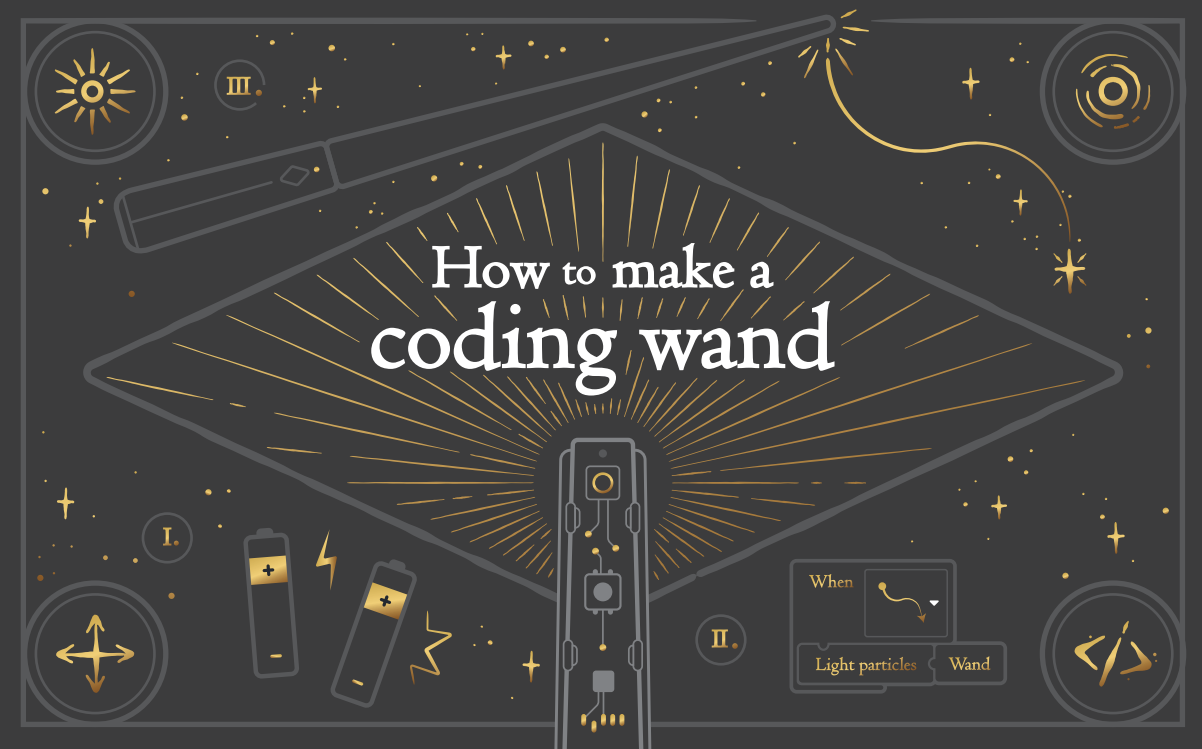
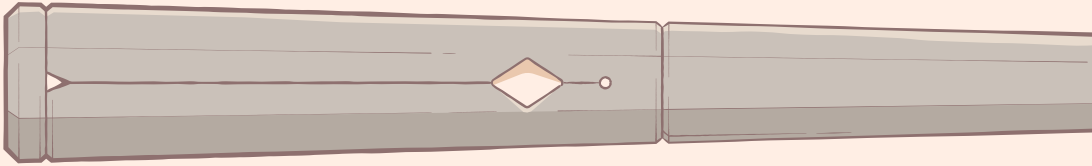
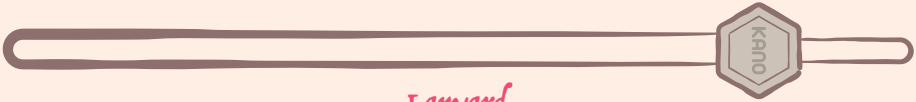
How to make a coding wand

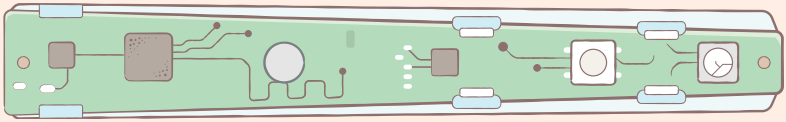


This is your coding wand.
It's made of plastic, rubber, copper, and electronics

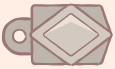




Lanyard



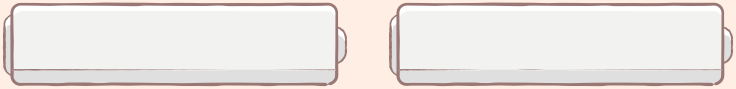
Coding Wand Brain



Button

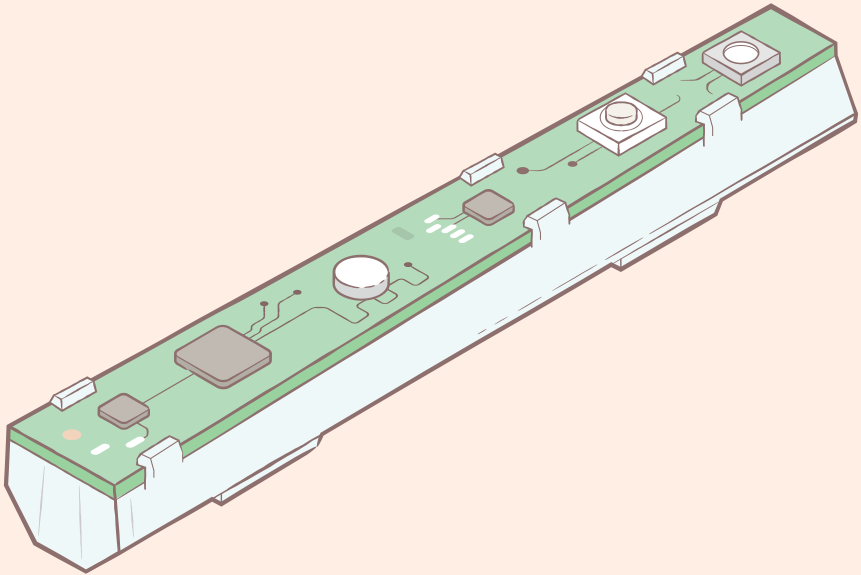
Coding Wand Tip

Coding Wand Handle

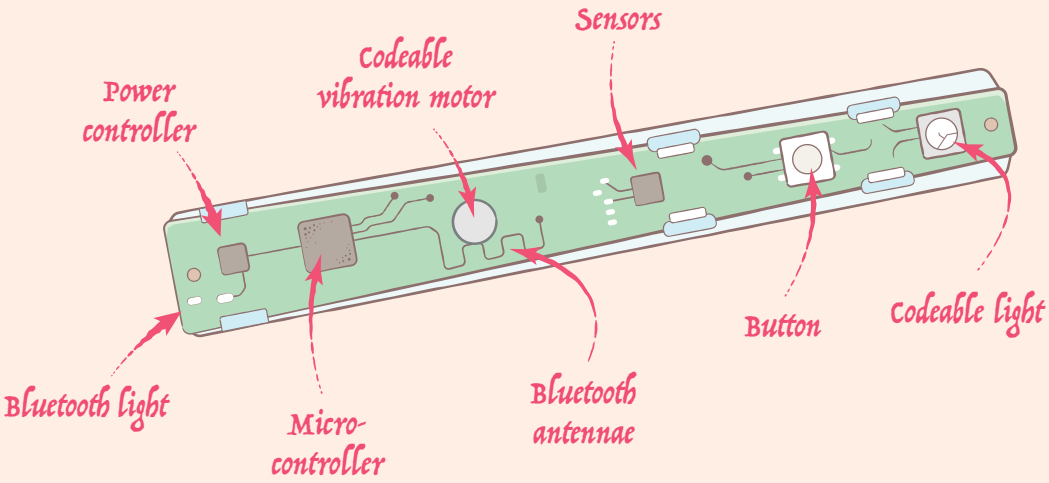


AAA Batteries

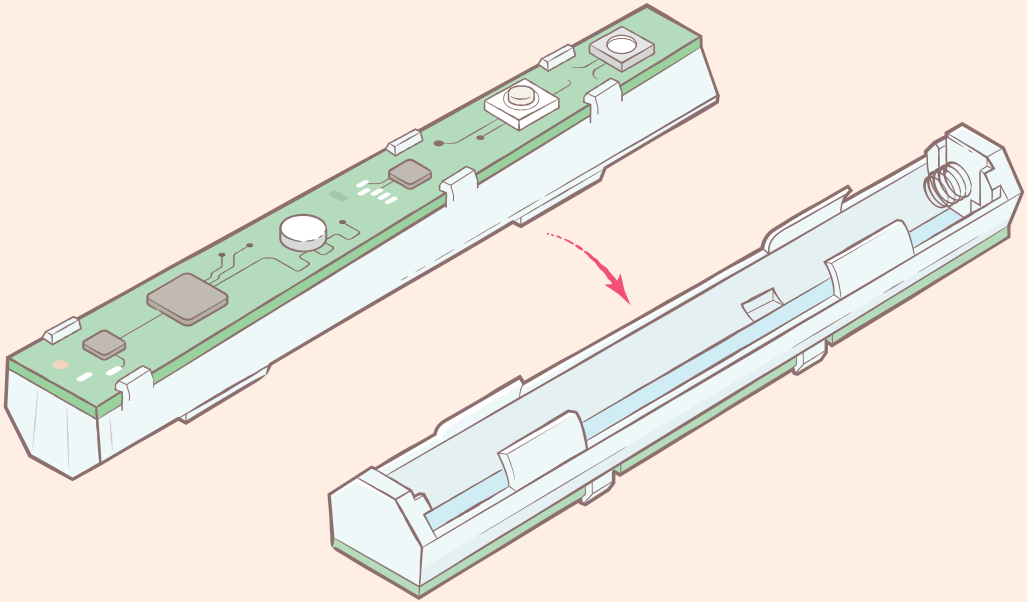
Let's build your coding wand.
Pick up this piece.



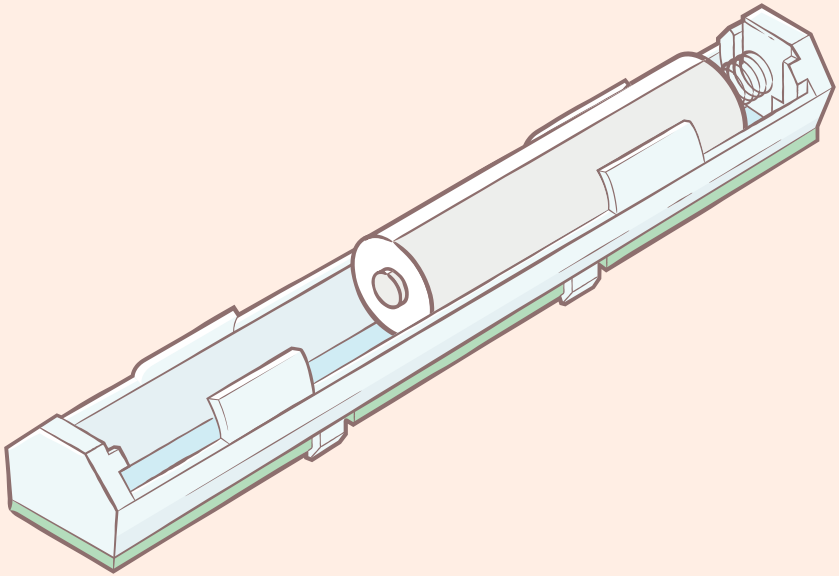
It’s called a Printed Circuit Board or PCB.
Look closely at the parts.

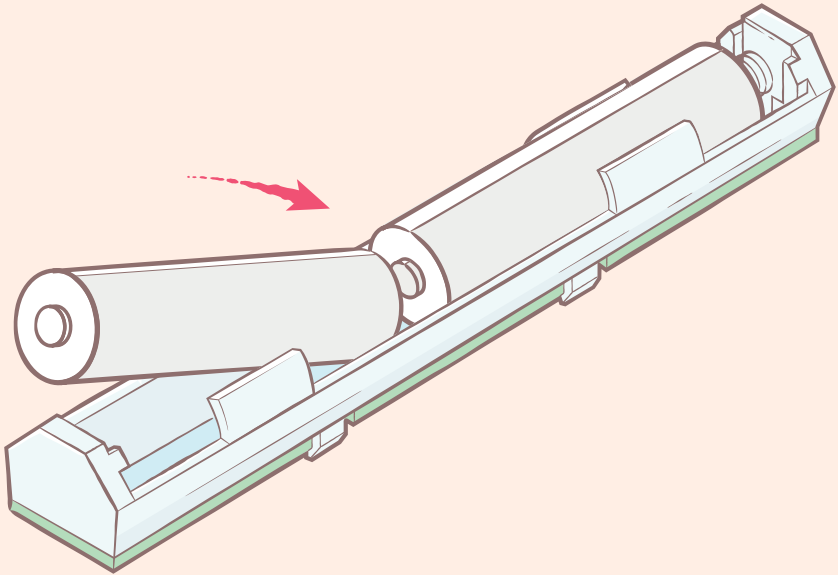

Sensors
Codeable vibration motor
Power controller
Codeable light
Button
Bluetooth antennae
Micro-controller
Bluetooth light

Let's add some power! Turn the PCB over.
This is where the batteries go.



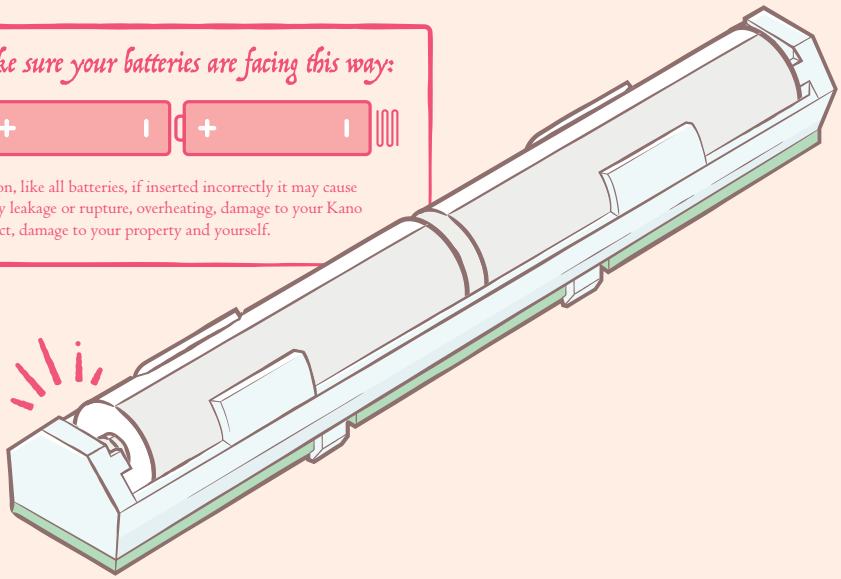
Slot the first battery in.



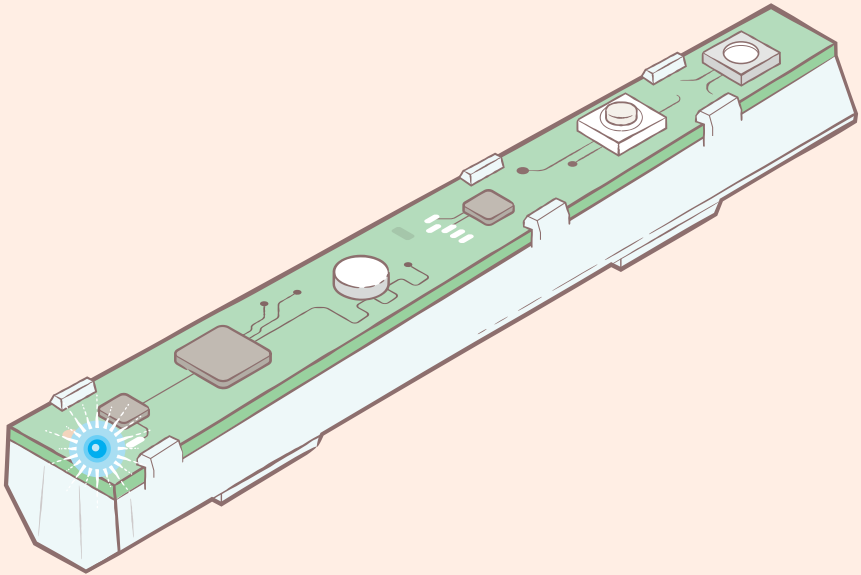


Make sure your batteries are facing this way:

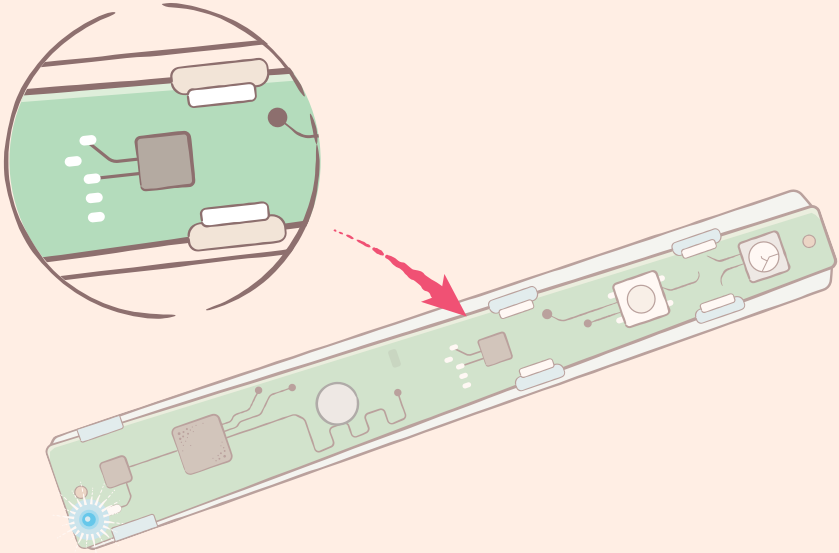
Caution, like all batteries, if inserted incorrectly it may cause battery leakage or rupture, overheating, damage to your Kano product, damage to your property and yourself.



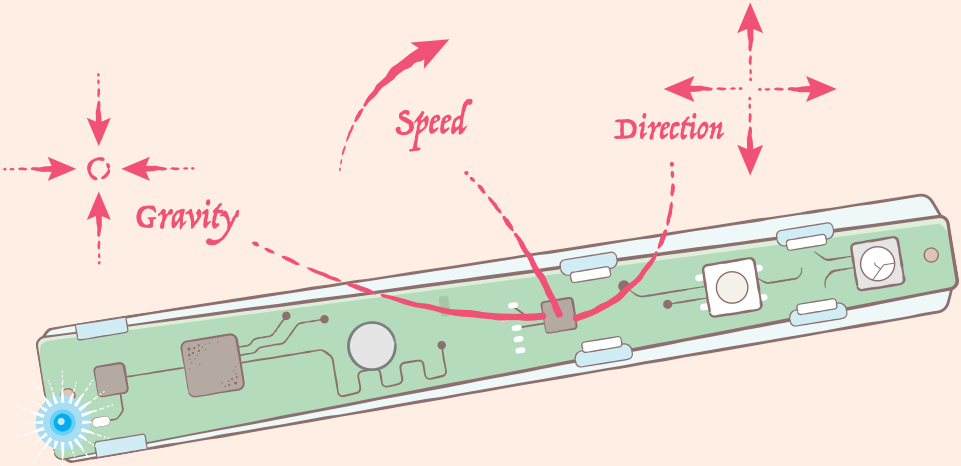
Flip the PCB over and make sure the blue light is on.
If not, check the batteries are the right way round.



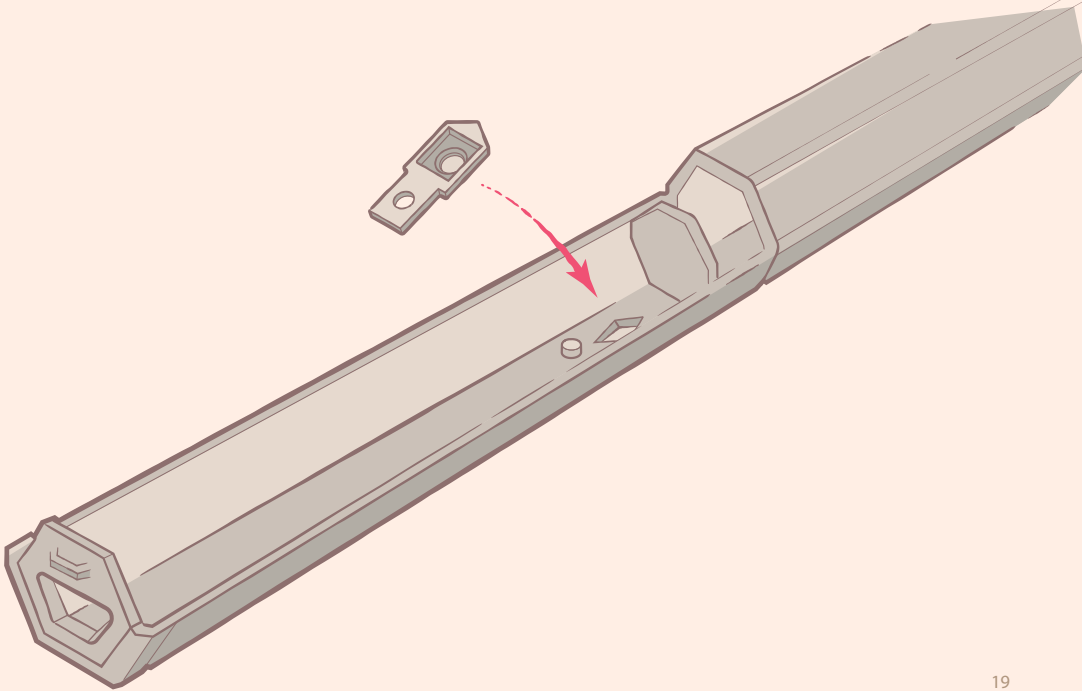
Inside this little black square are three sensors. A **gyroscope** that senses gravity, an **accelerometer** that knows your speed, and a **magnetometer** to calculate the coding wand's direction.

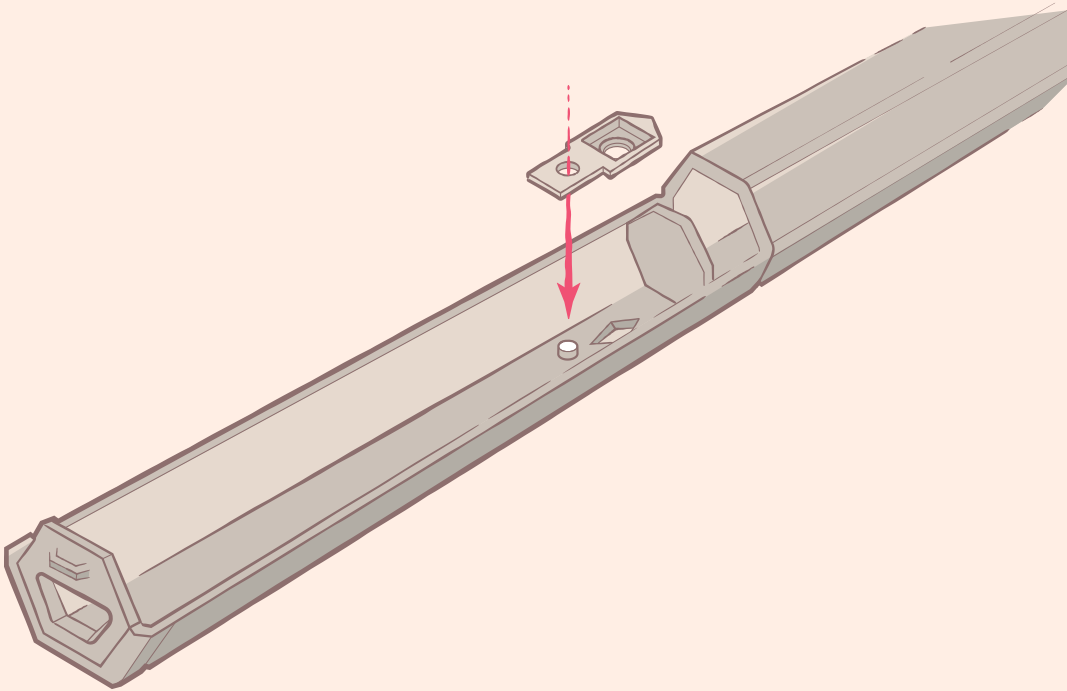


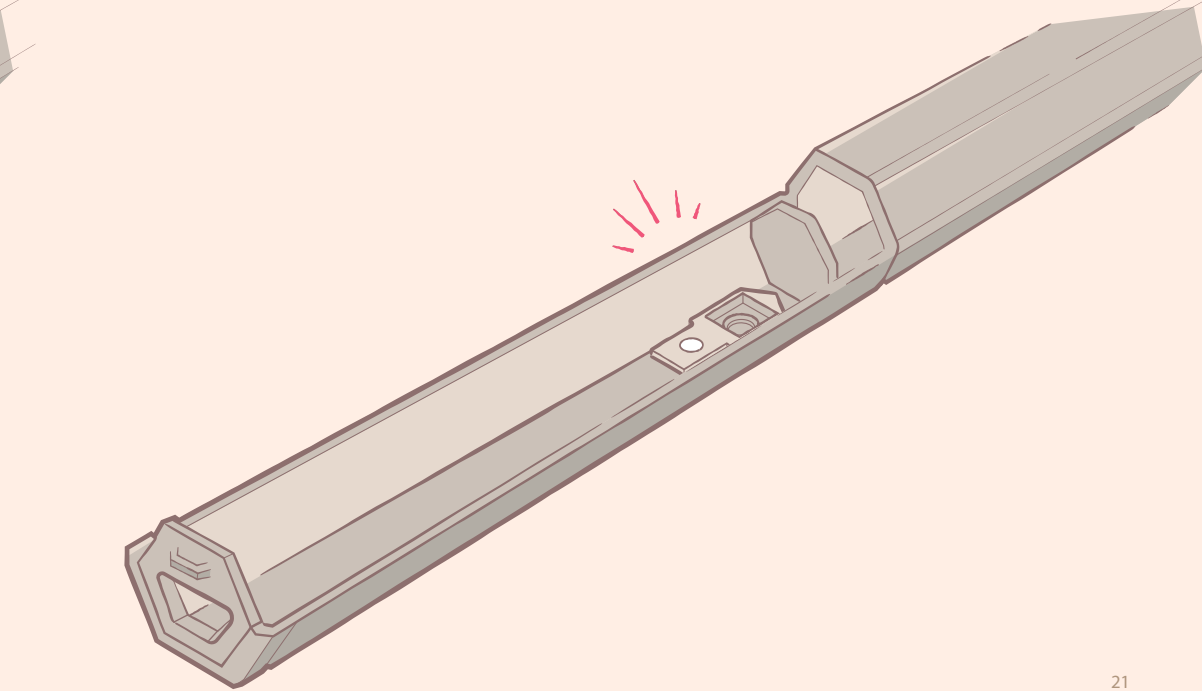
That means your coding wand knows if you're moving it up, down, forwards, backwards, left, right, fast or slow.


Gravity
Speed
Direction

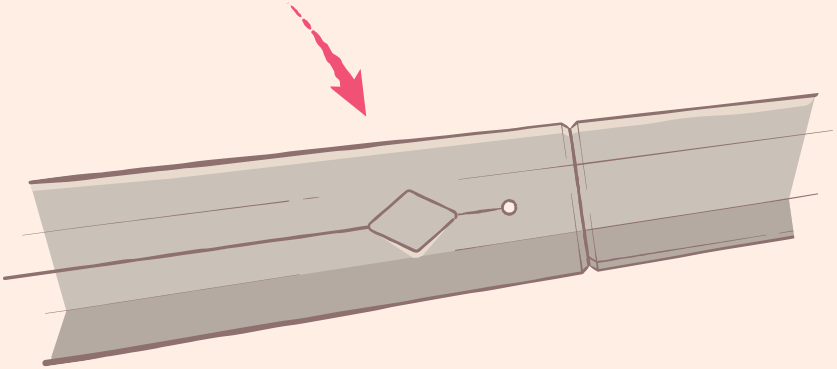
Grab the button, and place it into
the hole of the coding wand handle.





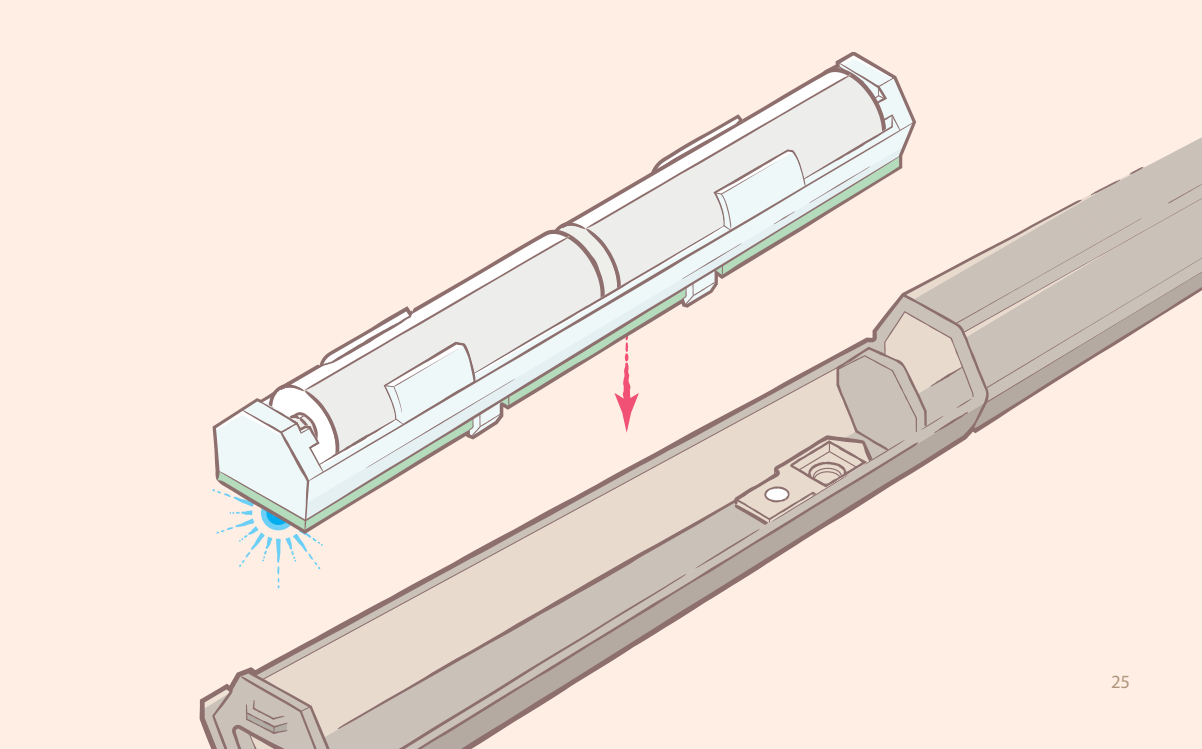


Great! Flip the coding wand over,
and make sure the button is peeping out.

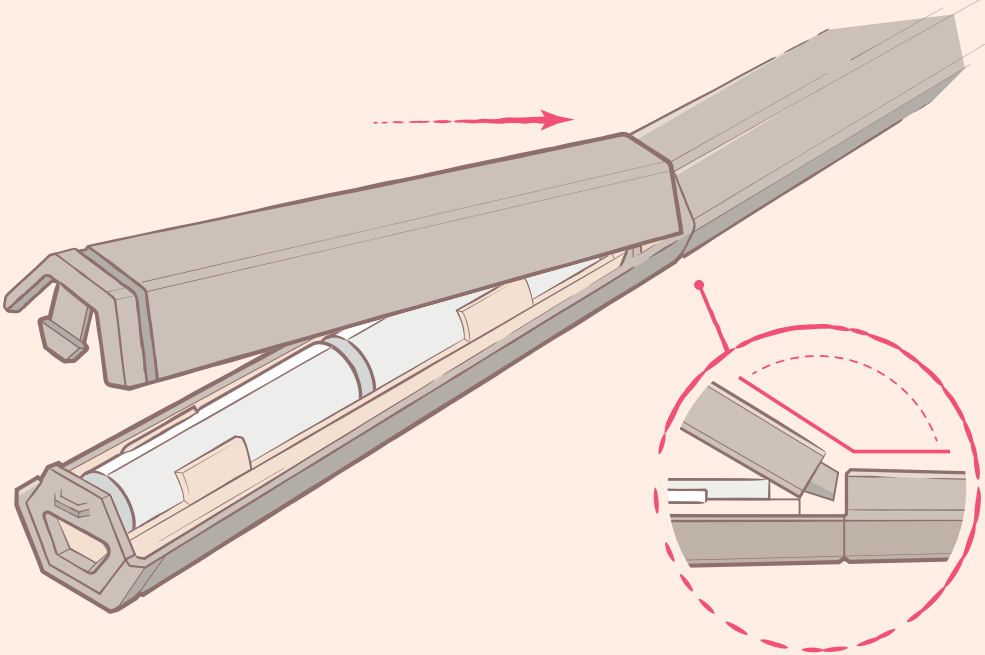


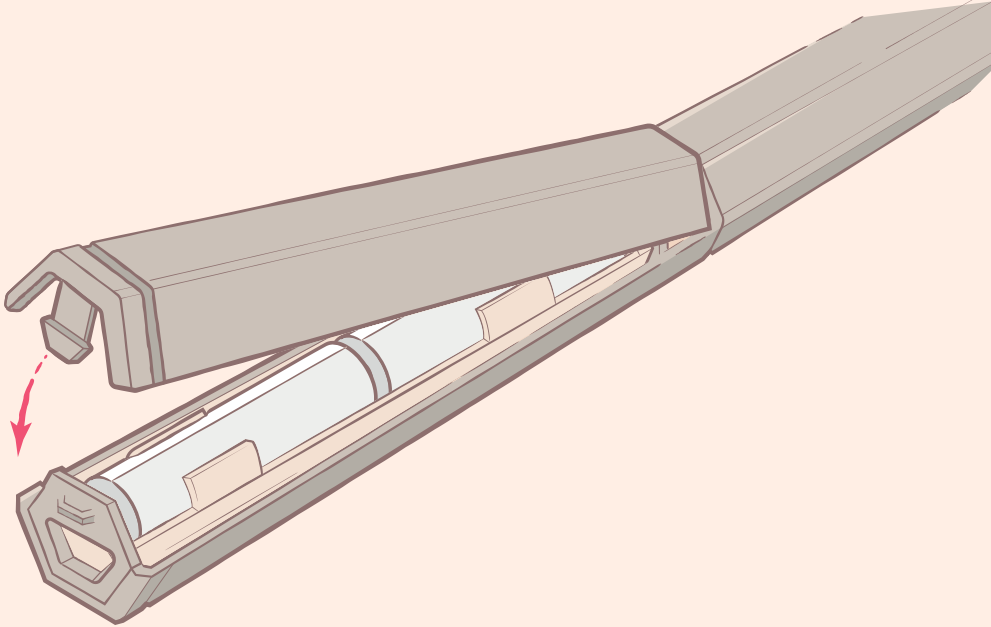
Put the coding wand on a flat surface,
and carefully place the PCB into the handle.

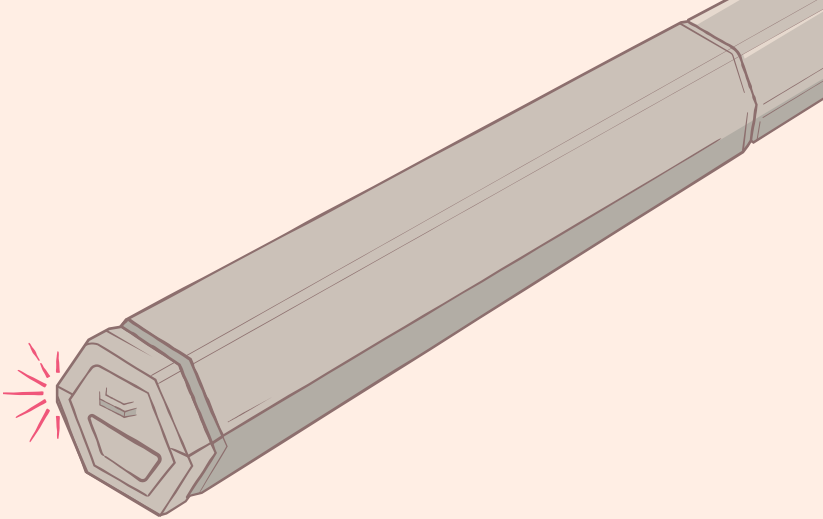
No blue light? Press the PCB button to wake up your coding wand



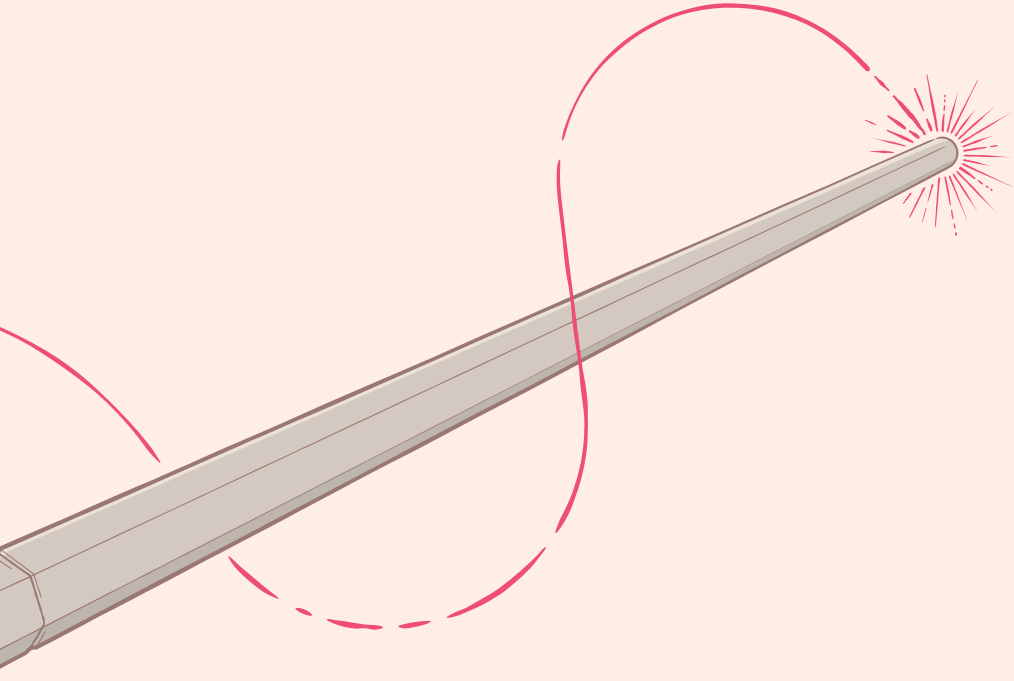
Grab the coding wand handle cover.
Slide it in, then clip it down.







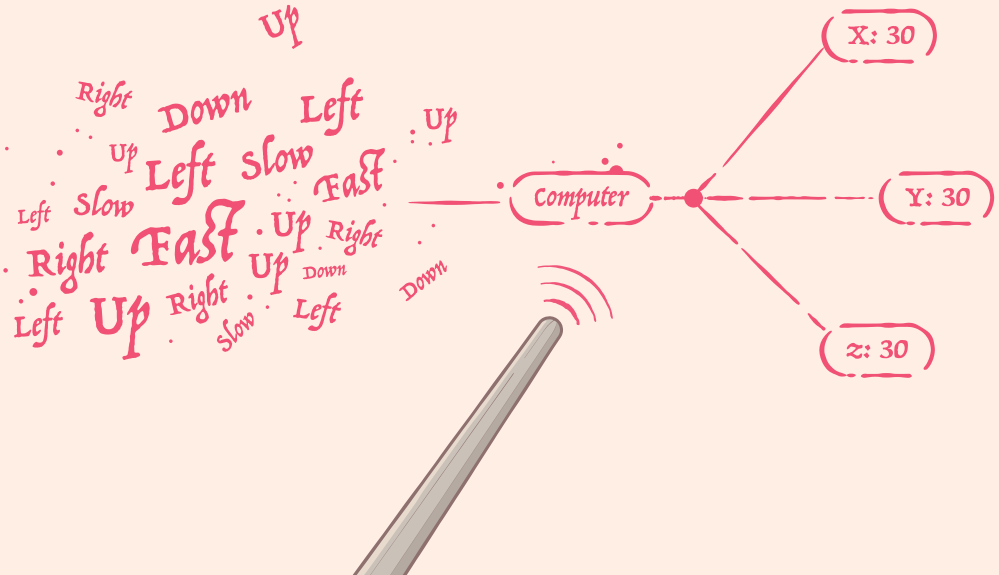
Excellent. Pick up your coding wand.
With it you'll do great things.



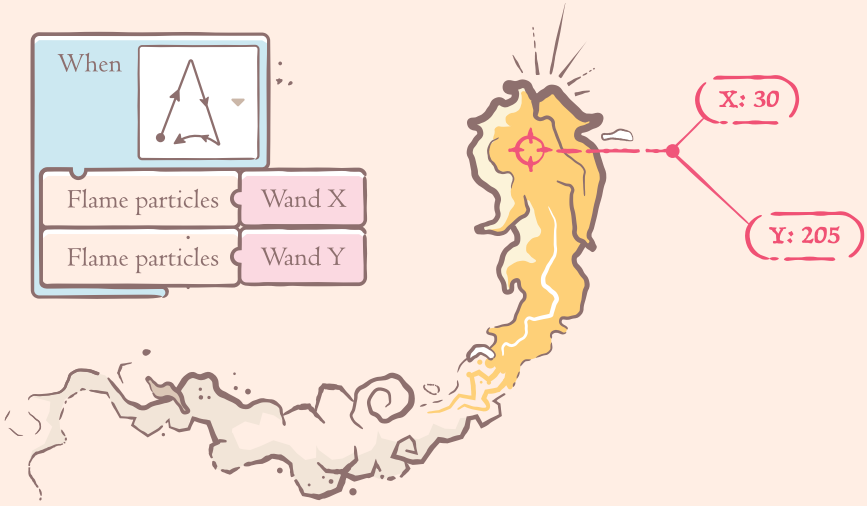
When you wave your coding wand, the sensors turn your movement into data, and the PCB beams that data to your computer.

Up
Slow
Right
Fast
Up
Slow
Down
Right
Left
Up
Up
Left
Slow
Fast
Left
Slow
Fast
Up
Right
Down
Right
Up
Down
Down
Left
Up
Right
Slow
Left
Left
Up

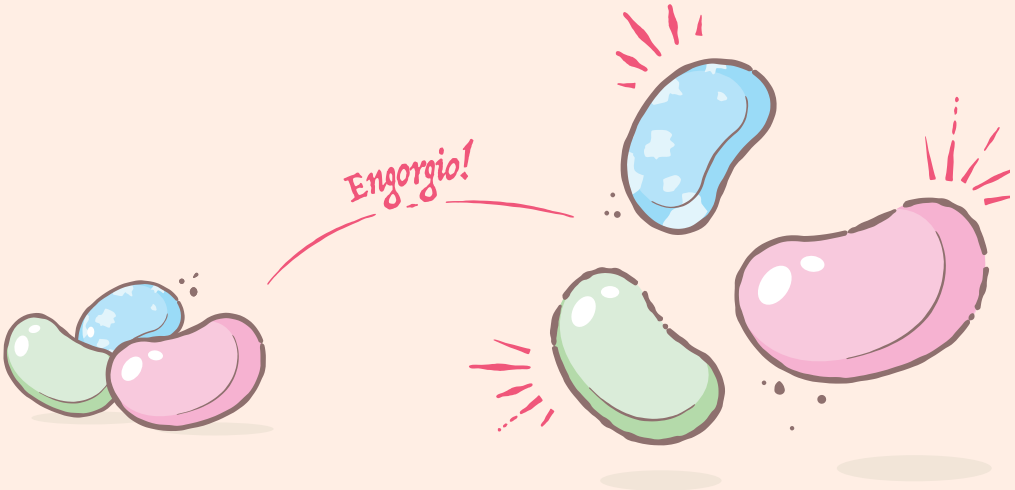
Your computer then turns that data into code.


Up
Right
Down
Left
Up
Up
Left
Slow
Fast
Left
Slow
Fast
Up
Right
Right
Up
Down
Left
Up
Right
Slow
Left
Down
Computer
X: 30
Y: 30
z: 30

With the right movements, the right words,
a bit of curiosity, and courage...


When
Flame particles
Wand X
Flame particles
Wand Y
X: 30
Y: 205

You can make flames flow, jelly beans grow,
feathers fly, goblets multiply, buttercups bloom,
fireworks that boom, and more.


Engorgio!

Your tablet or computer need the Kano app to talk to your coding wand. Download it from **Kano.me/app**.

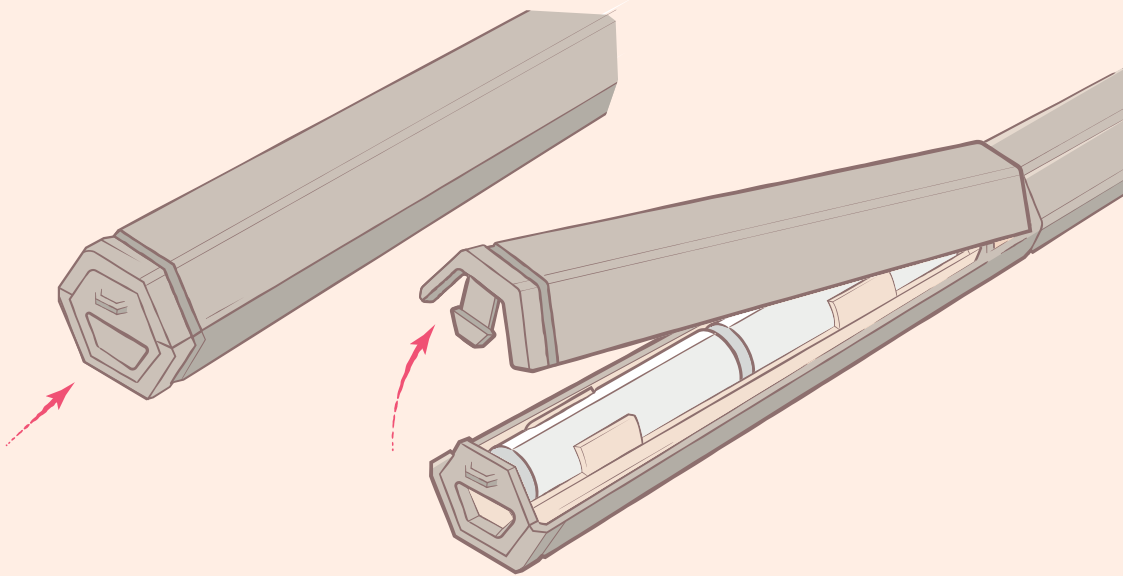
THE KANO APP

DOWNLOAD NOW!
ONLY 92,569,106 BYTES
→ KANO.ME/APP ←

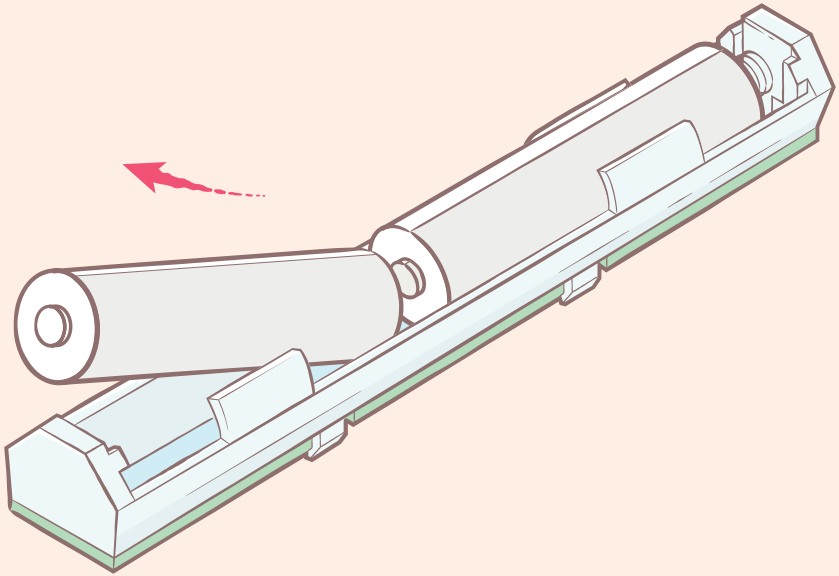
CONTROL CODING KITS, CONQUER CHALLENGES, CREATE & LEARN, ON ANY COMPUTER!

ESSENTIAL TIPS TO KEEPING YOUR CODING WAND IN TIP-TOP CONDITION

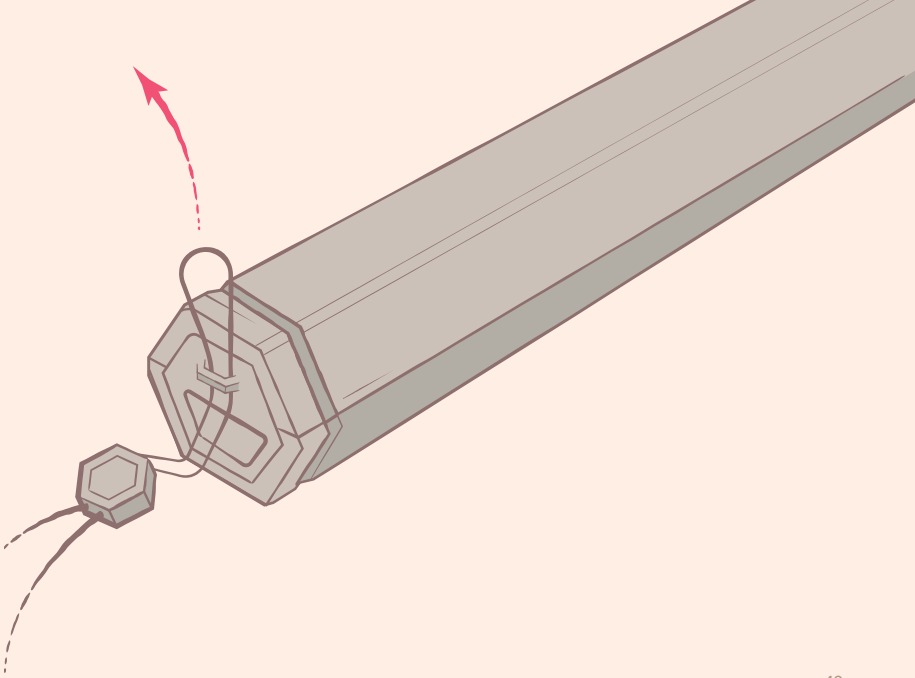
Need to open your coding wand? Press the button at the bottom to unclick the cover.

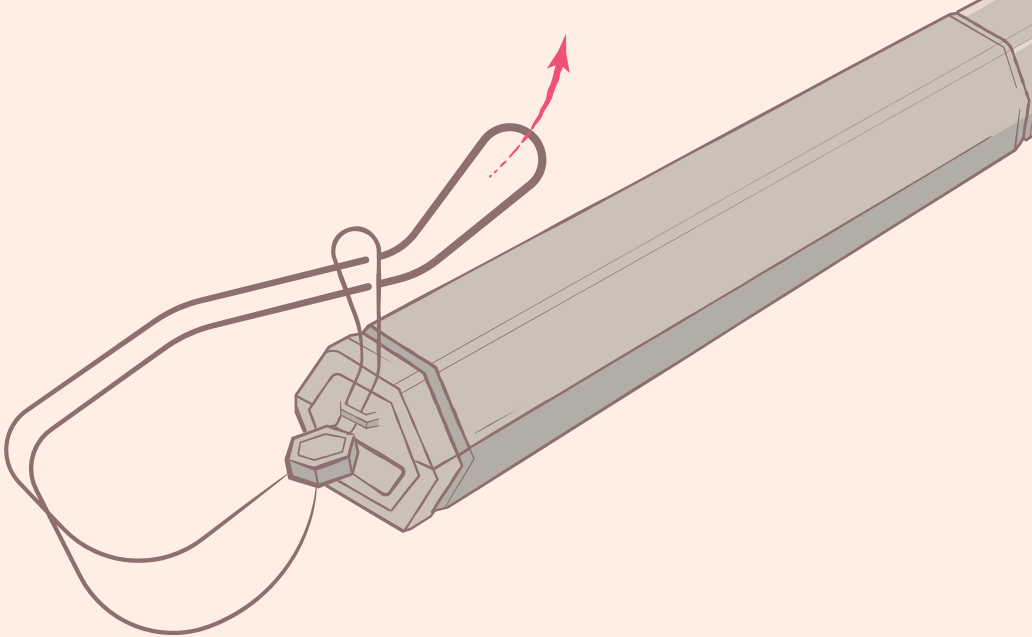


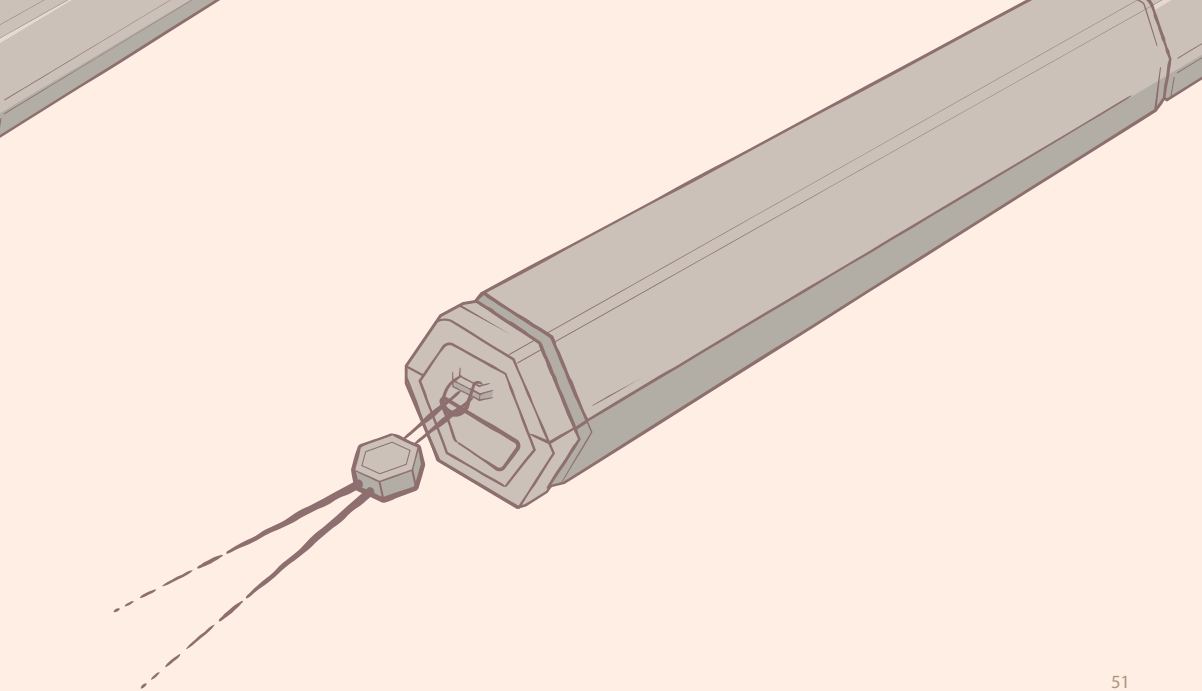
Not going to use your wand for a while?
Make sure to take the batteries out so they stay charged!



If you want to use the lanyard,
push the small loop through this hole.



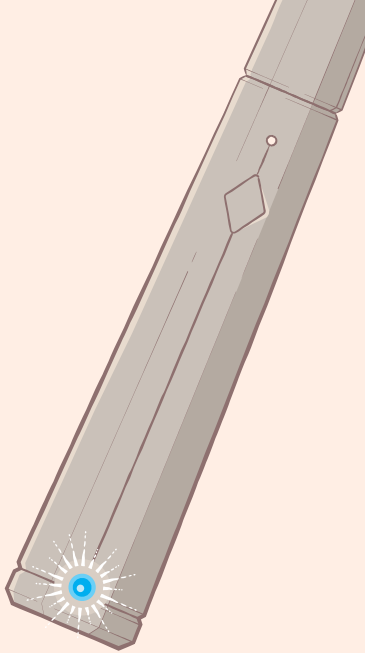




The Bluetooth light tells you if your coding wand is connected to your computer.

It will flash when searching for a Bluetooth connection...

...and stop flashing once connected!



Something not working? Get help fast – go to **help.kano.me** and search the Help Codes below:

Coding wand isn't powering up	WA2
Coding wand can't connnect to device	WA3
Help installing or using the app	WA4
Device isn't supported	WA5

help.kano.me

Help with anything
from kits to coding

kano.me/world

Endless play with
a creative community

kano.me/shop

More Kano Kits
to build and code

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the followingmeasures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

FCC ID: **2ACVK-1007**

IC Caution:

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) this device may not cause interference,

(2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

IC: 12235A-1007

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