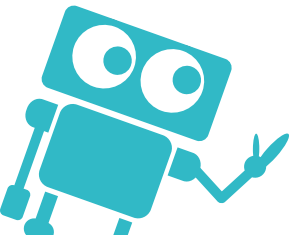
T
Tinker

3
Points

Chibitronics
LED Bookmark

Create a bookmark that lights up.



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T
Tinker

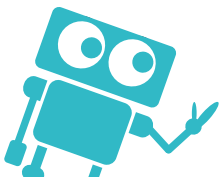
3
Points

Materials:

- Chibitronics Circuit Stickers Classroom Pack
- Construction paper
- Tape
- Scissors
- Markers
- Hole Punch & String (for tassel)

Quick Start:

1. Cut a bookmark out of construction paper.
2. Create a simple one LED circuit.
3. Draw out your circuit on the bookmark.
4. Lay down circuit tape to make a path to the coin cell battery (leave a gap for the sticker LED).
5. Add the battery, decorate, and add a hole and tassel if time allows.



Hints and Tips:

- The Chibitronics site has great video resources to help you, so make sure you watch those as soon as possible at: **https://chibitronics.com/how-to-page/**.
- LEDs have a positive and a negative side, look on the sticker for the + and – symbols. Also remember that the top of the coin cell battery is positive, the bottom is negative.

Extended Challenges

Art: Make your bookmark inspired by your favorite artist, painting, or style. How can you incorporate the function of this bookmark with your unique artistic style?

English/Language Arts: Create bookmarks in a specific genre of books (mystery, historical fiction, sci fi, etc.). Add in quotes from classic works, or pick a poem to write on your bookmark. For an extra challenge, try to light up your own Haiku.

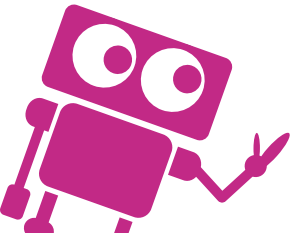
S
Skill-Up

9
Points

Chibitronics

Make A Scene

Design and create a scene from a book you are reading or something from social studies using Chibitronics.



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S
Skill-Up

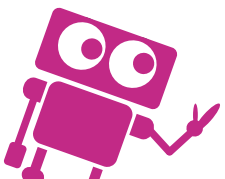
9
Points

Materials:

- Chibitronics Circuit Stickers Classroom Pack
- Construction paper
- Tape
- Scissors
- Markers
- Other craft materials

Quick Start:

1. Watch or read the Chibitronics, parallel circuit tutorial to learn the basics at: **https://chibitronics.com/parallel-circuit-tutorial/**.
2. Assemble your materials and think about what scene you want to create. How can you add light to better communicate what is happening in the scene?
3. Plan out how you will draw it and how you want it to light up.
4. Draw out your scene and use coloring materials or construction paper to make it colorful and more unique.
5. Add the battery to test your circuit and add more features as time allows.



Hints and Tips:

- The sticky side of circuit tape is NOT conductive, so try not to rip and stick pieces together. Instead, use one continuous piece of circuit tape when possible, leaving gaps only for LED stickers.
- Using parallel circuits allows you to light up multiple LEDs at the same time. Think of your circuit like a ladder or train track where one side is positive and the other track or rail is negative. Making a path (or multiple paths like rungs) and adding an LED between the positive and negative rails will light them up. See the Chibitronics website for a wealth of information.

Extended Challenges

Science: Use this activity to explore parallel circuits and electricity flow. Once you master the basic circuit, see if you can learn how to add switches, alternate pathways, or sensors to trigger your LEDs.

English/Language Arts: Add quotes from a character in the book or quotes that are related to the event in social studies that you are depicting.

D
Design

14
Points

Chibitronics
Light Up Literature

Design and create a unique way to light up a book so that you can read at night. Will it be embedded? Triggered when the book opens? Or some other novel approach?

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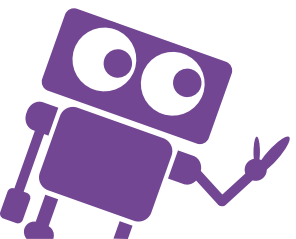


D
Skill-Up

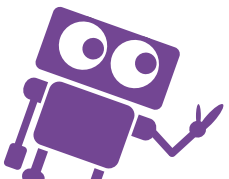
14
Points

Materials:

- Chibitronics Circuit Stickers Classroom Pack
- Construction paper
- Tape
- Scissors
- Markers
- Miscellaneous craft supplies

Quick Start:

1. Gather your supplies.
2. Plan out your book light idea on paper.
3. Refer to the Chibitronics website for ideas on adding unique switches to your design.
4. Iterate, test, evaluate, and redesign as needed to make it the best ever.



Hints and Tips:

- Circuit tape switches are very helpful for this project. Look at the resource link below to get some ideas that might help you build a better book light.
- Innovation takes a lot of trying. So, if your design doesn't work the first time don't be sad, just keep trying, testing, trying and testing some more—engineers call this "iterating."

Extended Challenges

Science: Study the effects of light on sleep. How can you design your light to help people read in the dark but also help them sleep?

Art: Embellish your book light. Can you add functionality to the light or tie in your art to a specific theme?

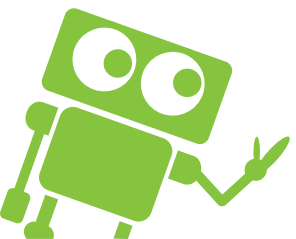
G
Global

16
Points

Chibitronics

Bright Future Finder

Create an interactive light-up display to help people better understand the issues that face our world.



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G
Global

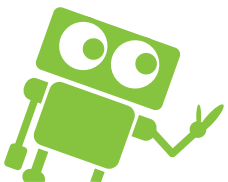
16
Points

Materials:

- Chibitronics Circuit Stickers Classroom Pack
- Construction paper
- Tape
- Scissors
- Markers
- Miscellaneous craft supplies

Quick Start:

1. Identify the global issue that you want to (literally) shed light on. Maybe one of the UNs Sustainable Development Goals (SDGs)?
2. Create a poster, map, or image, and text that you'd like to light up.
3. Design and draw a circuit that will turn on a LED behind the text/image that you'd like to highlight.
4. Add a switch that users can push to turn on your LED as they explore your global issues poster.



Hints and Tips:

- Pressure switches can be a great addition to this project and will allow your users to interact with your topic by pressing buttons that you make to light up different areas of your poster.

Extended Challenges

Geography: Pick one of the UN Sustainable Development Goals (SDGs) and make a light-up map or graph that accurately represents needs in each part of the world.
Science: Pick a global topic like water quality, health and nutrition, or water-borne disease. Research and learn about the science that could help you engineer a better solution.

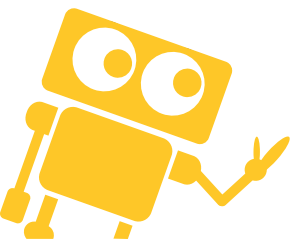
I
Innovator

25
Points

Chibitronics

Art Infusion

Invent a way to add lights to an artistic display of your choice. Light up flowers? Or a shadow box? Whatever it is, light up your art to give it that extra flashy pop.



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I
Innovator

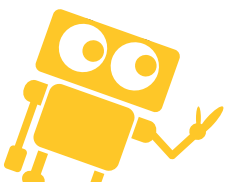
25
Points

Materials:

- Chibitronics Circuit Stickers Classroom Pack
- Construction paper
- Tape
- Scissors
- Markers
- Other art supplies as needed

Quick Start:

1. Collect your materials.
2. Pick an artistic theme or direction.
3. Review the paper circuit basics (especially if you haven't used them before).
4. Plan your art and how you'll infuse it with Chibitronics.
5. Build, test, iterate, and then share with the world!



Hints and Tips:

- Alternate Circuit Tape: Instead of using circuit tape, try conductive fabric tape instead. Though more expensive, it is easier to work with and is more forgiving than circuit tape.

Extended Challenges

Art: Add in additional art extensions by trying to create a shadow box and a way to trace what is projected. Explore the principles of light and dark: how is it expressed in art?

Science: Continue to explore advanced circuit principles. Add in the properties of light waves, or explore the difference between incandescent, LED, florescent, or laser light.