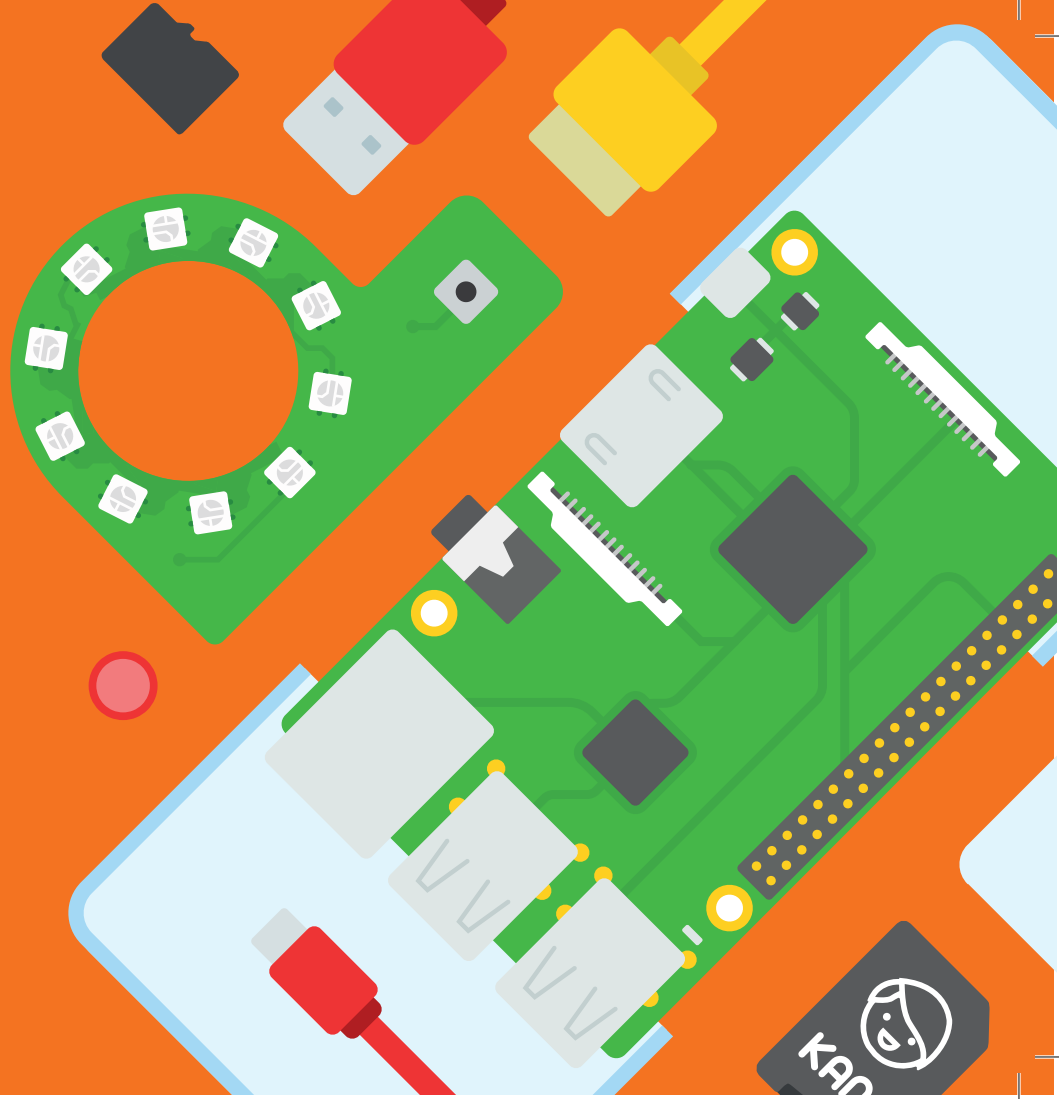
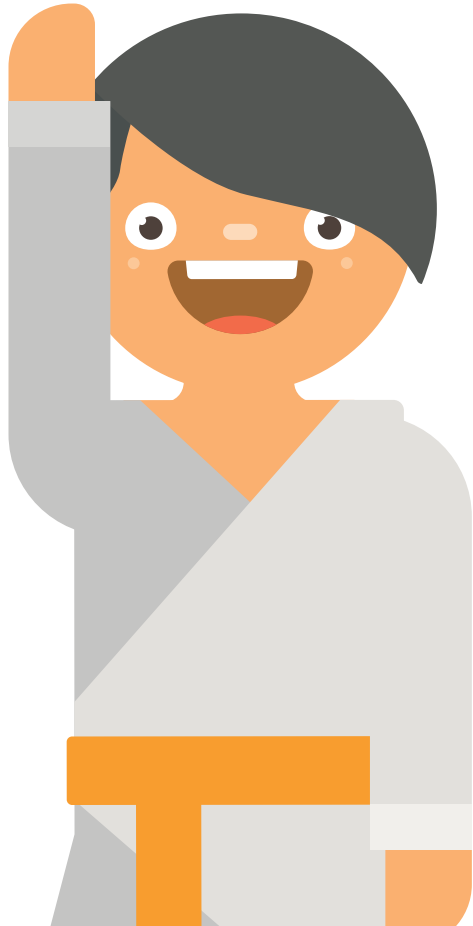
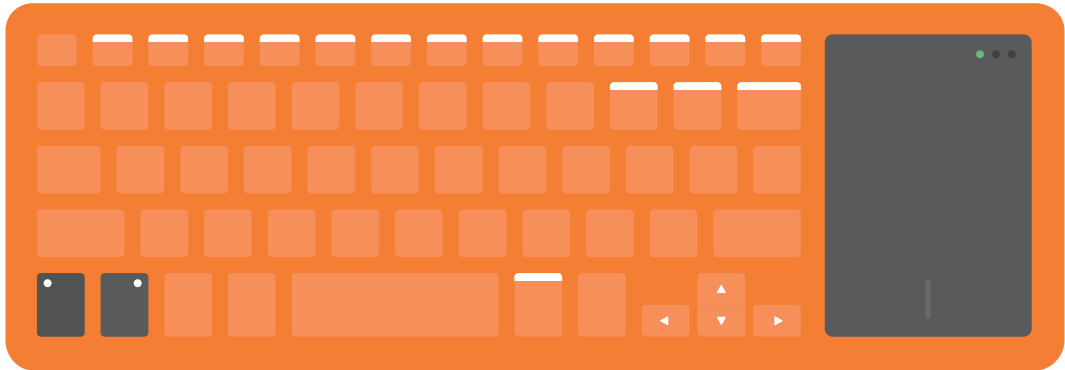
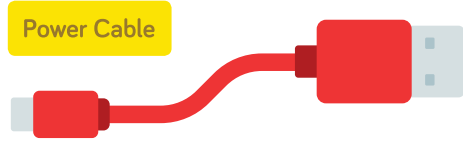
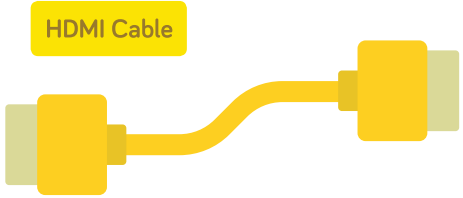


How to  
**make a computer**

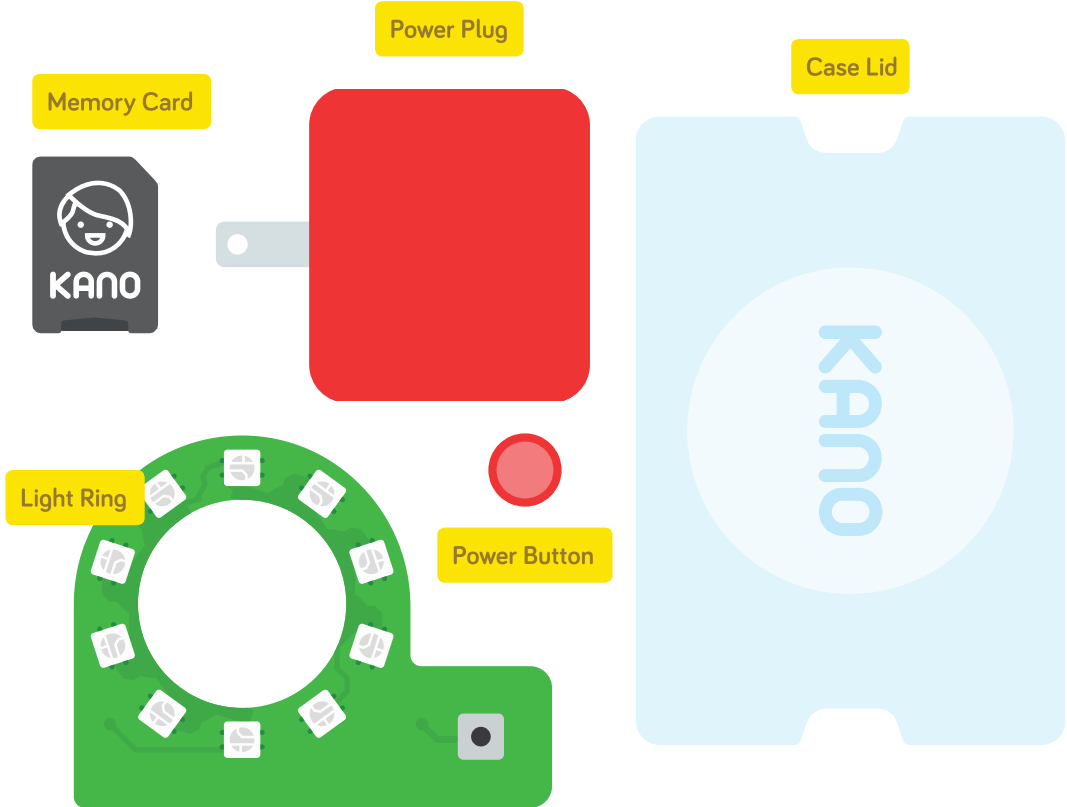




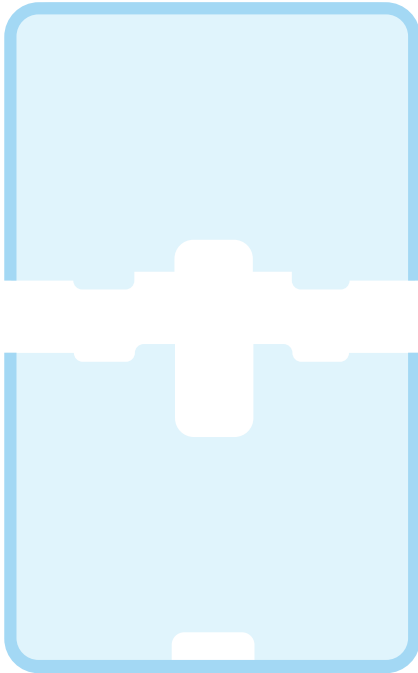
Hey! I'm Judoka, your computer  
companion. Ready to go?  
**Take out the pieces!**



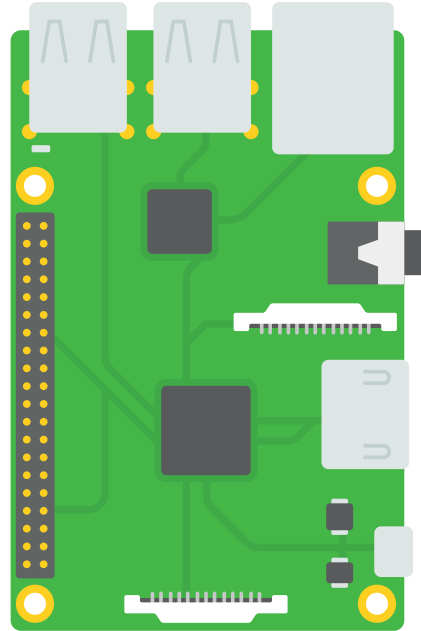
Keyboard + Mouse



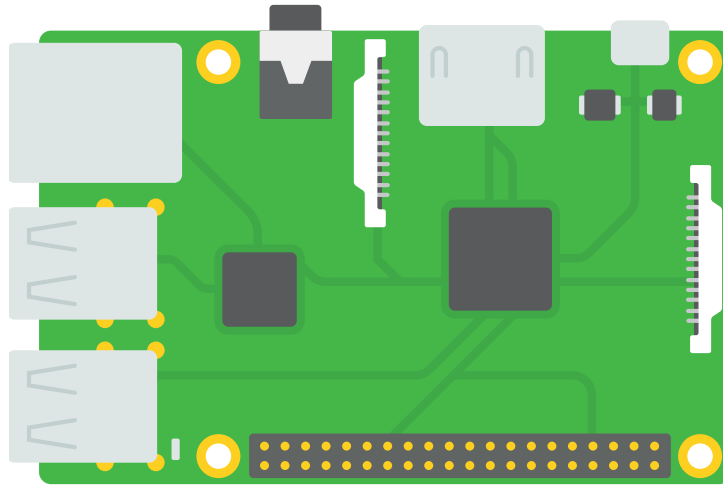
DIY Case



Raspberry Pi 3 Brain



This is your computer's brain



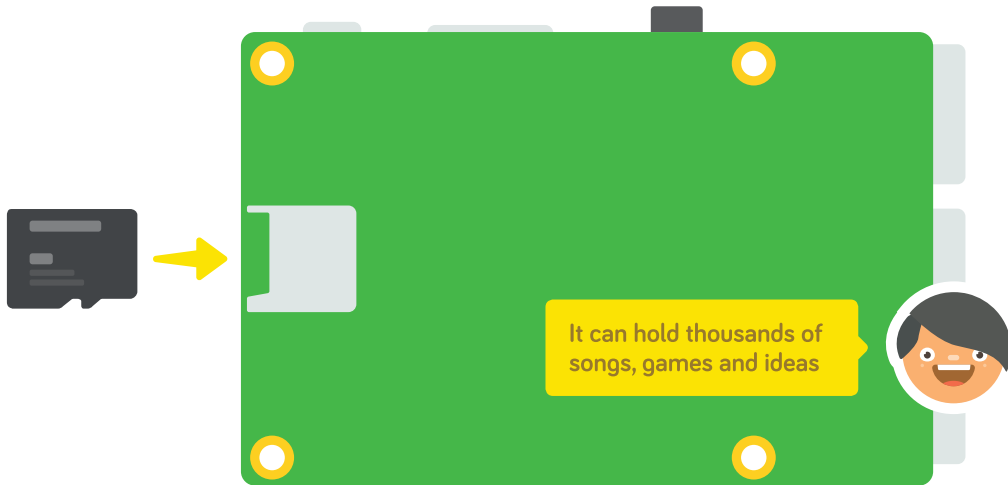
It's tiny, but powerful

Let's give the brain new powers



Grab the memory card, and slide out the micro card

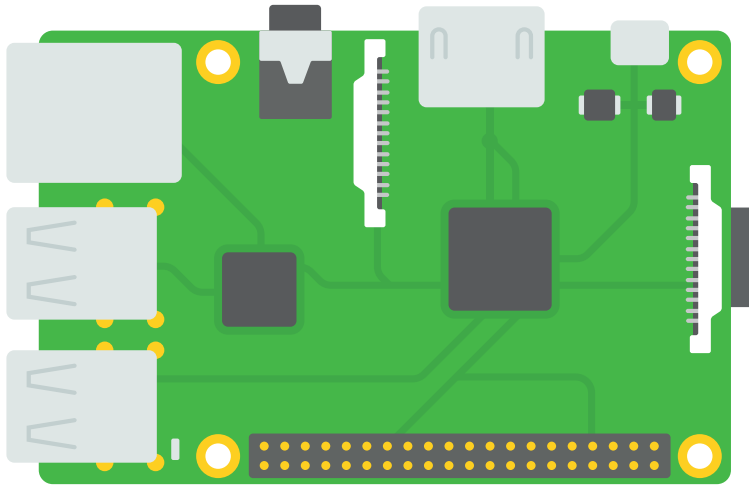
Turn the brain over



Slide in the micro card securely

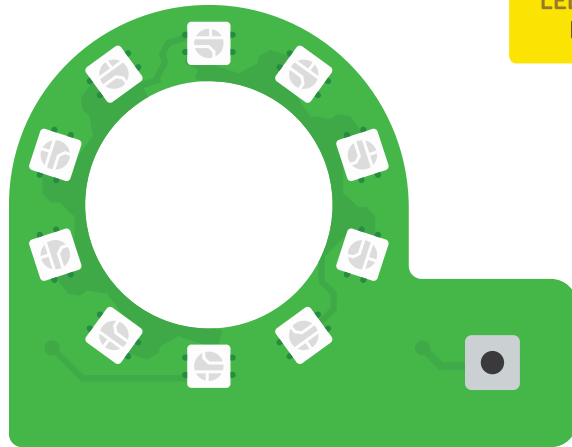


Great!



Now let's add lights

Grab your Light Ring

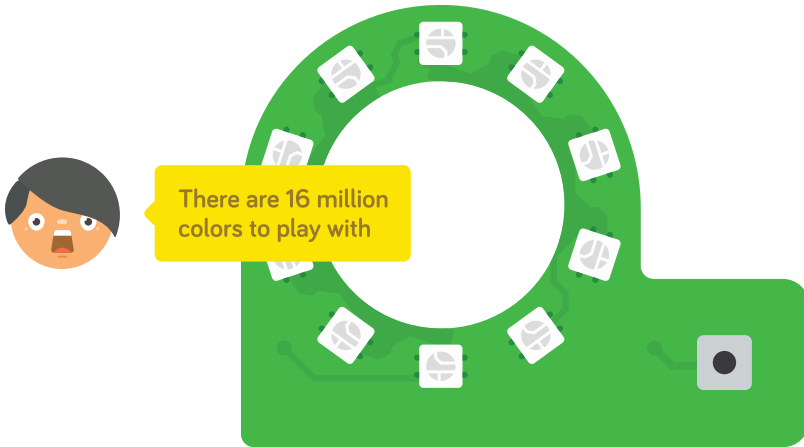


LED stands for Light  
Emitting Diode



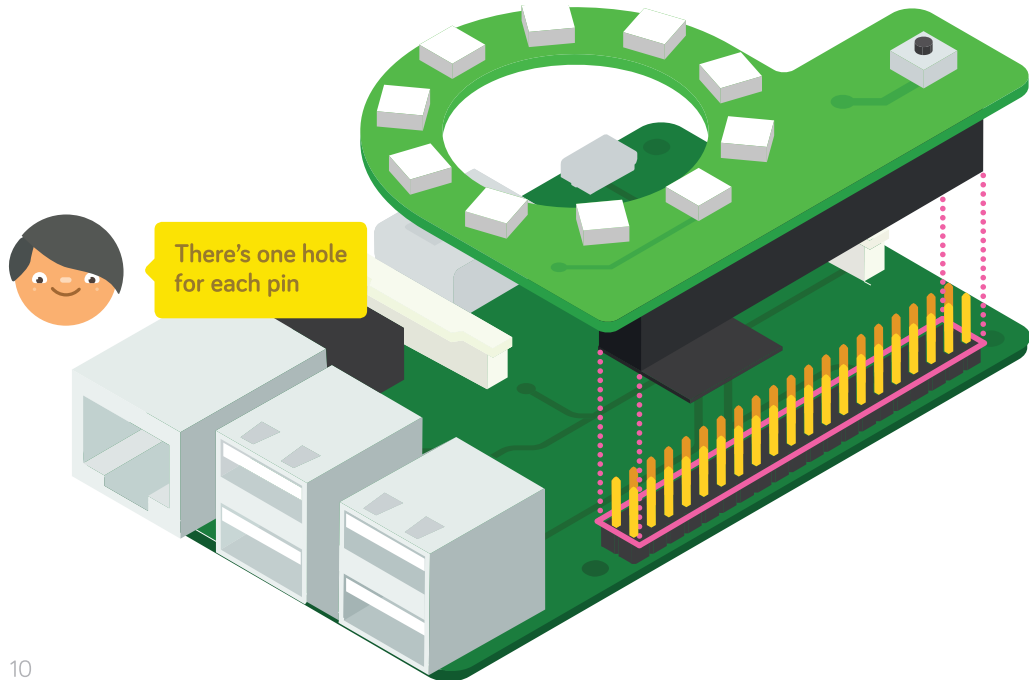
It has 10 LEDs you can code

The ring will flash colors after the brain is brought to life

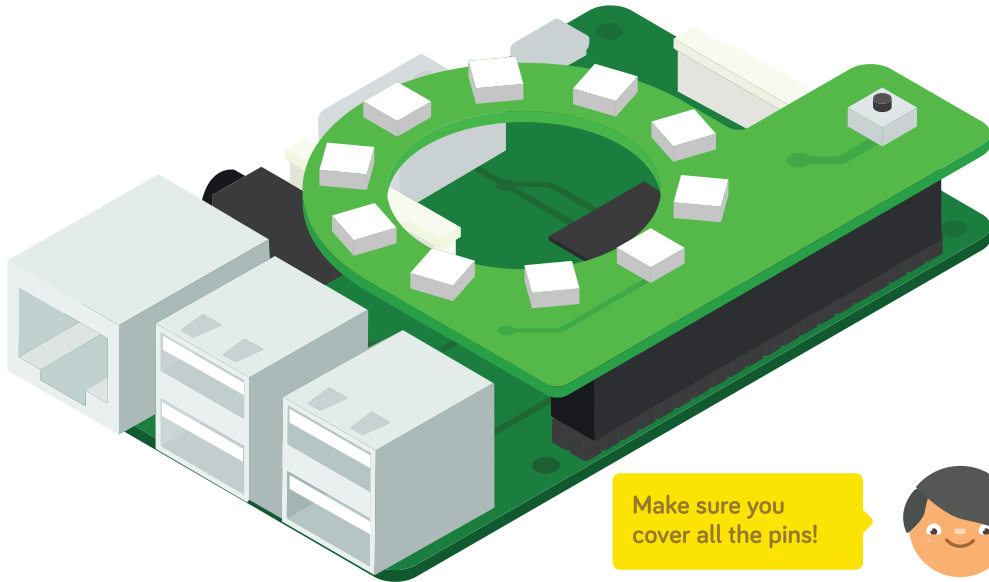


When it's processing data, the lights turn orange

Line it up with the pins on the brain



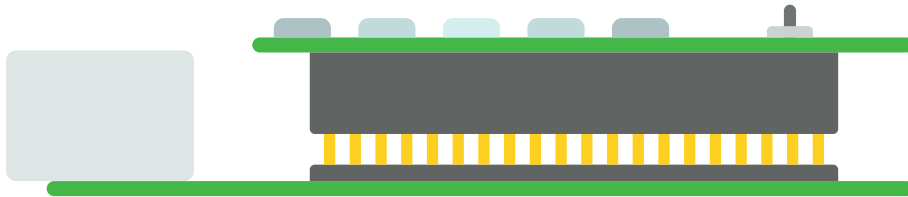
Then push it down



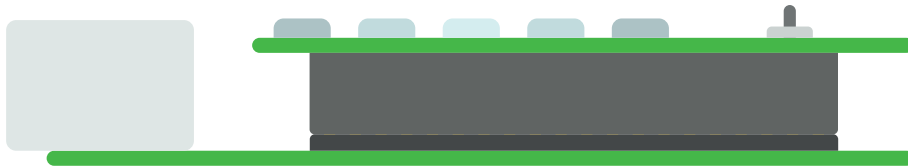
Make sure you cover all the pins!



Nearly there



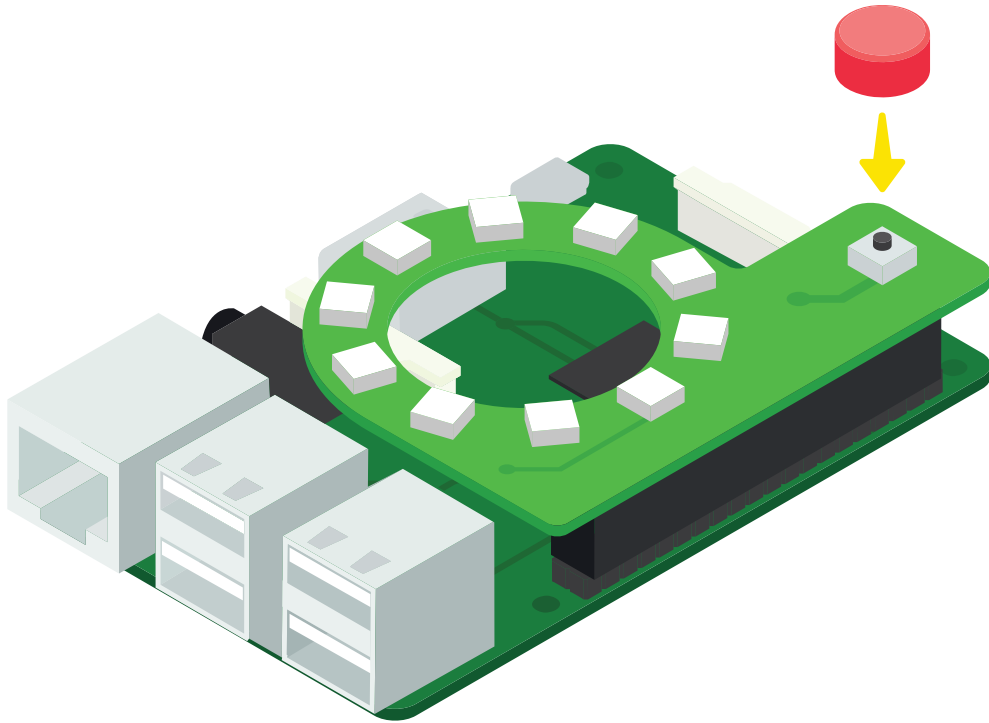
Make sure it's pushed all the way down



The Light Ring borrows power from your computer

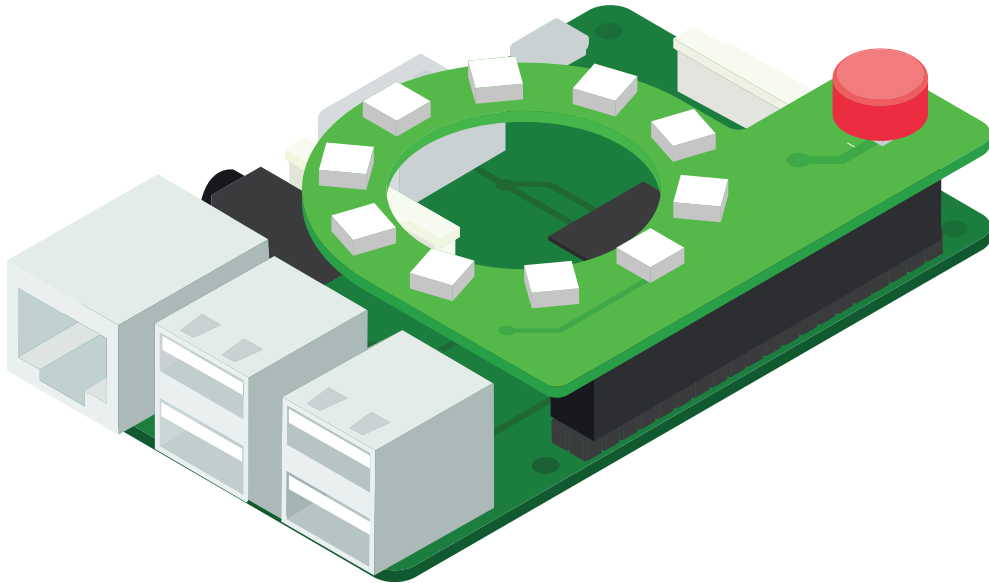


Add the power button

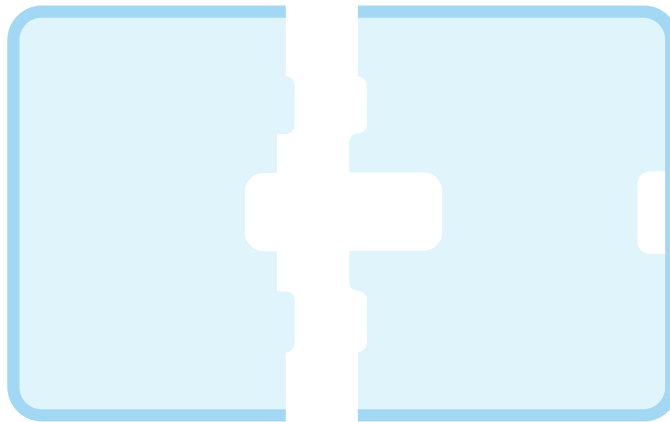




Great! Now you can safely turn your computer on and off

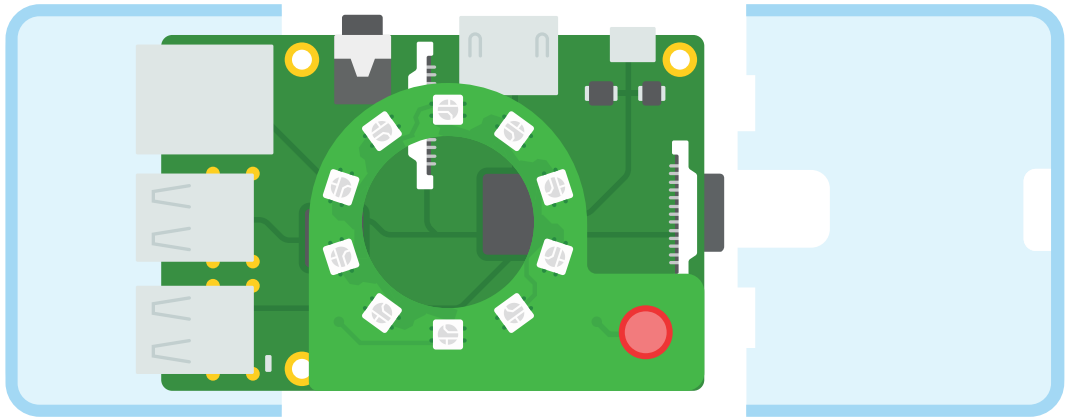


To keep it strong and safe, let's make a case

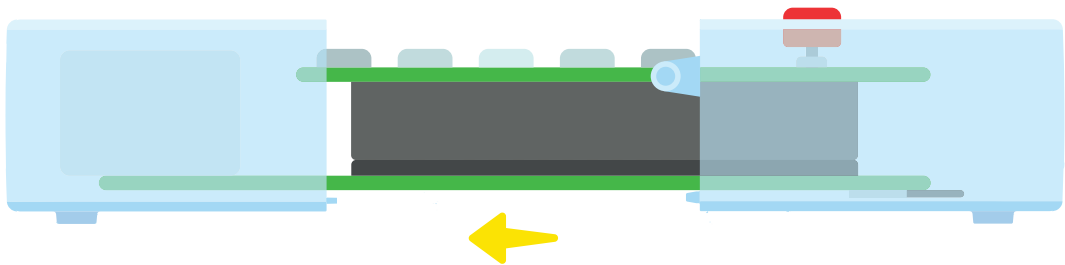


Grab the sides and line them up

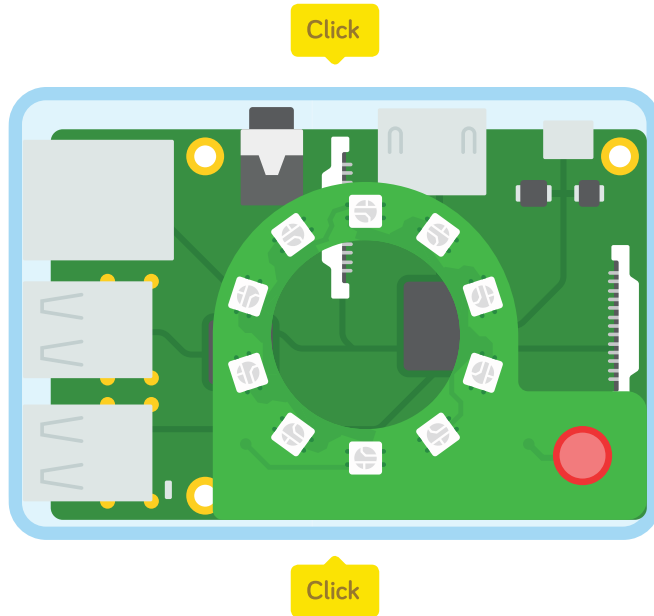
Place the brain between the case sides



Slide them together

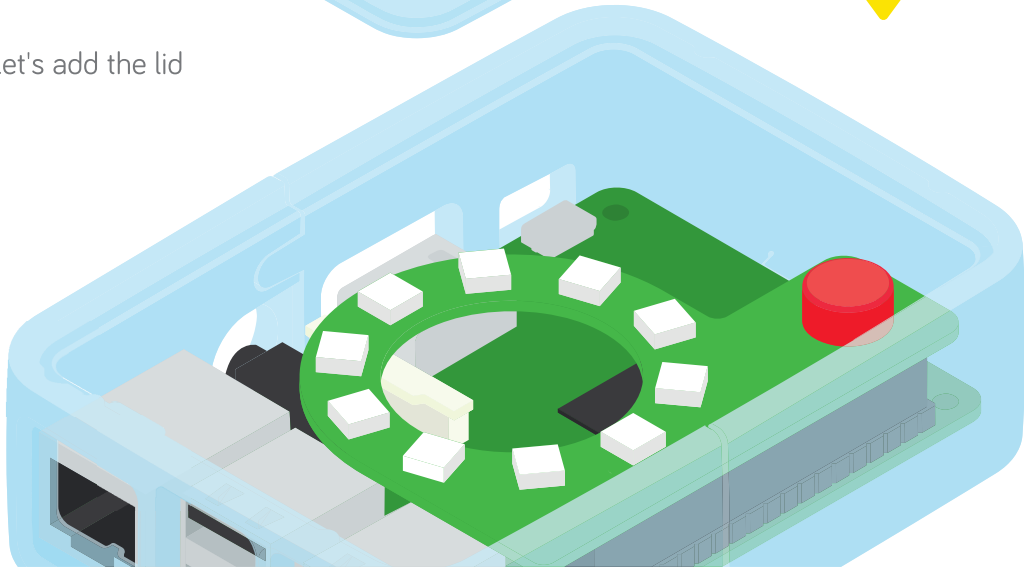


Now you have a brain with armor and memory!

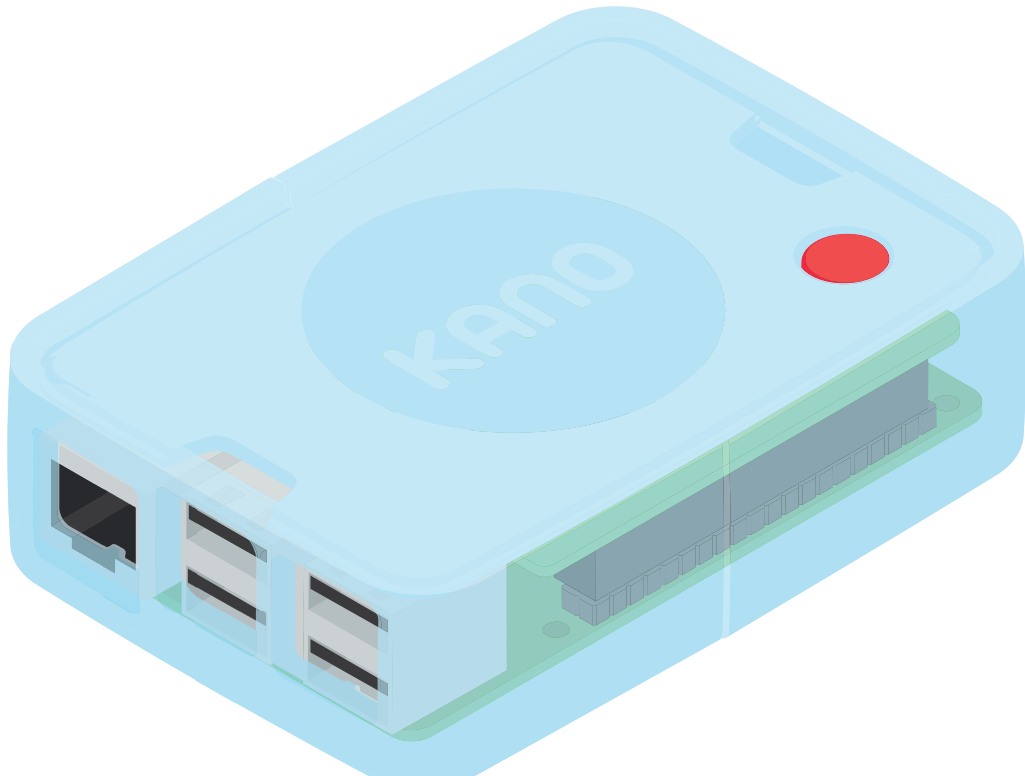




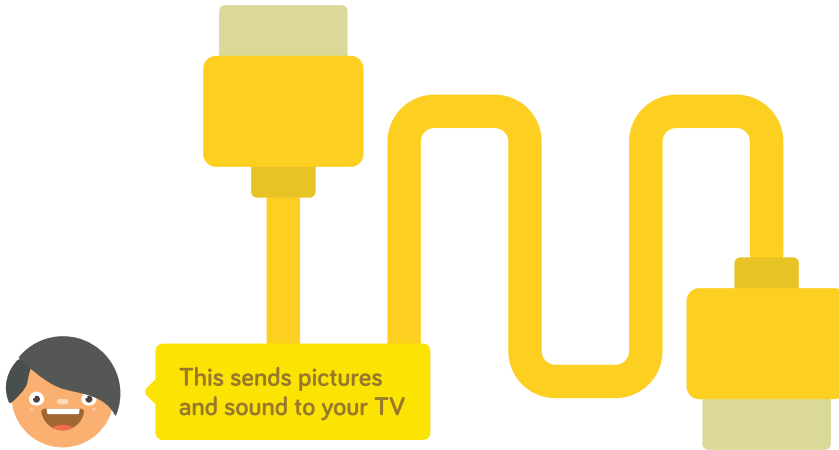
Let's add the lid



Awesome! A powerful, protected processor

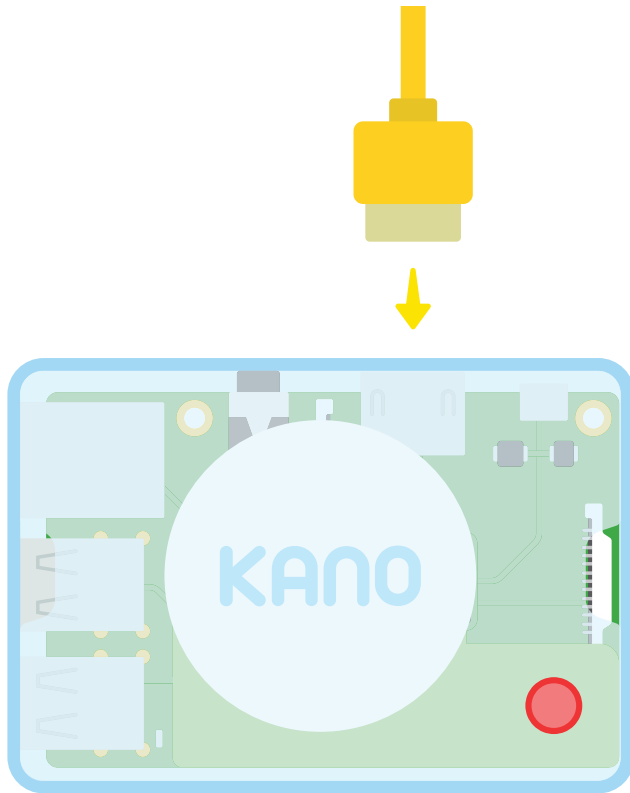


Let's connect a screen



Grab the yellow HDMI cable





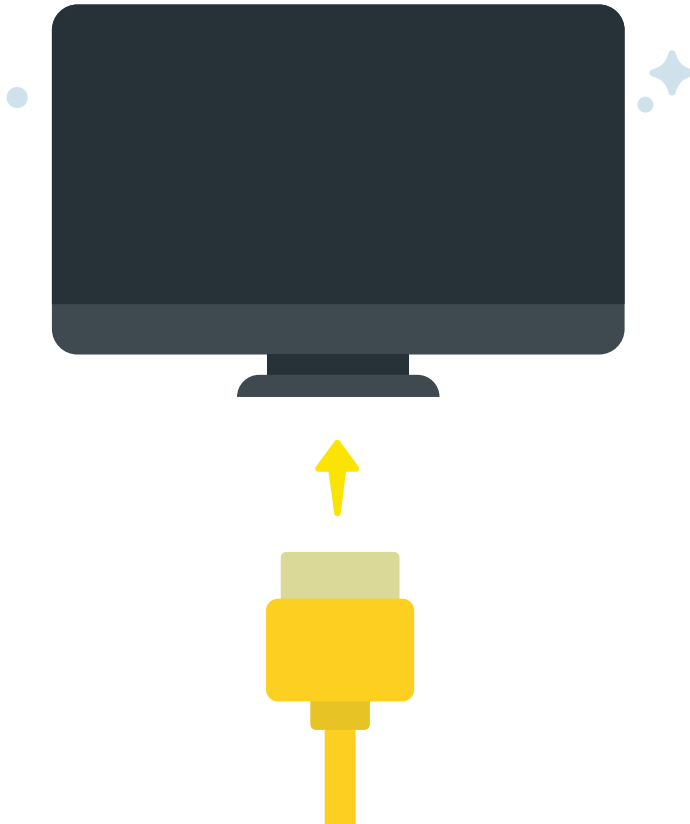
Plug it into your computer

Find a screen or TV with this kind of plug

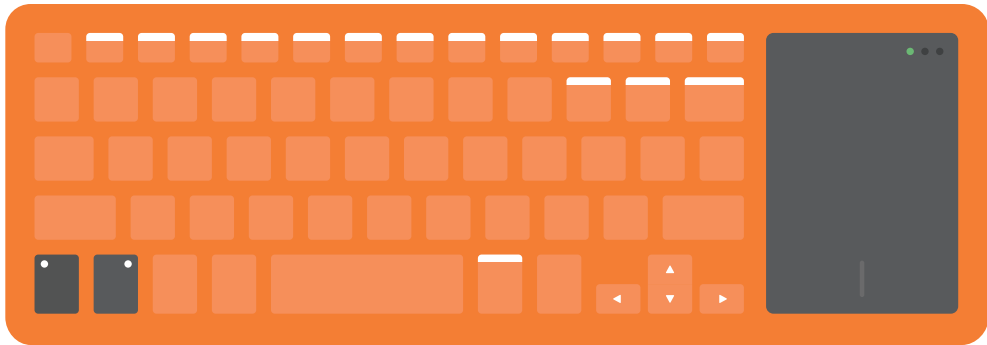
HDMI



Connect the other end of the cable to your screen

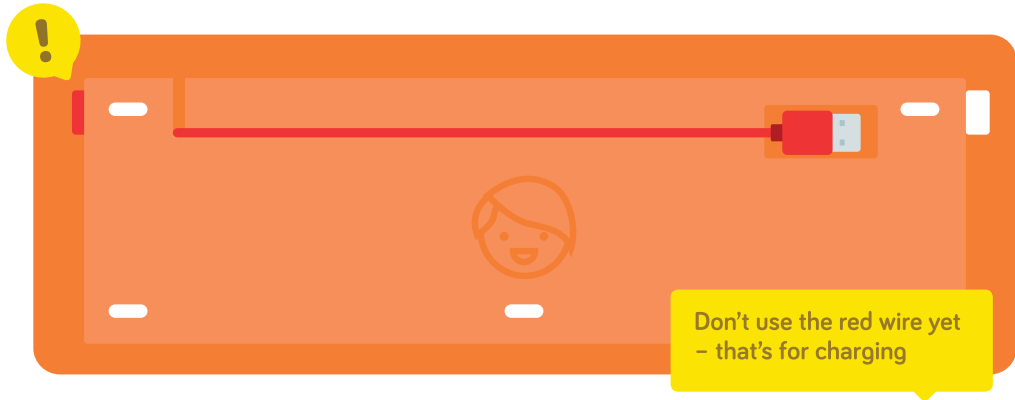


Now you need a way to talk to your computer



Grab your keyboard!

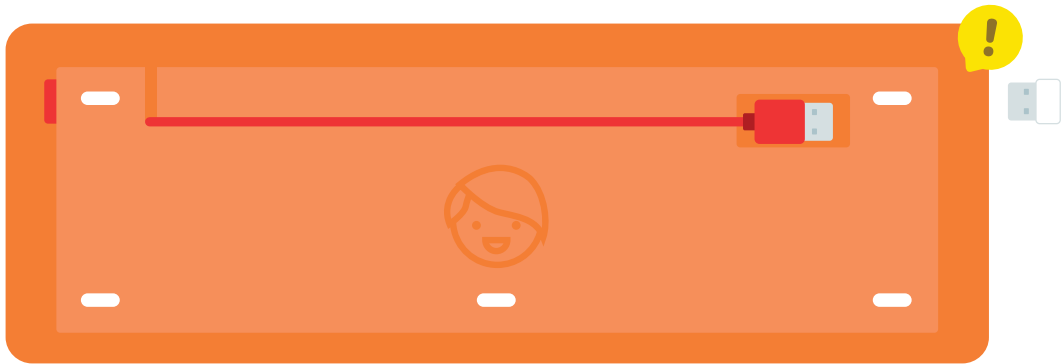
Pick it up, flip it around, and push the red power button



Don't use the red wire yet  
- that's for charging



Take out the white piece

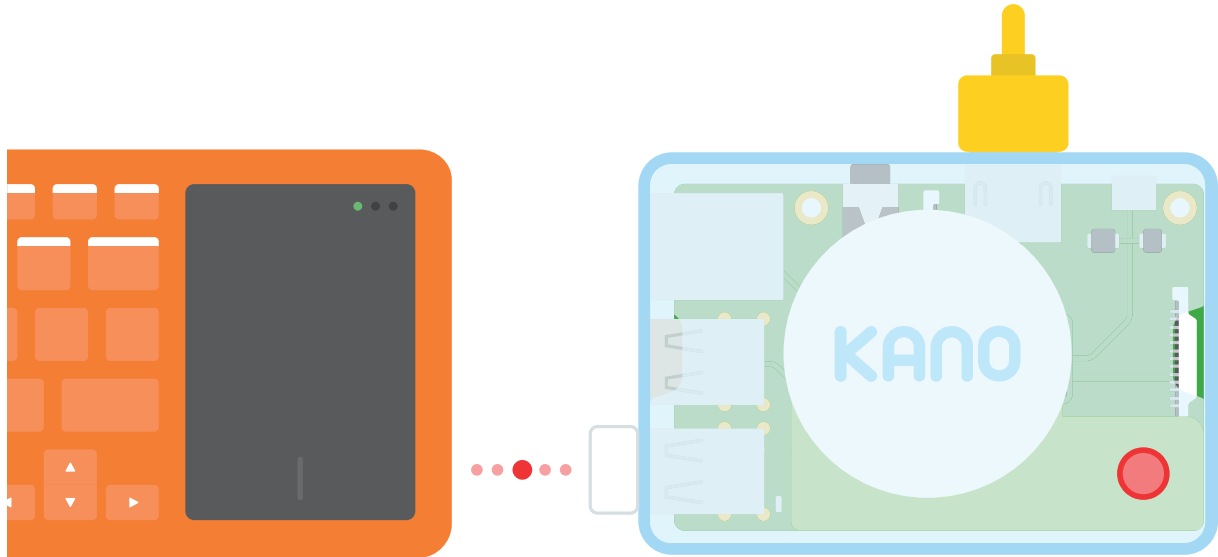


This USB has a radio antenna!

Plug the piece into your computer



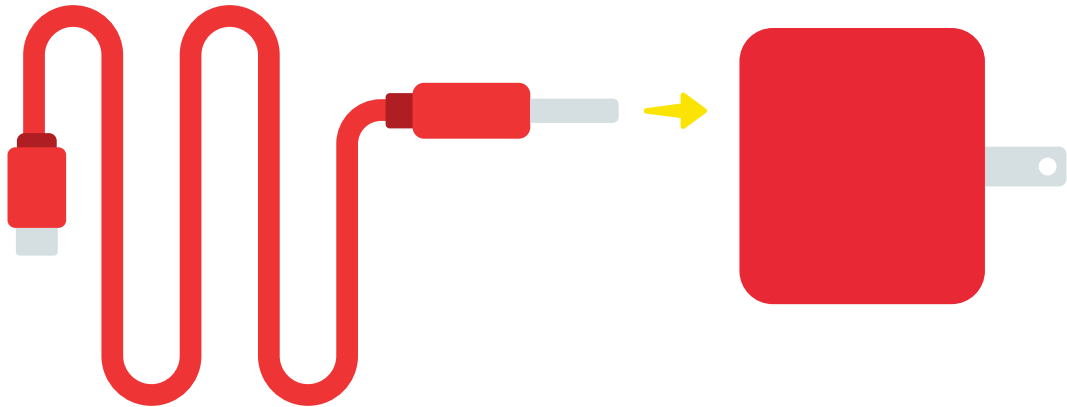
Now the keyboard and brain are connected



Almost there...

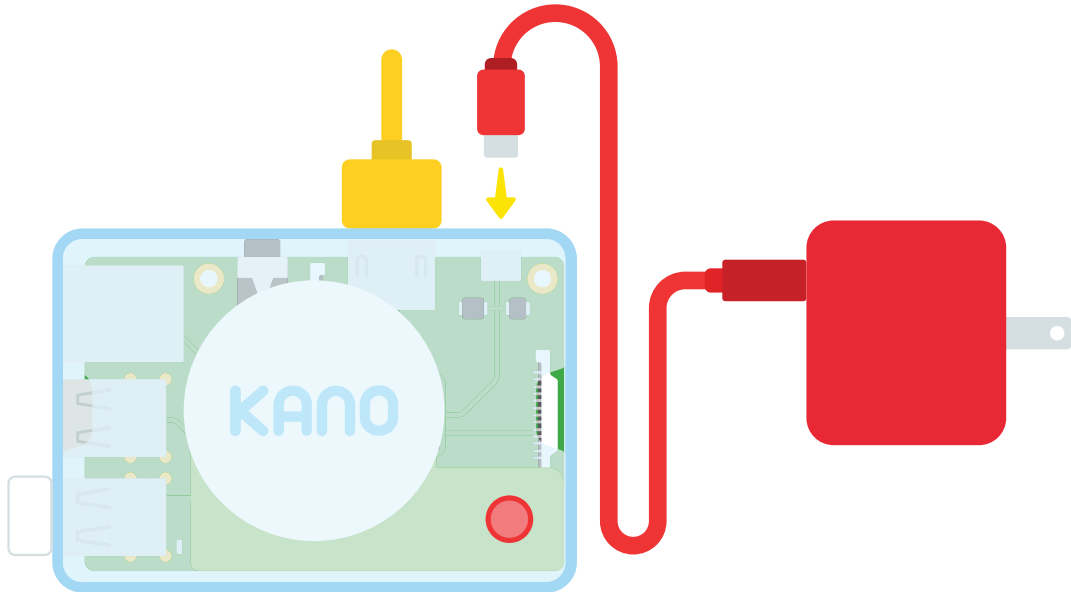


Let's bring it to life! Grab the red pieces...

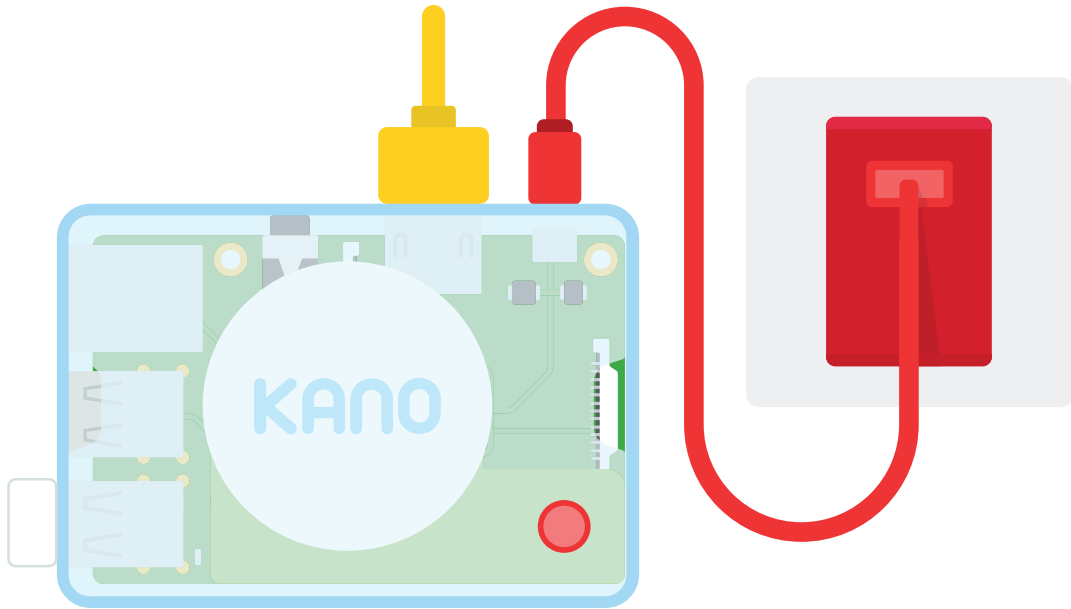


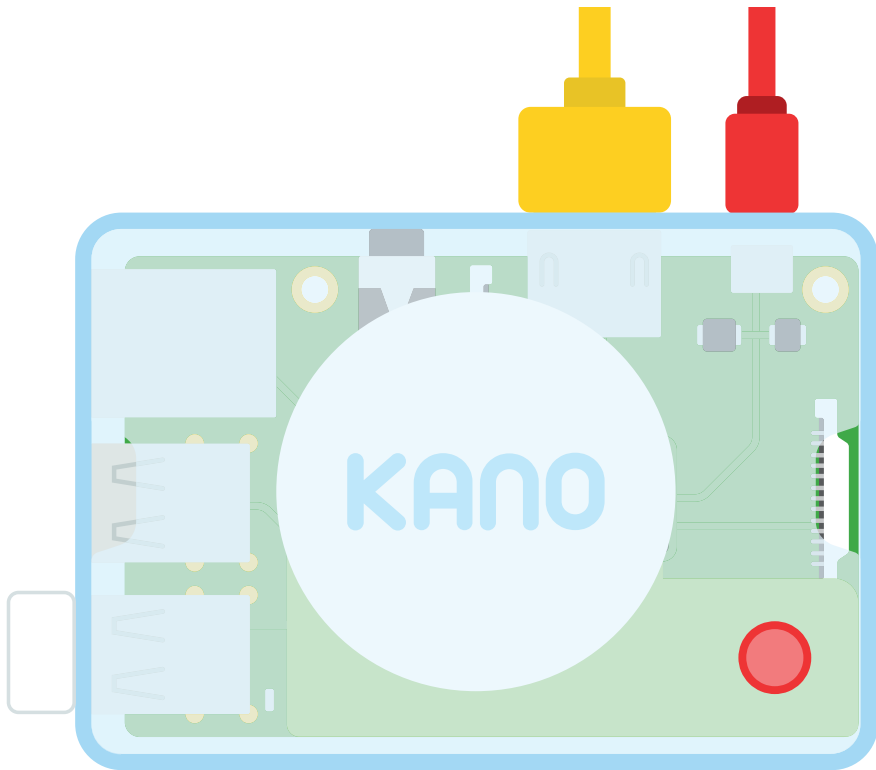
...and plug the big end into the power plug

Now grab the small end and connect it to your computer



Put the power plug into a wall socket



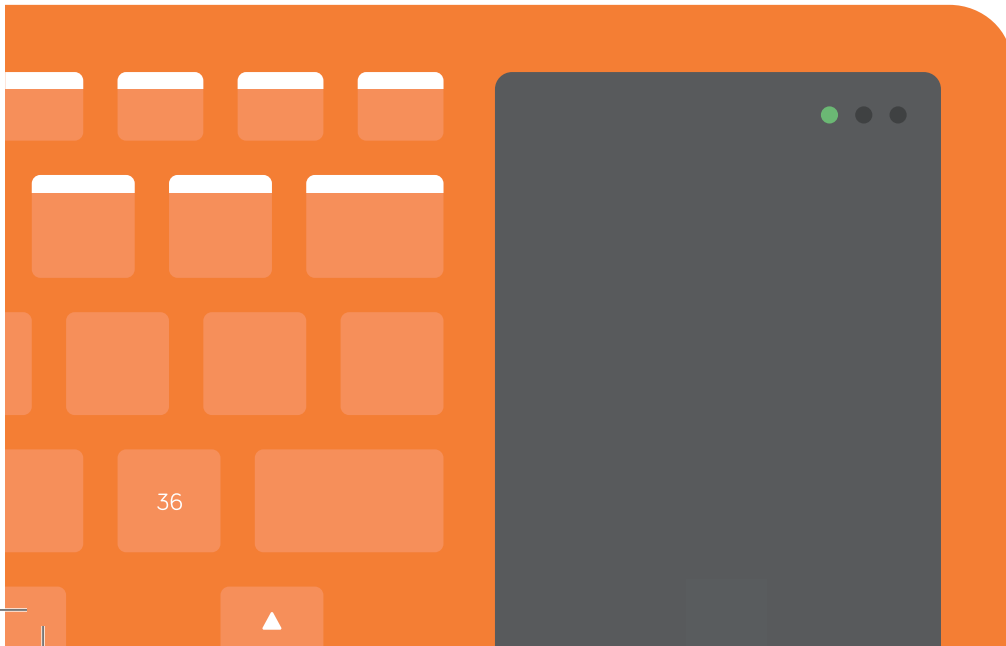


You made a computer! Now, follow the steps on screen...



...to bring your lights to life!

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





**Green**

Successful radio connection



**Slow flashes**

Turned on, but not connected



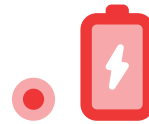
**Fast flashes**

Low on power, time to charge!



**Orange**

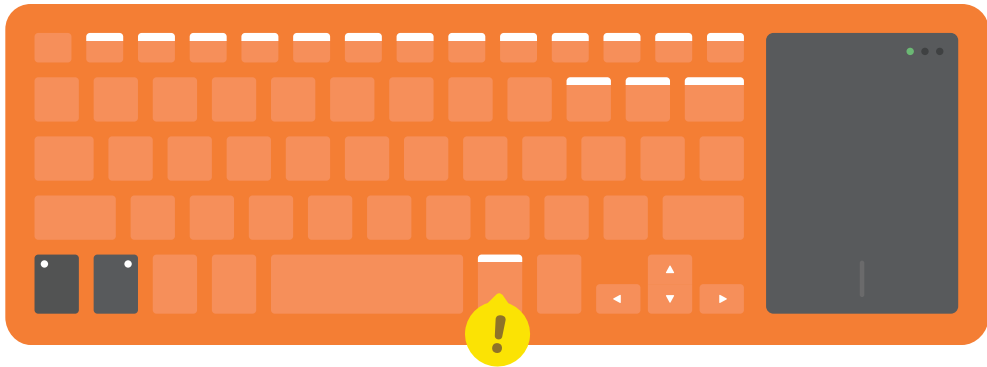
Caps lock status



**Red**

Charging

Your keyboard has hidden powers



Activate the white functions by holding [FN]

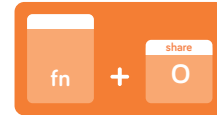




**Run code**  
Make it happen!



**Mouse speed**  
Medium or fast



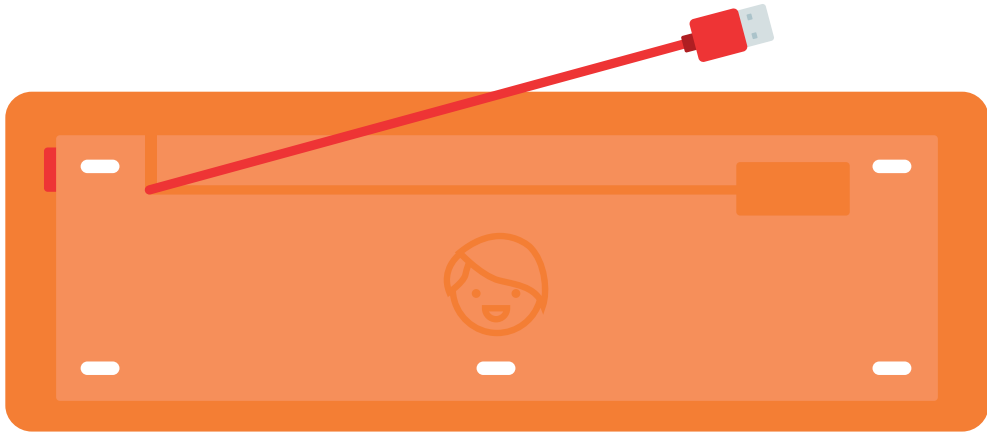
**Share creations**  
Show off to friends



**Useful for coding**

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

When the green lights flash fast, charge your keyboard



Plug the red cable into the power plug, or to your computer

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**

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and questions



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