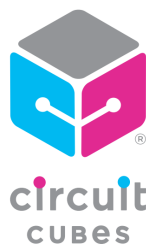


Circuit Cubes 2023 Tenka Stem Starter User Guide

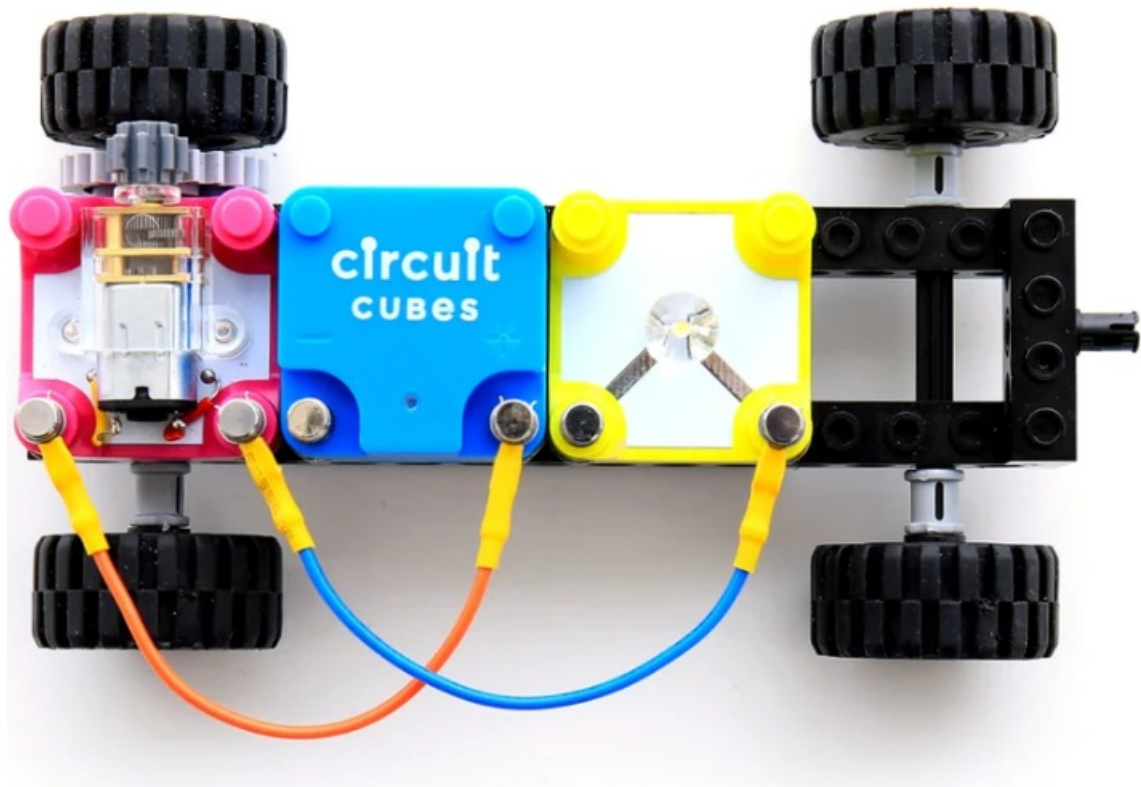
[Home](#) » [Circuit Cubes](#) » Circuit Cubes 2023 Tenka Stem Starter User Guide 

Contents

- [1 Circuit Cubes 2023 Tenka Stem Starter](#)
- [2 Product Information](#)
- [3 Product Usage Instructions](#)
- [4 HAND-CRANK](#)
- [5 GOBO](#)
- [6 6-MARKER](#)
- [7 LEGAL](#)
- [8 Documents / Resources](#)
 - [8.1 References](#)
- [9 Related Posts](#)



Circuit Cubes 2023 Tenka Stem Starter



Product Information

Specifications

- Battery Cube:
 - Power source for the circuit
 - Rechargeable
 - Has positive and negative terminals
 - LED on top indicates power status
- Motor:
 - Rotates at more than 1,000 RPM
 - Tiny gears reduce rotations to about 100 RPM for maximum torque
- LED:
 - Ultra-bright and oversized
 - Provides thousands of hours of light
 - Can be attached to bricks for various projects
- Magnets:
 - Used for connecting components
- Wires:
 - Used for connecting cubes and components

Product Usage Instructions

Battery

The Battery Cube is the power source for your circuit. It has a positive and negative terminal. To power your creation, turn on the switch. The Battery Cube is rechargeable. If the LED on top of your Cube is flashing red, it indicates a short circuit, and the power output is disabled to allow you to troubleshoot.

Motor

The Motor is perfect for fitting gears and wheels. It rotates at more than 1,000 RPM (rotations per minute), but the tiny gears attached to the motor shaft reduce the rotations to about 100 RPM. This ensures maximum torque for turning the wheels or gears of your projects.

LED

The LED is an ultra-bright and oversized light source. Snap it onto your bricks to get thousands of hours of light for illuminating your builds. It can be used for easy flashlight setups or more challenging projects.

Magnets

Magnets are used for connecting components together in your circuit.

Wires

Wires are used for connecting cubes and components in your circuit.

Connect Your Cubes

Use the magnets and wires to connect your cubes together, creating a circuit for your projects.

Posts & Outposts

Use the posts and outposts to secure and organize your cubes and components in your circuit.

Hand-Crank Flashlight

To mod your flashlight, replace the energy source (Battery) with the wheel. This allows the wheel and the Motor to produce the electricity that turns the LED light on. Remember, LEDs have polarity, so make sure to spin the wheel in the correct direction for the LED to turn on.

Flashlight

Construct a simple flashlight with a super-bright LED that you can use to explore in the dark. Once built, you're ready to light up all kinds of cool things!

Gobo Flashlight

Create a gobo by adding a custom stencil to your flashlight. Take a piece of clear plastic and draw whatever you want on it. Use the telescope feature to focus the image so it looks clear and crisp. If you spin the cap and rotate the image, you can also build a kaleidoscope!

Desk Lamp

Make homework more fun by building your own adjustable lamp! With two different ways to move, your lamp can be placed the way you like it. Plug it in with your USB cable, and it will work as long as you do.

Lighthouse

Lighthouses help ships avoid danger near the shore at night. Use all three Cubes and one wire to make your own rotating lighthouse. The Motor can spin very fast, but you'll wire it up to slow down to the perfect speed. Add a wheel to keep it standing up straight.

2-Marker Scribblebot

Try placing the markers in different places on the axle of your Scribblebot. Does it change your drawings?

6-Marker Scribblebot

Make the ultimate Scribblebot using all the markers in your kit. This bot will shake and swirl all over your paper.

Challenge: Add the LED Cube

Add the LED Cube to light up your artwork when using the Scribblebot.

Dark Artbot

This bot flips, rolls, and shines light on your art as it draws in the dark! The two-marker combo creates cool spiral designs, while the rubber bands help keep the LED in place.

Chassis

Build a car chassis that can be used as a foundation for various moving creations. Use this build to create other kinds of vehicles, high-speed monsters, or whatever you can imagine.

Hack Your Ride

Once you've assembled the chassis and topped it with a car body, let your imagination run wild. Move the Battery and wires for more versatility. Stack the LED on top, but be sure to rotate it 90 degrees. To change the car's direction, swap Motor wires to reverse the polarity, causing the Motor to spin in the opposite direction. The LED should still turn on since it is stacked on top of the Battery.

FAQ

- **Q: What should I do if the LED on top of the Battery Cube is flashing red?**

A: If the LED on top of the Battery Cube is flashing red, it means there is a short circuit. The power output is disabled to allow you to troubleshoot the issue.

- **Q: How can I make the LED turn on in the flashlight?**

A: To make the LED turn on in the flashlight, replace the Battery with the wheel and spin it in the correct direction. LEDs have polarity, so make sure to spin the wheel in the correct direction for the LED to turn on.

- **Q: Can I use the LED Cube to light up my artwork when using the Scribblebot?**

A: Yes, you can add the LED Cube to light up your artwork when using the Scribblebot. It will enhance your drawings.

BATTERY

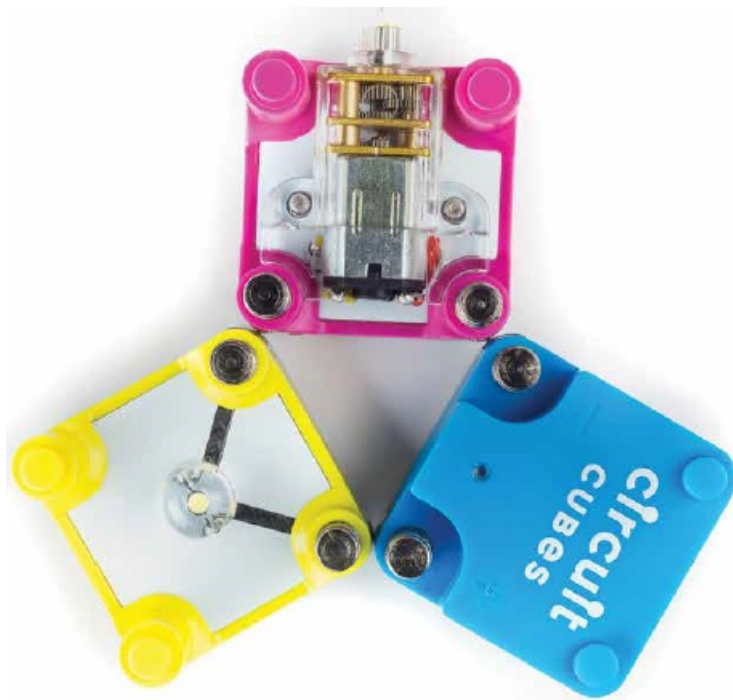
The standard Battery Cube is the power for your circuit. It has a positive and negative terminal. Turn on the switch to power your creation — it's rechargeable too! If the LED on top of your Cube is flashing red, you have caused a short circuit and power output is disabled to allow you to troubleshoot.

MOTOR

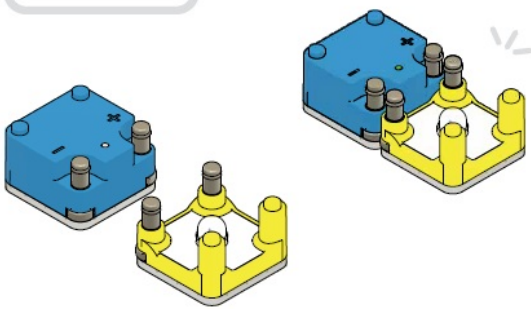
A perfect fit for your gears and wheels, this mighty little motor actually rotates at more than 1,000 RPM (rotations per minute), but the tiny gears attached to the motor shaft reduce the rotations to about 100 RPM. This ensures maximum torque to turn the wheels or gears of your projects.

LED

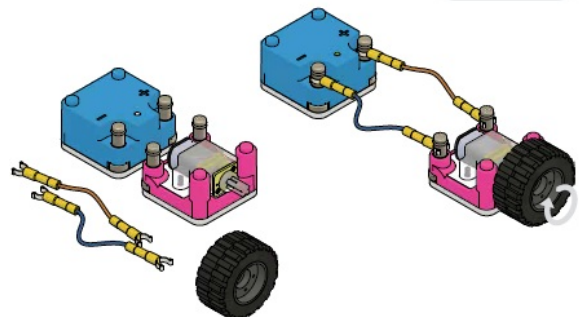
Snap this ultra-bright, oversized LED onto your bricks and get thousands of hours of light to illuminate your builds, from easy flashlight set-ups to more challenging projects.



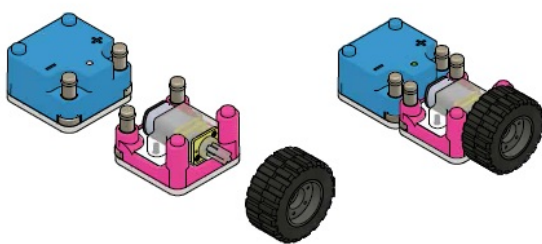
MAGNETS



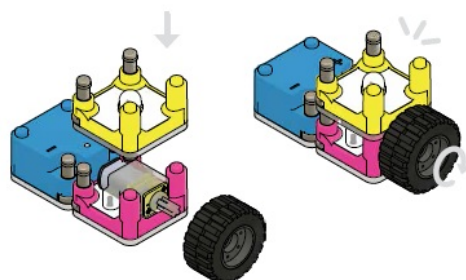
WIRES



CONNECT YOUR CUBES



POSTS & OUTPOSTS

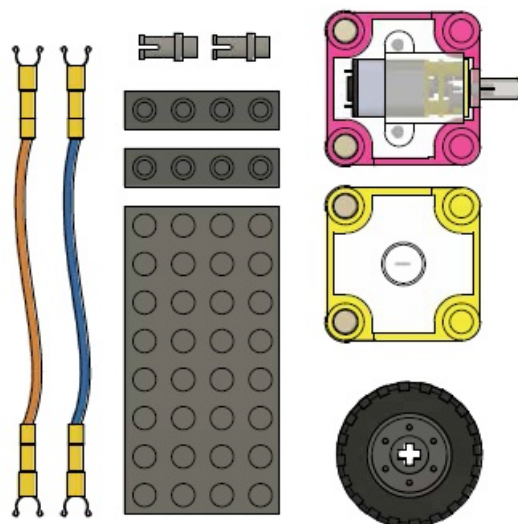


STACKING

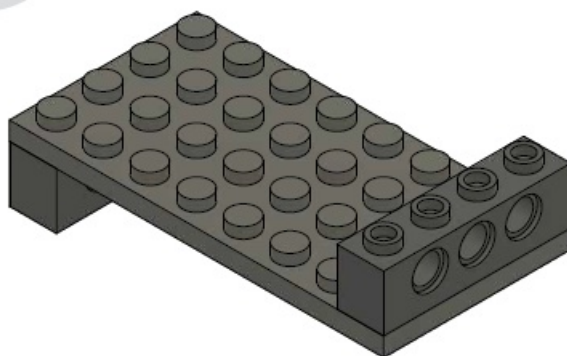
HAND-CRANK

FLASHLIGHT

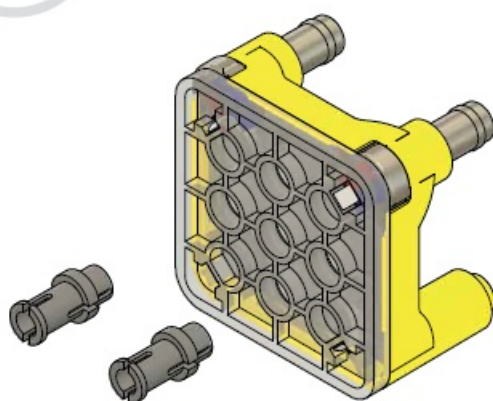
Mod your flashlight by replacing the energy source. Swap the Battery for the wheel, allowing it and the Motor to produce the electricity that turns the LED light on. Remember, LEDs have polarity. That means it will only turn on if you spin the wheel in the correct direction.

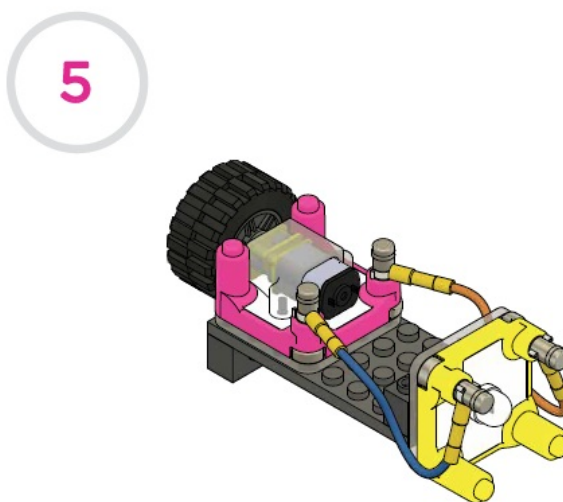
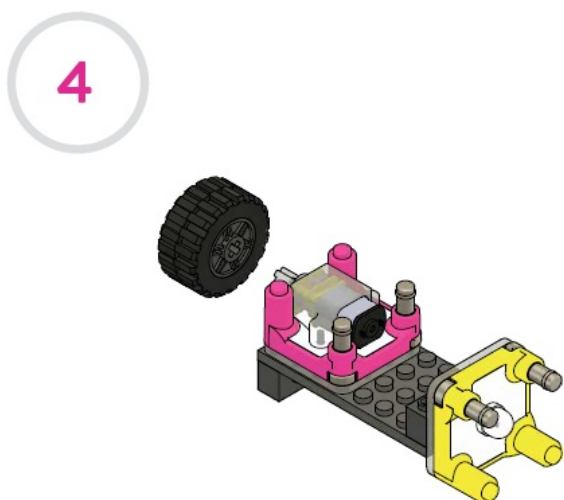
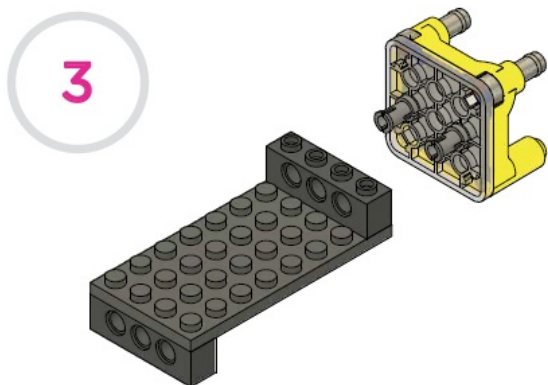


1



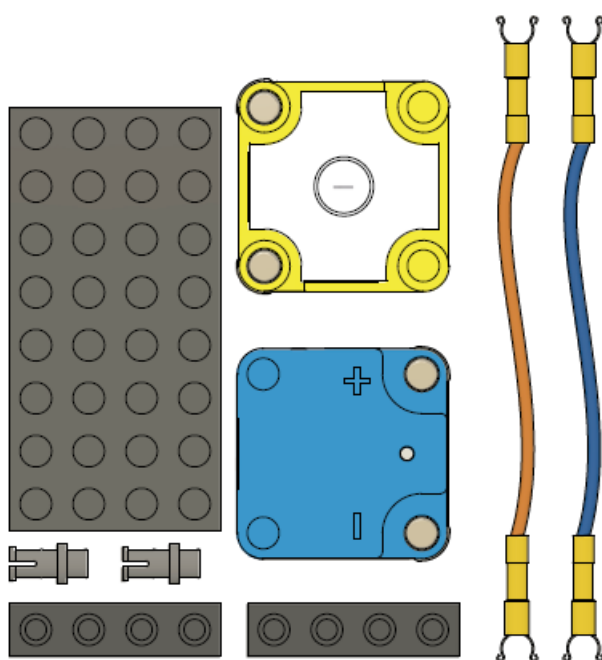
2



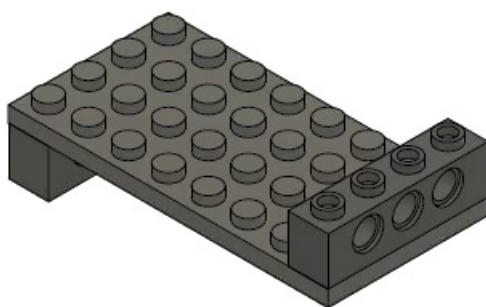


FLASHLIGHT

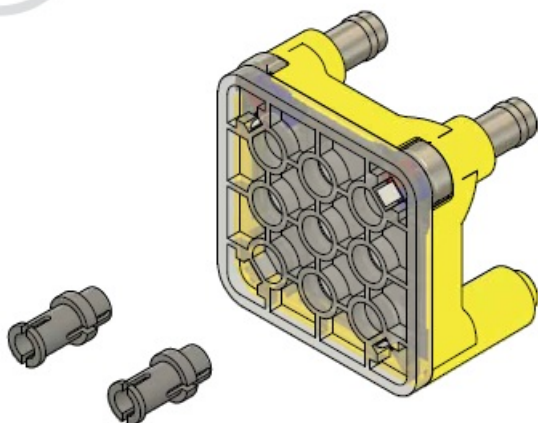
Construct a simple flashlight with a super-bright LED that you can use to explore in the dark. Once you've built this, you're ready to light up all kinds of cool things!



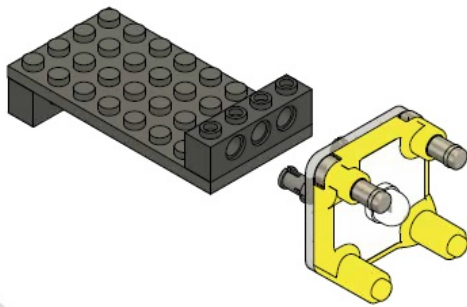
1



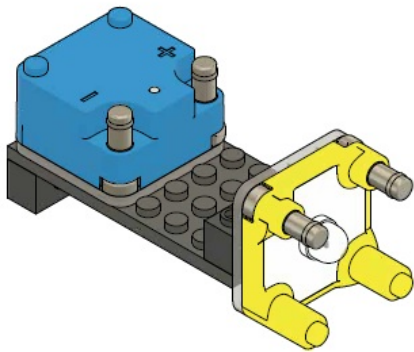
2



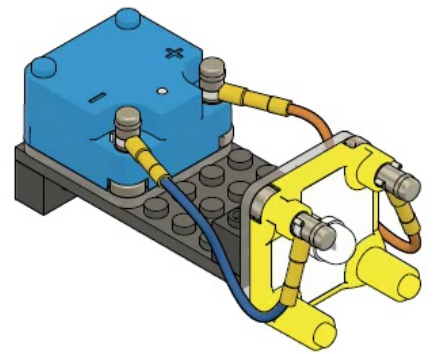
3



4



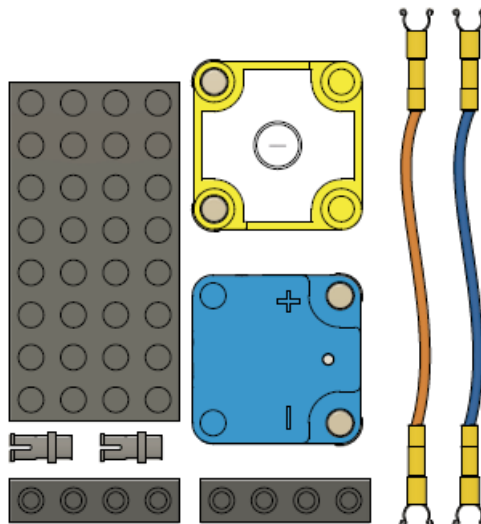
5



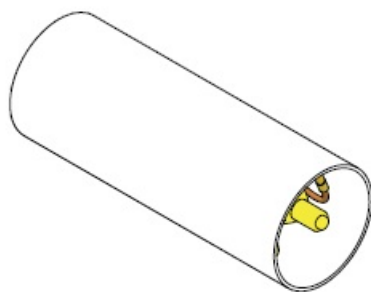
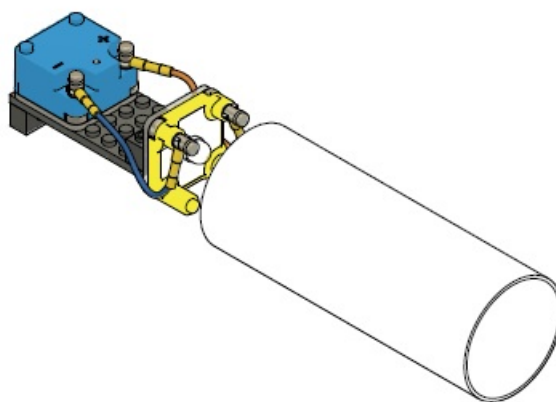
GOBO

FLASHLIGHT

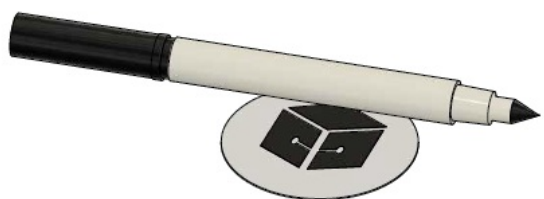
Make a gobo by adding a custom stencil to your flashlight. Take a piece of clear plastic and draw whatever you want on it. Use the telescope feature to focus the image so it looks clear and crisp. If you spin the cap and rotate the image, you can also build a kaleidoscope!



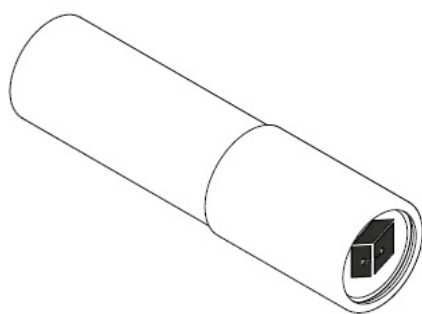
1



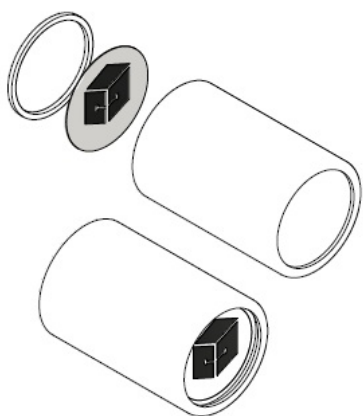
2



4

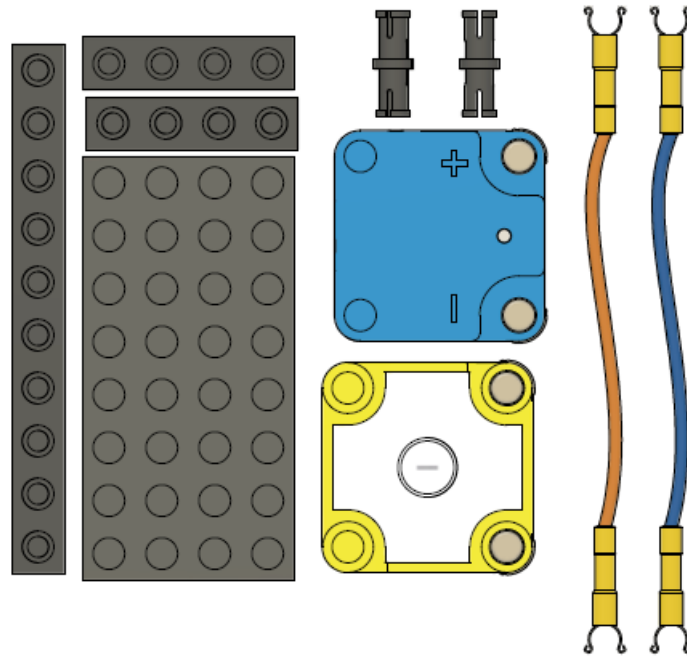


3

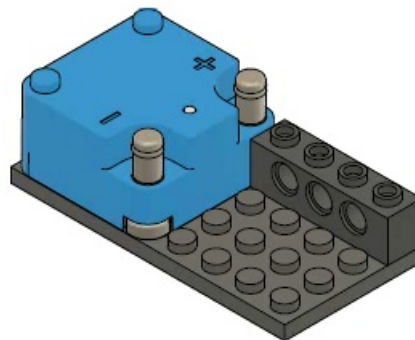


DESK LAMP

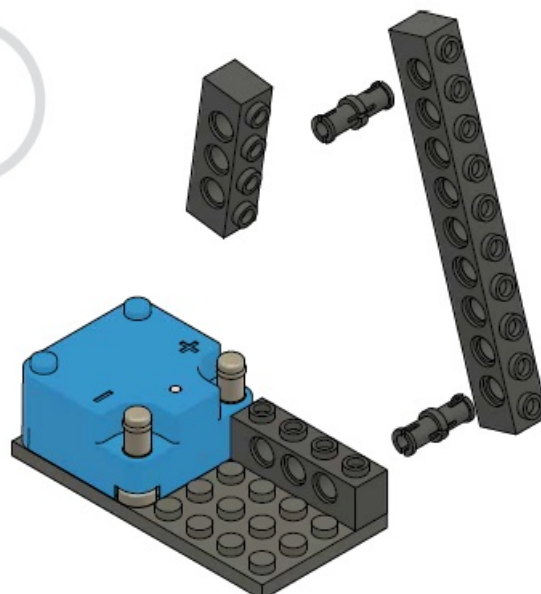
Make homework more fun by building your own adjustable lamp! With two different ways to move, your lamp can be placed the way you like it. Plug it in with your USB cable and it will work as long as you do.



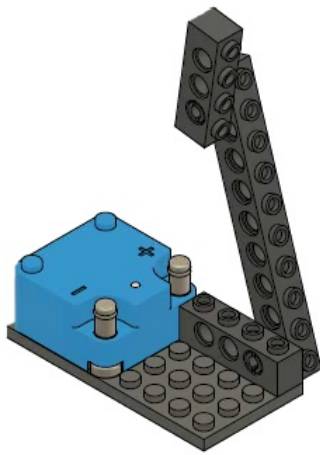
1



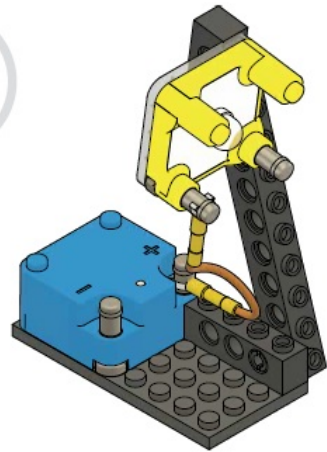
2



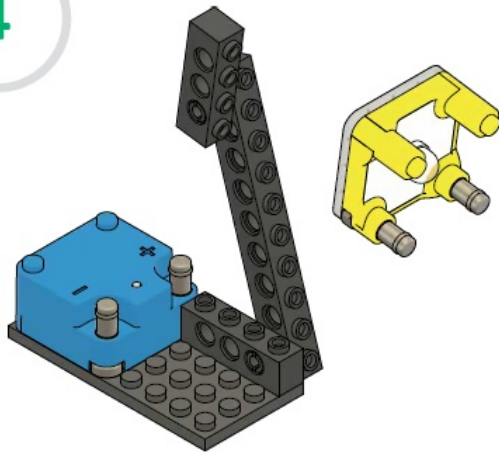
3



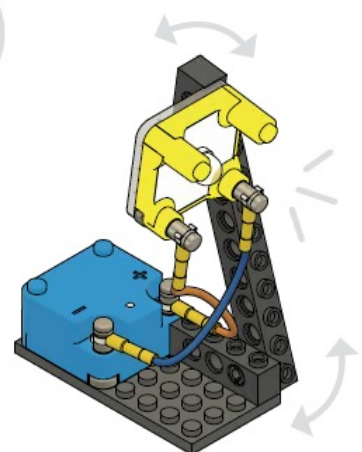
5



4

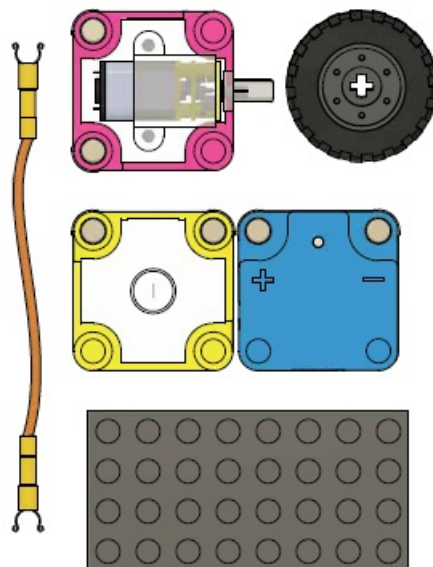


6

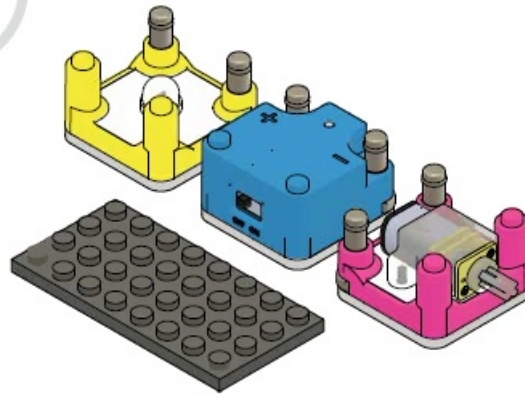


LIGHTHOUSE

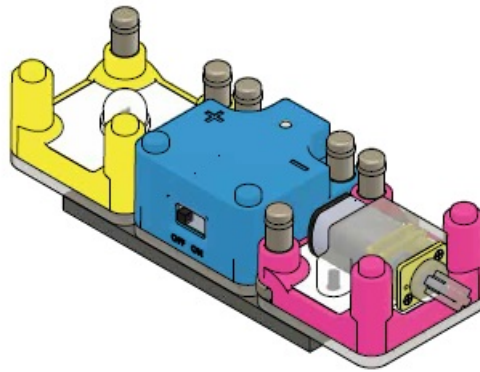
Lighthouses help ships avoid danger near the shore at night. Yours uses all three Cubes and one wire to make it rotate. The Motor can spin really fast, but you'll wire it up so that it slows down to the perfect speed. Then add a wheel to keep it all standing up straight.



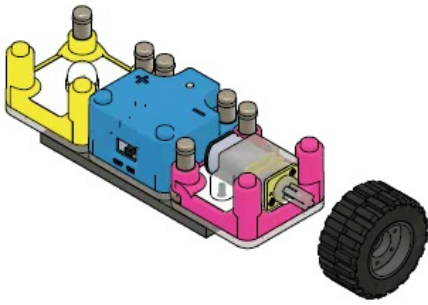
1



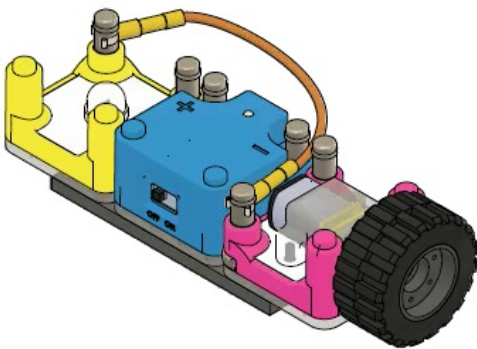
2



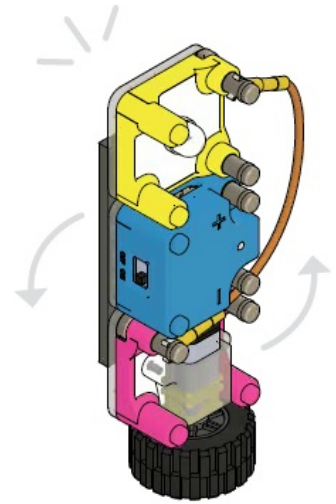
3



4

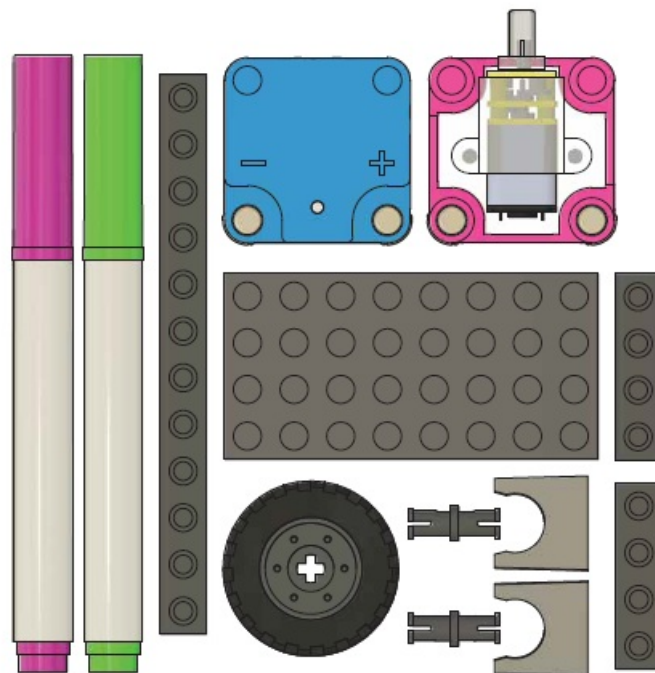


5

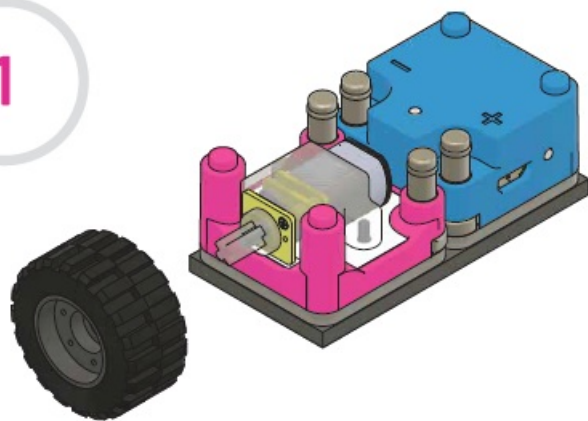


2-MARKER SCRIBBLEBOT

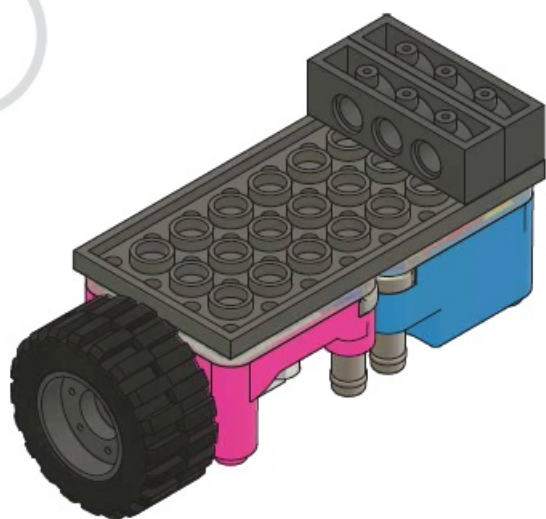
Try placing the markers in different places on the axle. Do your drawings change?



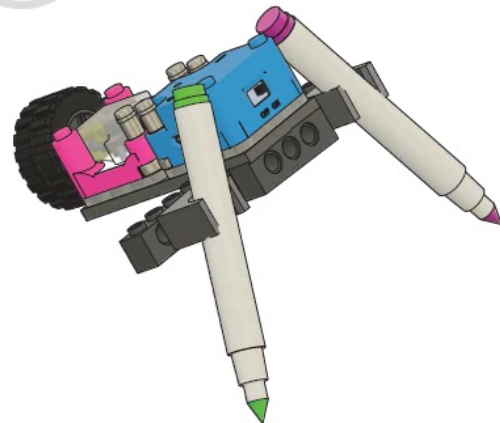
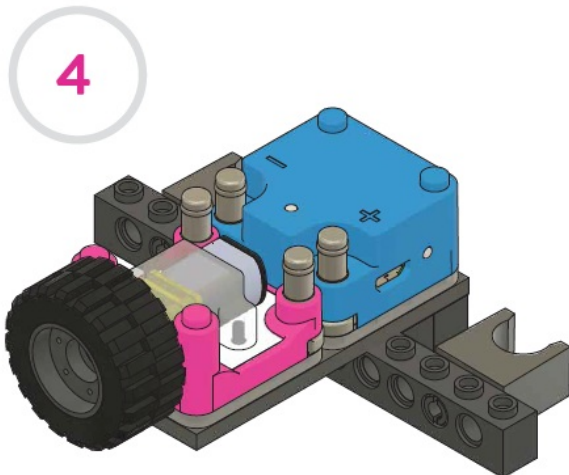
1



2



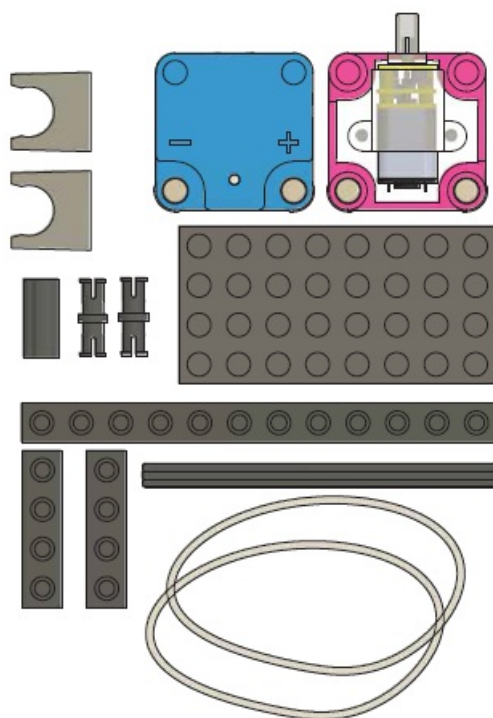
5



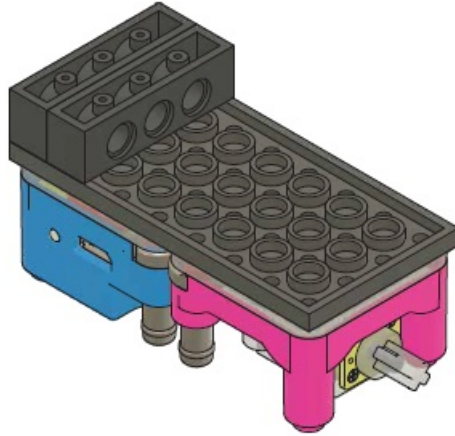
6-MARKER

SCRIBBLEBOT

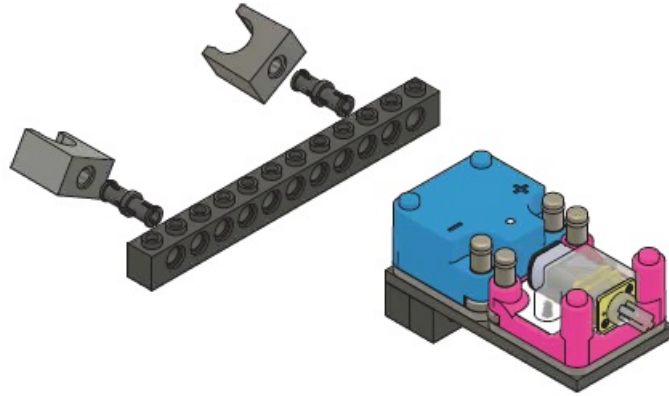
Make the ultimate Scribblebot using all the markers in your kit. This bot will shake and swirl all over your paper.



1



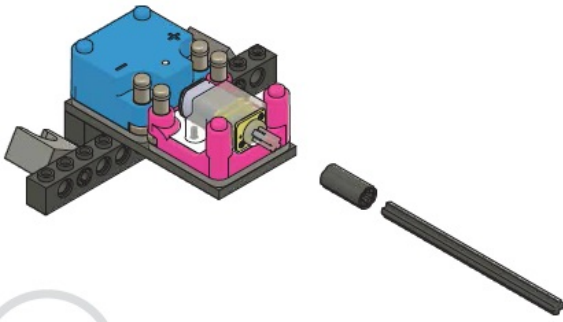
2



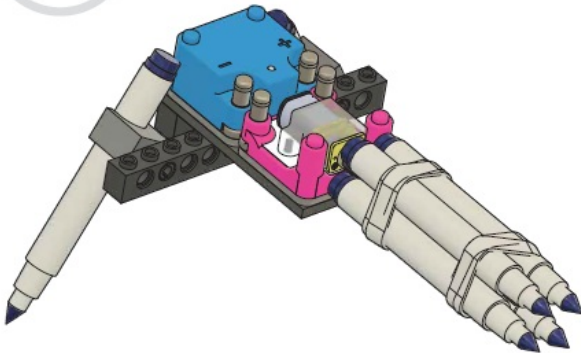
CHALLENGE

Add the LED Cube to light up your artwork.

3

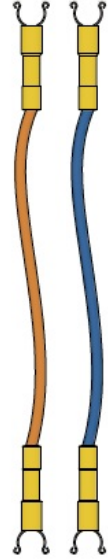
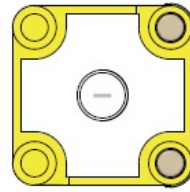


4



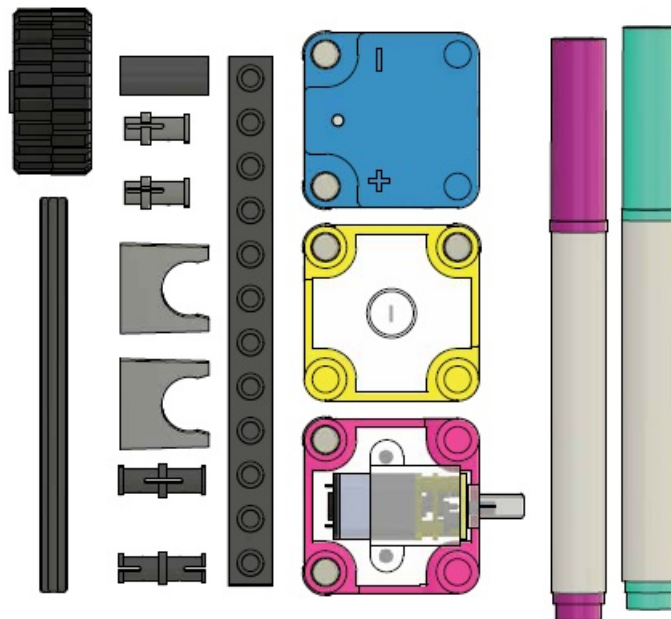
CHALLENGE

Add the LED Cube to light up your artwork.

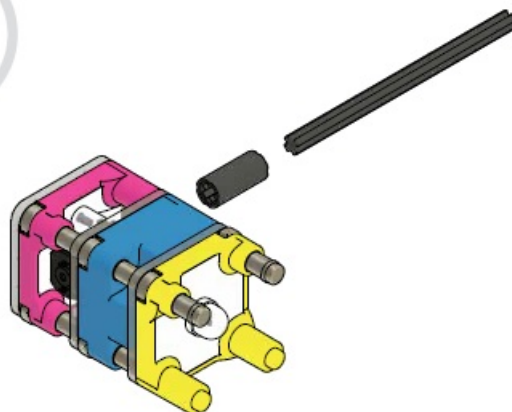


DARK ARTBOT

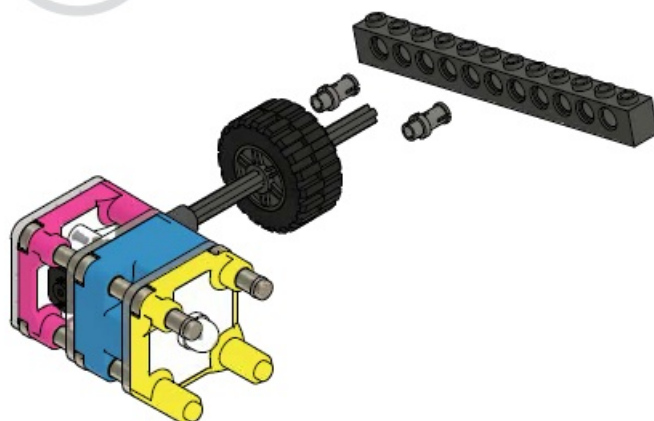
This bot flips and rolls and shines light on your art as it draws in the dark! The two-marker combo creates cool spiral designs, while the rubber bands help keep the LED in place.



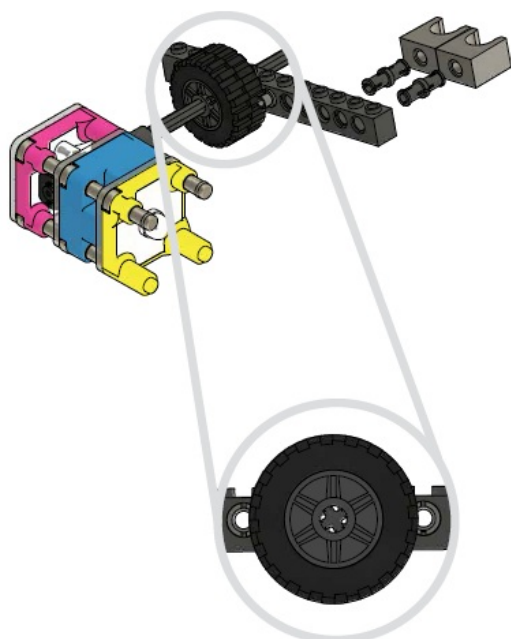
1



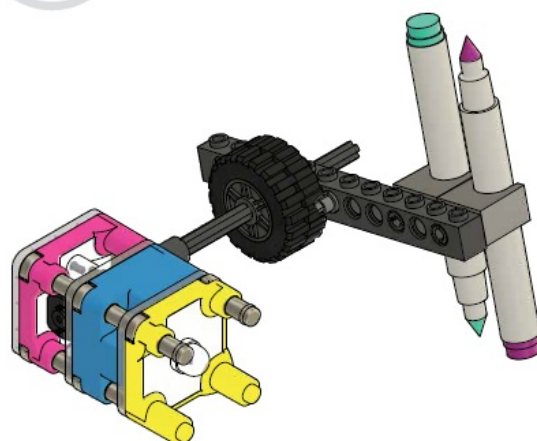
2



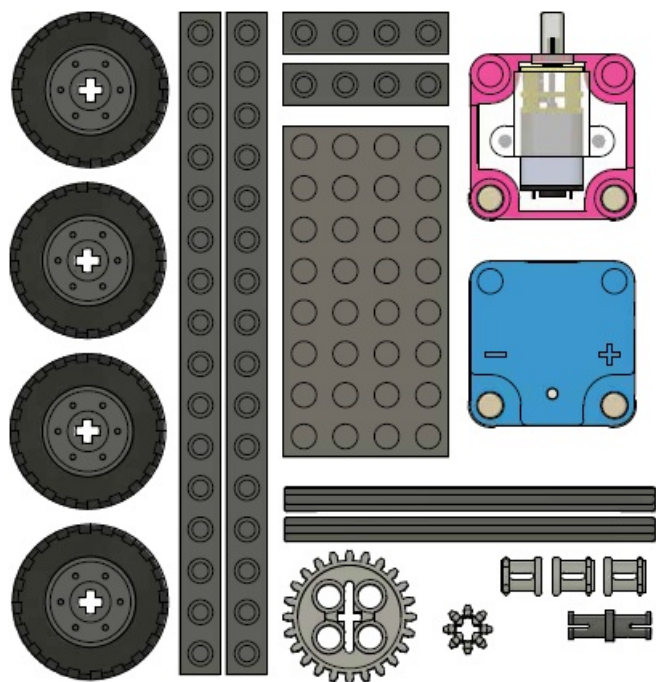
3



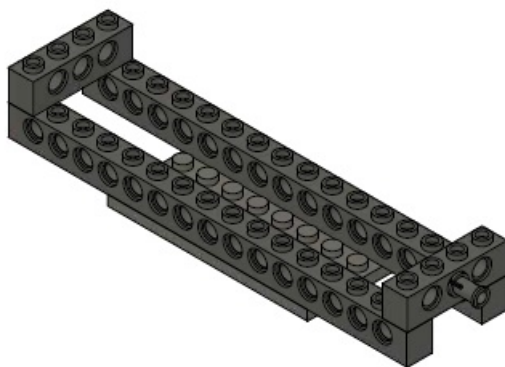
4



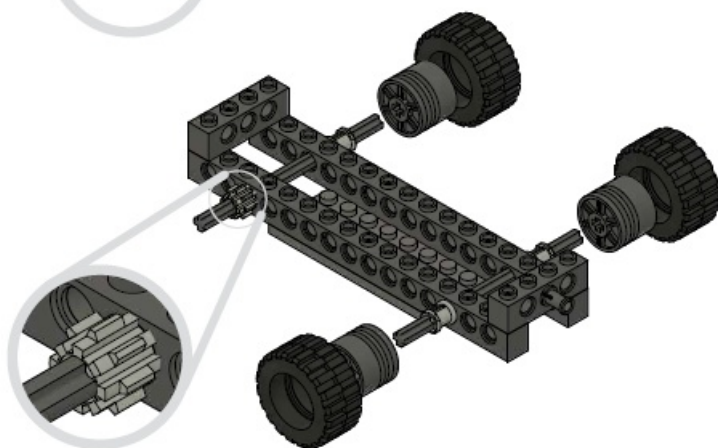
Once you've built this car chassis, you'll be set to make all kinds of things that move. Use this build to create other kinds of vehicles, high-speed monsters or whatever you can imagine.



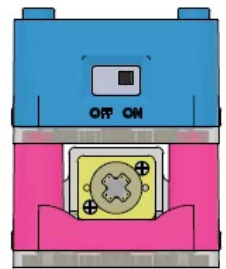
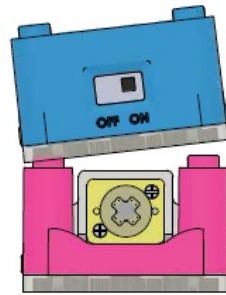
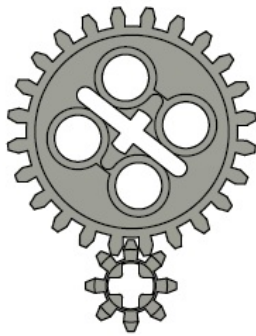
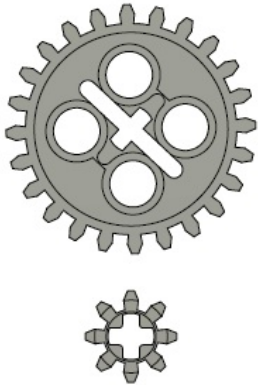
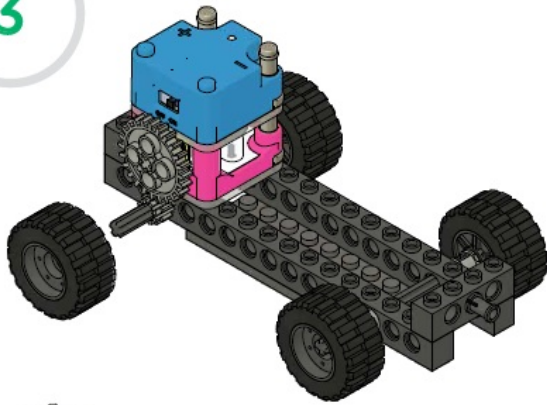
1



2

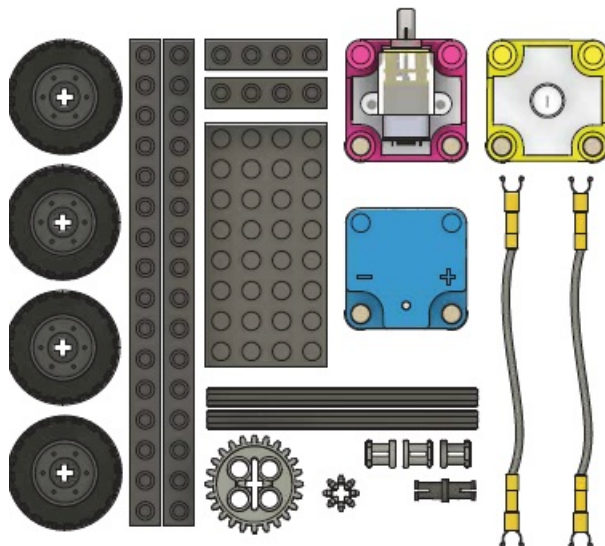


3

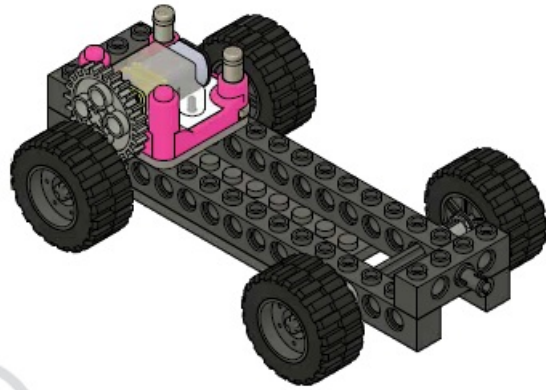


HACK YOUR RIDE

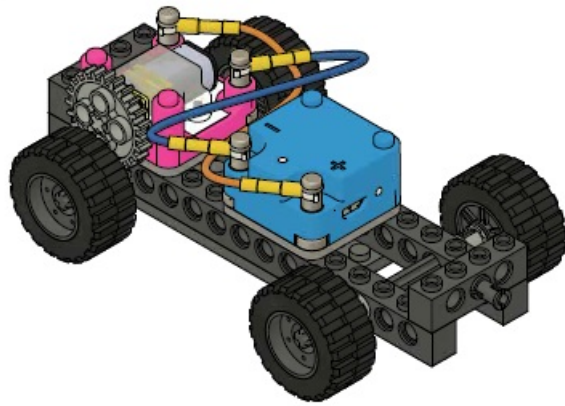
Once you've assembled the chassis and topped it with a car body, make it as crazy as your imagination will allow. Move the Battery and wires for more versatility. Stack the LED on top, but be sure to rotate it 90 degrees. To change the car's direction, swap Motor wires to reverse the polarity — the Motor will spin in the opposite direction. The LED should still turn on since it is stacked on top of the Battery.



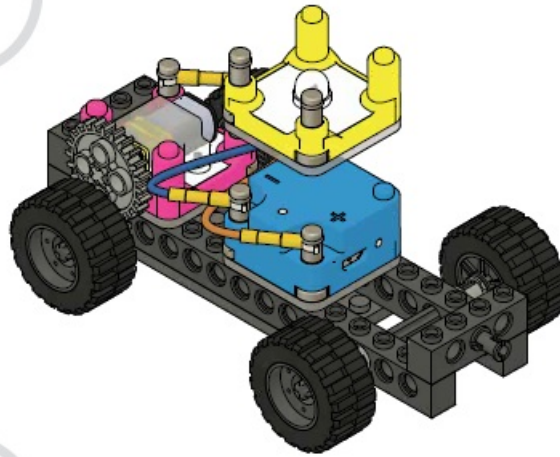
1



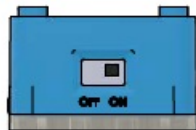
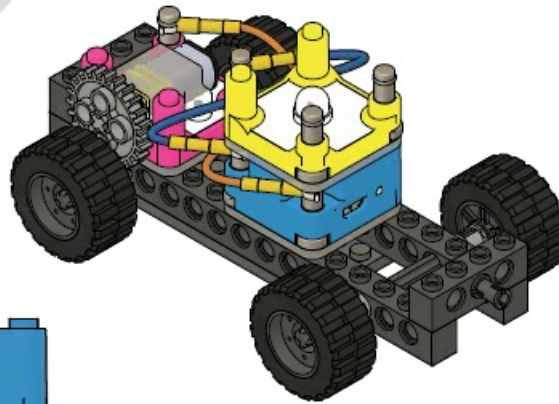
2



3

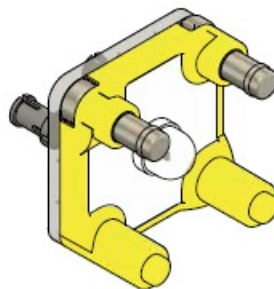


4



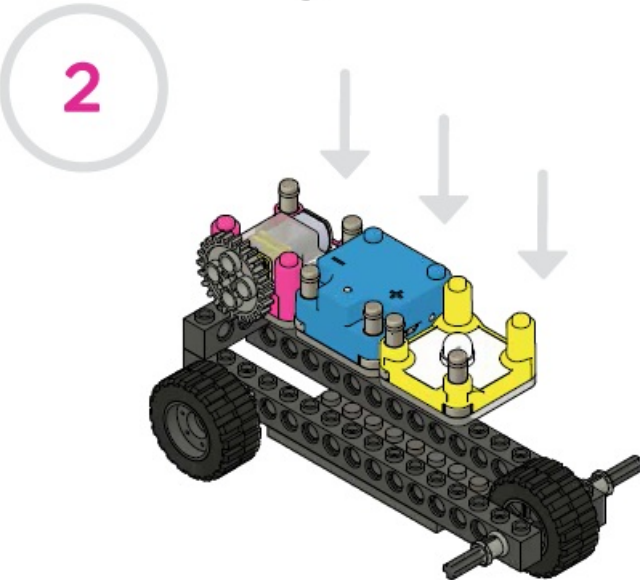
CHALLENGE

Mount the LED Cube on the front and connect the longer wires to the Battery Cube to make a headlight for the vehicle.

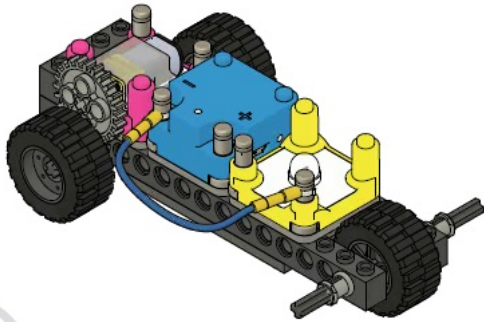


TRIKE

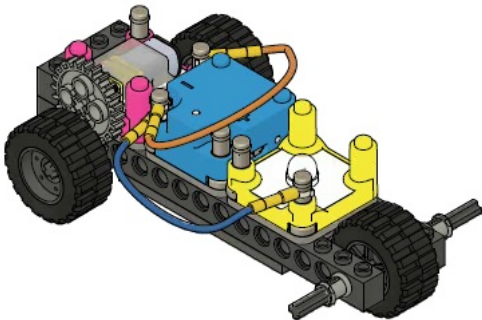
One less wheel makes driving more interesting.



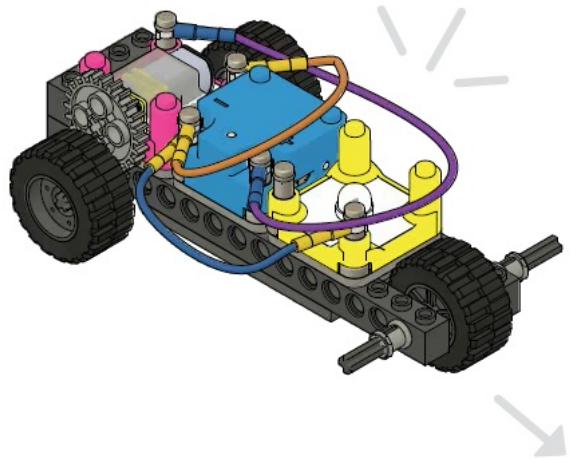
3



4

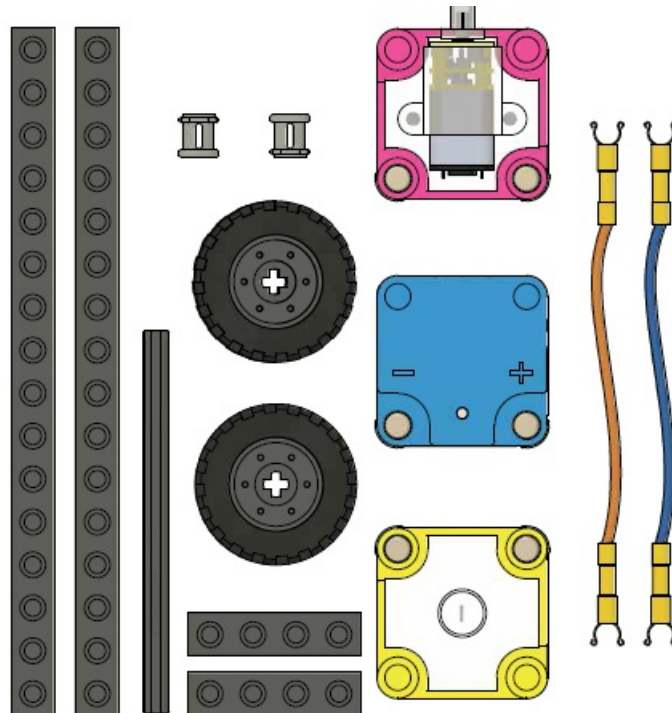


5

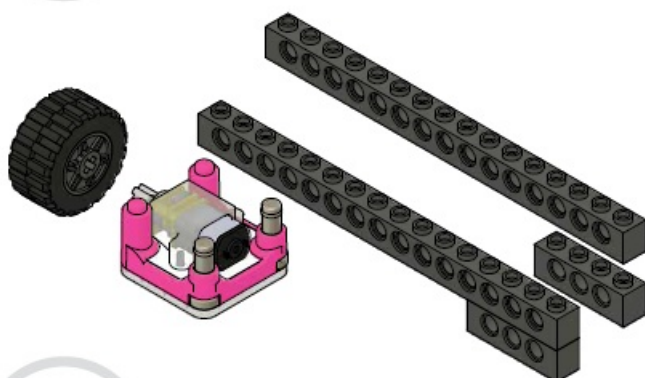


SPINNING CAR

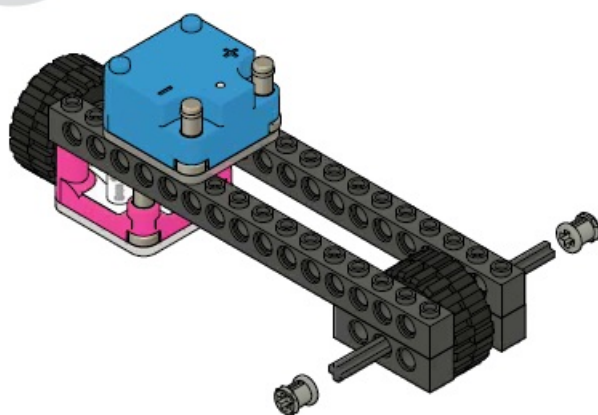
Only you can control the crazy action!



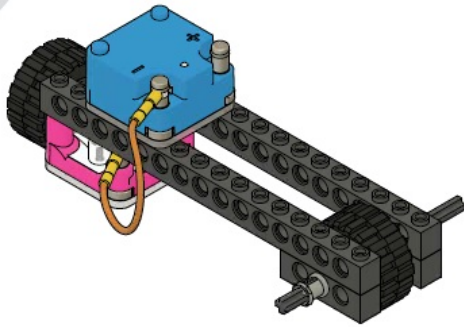
1



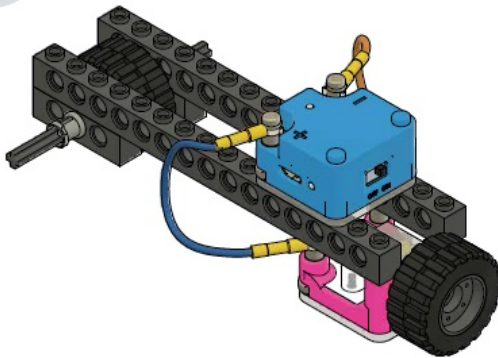
2



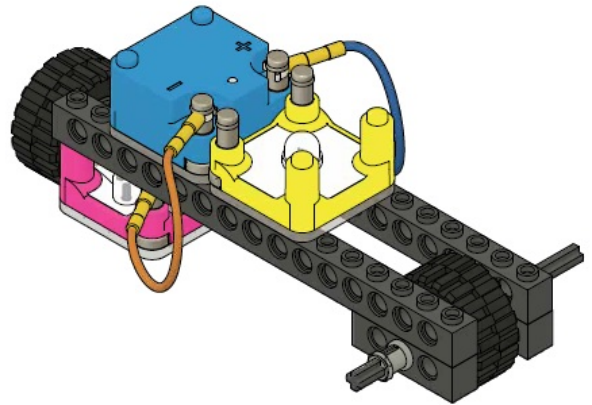
3



4

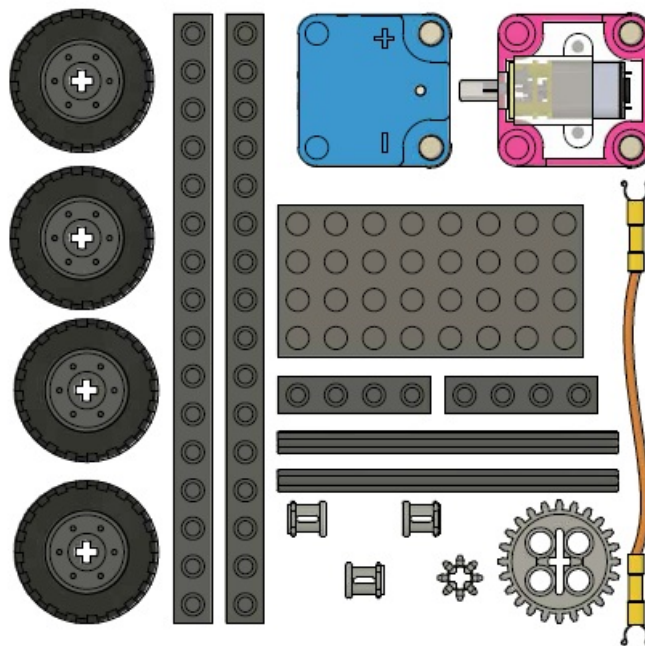


5

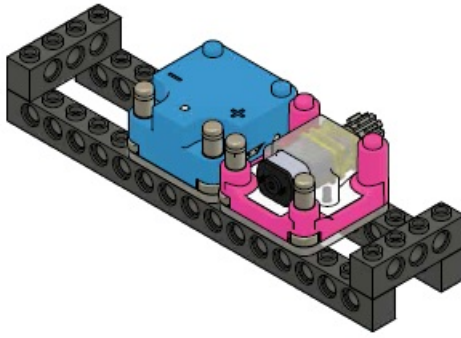


PEANUT BUTTER MIXER

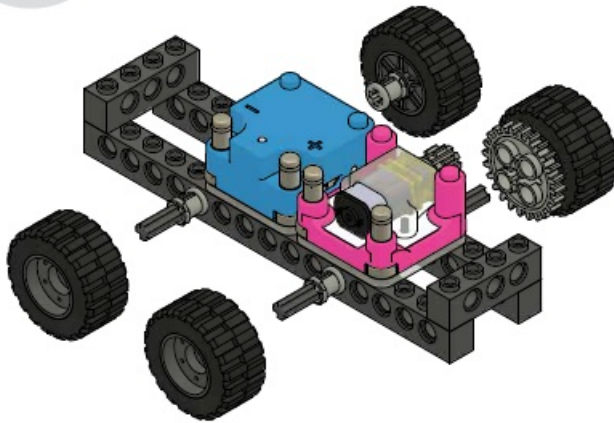
Mix your peanut butter or hack this build to make a rock tumbler.



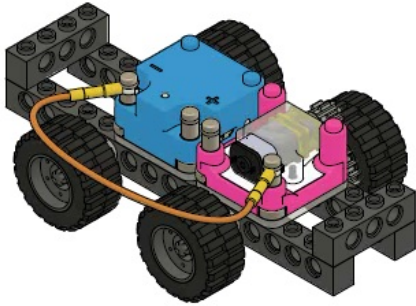
1



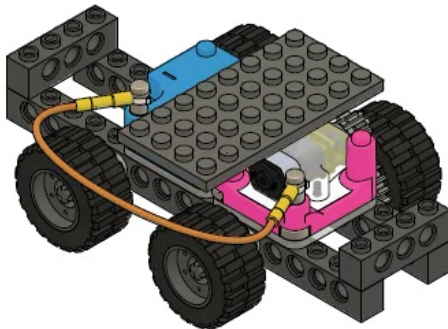
2



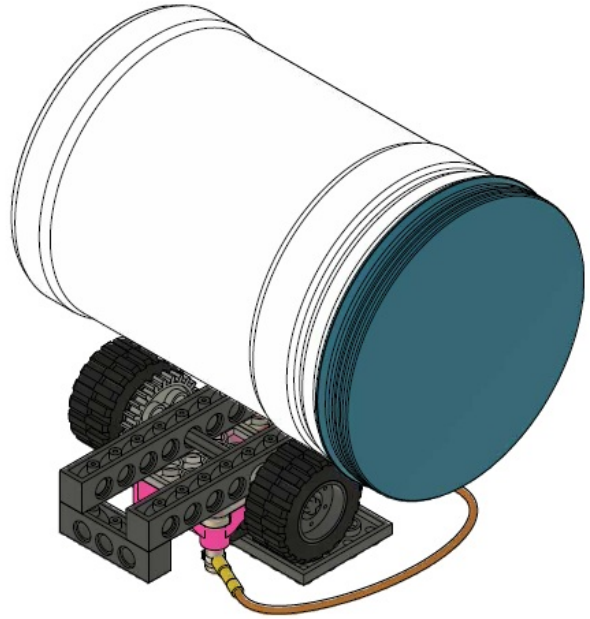
3



4



5



LEGAL

Tenka Inc. / 291 School Street, Suite 3 / Willits, CA 95490. Designed by Tenka Inc. in California, USA. Assembled in China. Please retain this information for future reference. Images for illustration purposes only. Actual product may differ.

- **PATENTS** Circuit Cubes is a registered trademark of Tenka Inc. ©2023 Tenka Inc. All rights reserved. Patent approved. For details visit: circuitcubes.com/patent
- **SAFETY** Handle Circuit Cubes with care. They contain sensitive electronic components, including batteries, and can be damaged or cause injury if dropped, burned, punctured, crushed, disassembled, or if exposed to excessive heat or liquids. Do not use damaged Circuit Cubes.
- **BATTERIES** The battery is non-replaceable. Do not attempt to replace the batteries yourself. You may damage the batteries, which can overheat and cause injury. Do not expose battery to water or allow the battery to get wet. Circuit Cubes are only intended to work with one Battery Cube in a circuit — parts may fail if you add multiple Battery Cubes in a circuit.

COMPLIANCE Regulatory Compliance Information, FCC Compliance Statement: 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.

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 to an outlet on a different circuit from the receiver.
4. Consult the dealer or an experienced radio/TV technician for help. Important: Changes or modification to this product not authorized by Tenka Inc. could void the electromagnetic compatibility (EMC) and wireless compliance and negate your authority to operate the product. This product has demonstrated EMC compliance under conditions that include the use of Tenka Inc. peripheral devices.

WARNING This product contains chemicals known to the State of California to cause cancer and birth defects (or other reproductive harm). **WARNING** Choking hazard — small parts. Not for children under 3 years. **WARNING** This product contains small magnets. Swallowed magnets can stick together across intestines, causing serious injuries. Seek immediate medical attention if magnets are swallowed or inhaled. **WARNING** This toy is only intended for use by children over the age of 8 years.

CONTACT For help with your Circuit Cubes or other questions, please email: support@circuitcubes.com.



Documents / Resources

	Circuit Cubes 2023 Tenka Stem Starter [pdf] User Guide 2023 Tenka Stem Starter, 2023, Tenka Stem Starter, Stem Starter, Starter
---	--

References

- [Patents | Tenka Inc.](#)
- [User Manual](#)