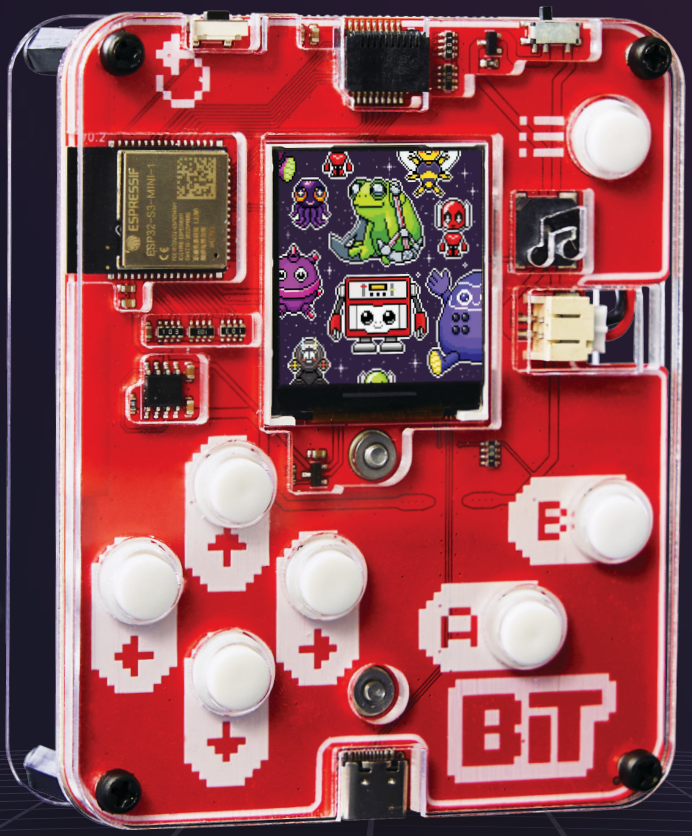
# CREATOR'S BOOKLET




CircuitMess

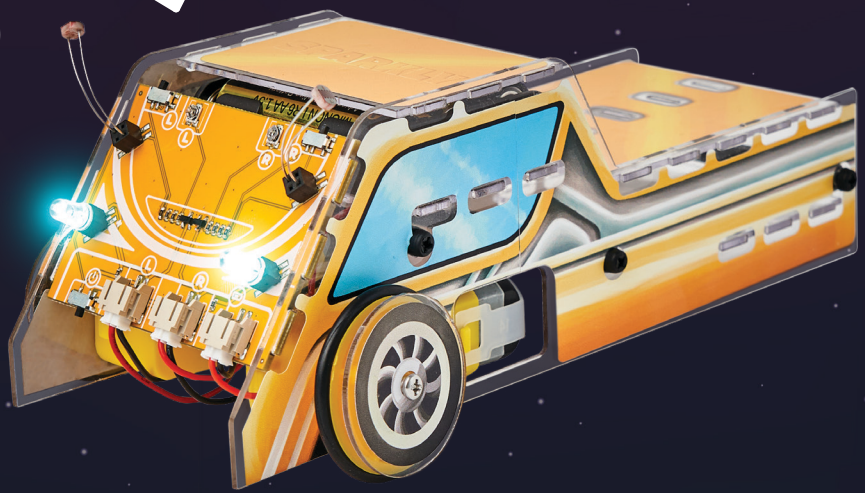
# Enhance your STEM knowledge with the CircuitMess toy collection!

Wacky Robots are a quirky group of mini-robots that will help you master the basics of robotics and electronics.


**Collect all the Wacky Robots and unlock new games for the BIT!**


**Connect your robots to Sparkly, a robot car that follows the source of light.**

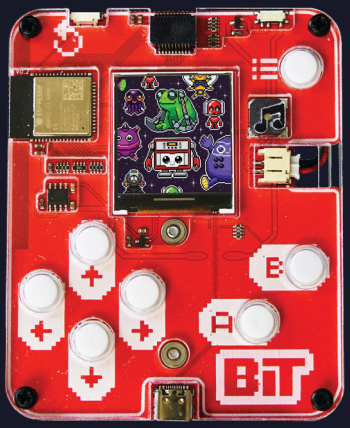
Sparkly, BIT, and Wacky Robots are sold separately.

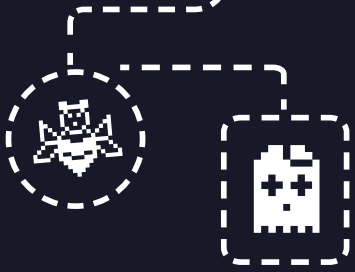


## Meet CircuitMess BIT

Introducing CircuitMess BIT, a DIY game console that will help you enter the exciting world of robotics and programming.

Although it is named after the most fundamental computing and digital communication unit, BIT is much more. BIT will teach you how to make your own video games, different electronic components, and the basics of programming.



## How does it work?

- Follow the guides and assemble your game console
- Play the video games or make your own
- Wacky Robots (sold separately) can be used to unlock new video games

## What is CircuitMess?

**CircuitMess** started in 2016 when Albert (our CEO) was 17.

**Albert** loved tinkering with electronics, and one of his first projects was a DIY game console.

People liked the idea, so he launched it on **Kickstarter**, which raised $100,745!


After that, CircuitMess was born. We are a small and fast–growing team of tech lovers who wish to share our love of creating new technology with the rest of the world!

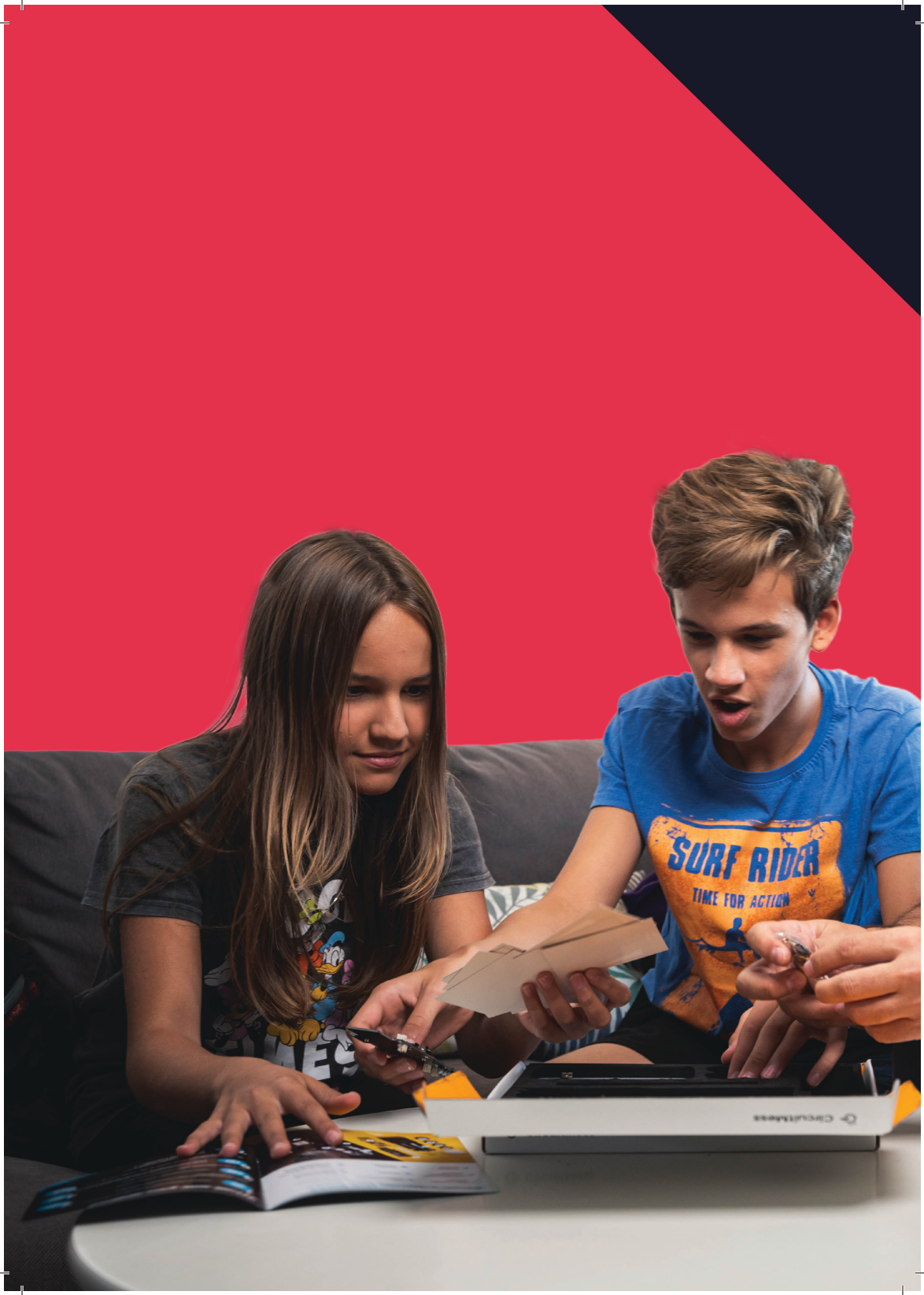
## Behind the name

**Circuit** **Mess**

electronic circuits

creative mess in our heads

All of our kits are developed, manufactured, and packed in Croatia!


SURF RIDER
TIME FOR ACTION

# The mission

Everybody knows how important technology is, but less than 1% of the population knows **HOW TO MAKE** new technology.

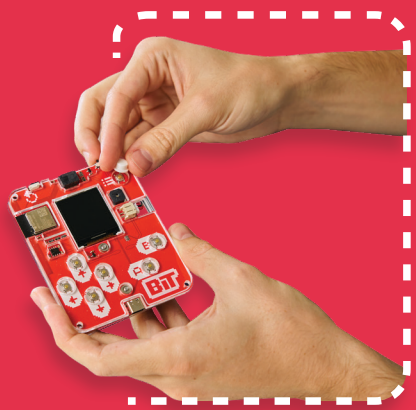
We're here to change that! With our kits, we want to inspire people to be **CREATORS** instead of just consumers.

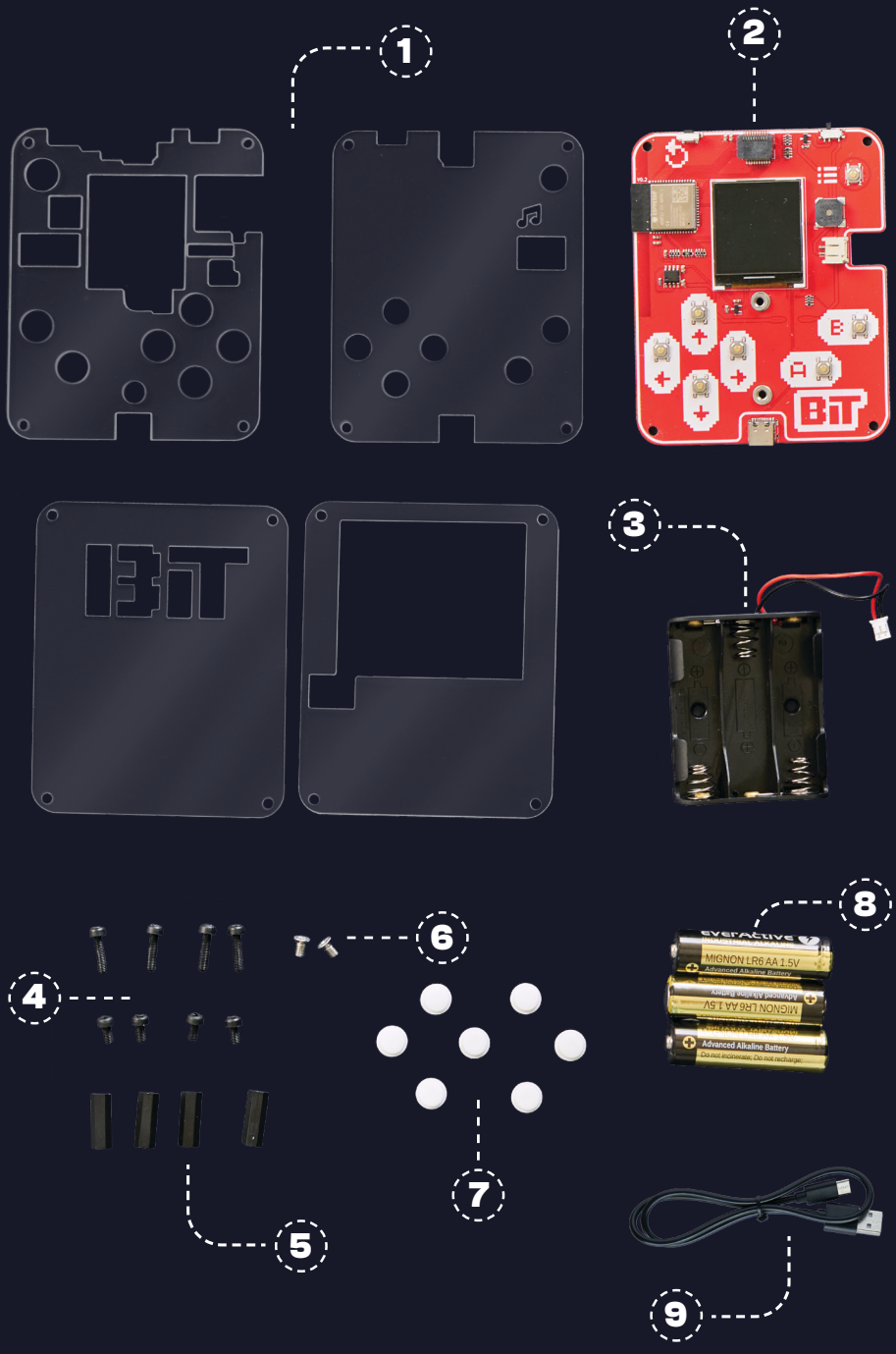
## What's inside the box?

1. Acrylic casings
2. PCB
3. Battery holder
4. Plastic bolts
5. Plastic standoffs
6. Metal screws
7. Plastic caps for pushbuttons
8. AA batteries
9. USB–C cable

## You'll learn about:

- Electronics and different electronic components
- Pixel Art and video game creation
- Programming




1
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everactive
MIGNON LR6 AA 1.5V
Advanced Alkaline Battery

# Gaming through time

**1972** Pong™ was the first commercially successful video game.



**1977** Mattel Auto race™ was the first handheld electronic game.

**1981** Donkey Kong was released. Jumpman, one of the characters, will go on to become Super Mario.



**1989** Nintendo Game Boy


**1991** Sonic the Hedgehog

**2001** Xbox


**2016** Pokemon Go


**2022** CircuitMess CircuitPet

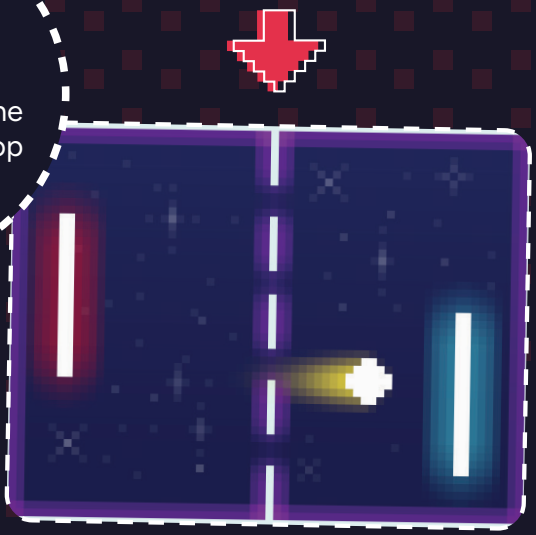
# Unexpected global sensation

**Pong**, the first video game, was inspired by a tennis match.

**Atari**, a well-known American computer company, created the first video game. The game was created after the company's founder, Nolan Bushnell, assigned an exercise task to Allan Alcorn.

Bushnell was so impressed with the game and Allan's work that he decided to develop and market it.

**Pong on the BIT game console**

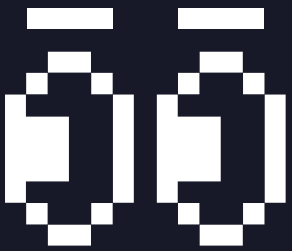


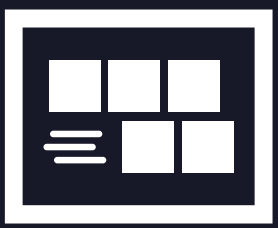
Pong is a two-dimensional table tennis simulation game that you've most likely played a hundred times (if not you, your parents have!).

# New (old) art

**Have you ever heard of the term “Pixel Art”?**

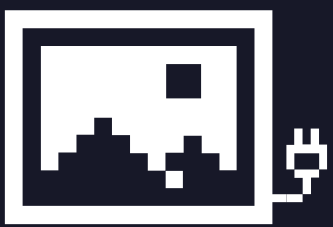
**The pixel** is the basic unit of programmable color on a computer display or in a computer image.





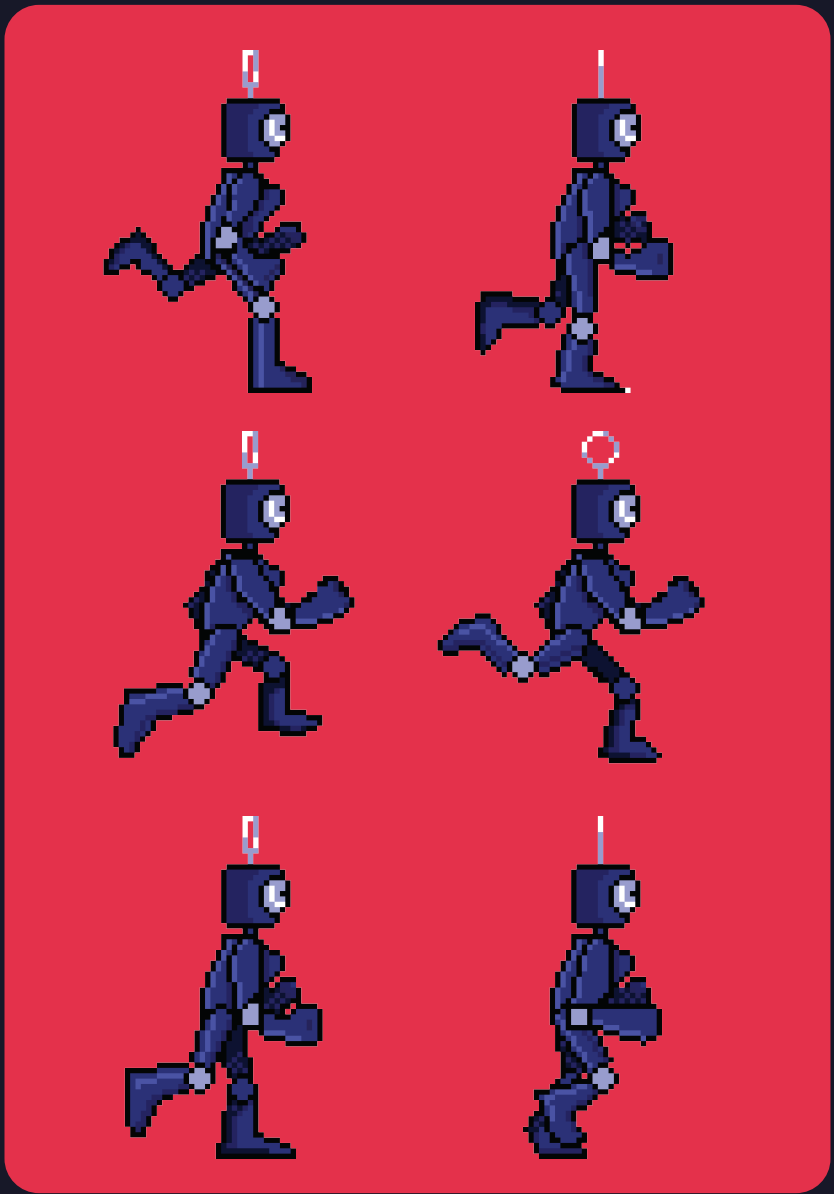
**The frame rate** is the rate at which a number of frames appear within a second. The unit of measurement we use is fps (frames per second).

The standard frame rate of **24fps** is used in movies, streaming video content, and even smartphones.

Anything higher than **30fps** is mainly used to create slow–motion video or to record video game footage.

The art of bringing otherwise inanimate objects or illustrated / 3D–generated characters to life is known as **animation**. It is created by rapidly projecting sequenced images one after the other to create the illusion of life.



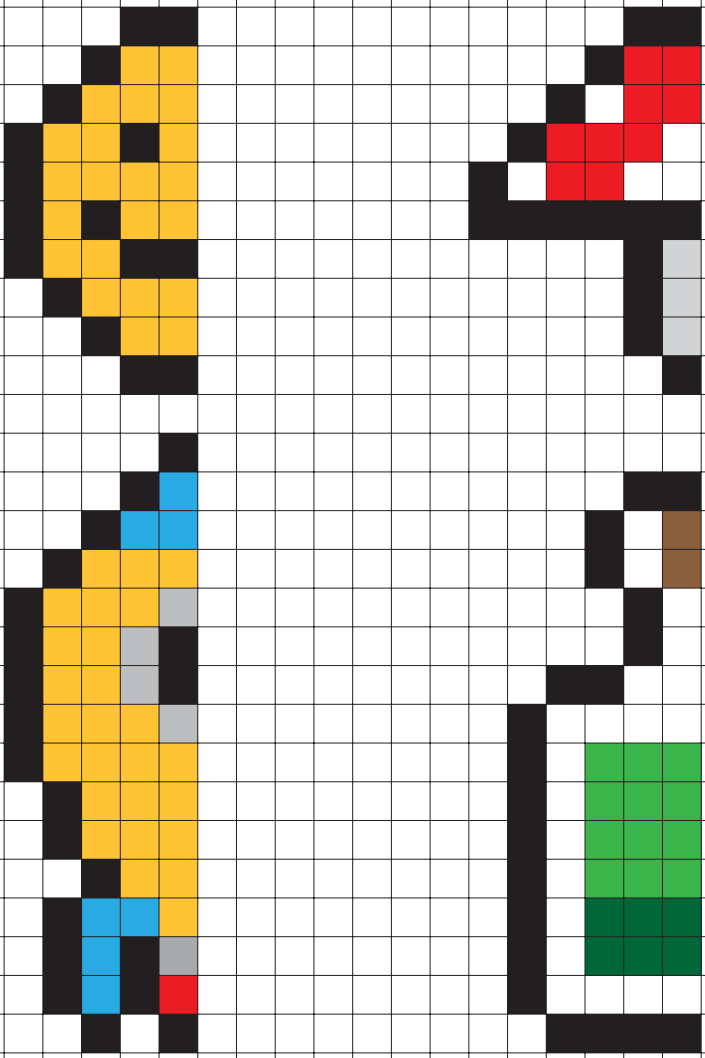
**Pixel art** is a type of digital art created with graphical software in which images are built entirely from pixels.

**Pixel art** was born in the 1970s, and some of the earliest examples were simply squares and rectangles.

**SuperPaint** was the precursor to modern graphic programs like Photoshop, and it was used by NASA as a way to illustrate its discoveries and data.

As the quality of the software improved over time, **pixel art** saw a decline and then a revival of its 8–bit values.

**Try it yourself!**
**Finish the drawings by painting in the squares.**



# Safety first

Before you start with the assembly, pay attention to the following safety measures:

1. Handling a screwdriver is not recommended for children under the age of 7!

2. **Keep CircuitMess BIT away from young children! This product contains small components that are dangerous to children under the age of 3.**

3. If you are a minor, assemble BIT strictly with the help of an adult.

**Closely follow all the instructions you received in this kit and those found on our online pages so that no one gets hurt.**

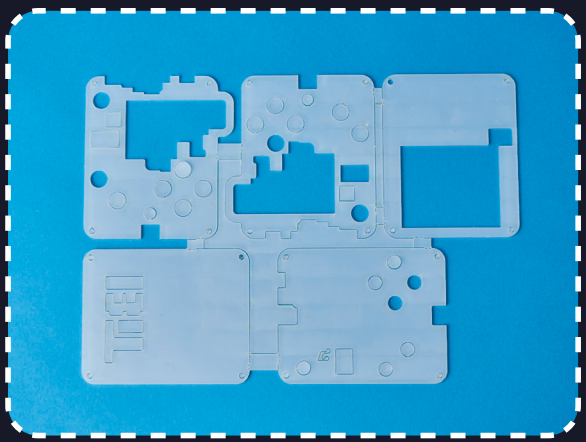
**If you have never used a screwdriver, carefully follow the assembly instructions on our website and, if necessary, ask someone more experienced or older than you to help you.**

**If you are having problems with our kit, contact our customer support via email at contact@circuitmess.com.**

# BIT Build Guide

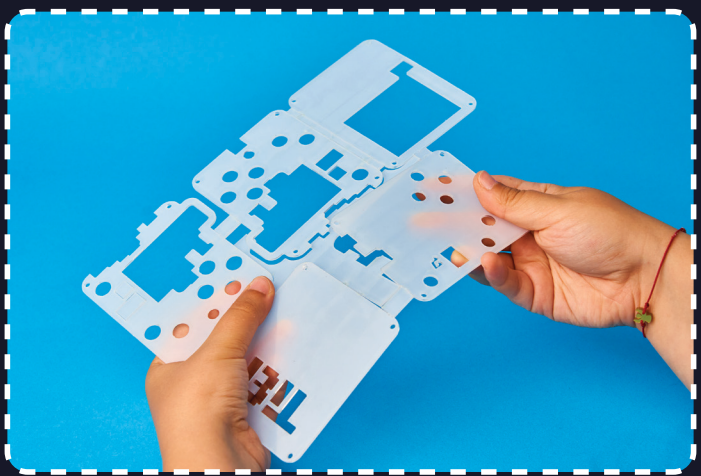
## 1 ACRYLIC CASINGS

You'll need to break one large acrylic piece in the kit to get a bunch of smaller casings.

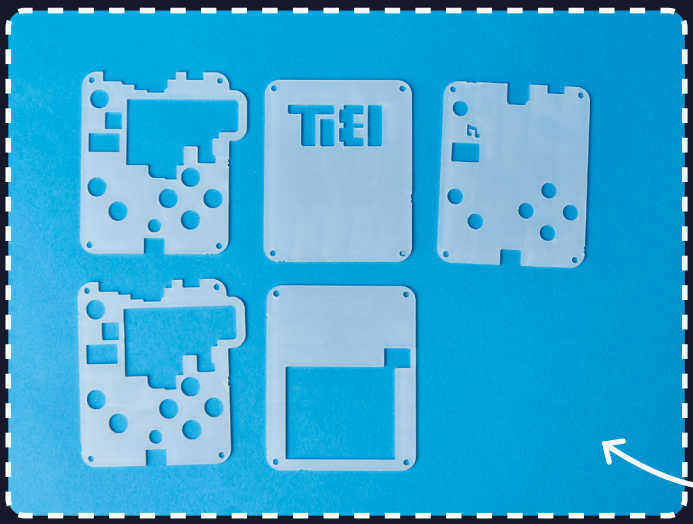


Finally, you must have **five separate casings**.

The casings sheet has been pre-cut, you just need to gently crack the casings into individual pieces; don't use too much force in this step to prevent breaking the necessary parts.

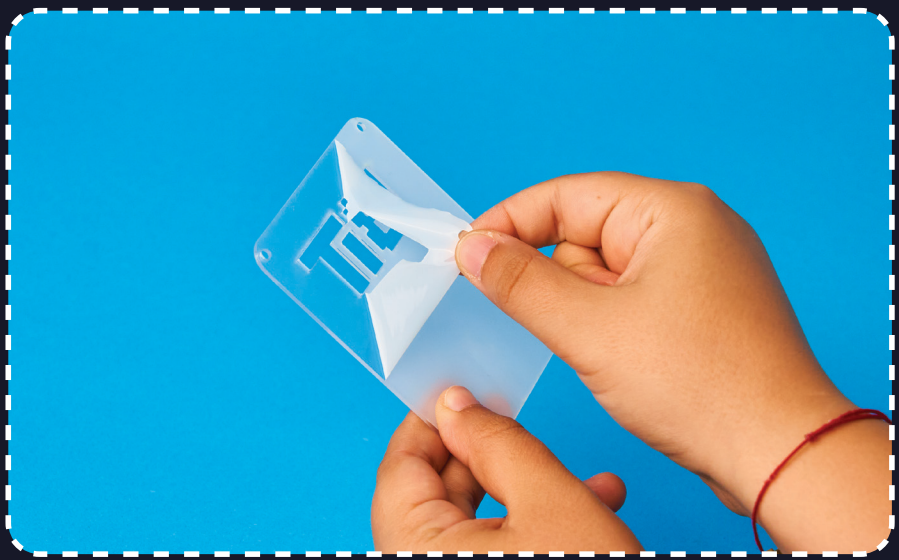


Also, if you have excessive acrylic in the holes on the casings, simply push it out.

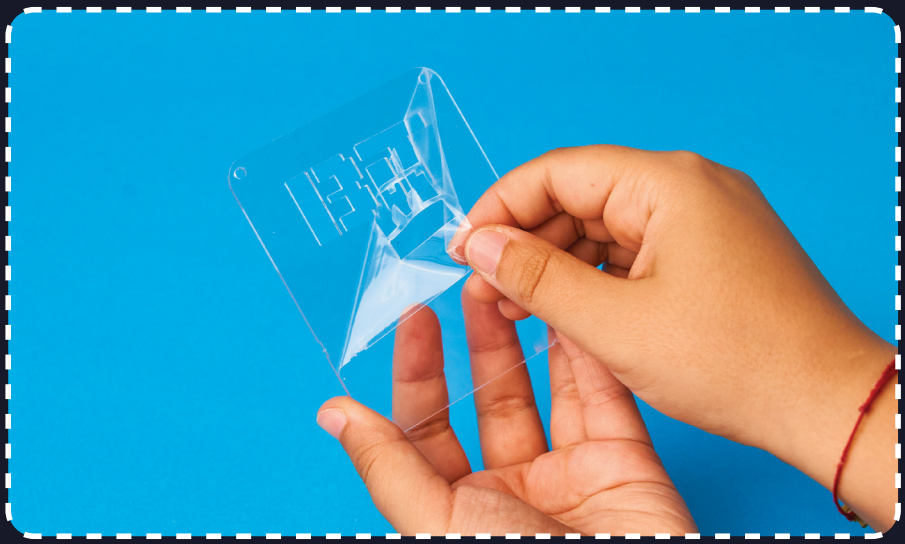


**This is what your casings should look like**

**Remove the protective foil from both sides of the casings now:**

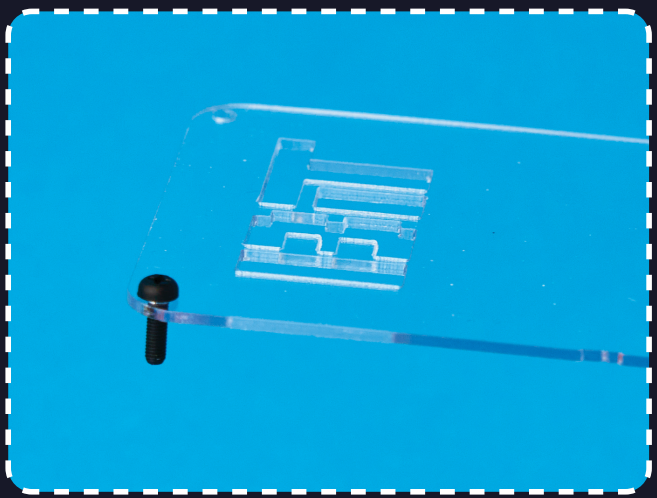


After removing the foil, the casings should be **transparent**.

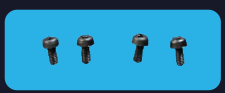


For the next step, we'll need the **casing with a BIT cut-off, four plastic standoffs, and four bolts**.

Thread the bolts through the casing like this:



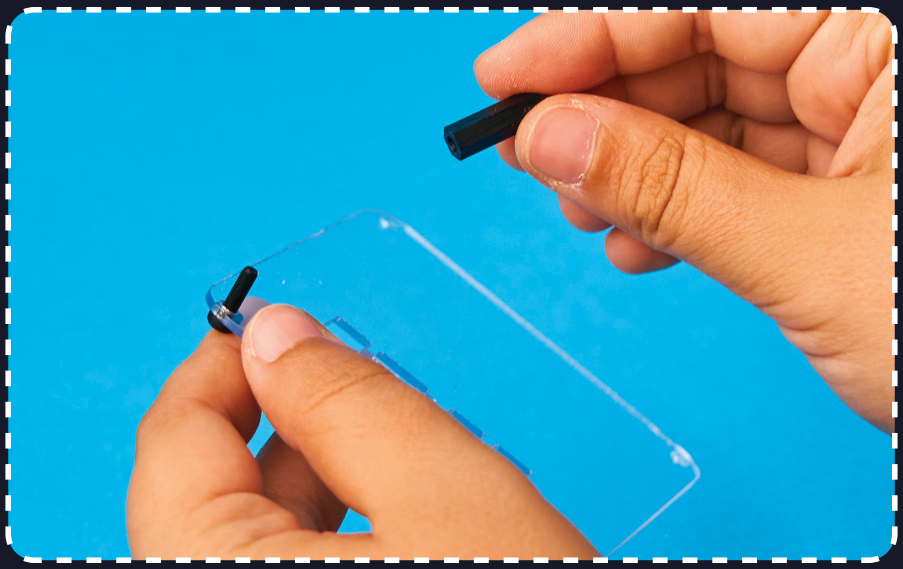
**Plastic standoffs**

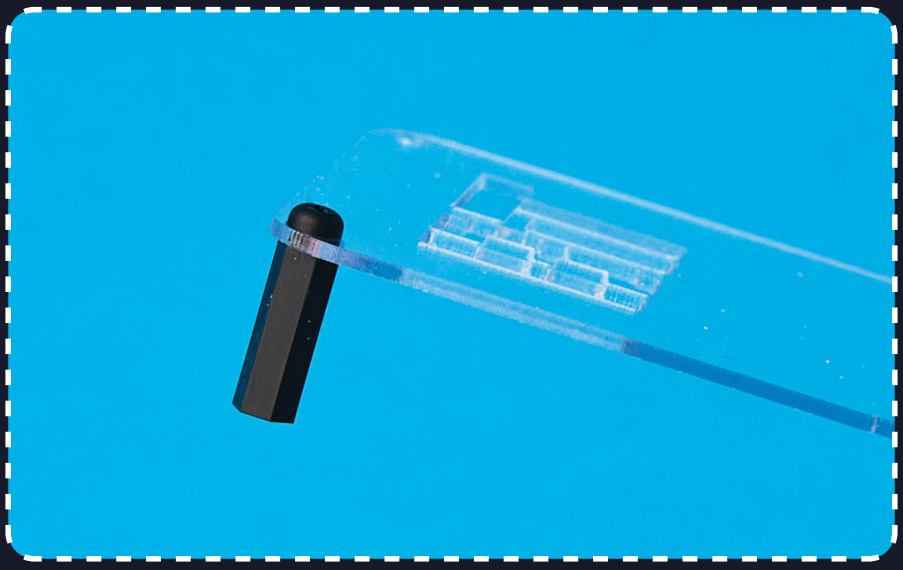


**Plastic bolts**

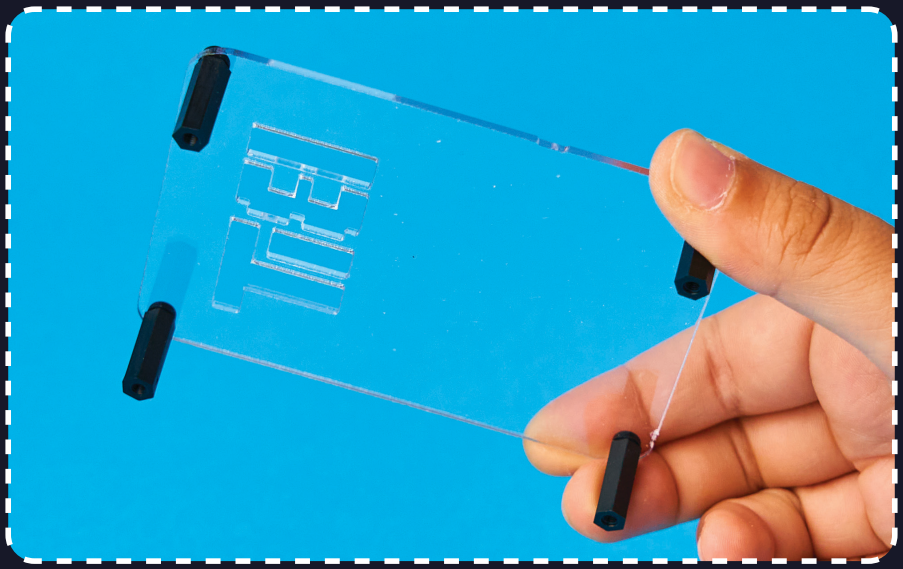
Pay attention to putting the bolt on the correct side (BIT has to be written towards you).

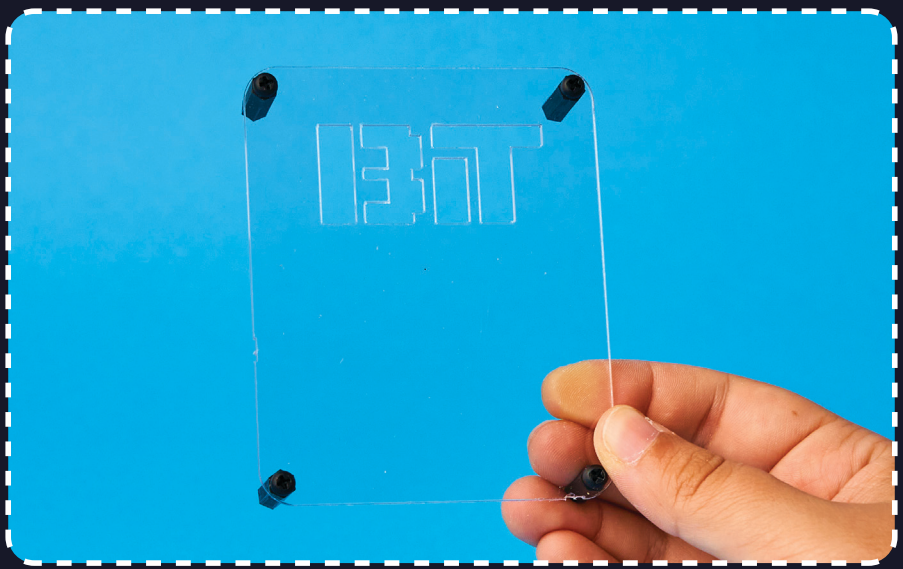
Then, using your fingers, fasten the standoff.





Repeat this step for the remaining bolts and standoffs.

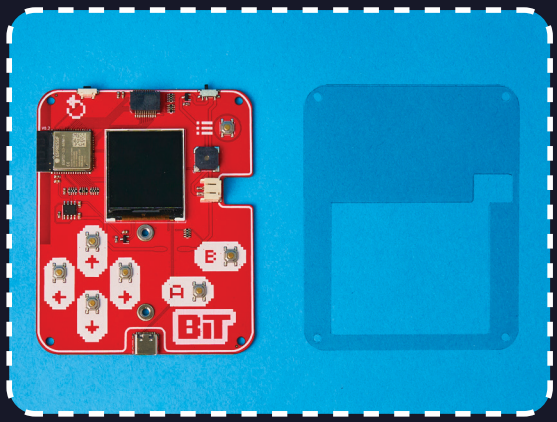




## 2 BATTERY CASING

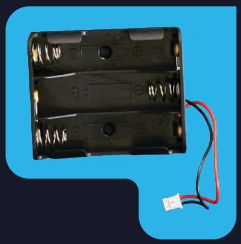
In this stage, we'll **attach the battery holder to the back of the BIT.**

To begin with, take the **PCB** and the **casing:**




Put the casing on the backside of the PCB like this:

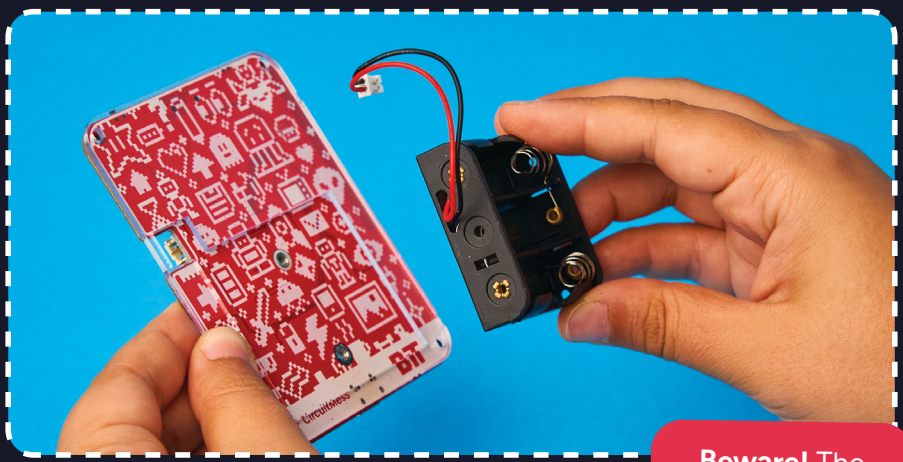
Now is the time to take the **battery holder** and **two metal screws**:

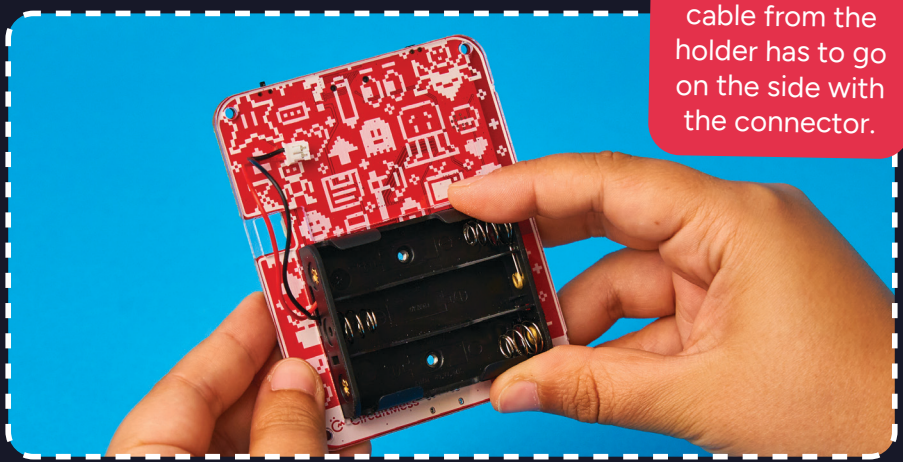


**Battery holder**

**Metal screws**

Put the battery holder on the PCB like this:

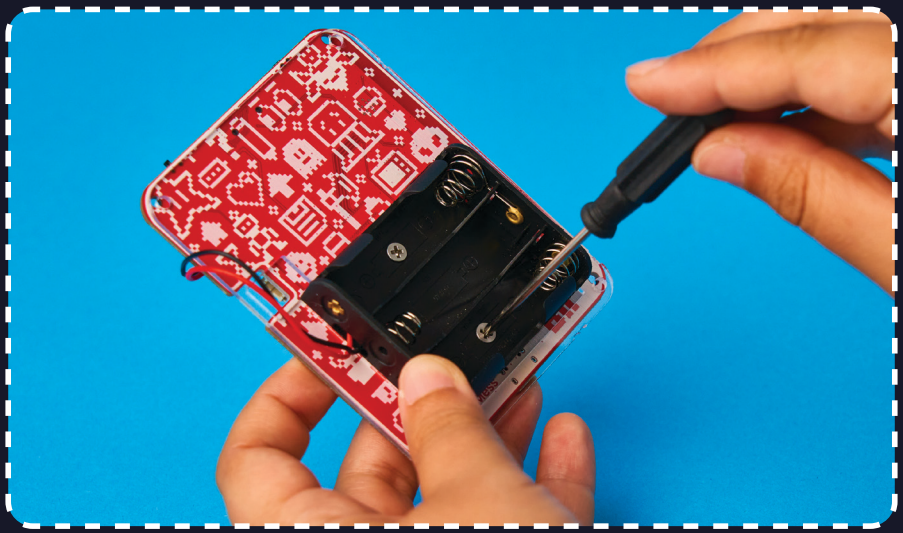




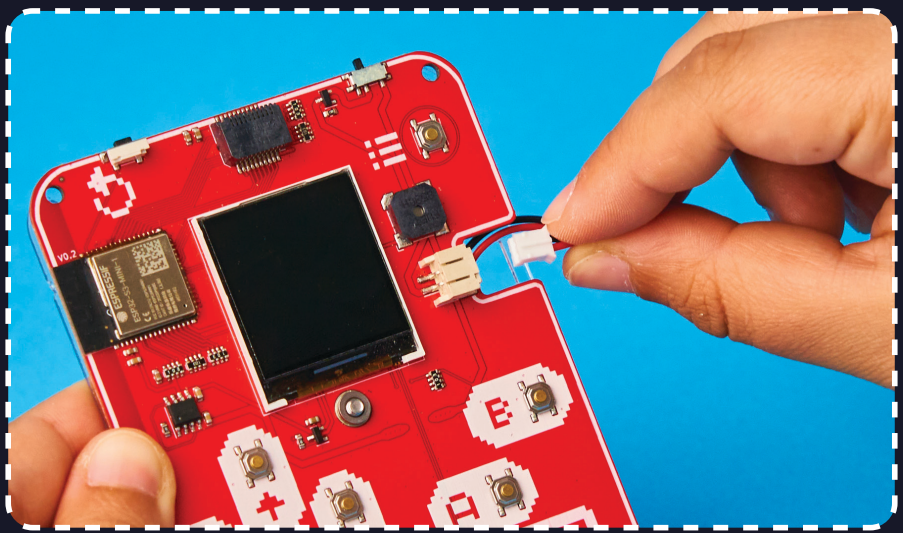
**Beware!** The cable from the holder has to go on the side with the connector.

Take the metal screws and put them in the battery holder, as shown in the photo below.

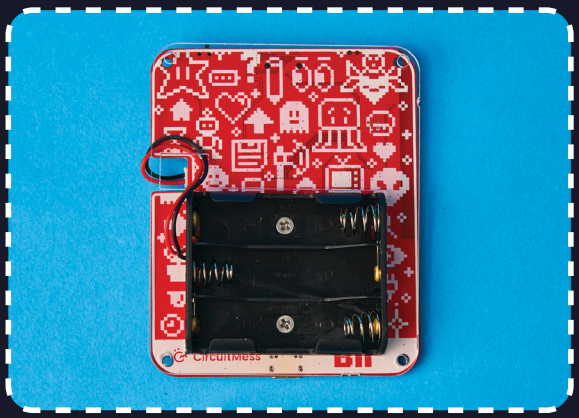
Use the screwdriver to fasten it.



Now turn the BIT around and connect the holder's cable to the white connector on the front.



Insert the **batteries** into the holder.




**Batteries**

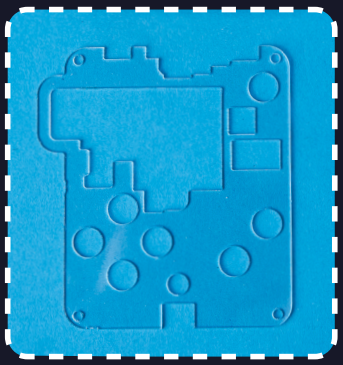
**Pay attention to placing the batteries on the correct side.**
If you put the batteries in backwards, your BIT will not work.

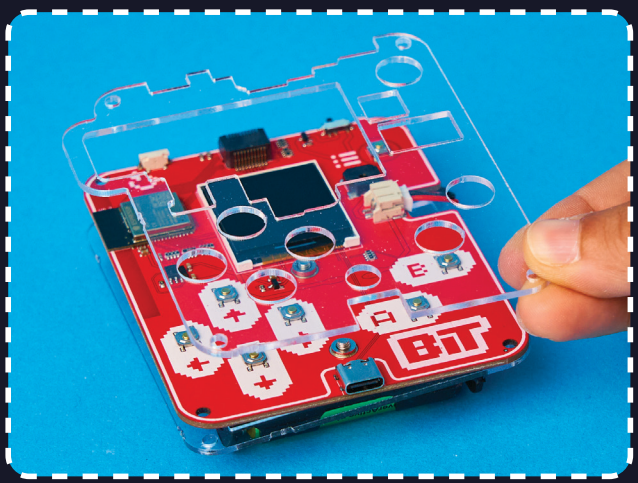

**The battery's + and - marks indicate polarity!**

## 3 SUIT UP!

After adding the batteries and one casing at the back, it's time to put the rest at the front.

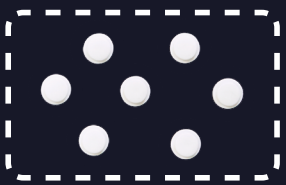
This is the next casing you'll need:

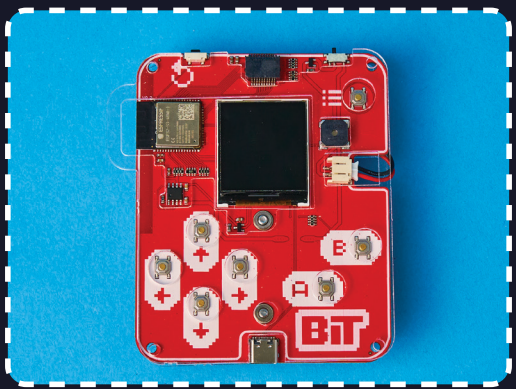




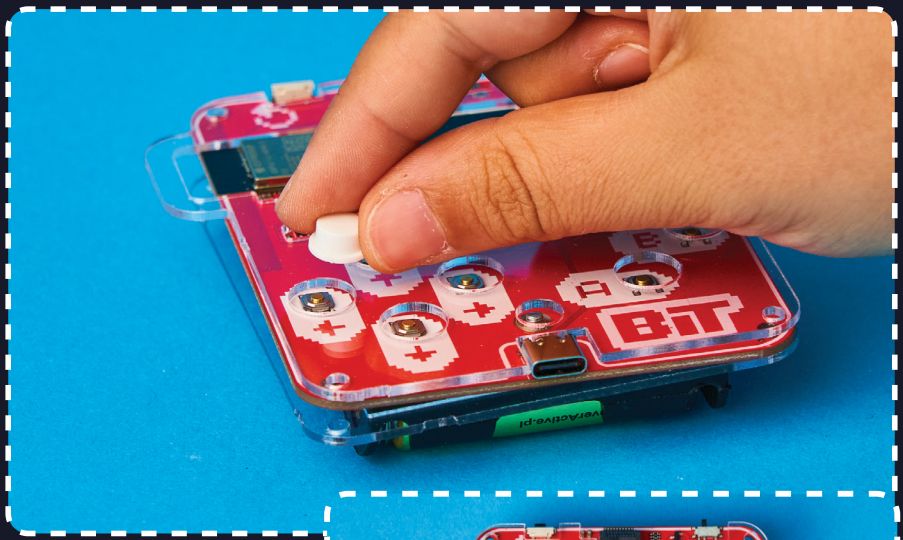
This casing will be added to the front, and the holes must match the PCB buttons.

For the next step, we need the **caps for all the pushbuttons**.

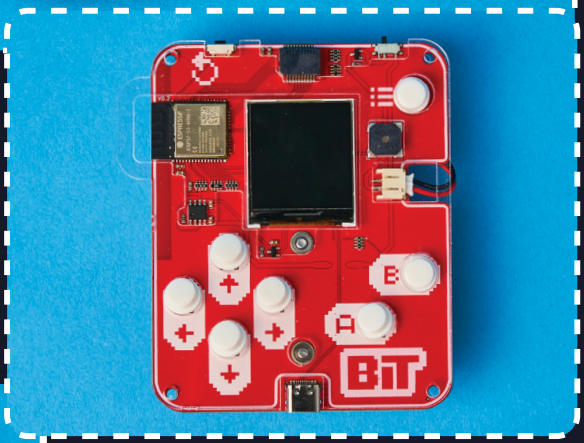


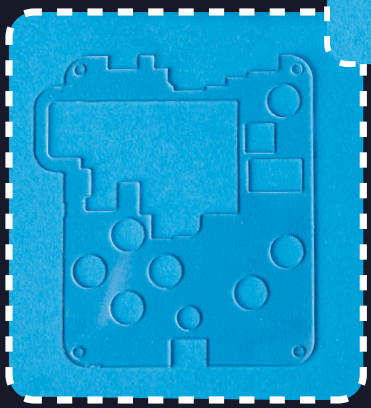


Place the caps into the holes, and don't worry if they are a bit crooked at first.

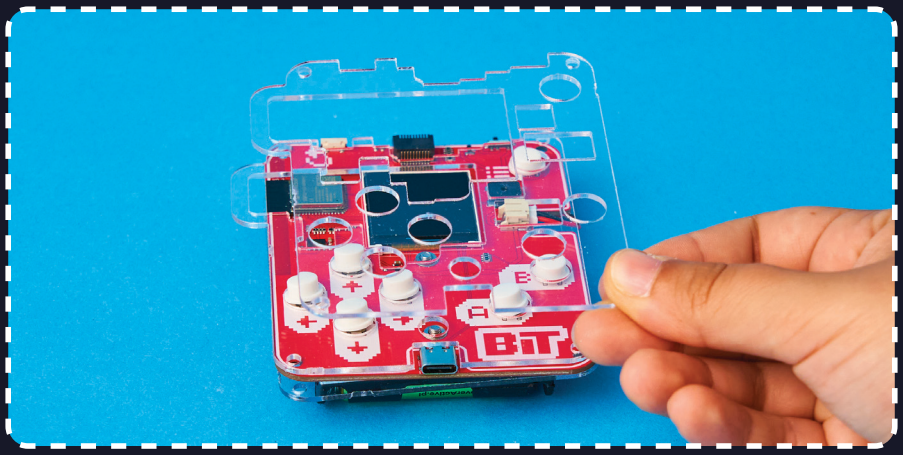


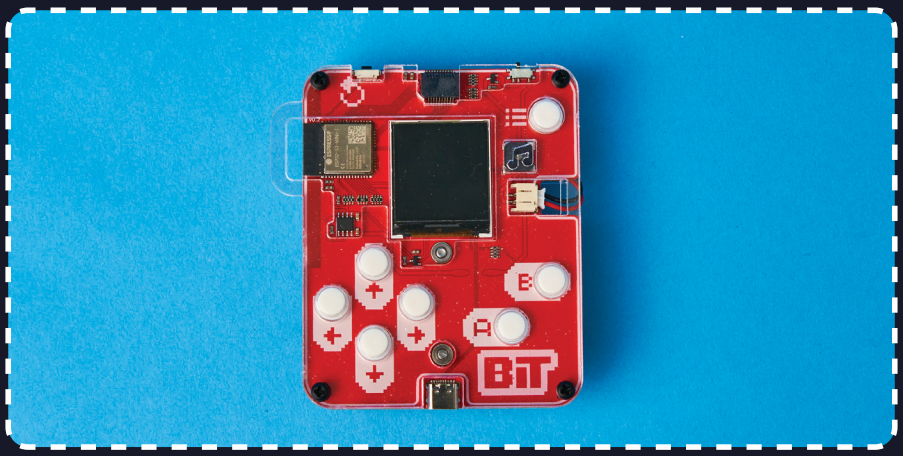
This is what BIT should look like when you add all caps:

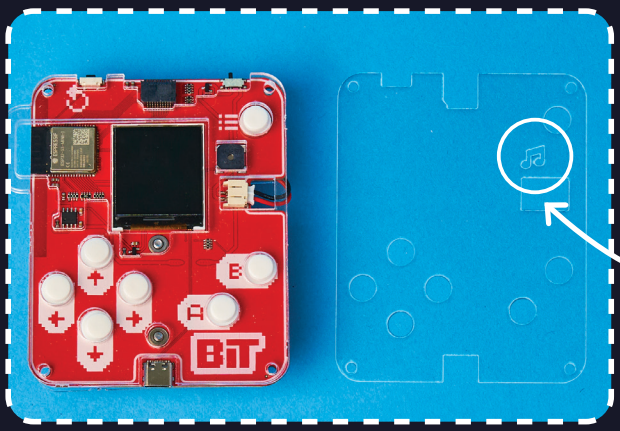




Take the next casing
- identical to the one we just used.



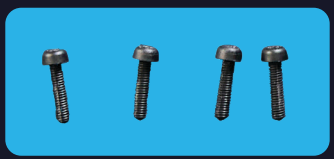




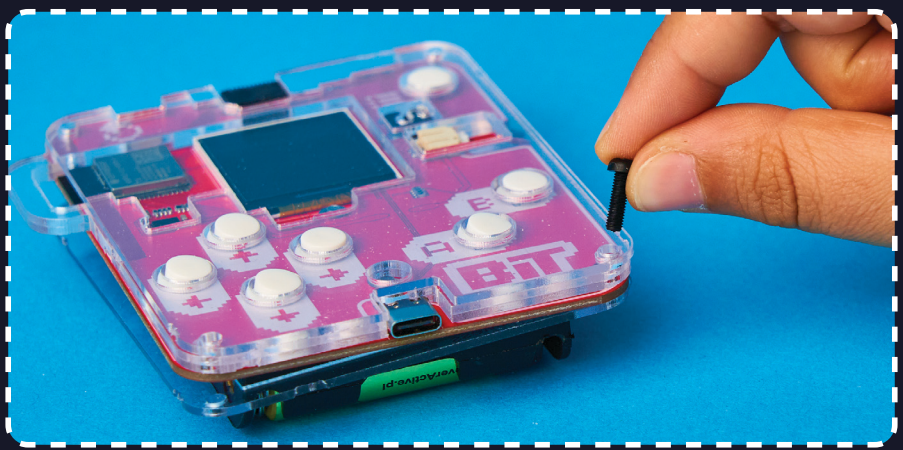
The casing that will go on the top at the front side is the one with the **note**.

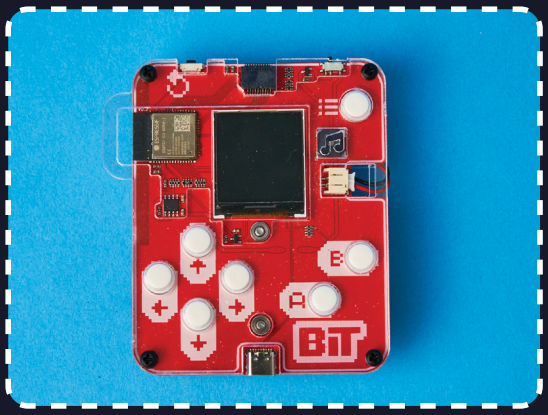
Place the casing so that there is an opening on the side of the battery connector.

Take **four plastic bolts**:



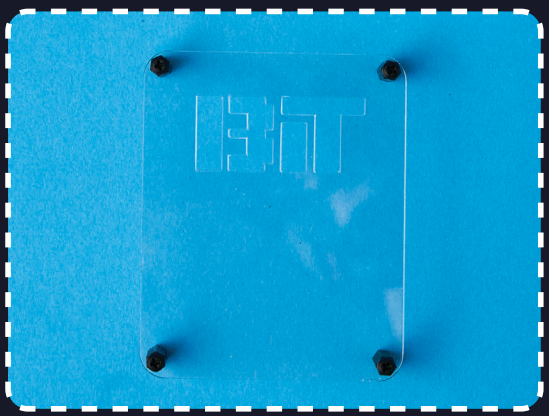
These four bolts will be placed on the front of the BIT.



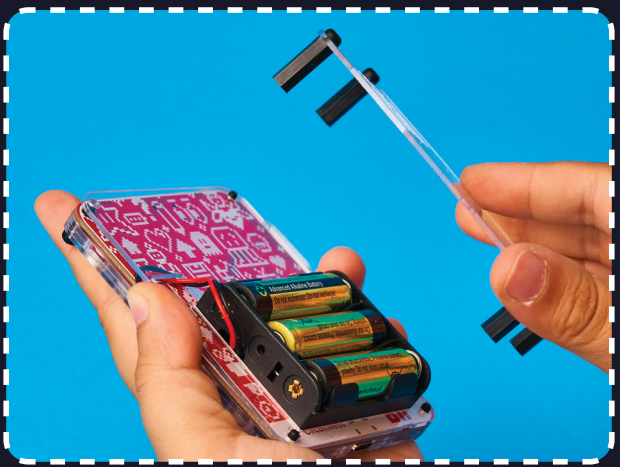



**This is what your BIT should look like right now.**

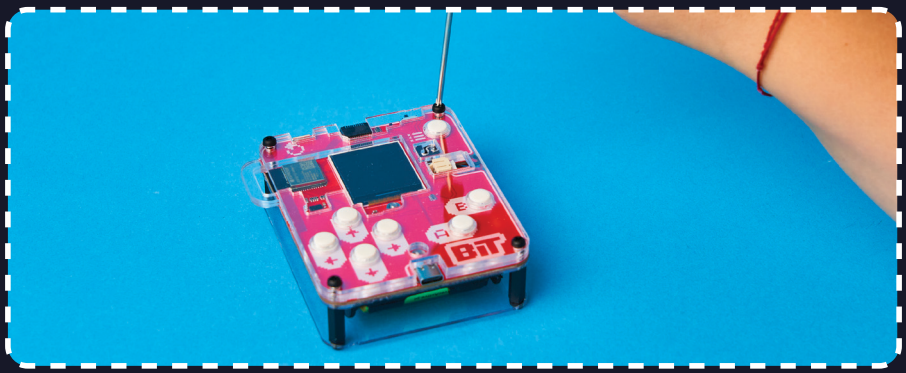
Take the casing we used in the first step (the one with the BIT carved out).



That part will be added on the back, above the battery holder.

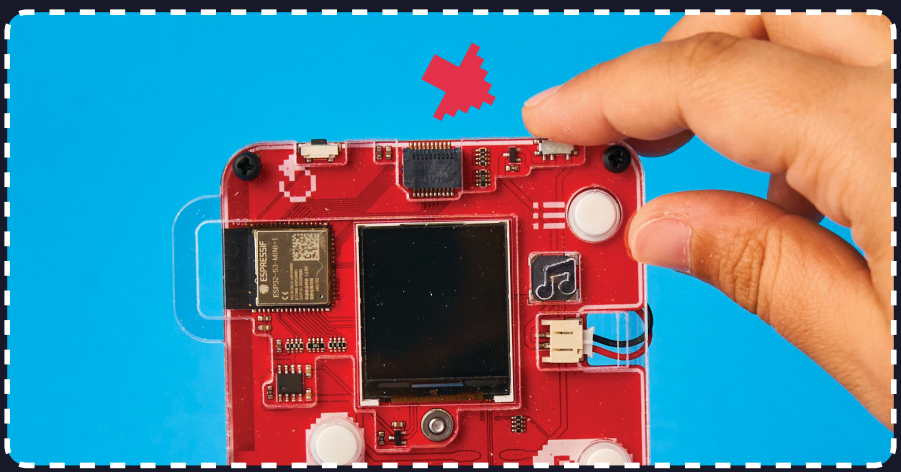


Fasten everything with
the screwdriver.




## CONGRATS!
## YOU HAVE SUCCESSFULLY BUILT YOUR BIT!

**It's time to turn it on!**
The **switch** is located here:

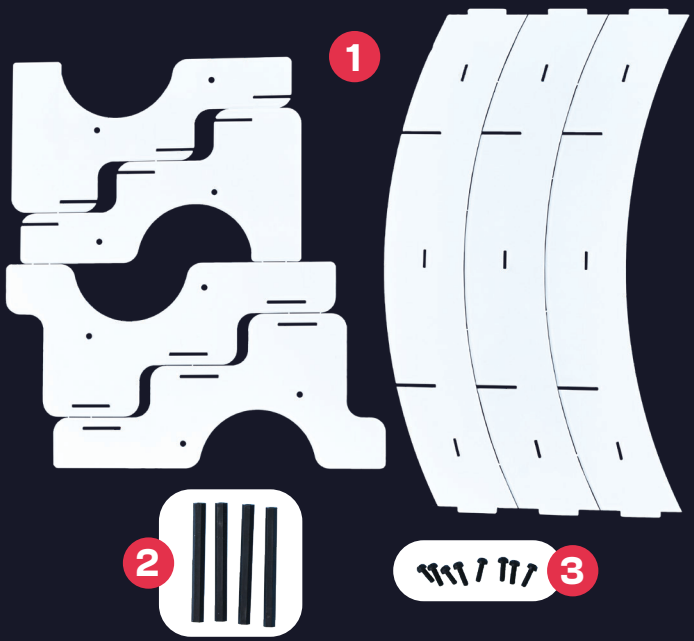


If everything is in order, you should see the video games loading.
If you have any issues with the assembly, contact us at
**contact@circuitmess.com** and we'll assist you!

# Build guide for the plastic stand

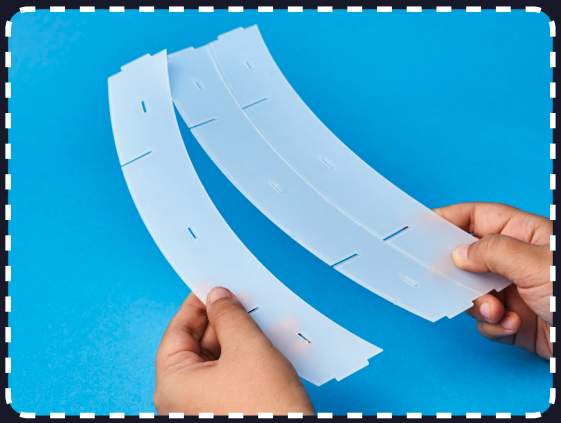
**We've prepared a plastic stand to hold all of your Wacky Robots. We'll put the stand together in a few simple steps.**

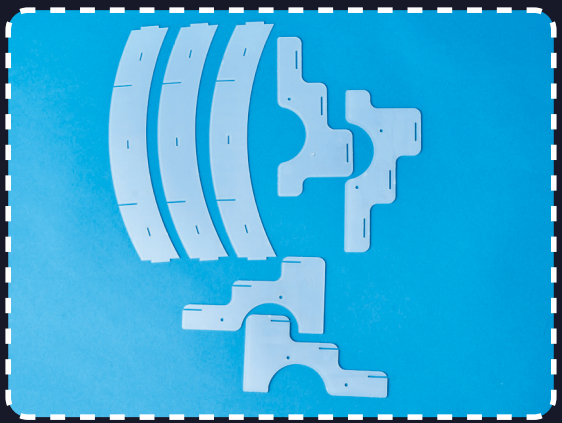
The following items are required to assemble the stand:




1. Two pieces of acrylic casing
2. Four big standoffs
3. Eight plastic bolts

First, we must break the acrylic parts into **seven smaller casings**.

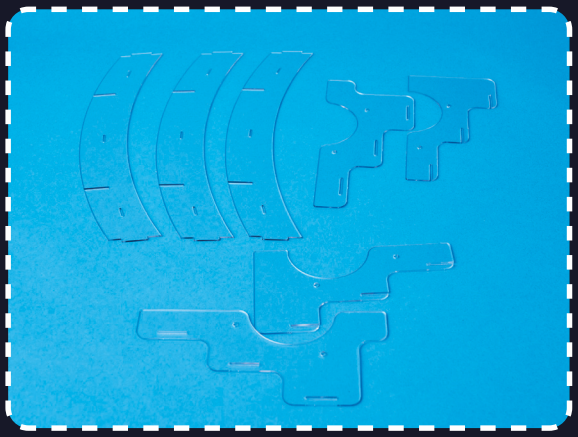




Don’t use too much strength for this step; the parts that need to be broken are clearly marked.

To make the casings transparent, remove the protective foil from both sides.

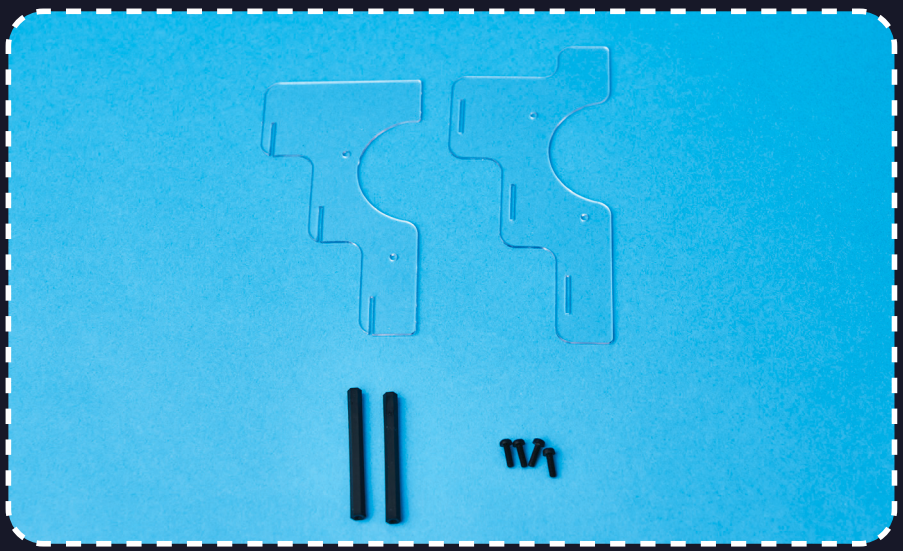
Remove the protective foil from both sides.



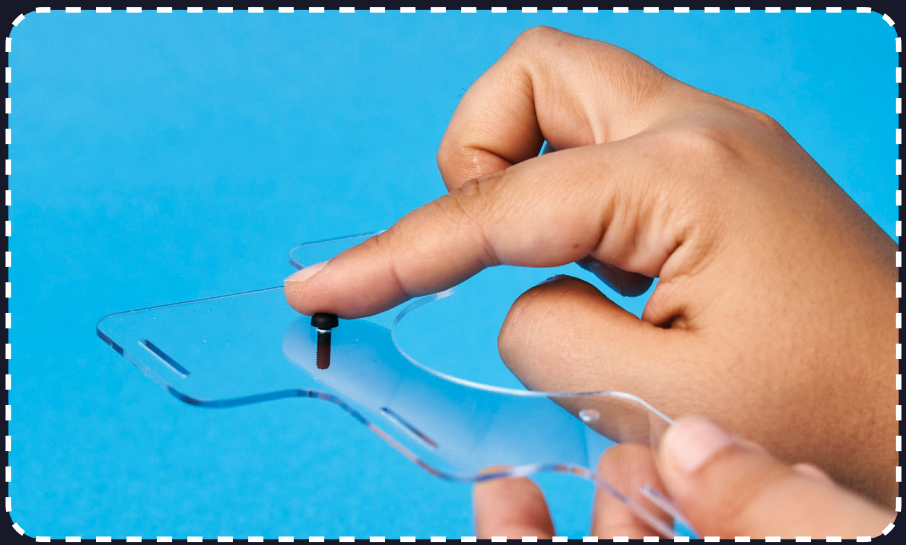
## LET'S START WITH THE ASSEMBLY!

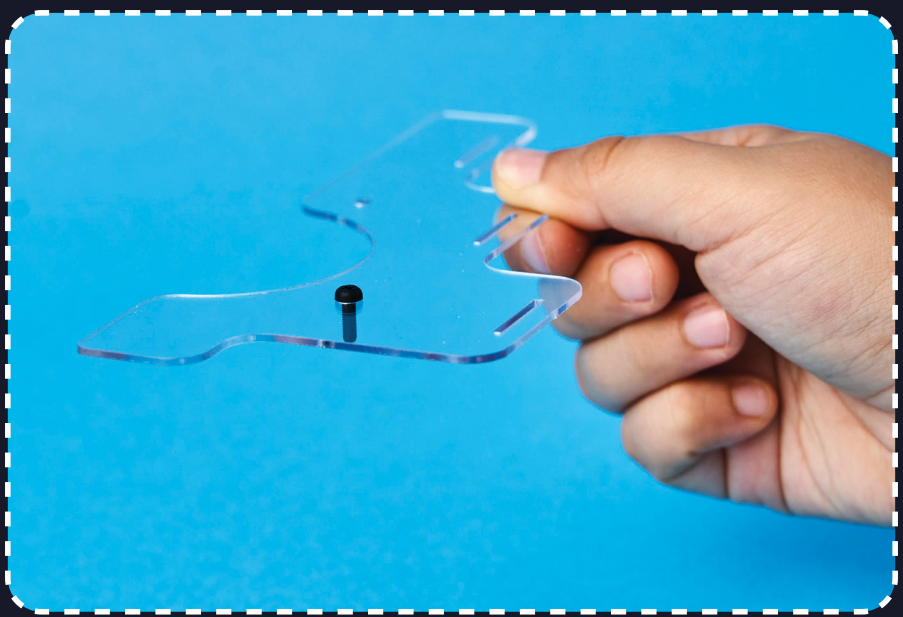
For the first part, take two acrylic casings, two standoffs, and four plastic bolts.

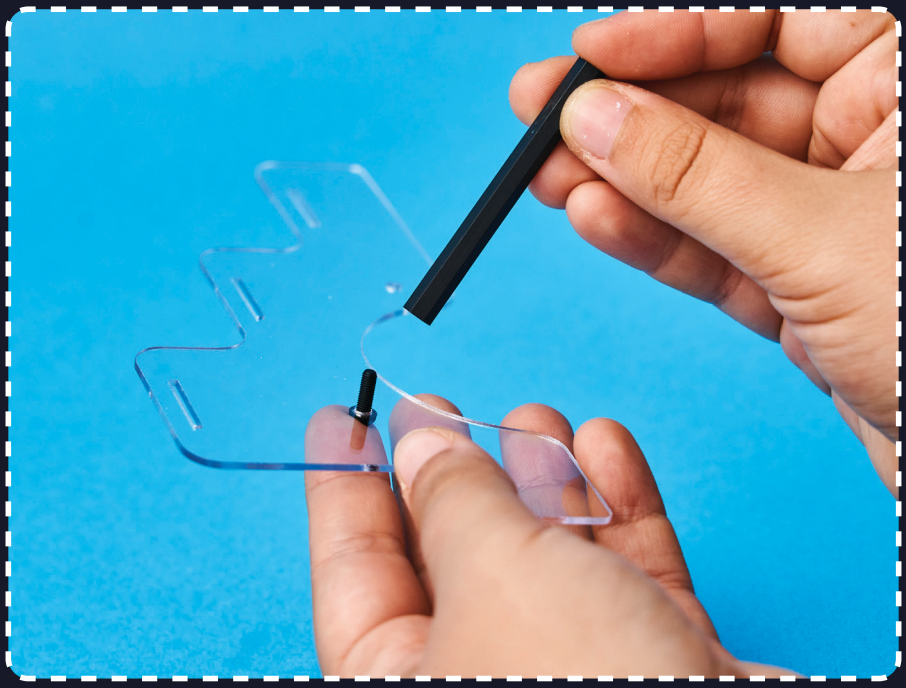
Be careful because, while the casings appear to be identical, they **differ in length**, and one has a little extension on one end.

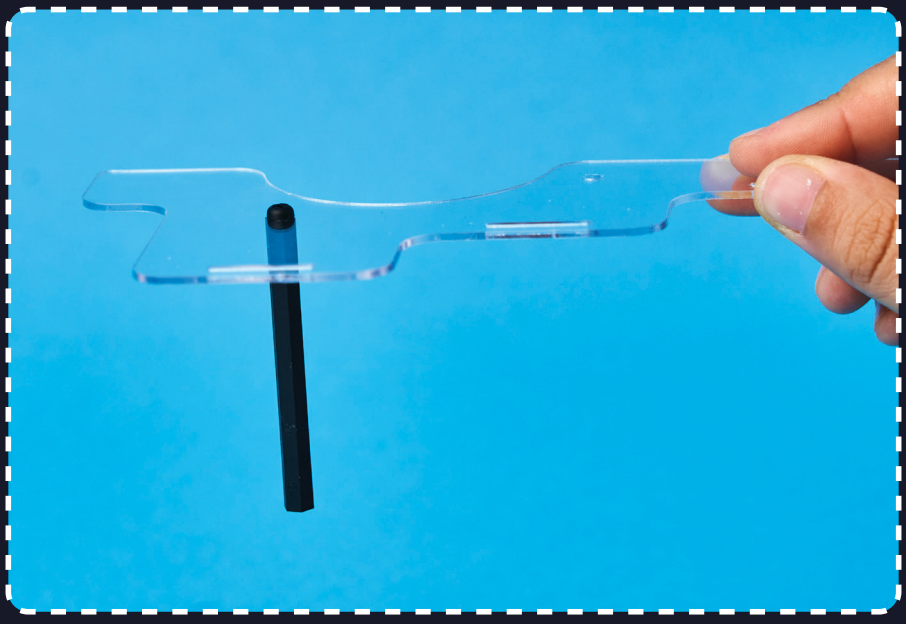


Place the bolt through one of the casings
as shown in the photo below.
Then, add the standoff and fasten it with your fingers.

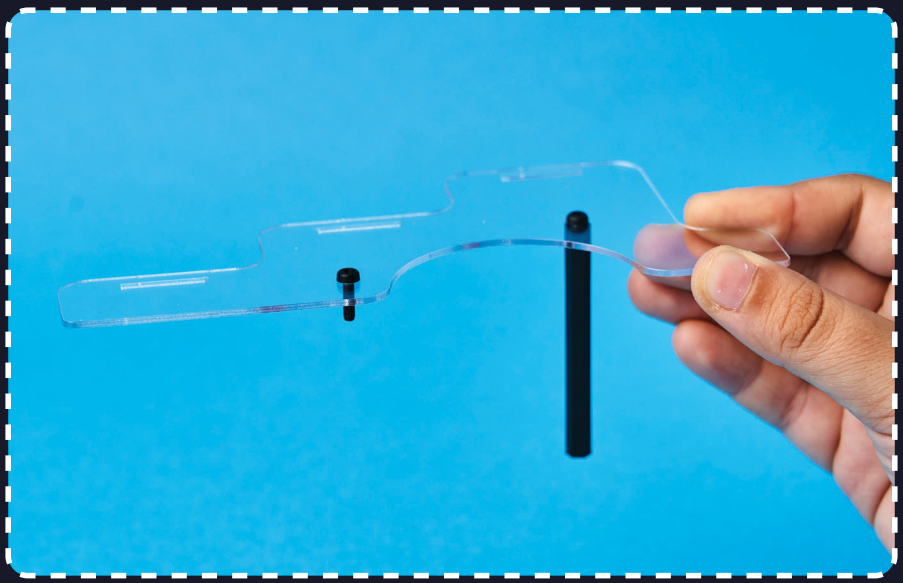


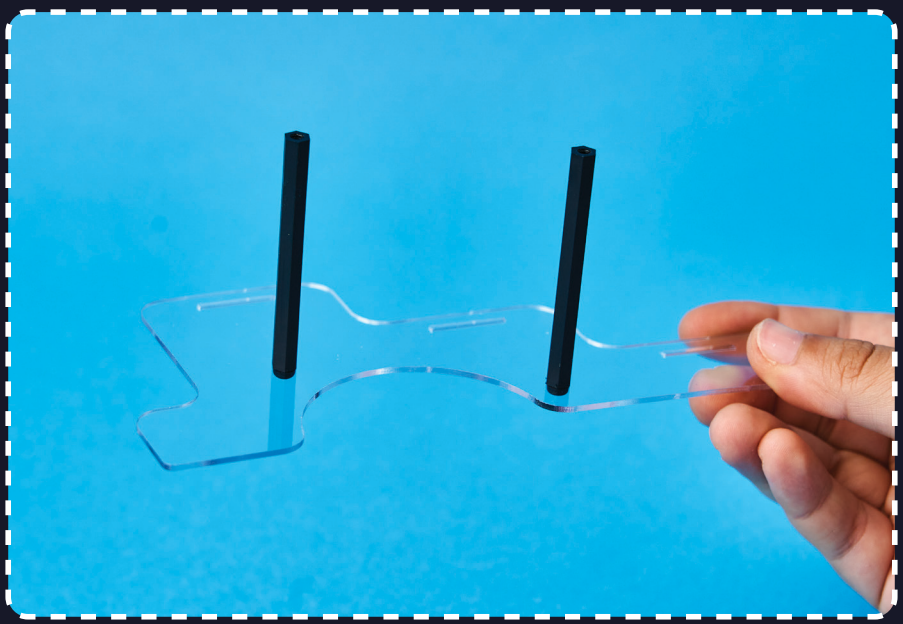




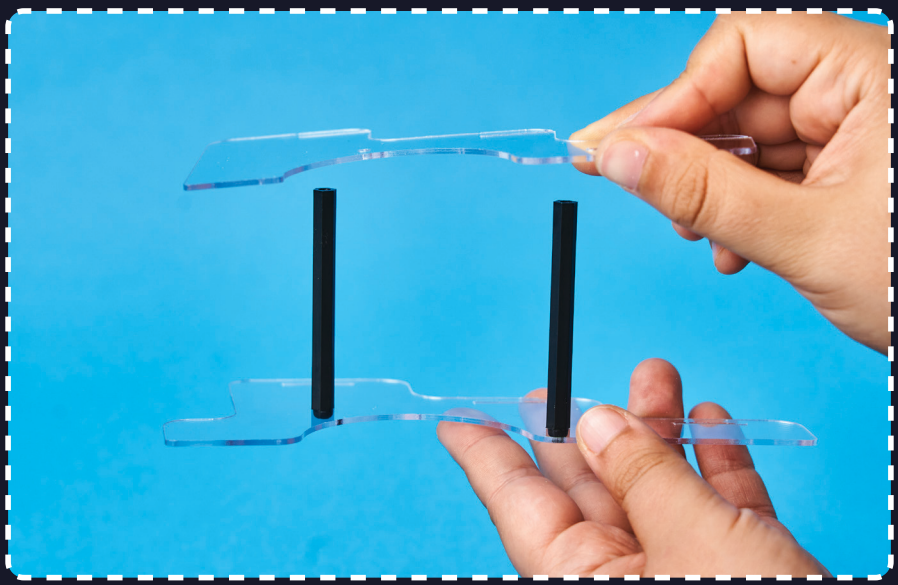


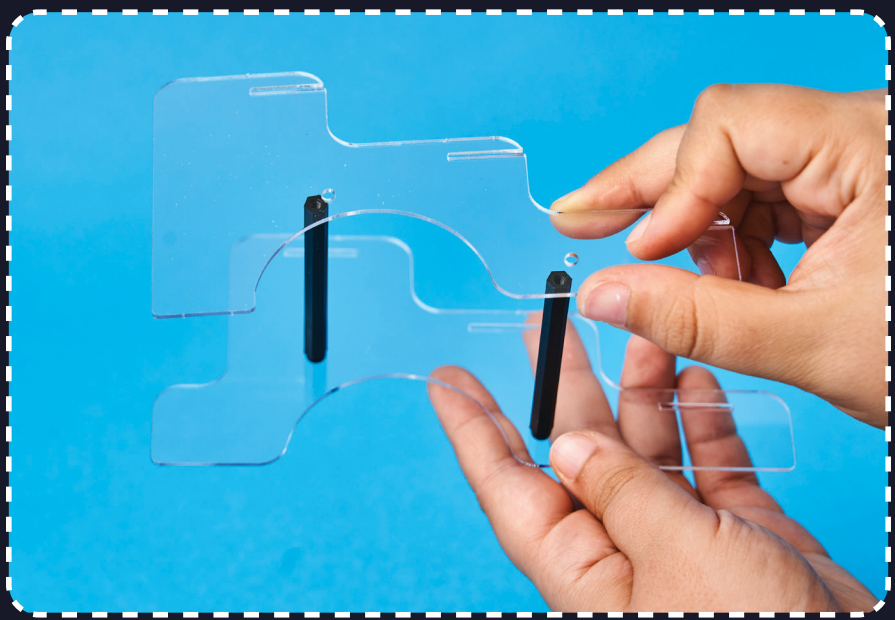
Repeat this step for the second bolt and the standoff.

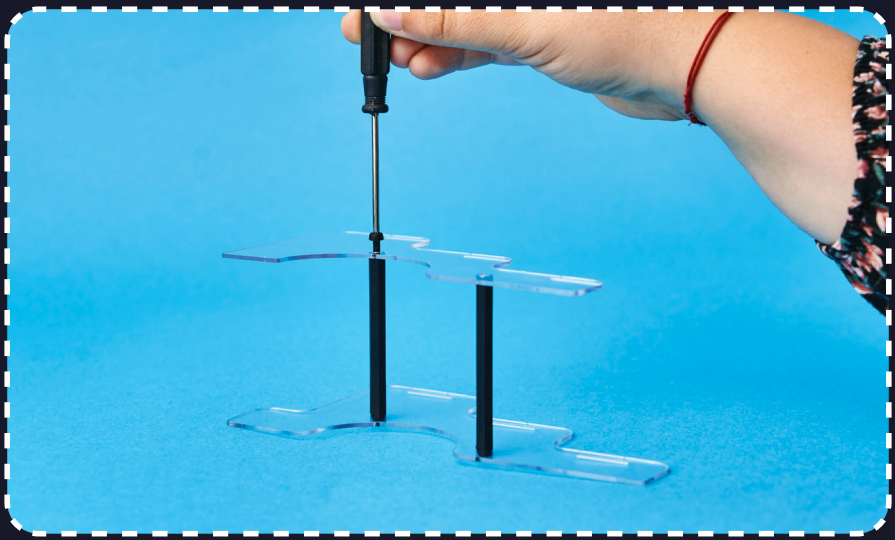




The second casing will go on the opposite side, and it will be secured with the remaining two bolts.

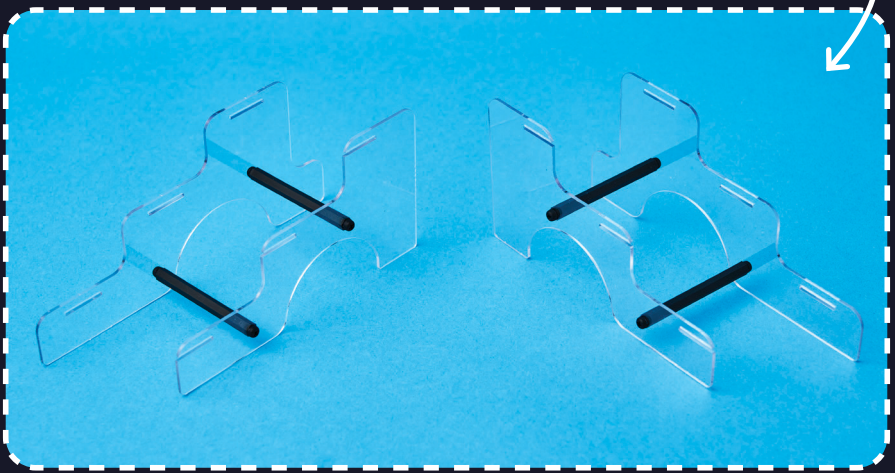






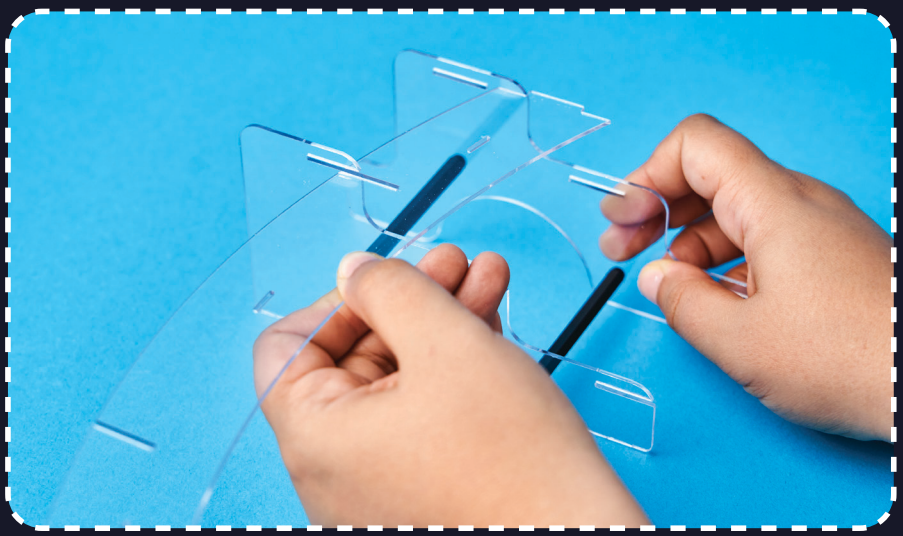
Repeat this step for the other casings that look identical to those two.

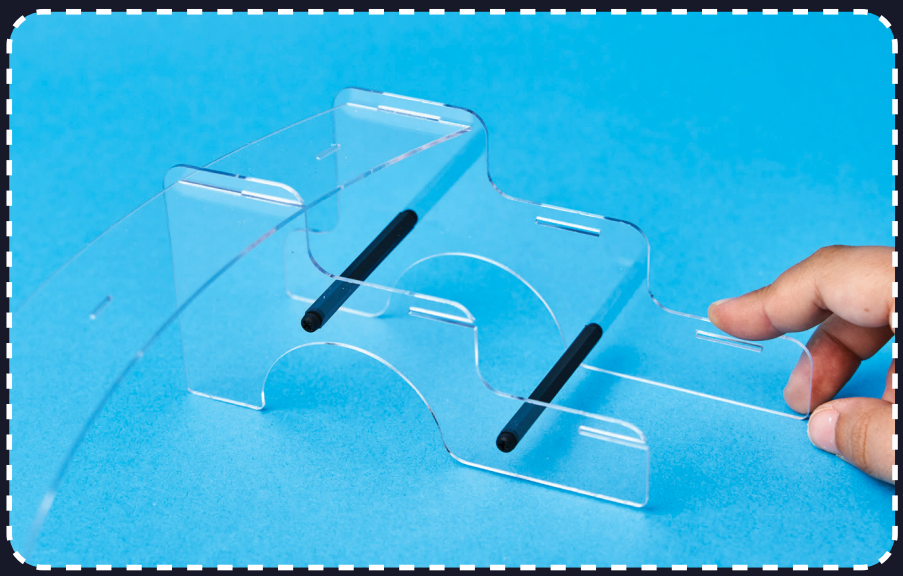
This is what the final product should look like:



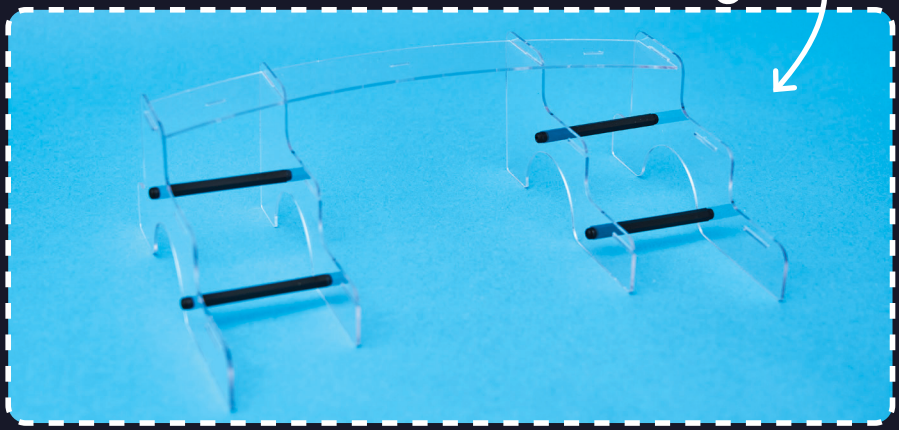
The shorter casings will be looking to the inside while assembling the stand.

Take one of the three long casings with the cut-off slots. These parts need to be aligned with the slots on the shorter vertical casings.

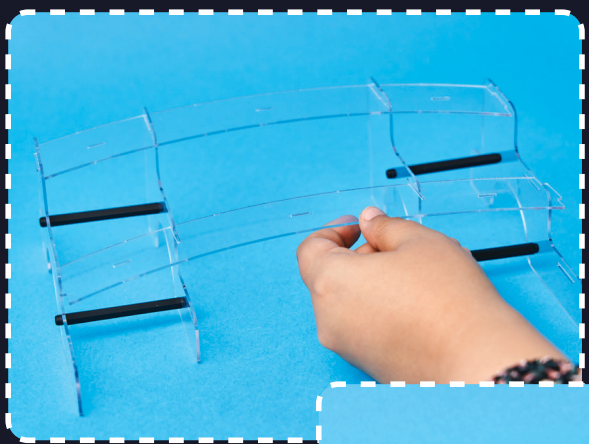




After putting the first long casing on,
the stand should look like this.

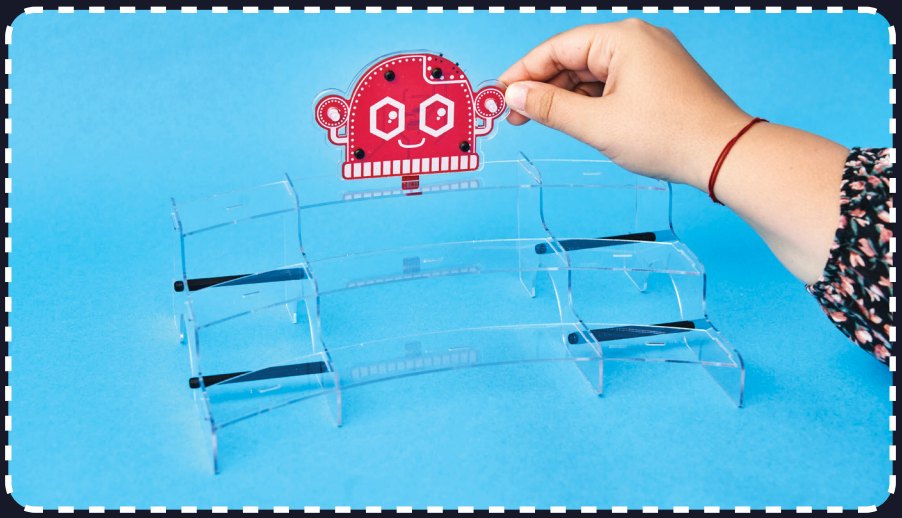


Repeat the procedure for the remaining casings.



## AMAZING!
## YOU SUCCESSFULLY ASSEMBLED THE STAND FOR YOUR WACKY ROBOTS.

It's time to put all of the robots where they belong.



*Wacky Robots are sold separately.

**Thank you for purchasing CircuitMess Bit.**

For more information and detailed instructions on assembling and using your device, visit our official website: circuitmess.com/resources/guides

**Important safety information for CircuitMess Bit**

Read all safety information before using the device.

**WARNING:** Failure to follow these safety instructions could result in fire, electric shock, injury, and damage to your device or other objects. Read all safety information before assembling and using this device.

This product is a do–it–yourself device, and for it to work properly, you must assemble it according to the instructions you'll find on our website.

If you are a minor, assemble it only under an adult's supervision to avoid potential risks.

CircuitMess Bit contains sensitive electronic components. CircuitMess Bit or its components may be damaged if dropped, burned, punctured, crushed, or in contact with liquid. If you suspect that any part of your CircuitMess Bit kit (especially the batteries) is damaged, stop using the device. Using a damaged device may cause injury.

Use only authorized accessories compatible with your device and/or the supplied tools.

The device's operating temperature ranges from 0 ° C ~ 40 ° C.

Using this device in conditions outside this temperature range may damage the device.

Please turn off CircuitMess Bit after use and store it in a safe and dry location.

The included battery must be recycled appropriately and/or disposed of separately from household waste.

Improper handling of batteries can cause a fire or explosion. Dispose of or recycle your device, battery, and accessories according to local regulations.

**The included battery is NOT rechargeable.**

• Do not short–circuit the battery

• Improper use of the battery can cause overheating, burns, or other injuries.

• Do not leave the battery directly exposed to intense sunlight.

• Do not use the device or the battery in high–temperature conditions. Overheating may cause an explosion.

• Do not disassemble or damage the battery to avoid battery leakage, overheating, or explosion.

• In the case of deformation, stop using the battery immediately and dispose of it properly.

• If you are not sure whether your device or the included battery is safe to use, turn off the device, put it in a safe place, and contact our customer support via email at contact@circuitmess.com.

Keep the device dry.

Do not attempt to repair the device by yourself.

If any part of the device does not work correctly, contact our customer support (contact@circuitmess.com) or take your device to a certified repair shop.

Connect other devices according to their operating instructions. Do not connect incompatible devices to this device.

**Precautions**

During prolonged use, CircuitMess Bit may rarely overheat.

Keep CircuitMess Bit in a ventilated room during the use and assembly. Pay special attention to this if you suffer from a physical condition that affects your ability to detect heat on your body.

Assembling or using CircuitMess Bit in an area with a potentially explosive atmosphere, such as areas where the air contains high levels of flammable chemicals, vapors, or particles (such as dust or metal powder), can be dangerous.

Exposure of CircuitMess Bit to environments with high concentrations of industrial chemicals, including liquefied gases that evaporate, such as helium, can damage the functionality of CircuitMess Bit.

Do not use CircuitMess Bit in hospital operating rooms or intensive care units.

Contact your doctor or our customer support (contact@circuitmess.com) to determine if the device's operation may compromise the work of medical devices.

To avoid possible interference with a pacemaker, maintain a minimum distance of 15 cm between the CircuitMess Bit and the pacemaker.

To achieve this, do not carry the included device in your pockets.

Do not use CircuitMess Bit near hearing aids or similar medical aids and equipment to avoid interference with medical equipment.

Check aircraft safety regulations and turn off CircuitMess Bit on the aircraft if necessary.

Do not use CircuitMess Bit while driving.

To avoid lightning strikes, do not use CircuitMess Bit outdoors during storms.

Do not use the CircuitMess Bit in high-humidity environments such as bathrooms. Failure to do so may result in electric shock, injury, fire, and damage to the product, electronic components, power adapter, or other parts of this electronic educational kit.

Follow all the rules that limit the use of portable electronic devices in some situations and conditions.

The individual parts and components in the CircuitMess Bit can pose a choking risk to children under 36 months. Keep all components, tools, and parts of this product away from small children before and after assembling the device.

**Additional Recommendations and Precautions for Parents, Guardians, and Teachers Buying CircuitMess Bit for Children**

**1.** Carefully follow the instructions for adequately assembling CircuitMess Bit. Keep these and all other instructions that came with the products in a safe place.

**2.** Supervise your child while assembling and using the CircuitMess Bit. Your responsibility is to ensure that the child uses the CircuitMess Bit correctly and that the CircuitMess Bit is suitable for the child's age and abilities.

**3.** Check from time to time if CircuitMess Bit is damaged or worn out in any way to prevent possible injuries and risks to the child's health and safety. If CircuitMess Bit is damaged, remove it immediately.

**4.** Remove any unnecessary packaging, but keep the instructions. Take care that

children do not play with any plastic packaging as there are suffocation risks.

**5.** Teach children to always store CircuitMess Bit and other parts of the CircuitMess Bit educational kit appropriately to prevent accidents. Do not leave CircuitMess Bit on stairs or on the floor in your home or classroom where someone can step on it.

**6.** Always report a product security issue to our customer support (contact@circuitmess.com)

**Declaration of Conformity**

CircuitMess d.o.o. declares that this DIY educational kit CircuitMess Bit model complies with the essential requirements and all other relevant provisions of Directive 2014/53 / EU. The full text of the EU declaration of conformity is available at the following Internet address: circuitmess.com/certification.

**Legal Information**

This device can be used in all EU Member States. Check all the national and local regulations about using the device. This device may be restricted for use, depending on local laws.

Manufacturer:

CircuitMess d.o.o.

Ventilatorska cesta 24,

10250 Lučko,

Zagreb,

Croatia

OIB: 50943449035

**Proper disposal of this product**

WEEE markings on the product indicate that this product may not be disposed of with the rest of your household waste in the EU. To prevent possible damage to the environment or human health from uncontrolled waste disposal, recycle the product responsibly. Recycling promotes the sustainable reuse of resources. For more information on the disposal of electrical and electronic equipment, don't hesitate to contact your local household waste disposal service, the store where you purchased the kit, or our customer support (contact@circuitmess.com).

**IMPORTANT! Warranty conditions:**

The warranty is valid only if the original invoice is attached to the product as proof of purchase during the complaint. If the customer sends the product for repair for any reason not covered by the warranty, the customer may be charged for inspection and testing and delivery costs.

**WARRANTY STATEMENT**

CircuitMess d.o.o., with its registered office in Zagreb, Croatia, Ventilatorska cesta 24, guarantees the quality and proper functionality of the components that come in the CircuitMess Bit DIY educational kit for a duration of 24 months from the date of purchase.

If the assembled device does not work correctly due to defects in supplied parts or electronic components supplied in the CircuitMess Bit DIY educational kit, CircuitMess d.o.o. will repair the product or send an equivalent replacement product at their own expense.

In case you are experiencing assembly or functionality difficulties with your device, please contact us via email (contact@circuitmess.com).

Please include a detailed description of the problem.

If you are sending the product to a repair shop, it is recommended to deliver the product in the original packaging to protect it from potential damage during transportation.

**WARRANTY CONDITIONS**

• The warranty period begins on the day of sale indicated on the invoice.

• The warranty is valid upon presentation of the original invoice.

• If the defect is not remedied within a reasonable period after receiving the product for repair, CircuitMess d.o.o. will replace it with a new product.

• The repair shop does not take responsibility for storing and/or losing personal data while repairing the device.

**WARRANTY DOES NOT COVER**

• Upgrades, alterations, modifications to hardware and/or software without the written consent of CircuitMess d.o.o.

• Malfunctions due to improper handling, faults due to wear of the device and/or its parts (in you need help with assembly or if you have difficulty using the device after assembling it, please contact us at contact@circuitmess.com).

• Defects caused by external particles (including, but not limited to: staples, waste, dust, food) and external factors (including, but not limited to: moisture, water, thermal damage).

• Mechanical damage and/or failures caused by mechanical damage.

• Use of the product for a purpose for which it is not intended.

• Requirements for the appearance, technical functionalities, and/ or capabilities of the product outside the manufacturer's specifications and/or standards.

• Damages to personal data, other tangible and/or intangible assets of the buyer and/or third parties, indirect damages, lost profits caused by the use of the product, and/or its failure.

• Repairs in an unauthorized repair shop and/or installation of non–original spare parts.

• Damage caused during transportation caused by improper packaging.

The rights under this warranty are the exclusive and final rights of the customer unless otherwise provided by national law.

CircuitMess d.o.o. as the warranty provider and/or its authorized partners will not be liable for any defect, damage, loss, direct or indirect cost, or connection with the delivered products outside the warranty conditions written here.

This warranty does not affect other rights of the customer belonging to him on other legal grounds.

# WARRANTY SHEET

| | |
|---|---|
| **Product name:** | CircuitMess do-it-yourself educational set for electronics and programming |
| **Warranty on components and parts contained in this set is:** | 24 months |
| **Date of purchase:** | |
| **Seller and point of sale stamp:** | |
| **Invoice number:** | |

Information on interventions during warranty period is entered by a repair shop technician at an authorized repair shop.

| Received on | Issued on | Fault description | Warranty extension |
|---|---|---|---|
| | | | |

**Manufacturer:**

CircuitMess d.o.o.
Ventilatorska cesta 24,
10250 Lučko,
Zagreb,
Croatia
Country of origin: Croatia
www.circuitmess.com

**Authorized repair shop:**

CircuitMess d.o.o.
Ventilatorska cesta 24,
10250 Lučko,
Zagreb,
Croatia
Country of origin: Croatia
www.circuitmess.com

CircuitMess

BIT

To create your
own games, go to:

CircuitMess