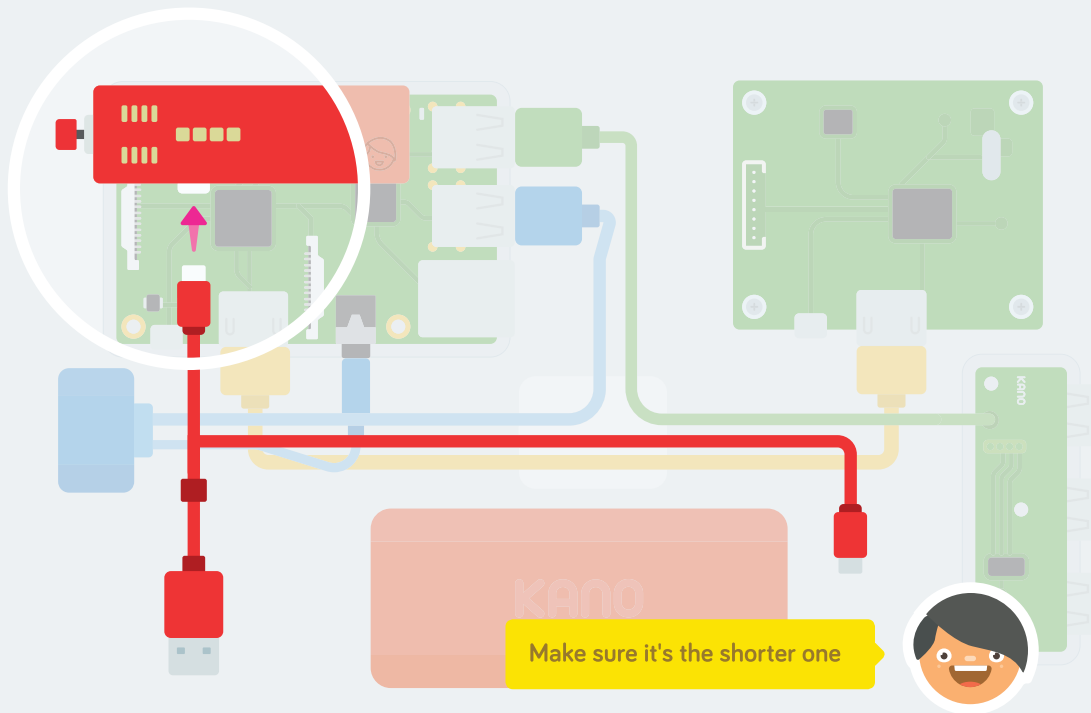


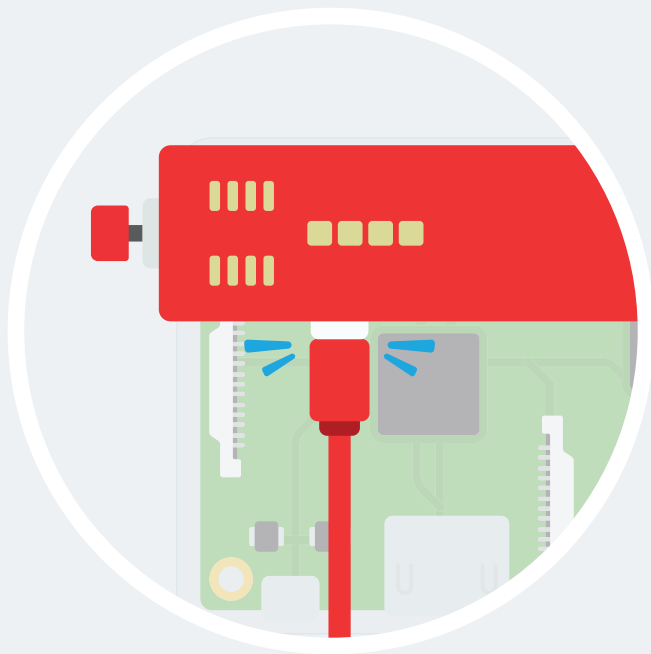
Push the battery
firmly onto the screen

Now grab the short end of the red cable

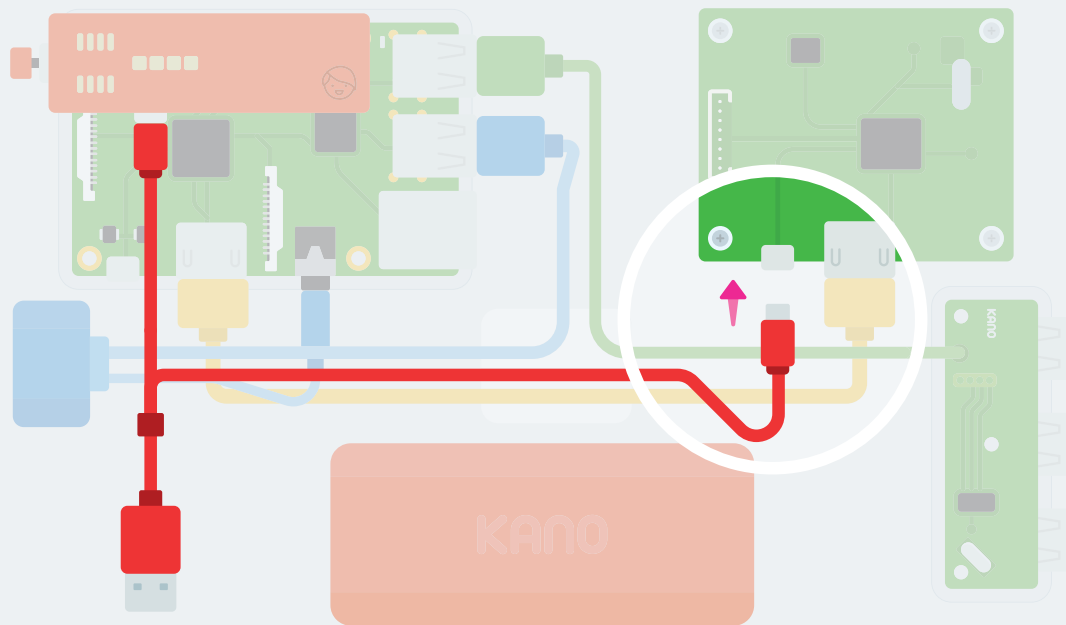


Plug it into the power board

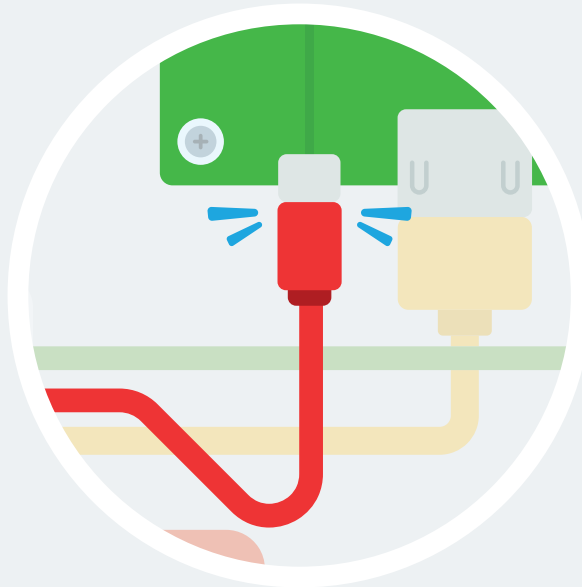


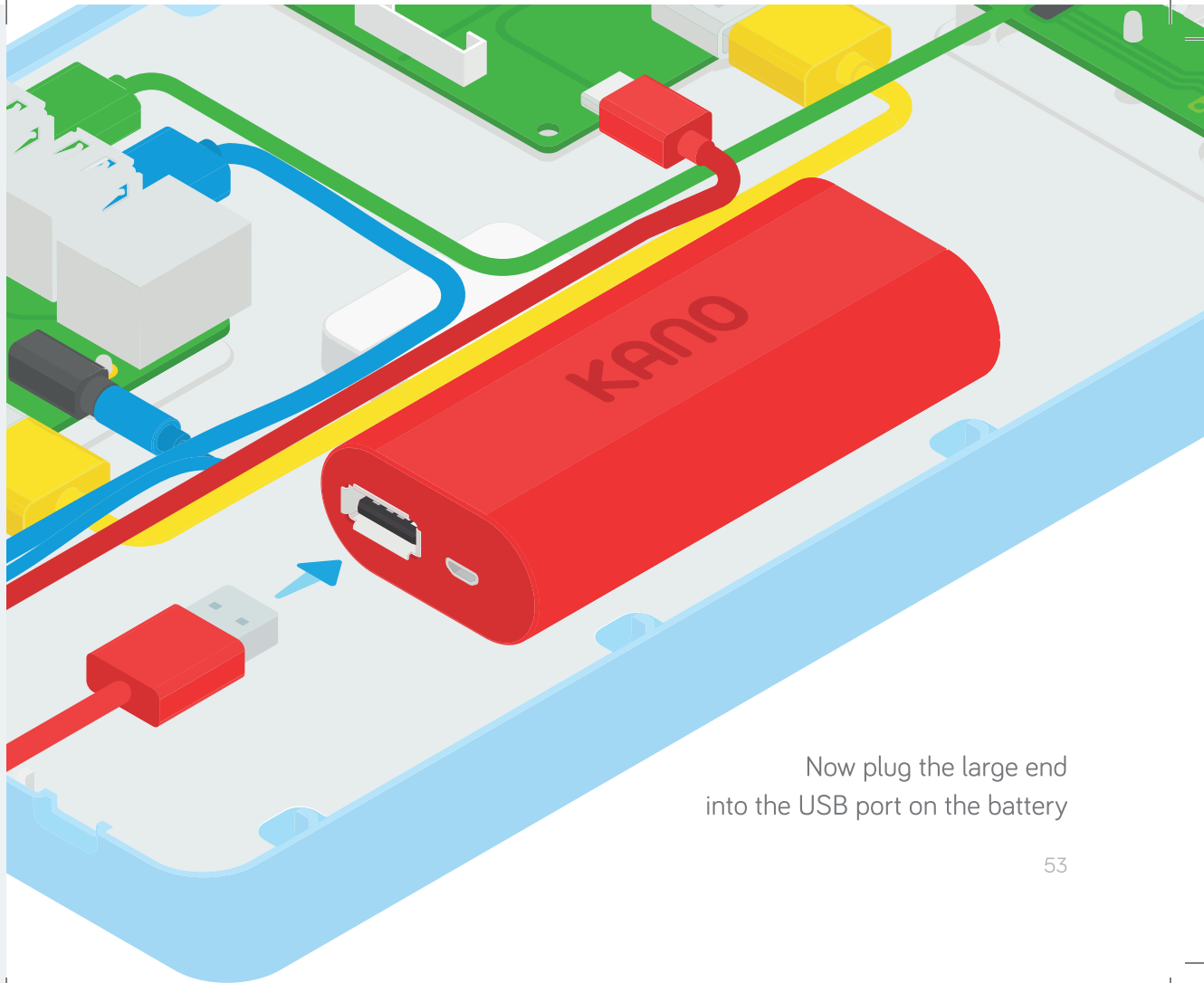


Take the longer end...



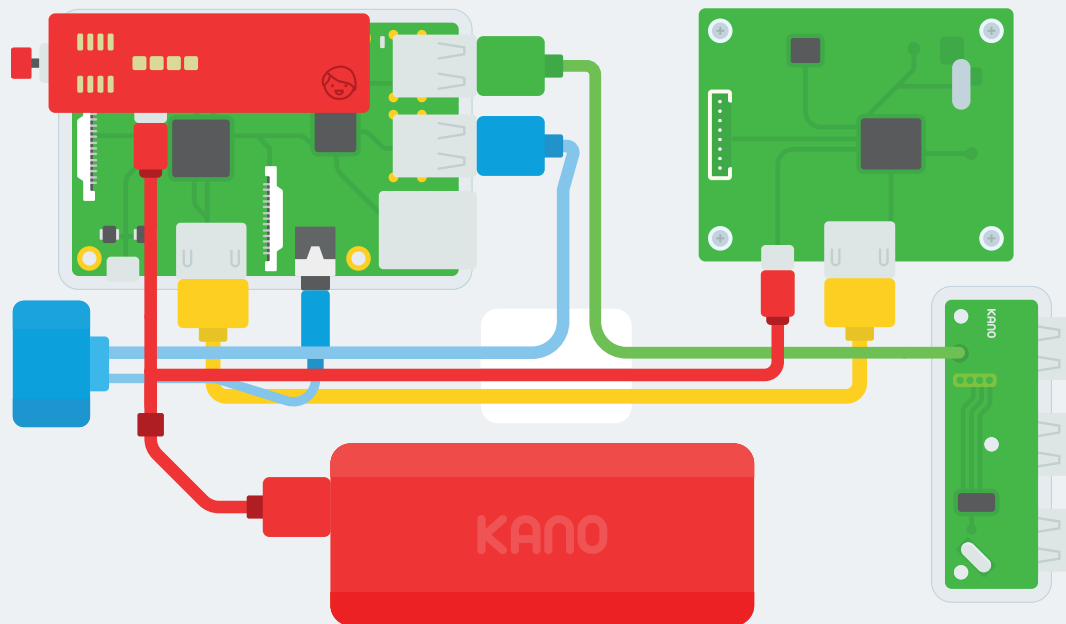
...and plug it into the screen's driver board



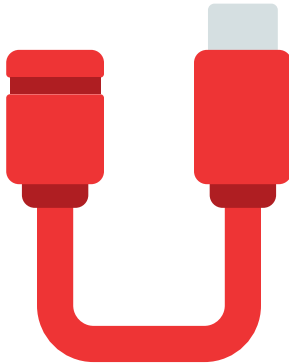


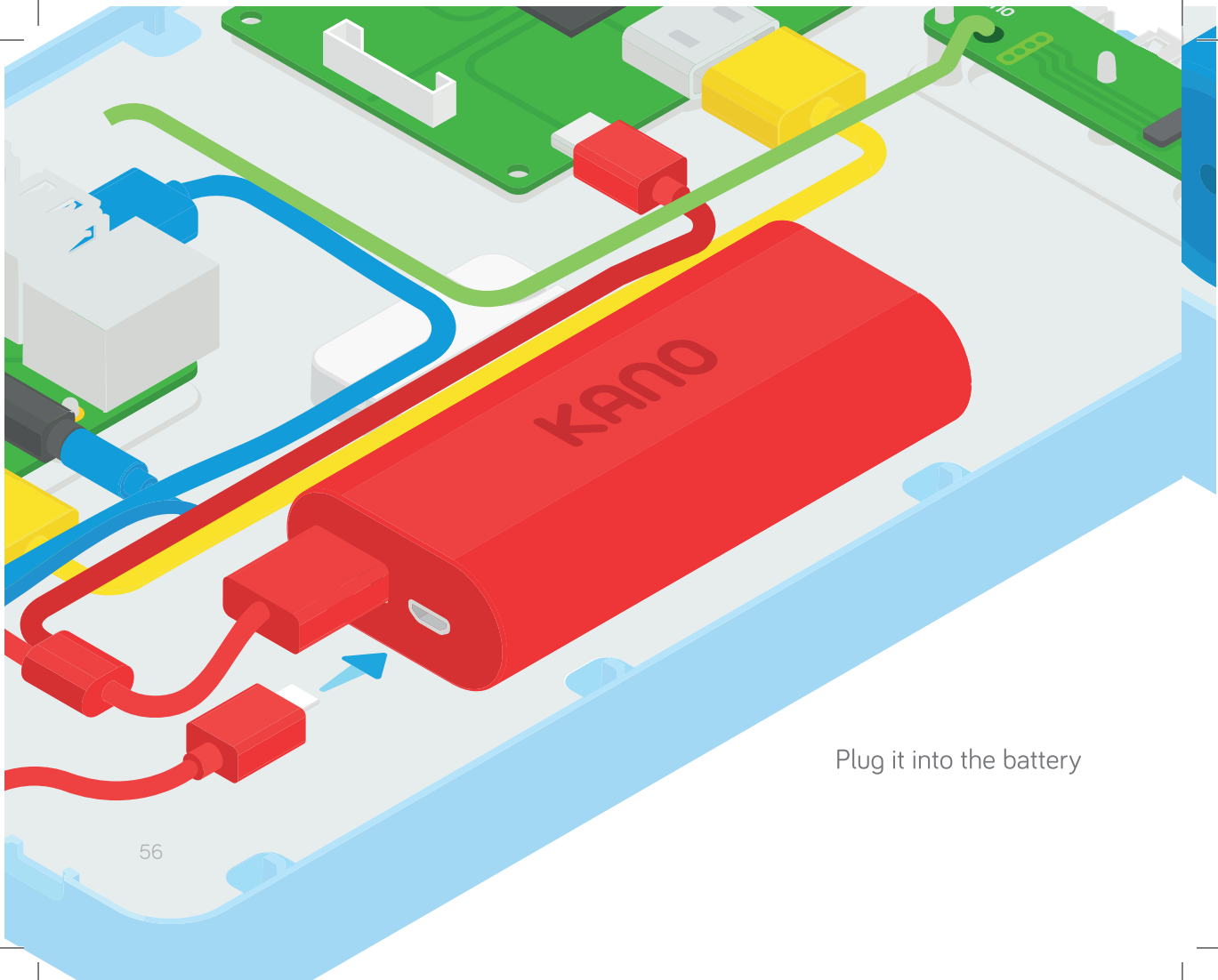
Now plug the large end
into the USB port on the battery

Remember to push the power cable into the channel to keep it tidy

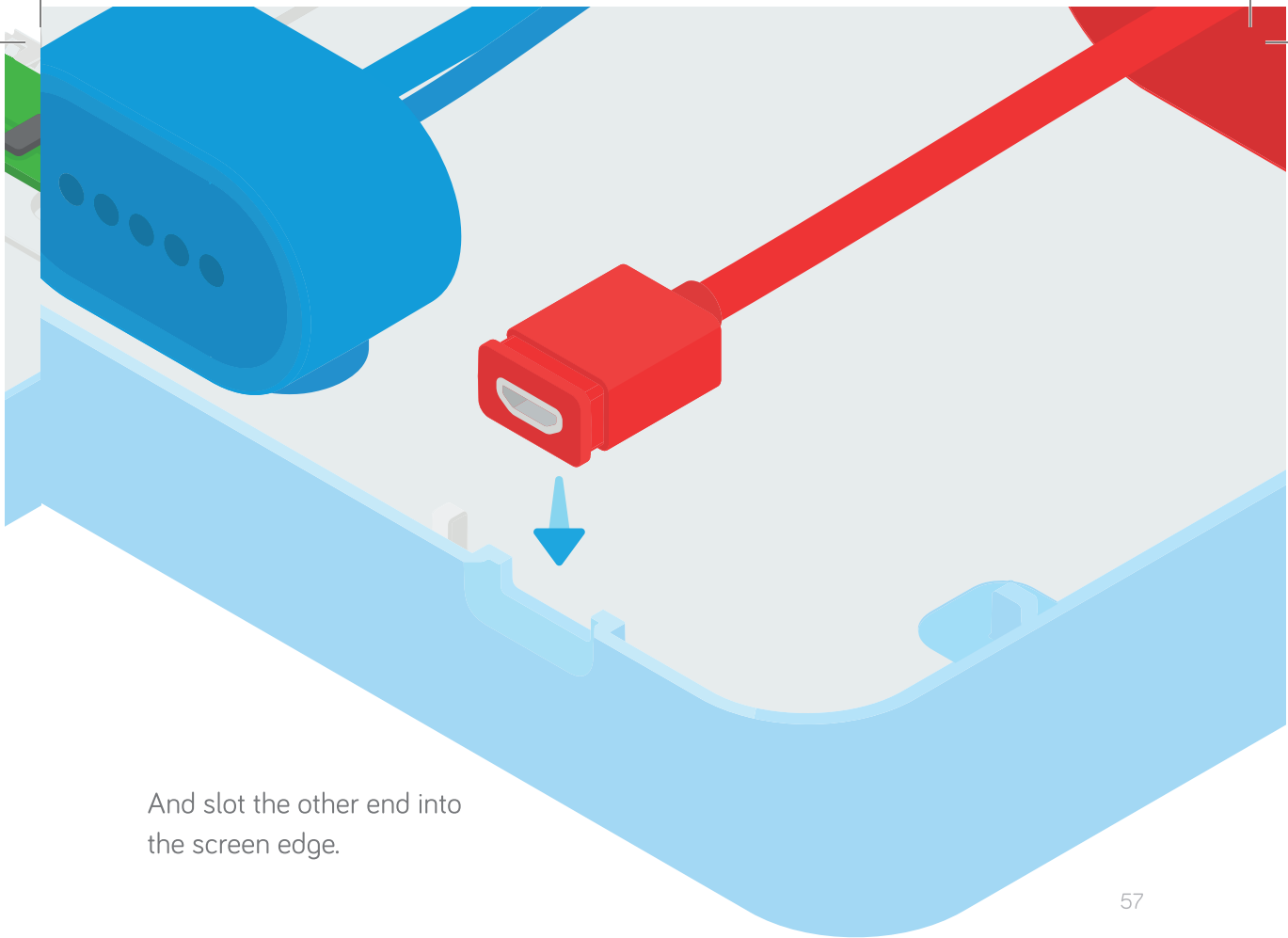


Now grab the small red power cable



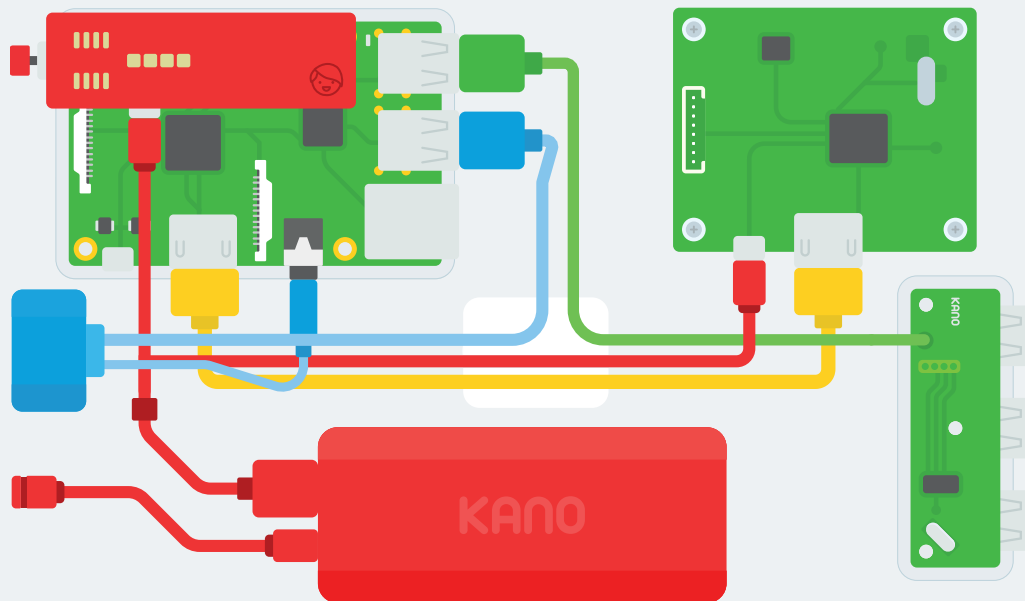


Plug it into the battery

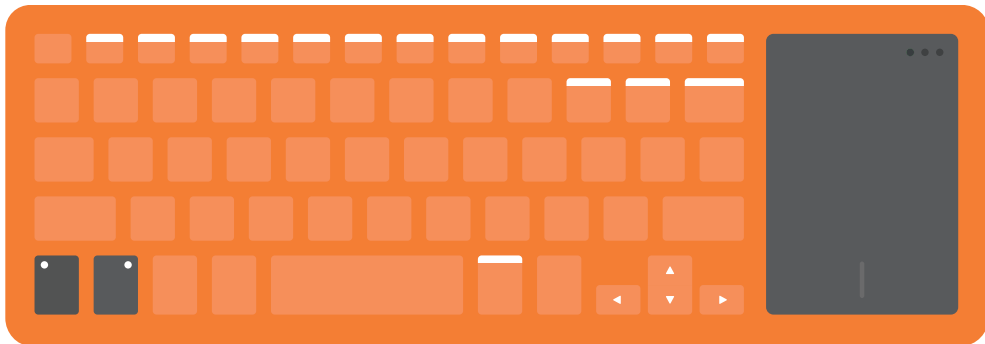


And slot the other end into
the screen edge.

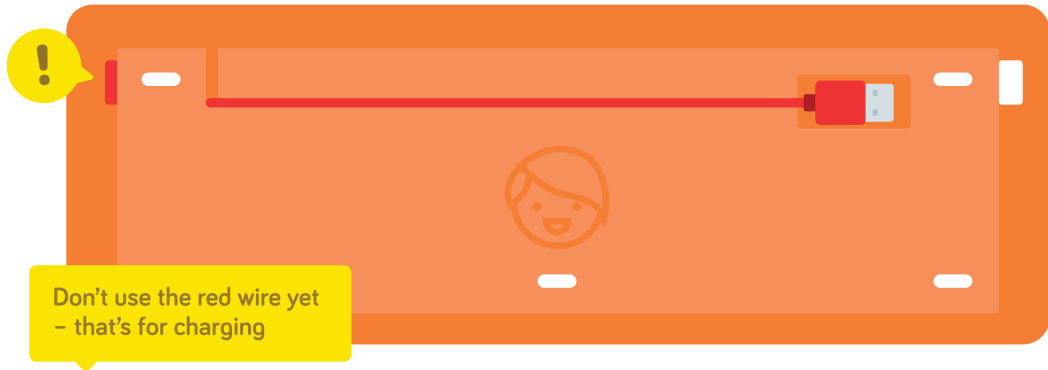
Amazing! Your computer is ready to make sound, images, and connections



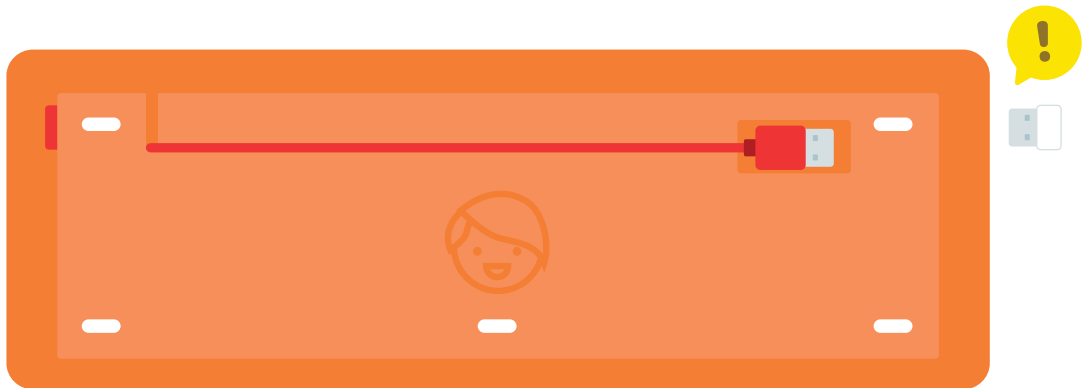
Now you need a way to talk to it. Grab your keyboard!



Pick it up, flip it over, and push the power button

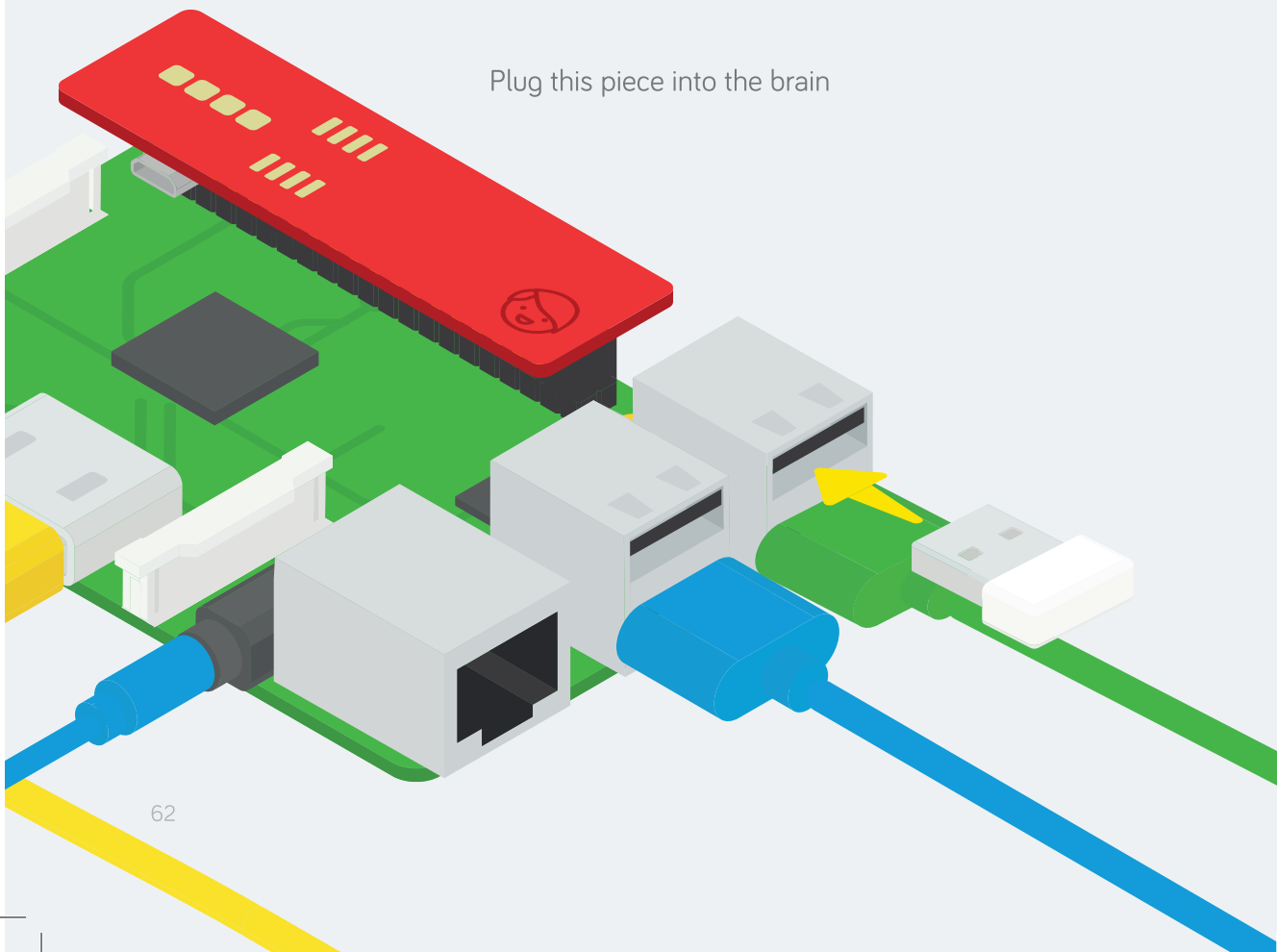


Take out the white piece

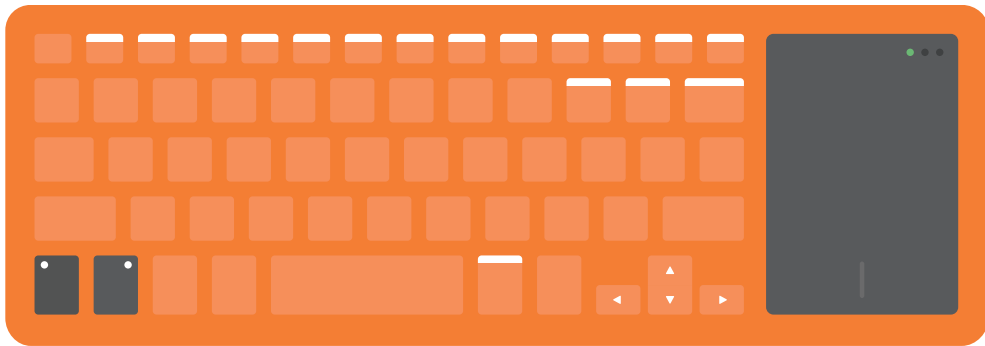


This is a radio antenna!

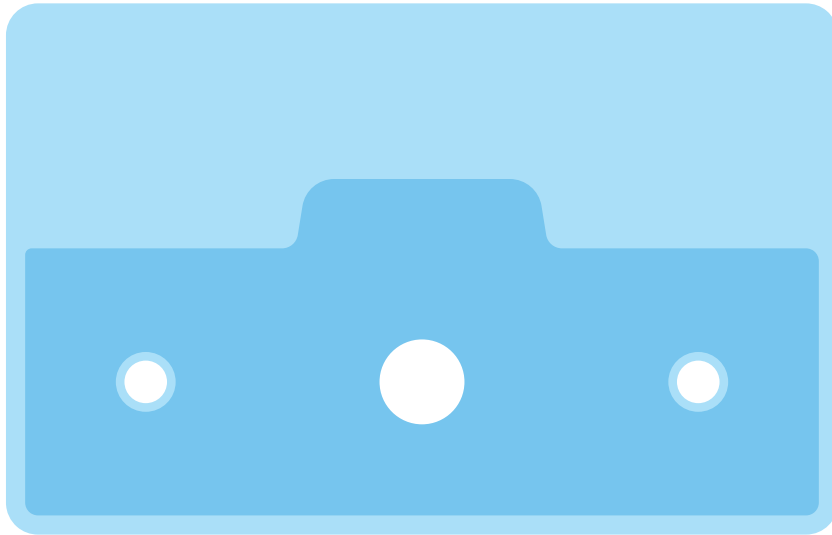
Plug this piece into the brain



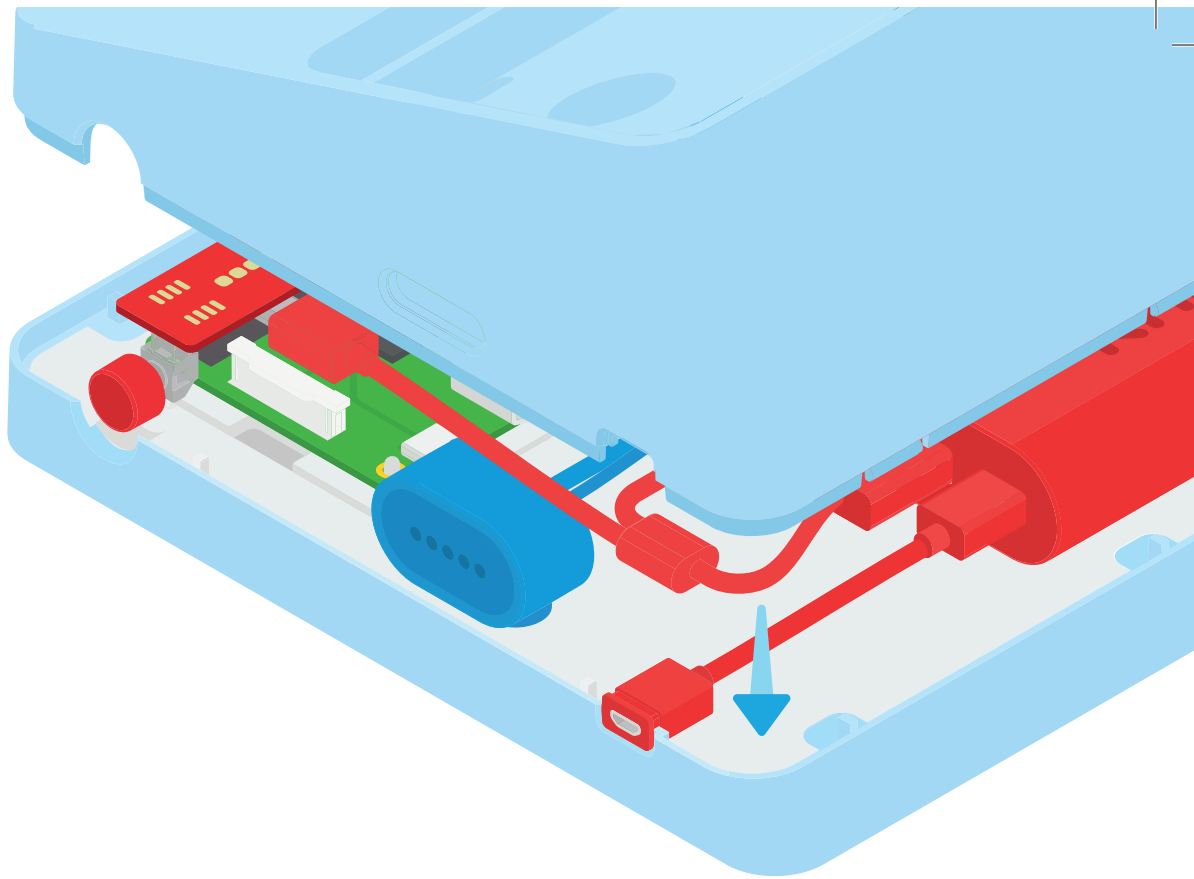
The keyboard and computer are now connected



To keep your computer strong and safe, let's add the case

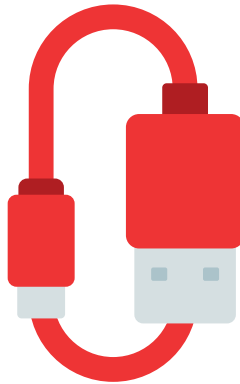


Grab the screen case...

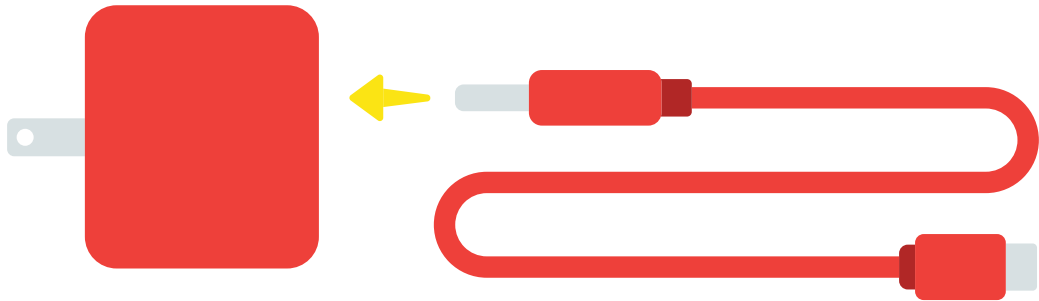


...and push it onto the screen

Now grab the long red charging cable



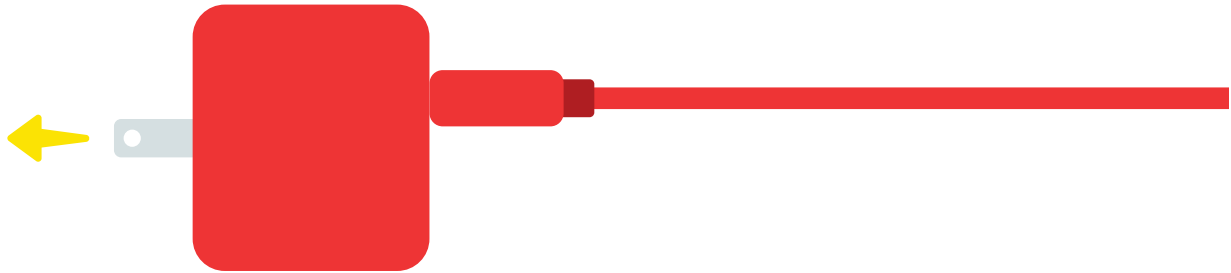
Plug the big end into the PSU



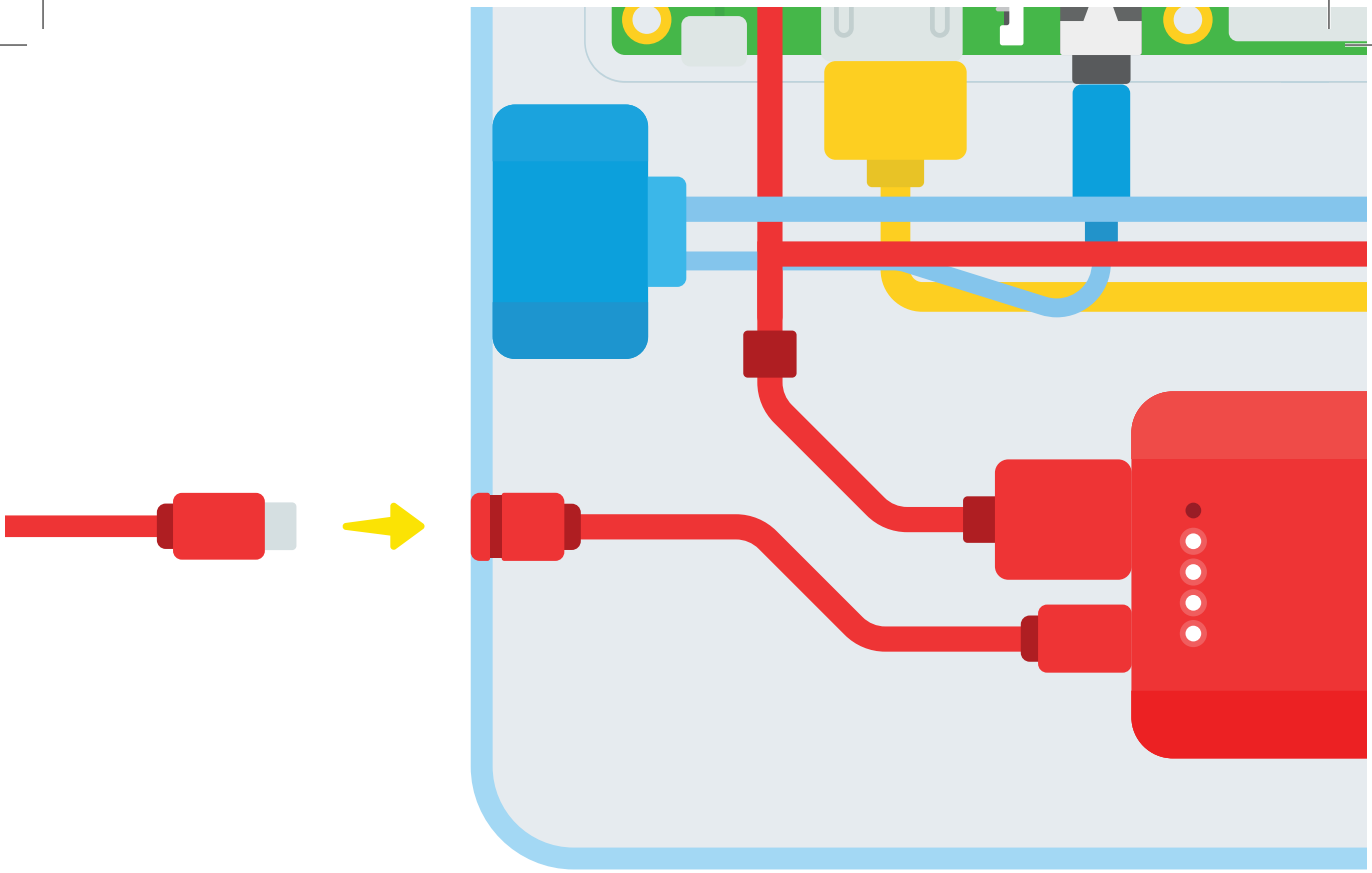
That means **Power Supply Unit**



Then plug the PSU into the wall...



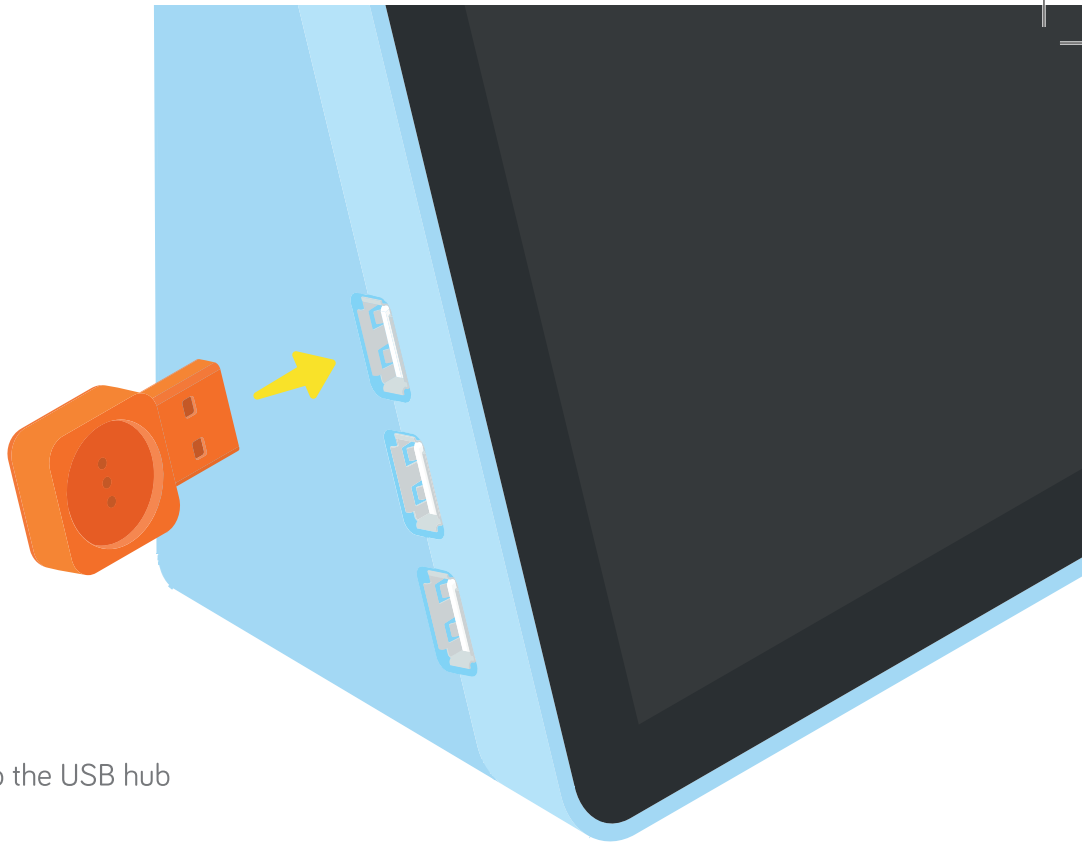
...and the other end into your computer



Now, one final touch: the Sound Sensor



It lets your computer listen to the world around you



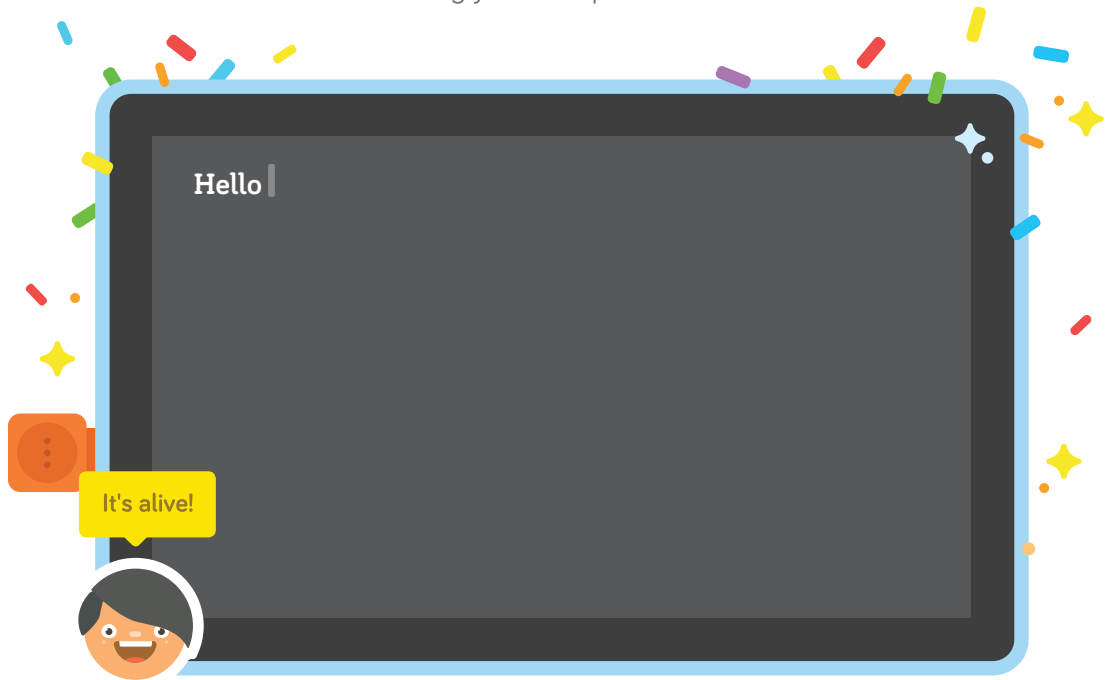
Plug it into the USB hub

Now you're ready to make
sound-controlled apps, art and games

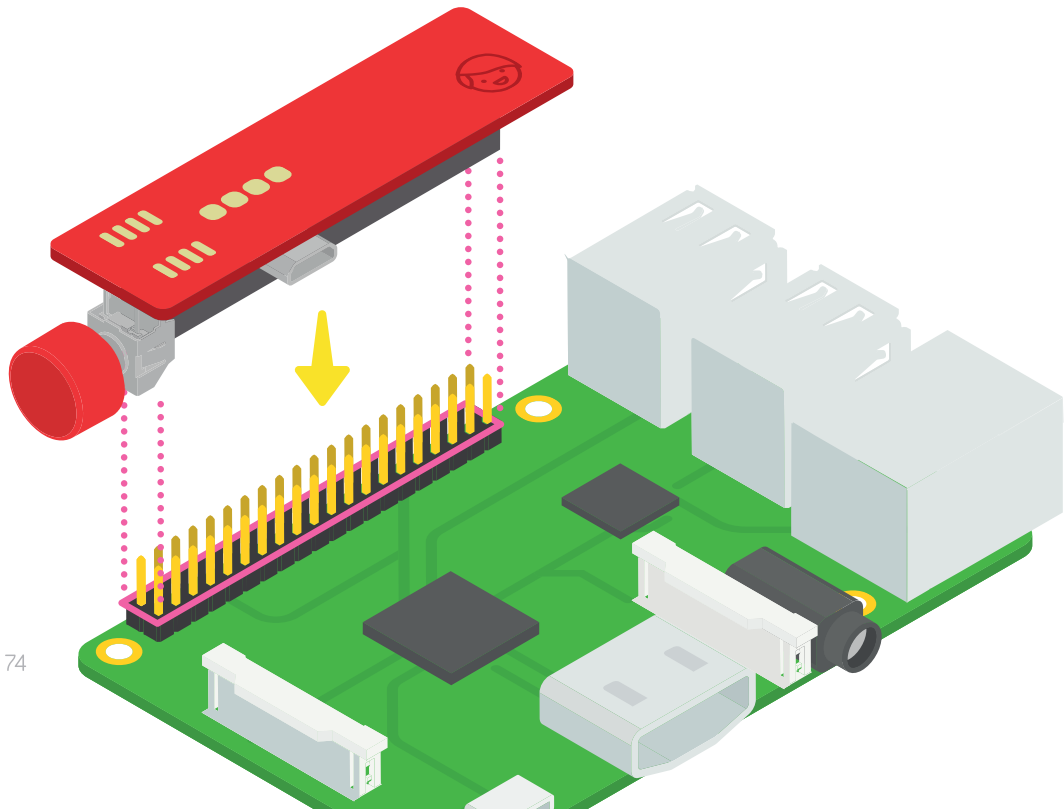
Hold the power button
for **3 seconds** to...



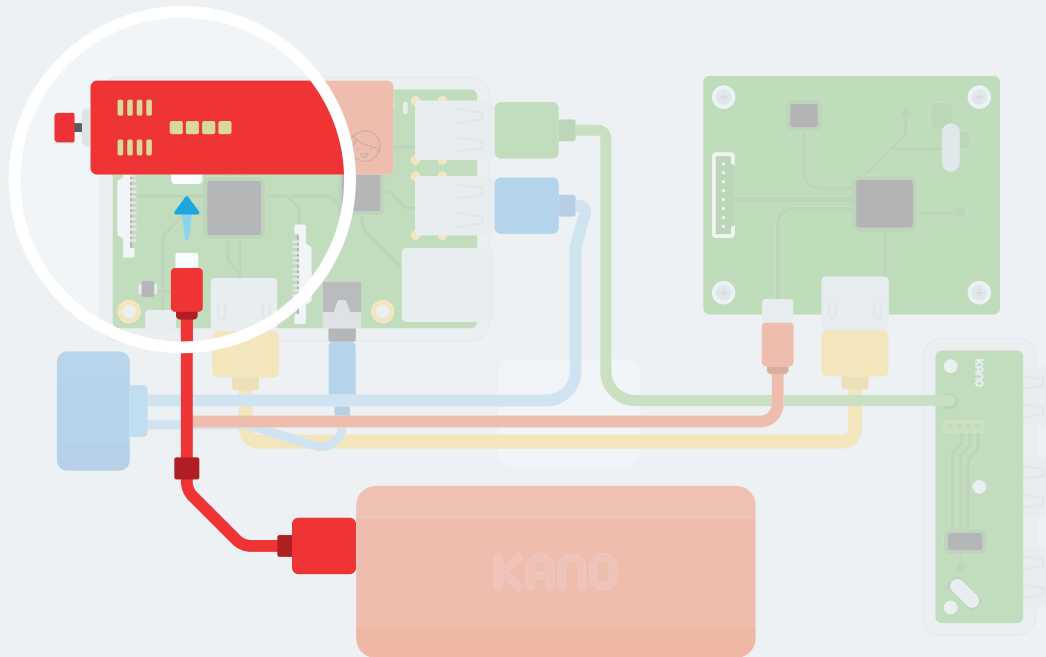
...bring your computer to life!

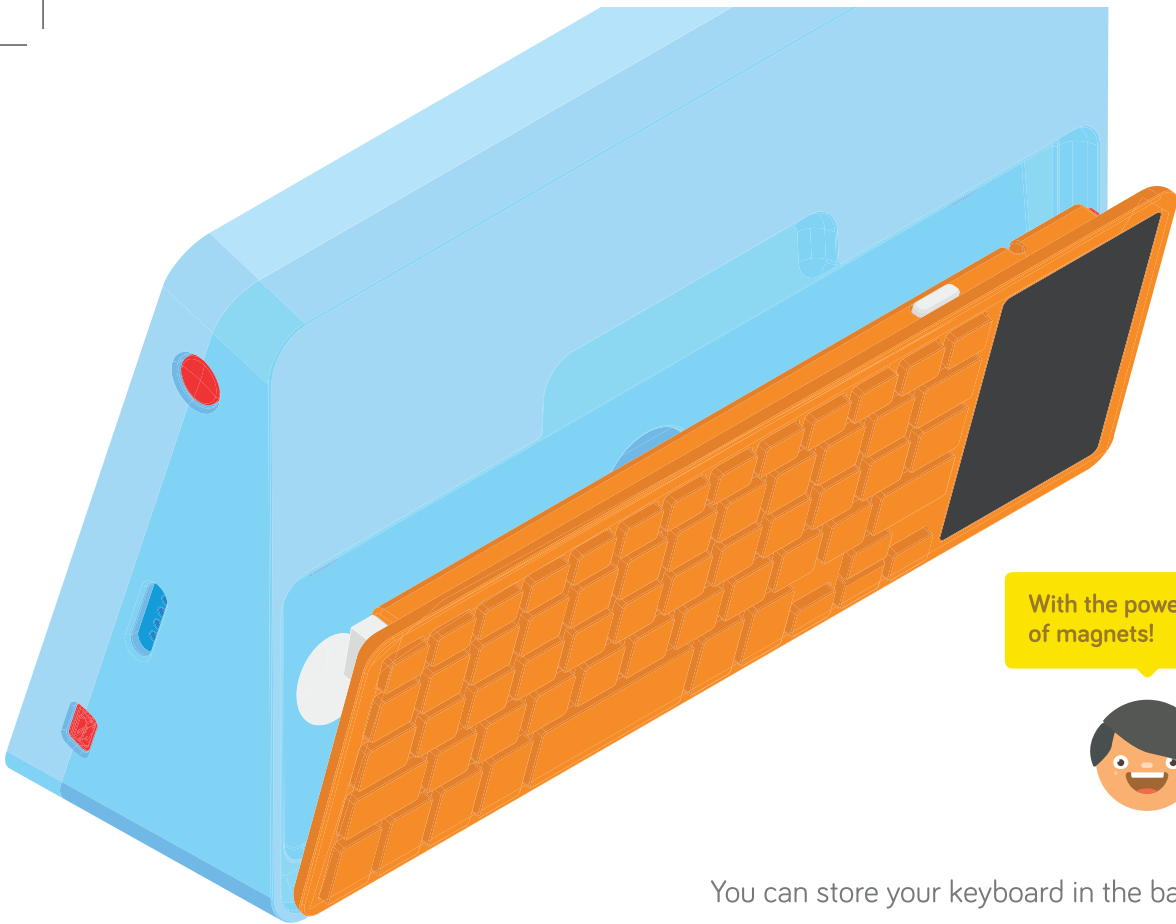


If your computer doesn't turn on, make sure your power board covers all the pins



And that your power cable is plugged into the power board and the battery



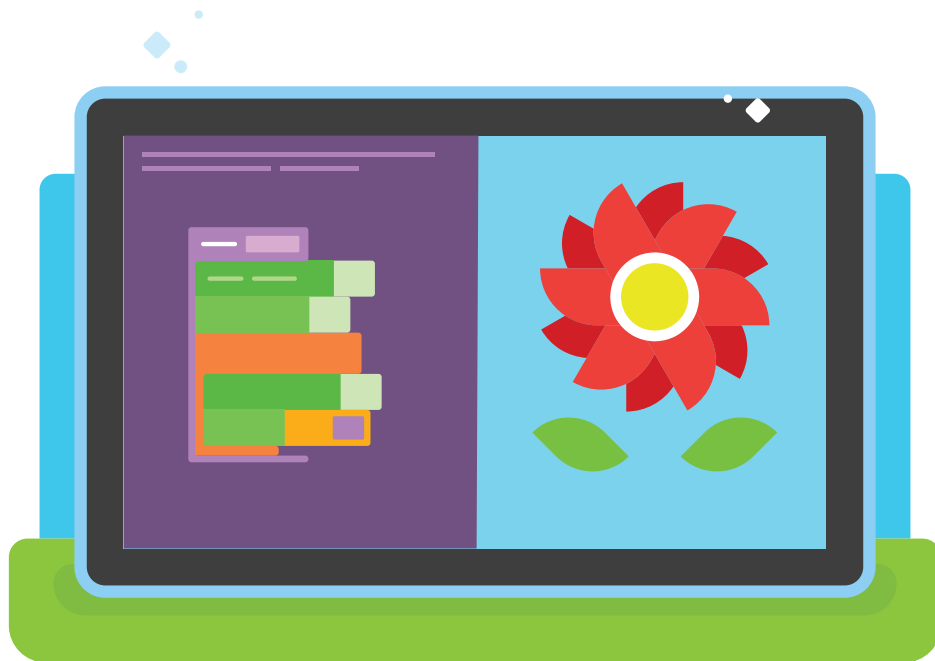


With the power
of magnets!



You can store your keyboard in the back!

And take it with you



The lights on the keyboard tell you how it's feeling



Green, orange, and red mean different things



Green

Successful radio connection



Slow flashes

Turned on, but not connected



Fast flashes

Low on power, time to charge!



Orange

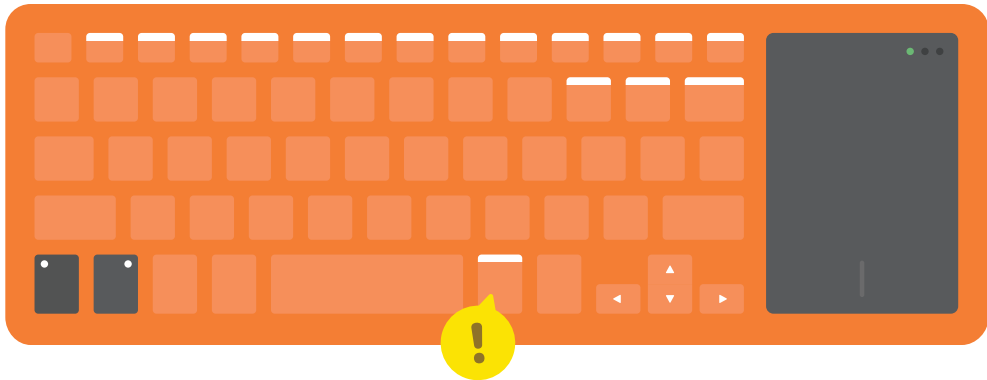
Caps lock status



Red

Charging

Your keyboard has hidden powers



Activate the white functions by holding [FN]

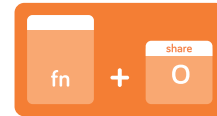
Try these combinations



Run code
Make it happen!



Mouse speed
Medium or fast

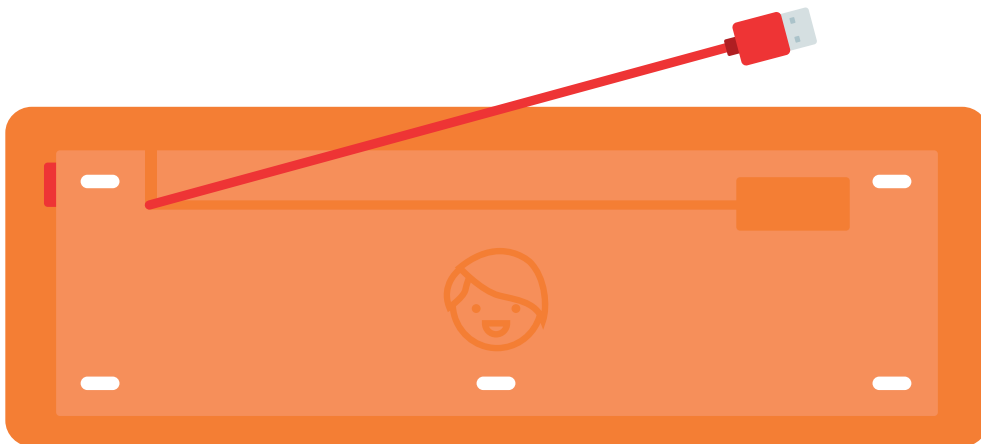


Share creations
Show off to friends



Useful for coding
All of these keys are frequently used when coding, so make sure to learn them

The keyboard needs to be charged from time to time



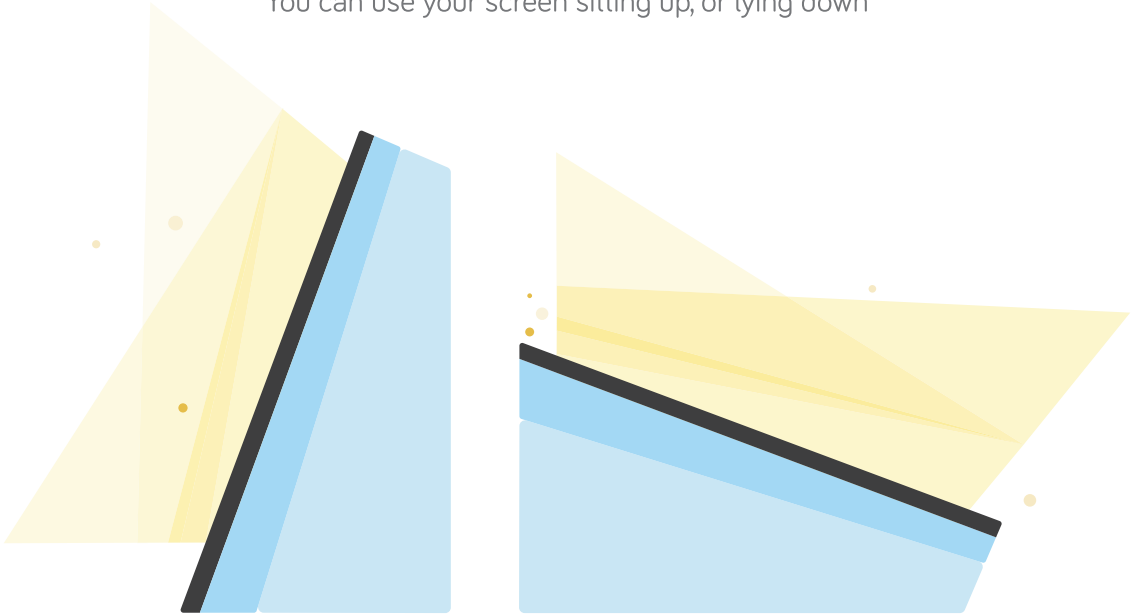
Plug the red cable into the power plug or your computer to charge it

The same for your computer's battery



Use your power cable and plug to charge the battery

You can use your screen sitting up, or lying down



Click on settings () to flip the display

Need help? Want more?



help.kano.me

Help with anything
from kits to coding



kano.me/world

Endless content by
a friendly community



kano.me/shop

More kits
and sensors



/teamkano

For tutorials, films
and fun stuff



/kanocomputing

Talk to us and get
the latest news



@teamkano

Send us your pics
and questions



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Anyone Can Make™

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