How to make a

Frozen II Coding Kit
motion sensor

PCB + Sensors

Light plate

Power button

Batteries

Top case

Bottom case

Step into

the unknown

Let's begin. Pick up this piece

It's called a Printed Circuit Board or PCB

Turn over the PCB and slot in both batteries
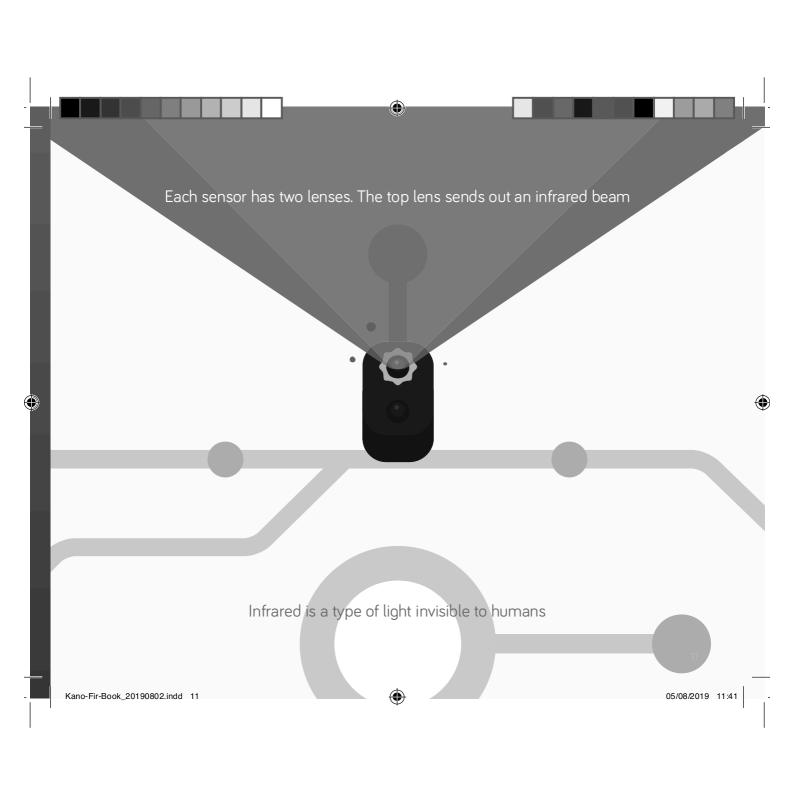
Make sure they are the right way round

Take a closer look at the PCB

LEDs
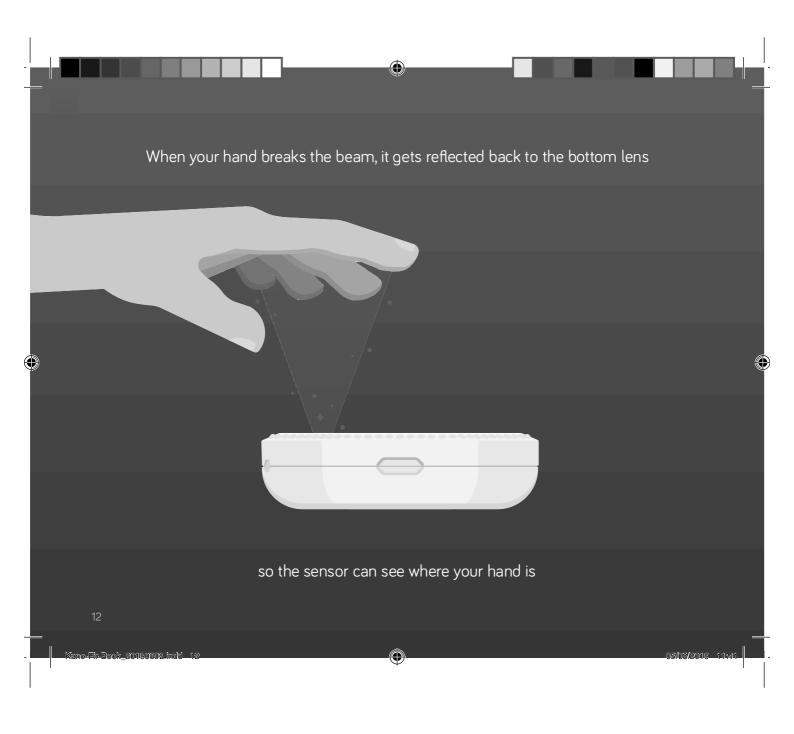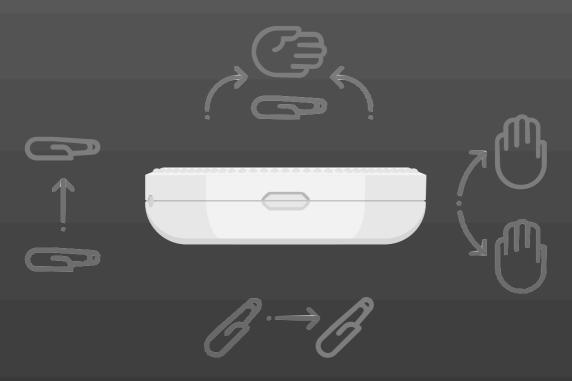
Sensors

It's made of sensors, LEDs, microprocessors, resistors and tracers

Each sensor has two lenses. The top lens 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 see where your hand is

All four sensors work together to tell if your hand is going…
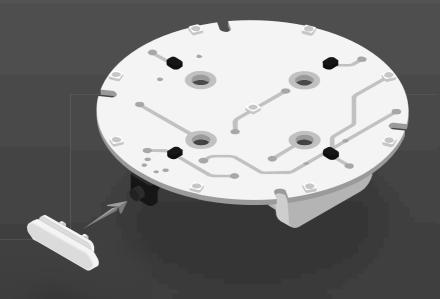
up, down, forwards, backwards, left, right, or tilting
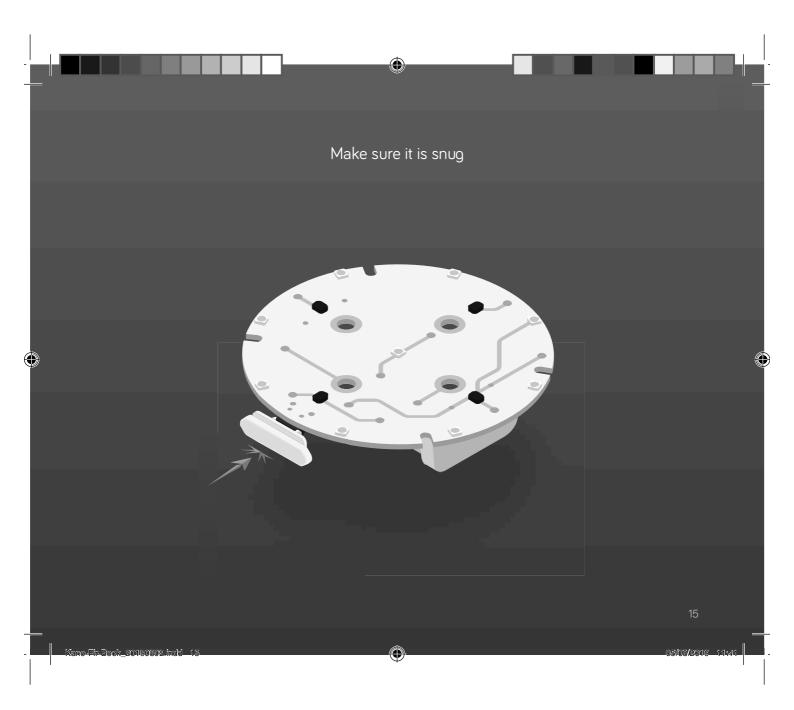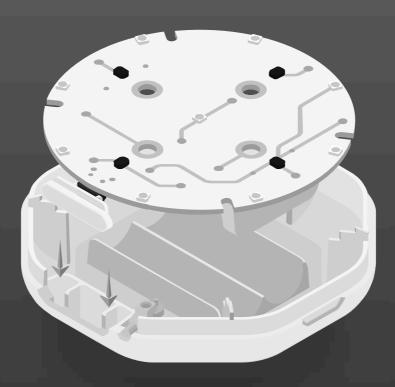
Time to add some control

Push the power button onto the PCB

Make sure it is snug
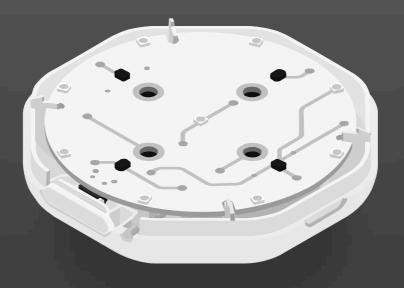
Now place the PCB into the bottom case

Line up the button with the groove in the base
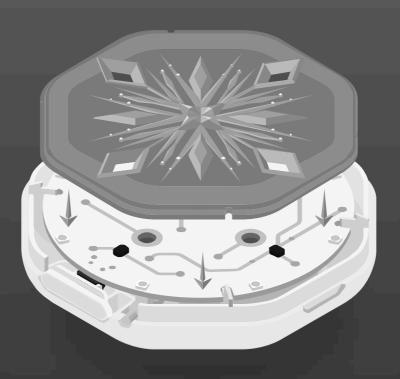
Gently push the PCB into the base

Take the light plate

and place on top of the PCB

Make sure it's pushed in all the way
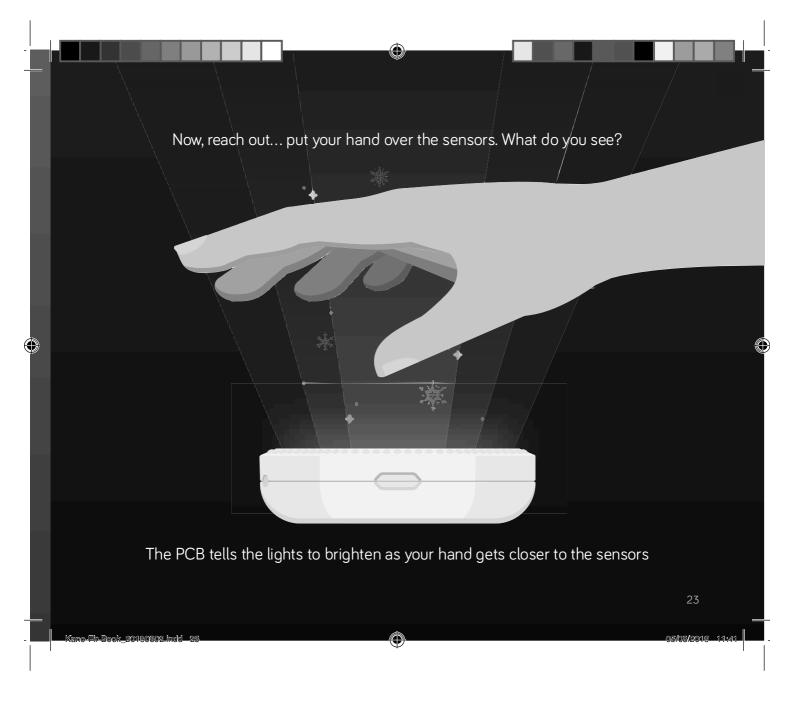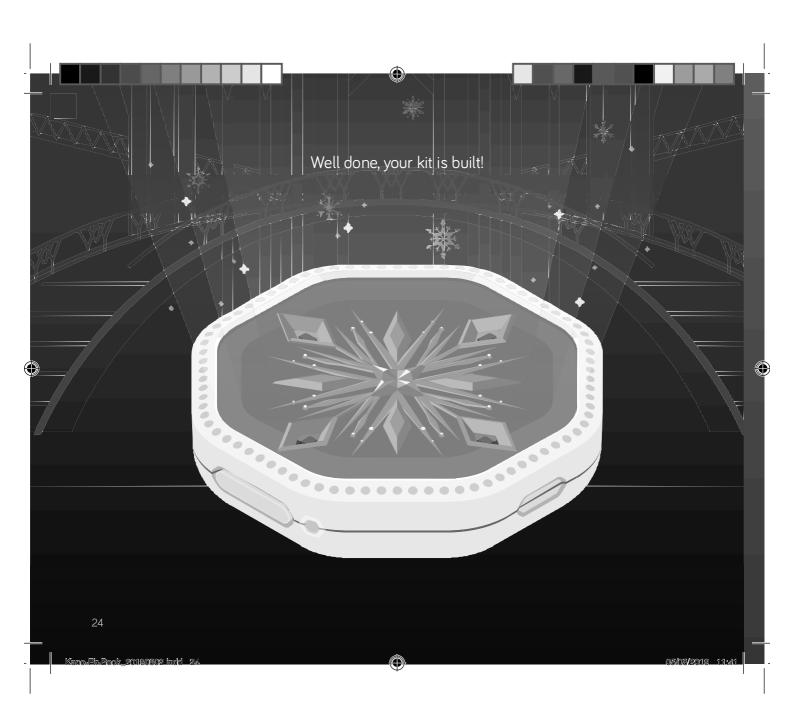
Take the top case

Push it onto the bottom case

Until it clicks

To turn it on…

Press

press the power button

Now, reach out… put your hand over the sensors. What do you see?

The PCB tells the lights to brighten as your hand gets closer to the sensors

Well done, your kit is built!
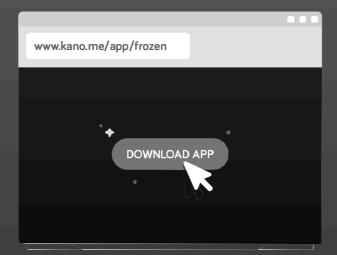
Now, simply download the app onto your device to start playing with
The Disney Frozen™ Coding Kit

www.kano.me/app/frozen

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DOWNLOAD APP

Download it at **kano.me/app/frozen**
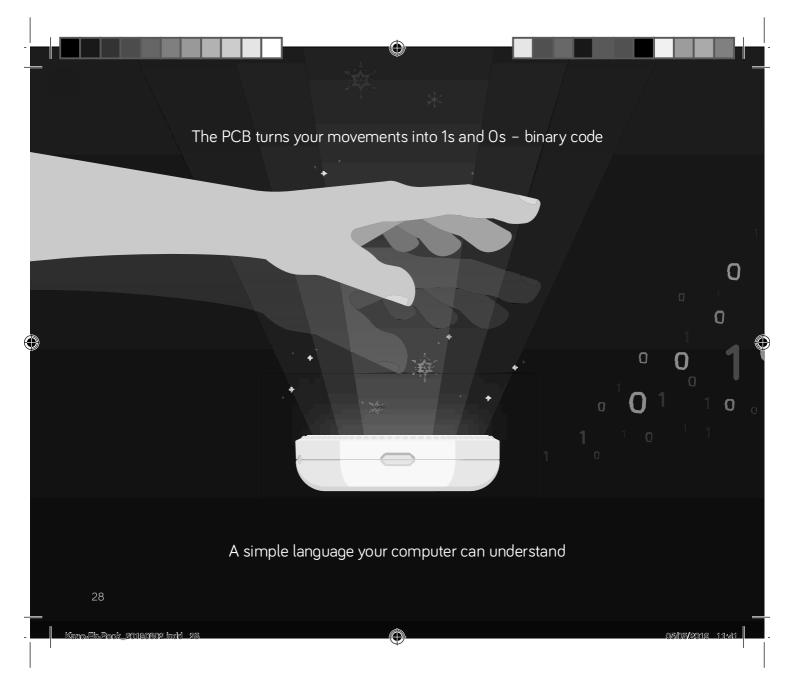
Destiny

Discover new skills as you create   en

awaits

te   endless Frozen adventures

The PCB turns your movements into 1s and 0s – binary code

A simple language your computer can understand

It beams those 1s and 0s to your computer

1 0 1 0 0 0 1 0 1 0 0 0 1 0 0 1 0 1 0 0 0 1 0 0 1 0 0 1 0 1 0 0 0

X: 10

Y: 3

Z: 52
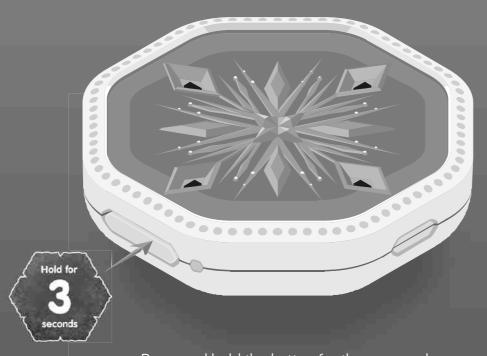
letting you make things move on a screen

The power button should always point towards you

So the kit knows which way it is facing

To save battery power, put the kit into sleep mode

Hold for
3
seconds

Press and hold the button for three seconds

Hidden

truth

The Bluetooth light on the side will tell you if your kit is connected

Flashing when searching   Solid when connected

The lights on top also tell you different things
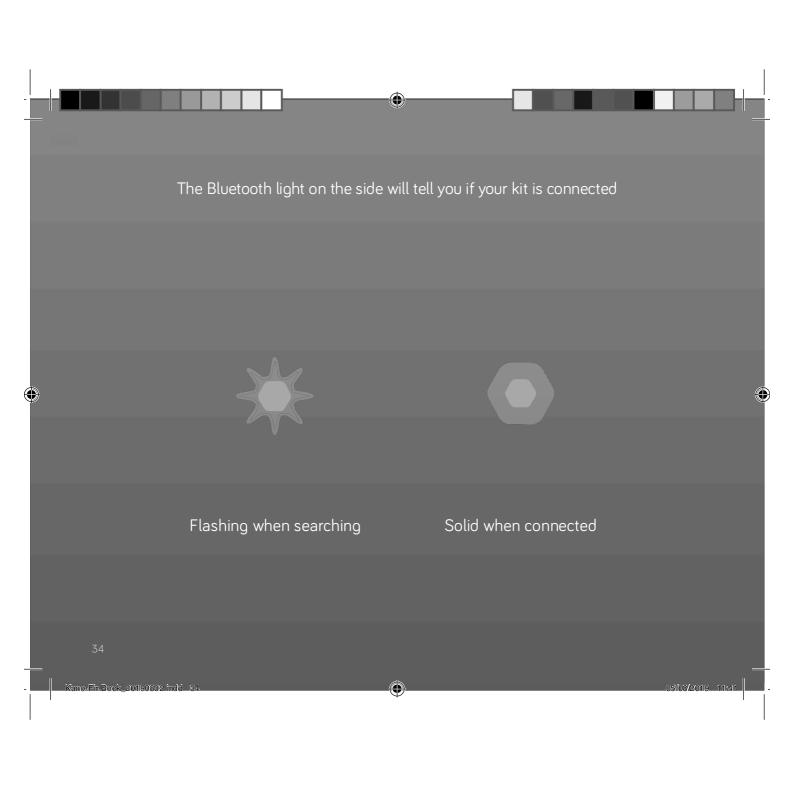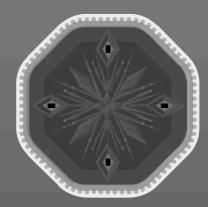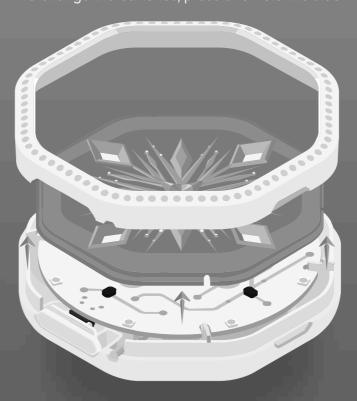
Low battery   Change batteries
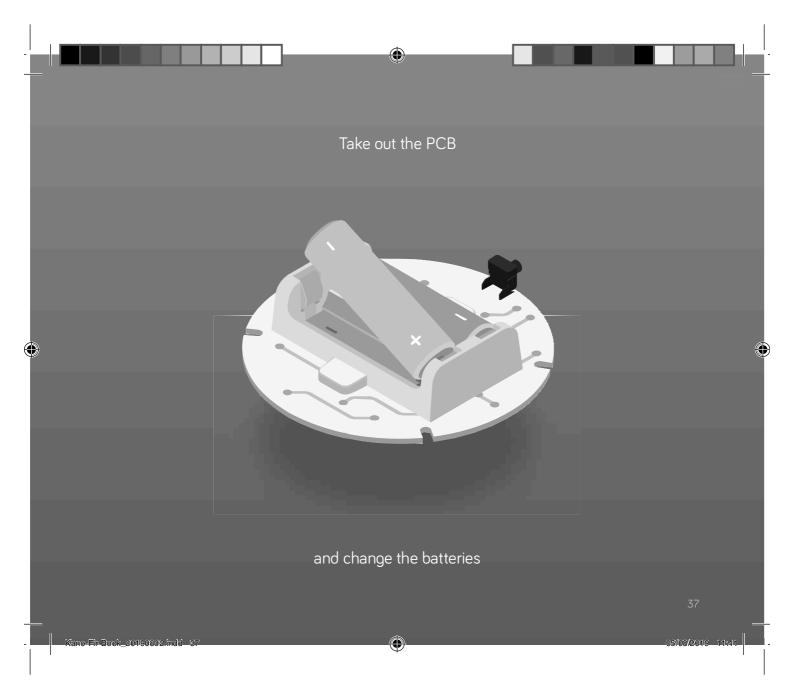
To change the batteries, press and hold the side

Pull the top case off and take off the light plate

Take out the PCB

and change the batteries

The answers are

there waiting

Something not working? Get help fast at **help.kano.me**

Use these help codes

The Disney Frozen™ Coding Kit not powering up	FR2
The Disney Frozen™ Coding Kit won't connect to device	FR3
Help installing or using the app	FR4
Device isn't supported	FR5

Want more?

help.kano.me
Help with anything
from kits to coding

kano.me/blog
For interesting articles,
help, and highlights

kano.me/app/frozen
Download the app
on to your device

/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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FCC Statement

1. 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.

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

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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 following measures: (1) Reorient or relocate the receiving antenna. (2) Increase the separation between the equipment and receiver. (3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. (4) Consult the dealer or an experienced radio / TV technician for help.

IC Caution:

RSS-Gen Issue 4 December 2014"&"CNR-Gen 4e Décembre 2014:

- English:

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

- French:

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.

Disney

FROZEN II

KANO
anyone can make