

# How to make a motion sensor



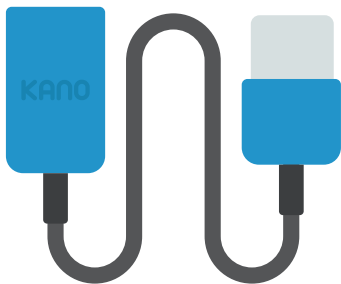


Hi! I'm Judoka, your sensor sidekick! Ready to sense motion, and code magic?

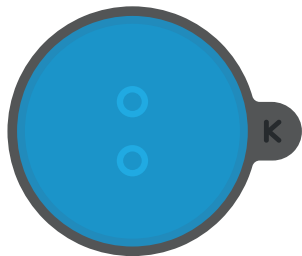
**Take out the pieces.**



Motion Sensor



USB Cable



Suction Cup



Stickers



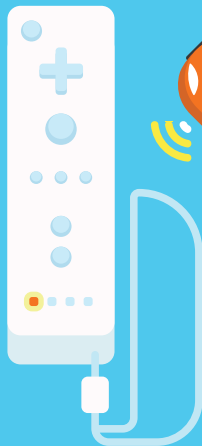
### Now prepare yourself...

Your sensor only works with your computer and the Kano App.  
Download it here:

[www.kano.me/app](http://www.kano.me/app)



Sensors are in all types of things,  
like phones, drones, controllers and cars.  
They turn real-world actions into information  
your computer can understand.



This is your Motion Sensor.  
Its job is to detect distance and direction.



It can sense up, down, left, right, forward and back





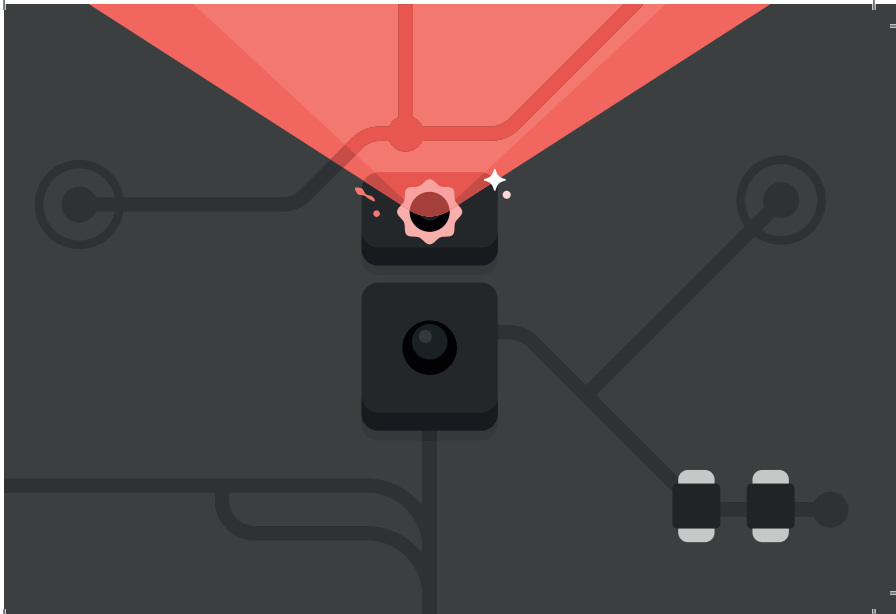
Pick it up... look closely. Inside is a tiny chip  
that talks to your computer.



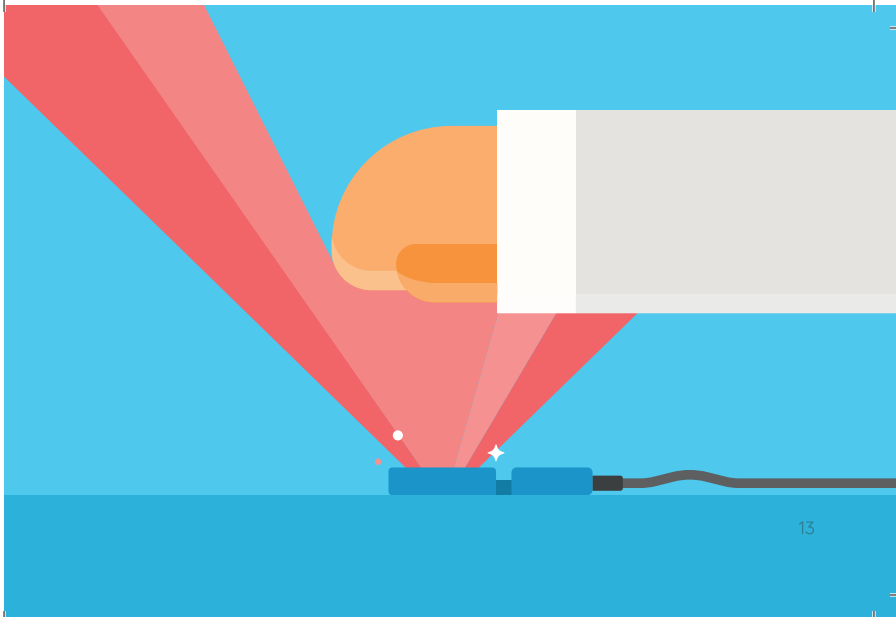
The chip has two small lenses.  
The top sends out an infrared beam.



Infrared is a type of light invisible to humans

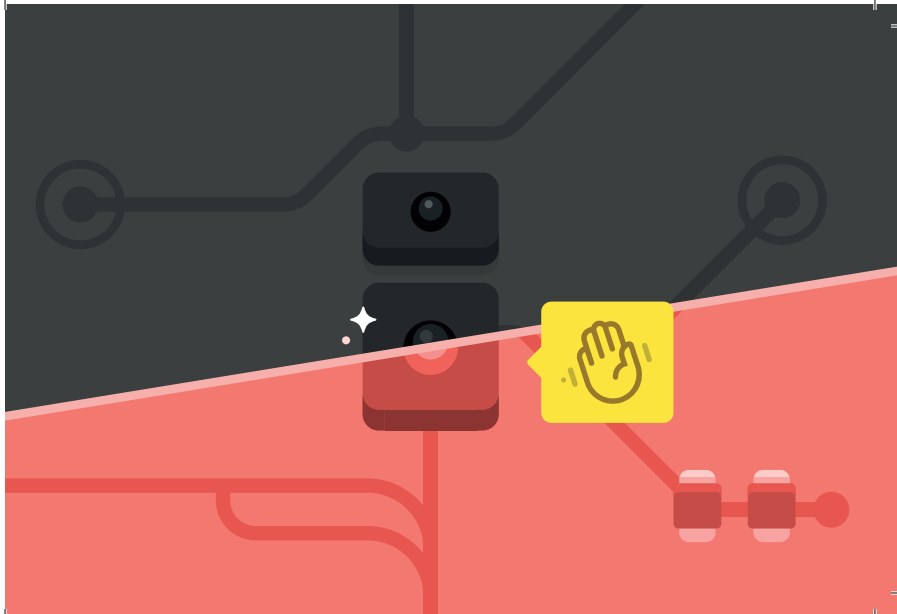


When your hand breaks the beam,  
it gets reflected back to the bottom lens...



...so the sensor can tell where  
your hand is, and where it's going.

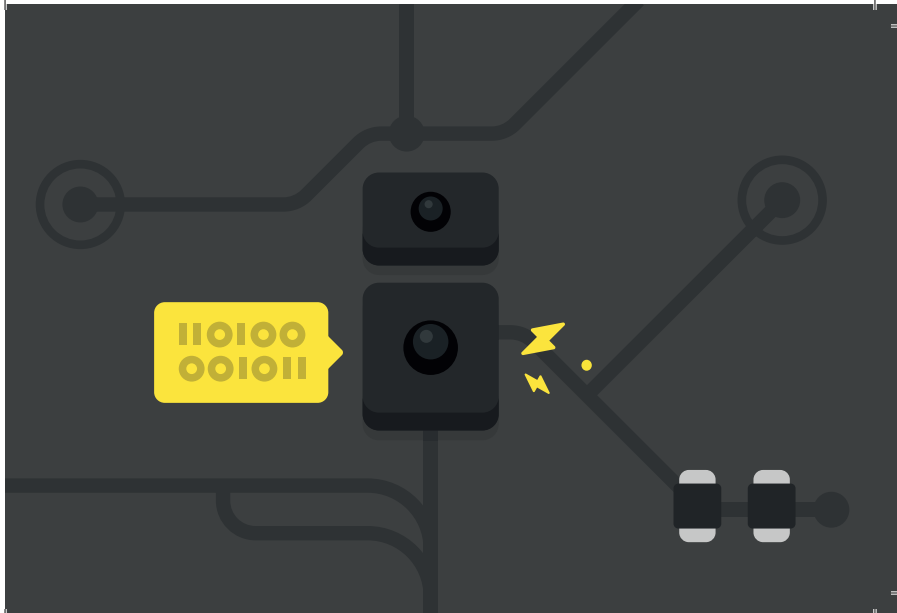




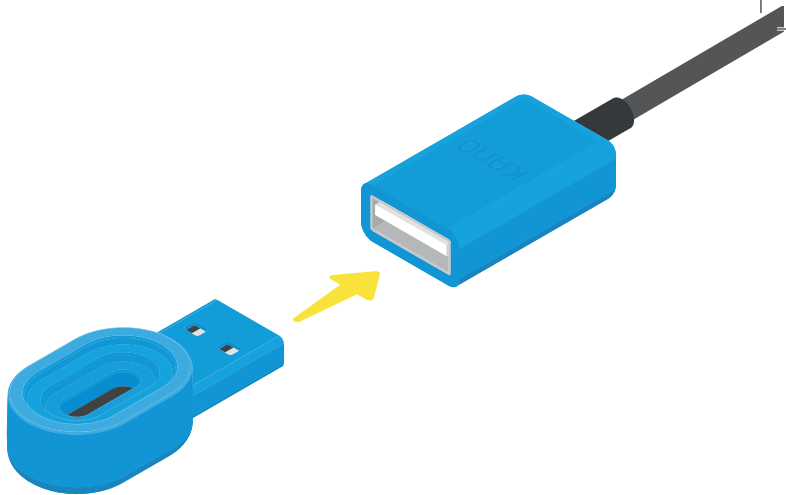
The chip turns your motions into binary code,  
a simple language every computer understands.



In binary, you can only say 1 or 0,  
which mean “on” and “off.”



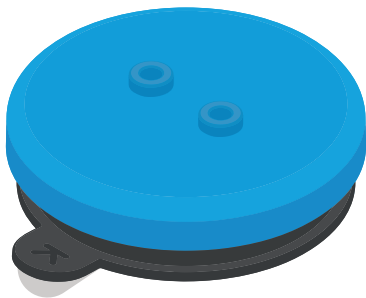
But first we need to give it power! Grab your sensor and cable, then connect them like this:

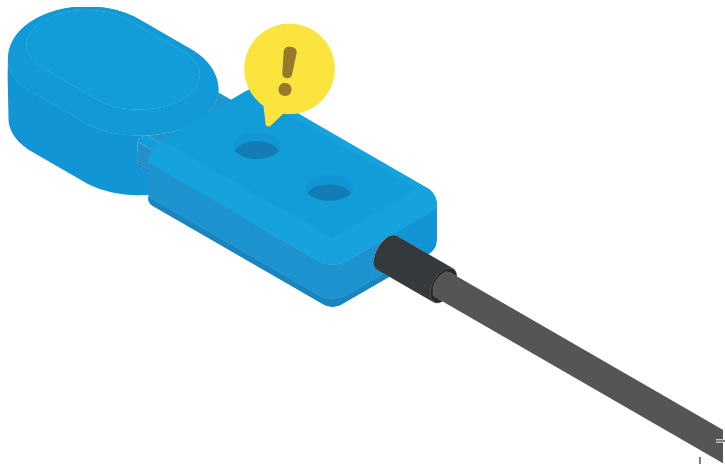


Great! Now let's add the suction cup. With this, you can stick your sensor to almost any surface.

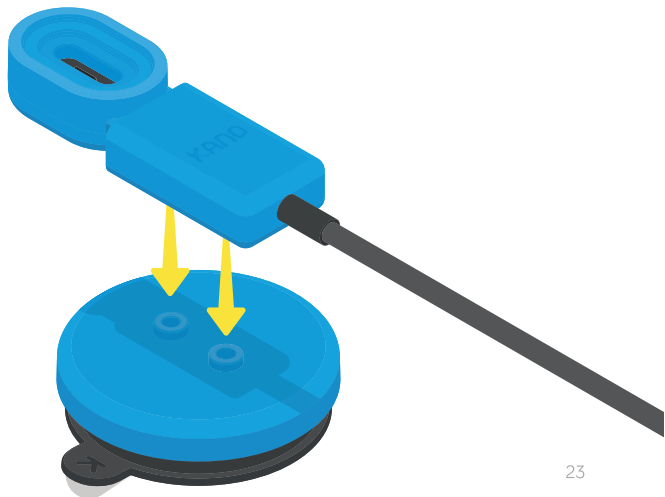


**It sticks by creating a vacuum in the area it covers**





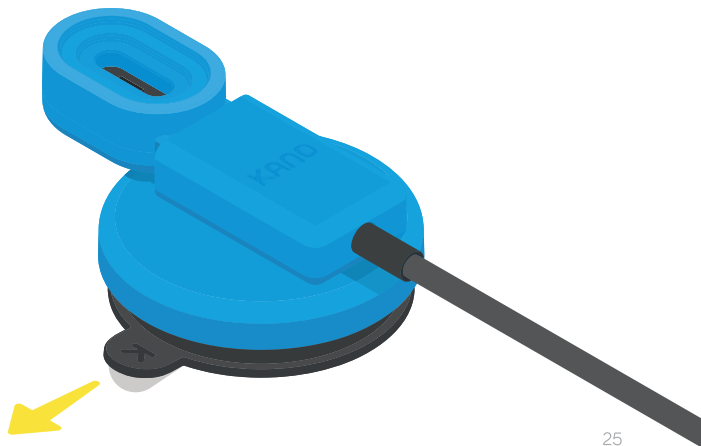




Awesome! Now try sticking it to something.  
If you want to move your sensor, just pull the tab!



**Pulling the tab breaks the vacuum**

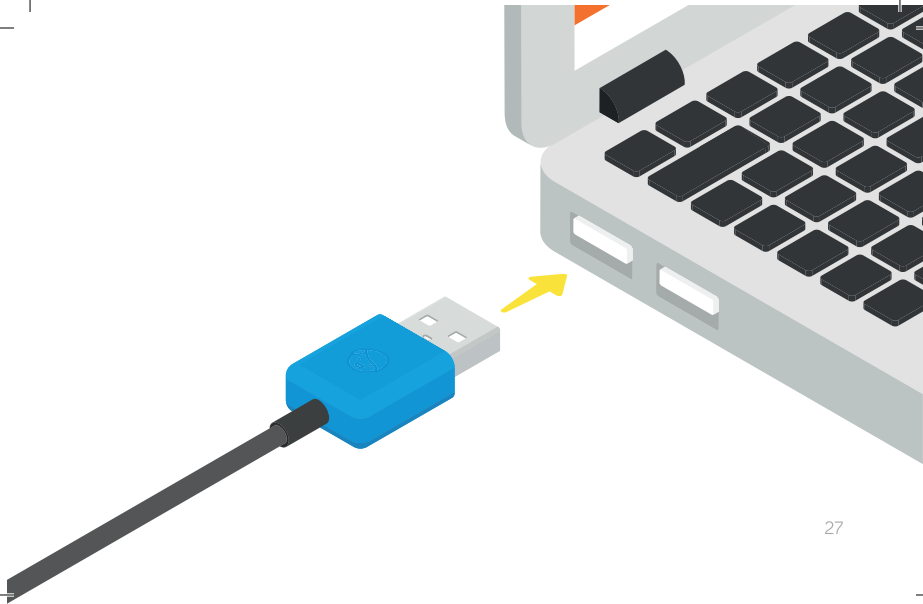


Now plug in your sensor. It's universal, which means it works with any computer or Kano Kit!



Your sensor takes power from your computer to work



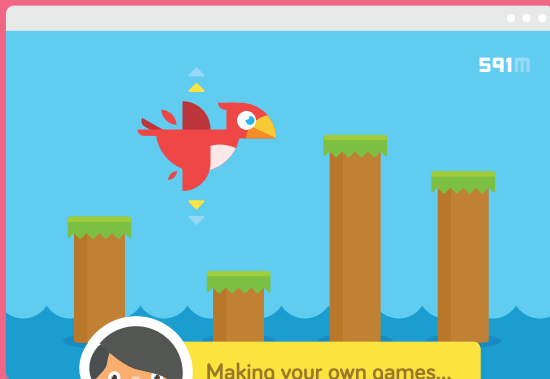


Time to get the Kano App.  
Go to **[www.kano.me/app](http://www.kano.me/app)** then follow  
the steps on screen.

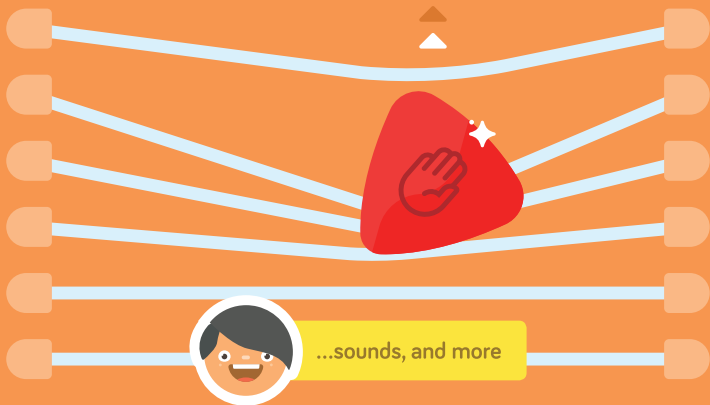


Unlock the full power of your sensor  
by conquering challenges, playing with  
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Share a picture or video of your sensor creations  
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