

Learning math trough making art with home-made robots

In this workshop we make tiny painting robots from household materials and buzzer motor (the same kind we have in our cellphone) that paint various geometric shapes, parallel lines as well as teach about proportions.

Materials:

toothbrush head, plastic shot glass, cardboard, straw, buzzer motor, 3V battery, double sided adhesive foam tape, paper, paint

Tools:

scissor

Some examples:



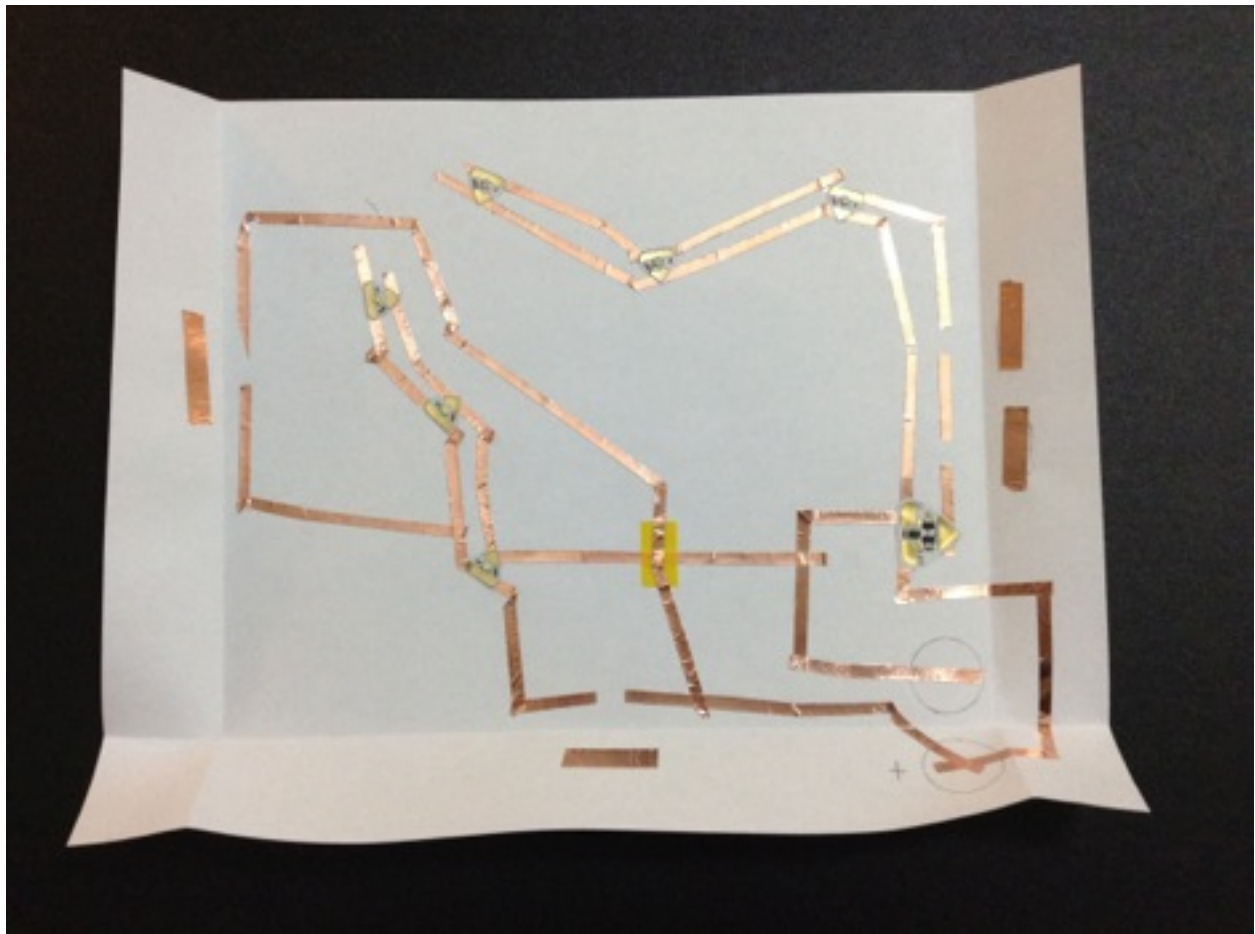
Interactive Drawings - Logic Gates with Chibitronics

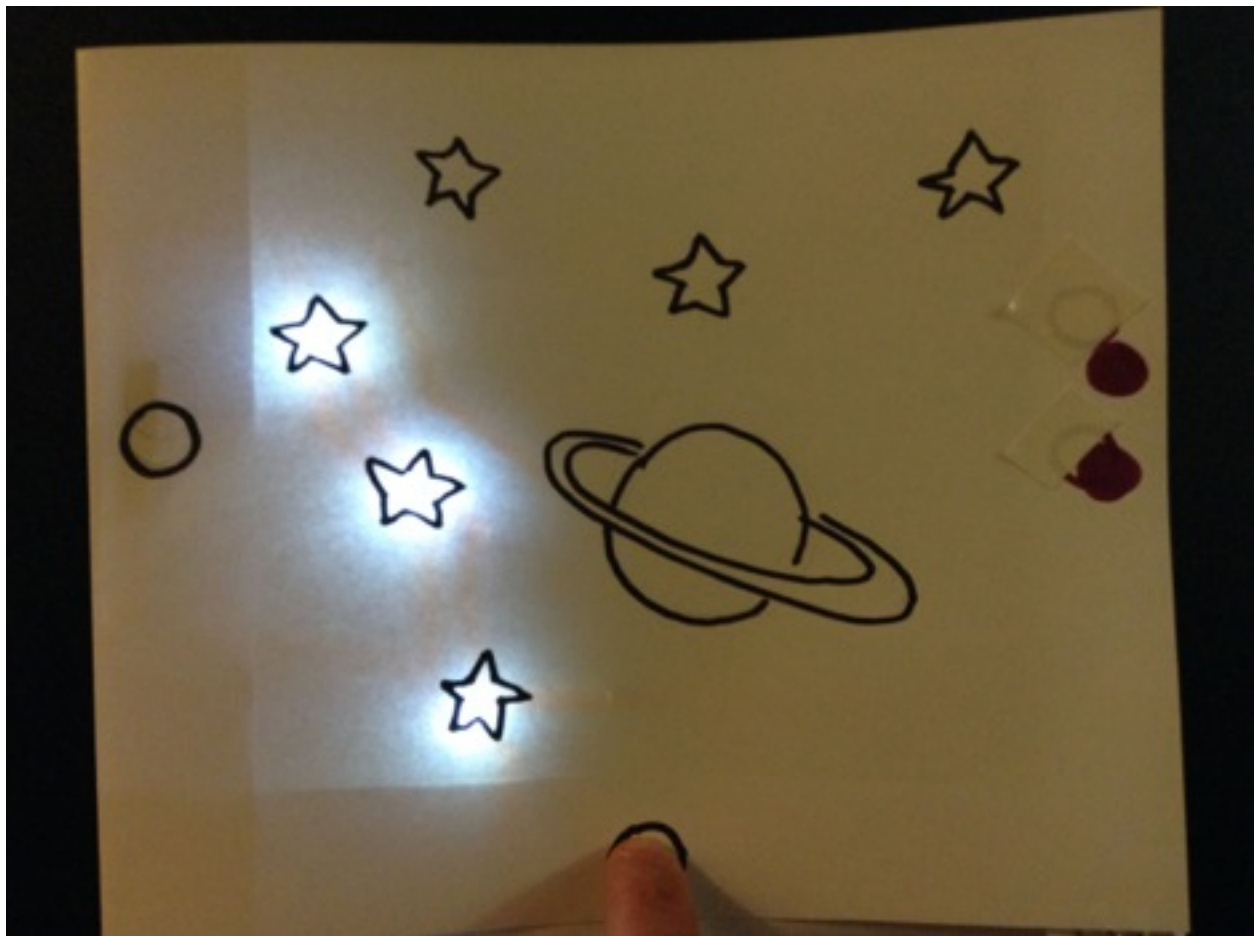
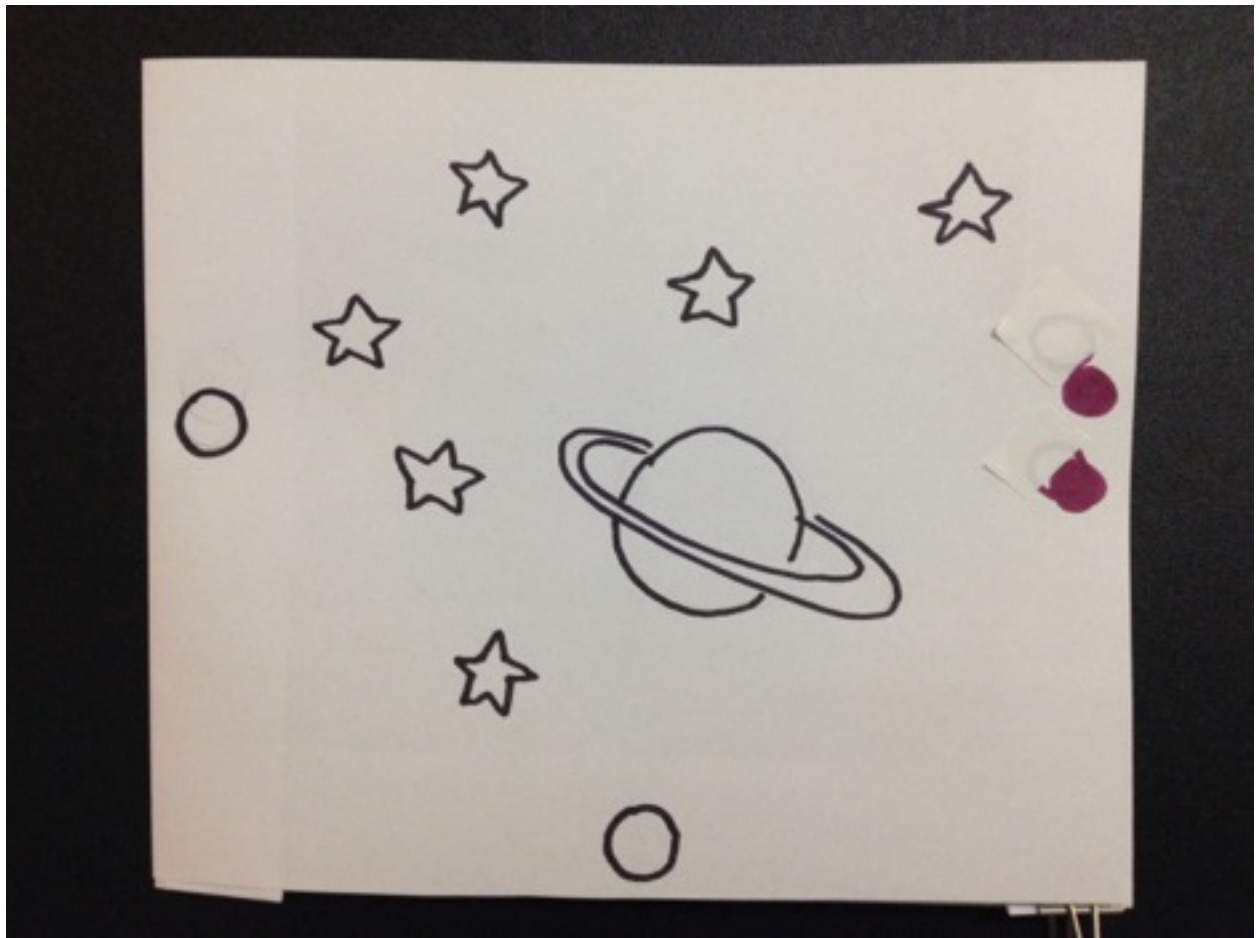
Using circuit crafting and paper switches any drawing can be transformed into an interactive experience. This workshop is about implementing logic gates and creating a more varied experience with the drawing.

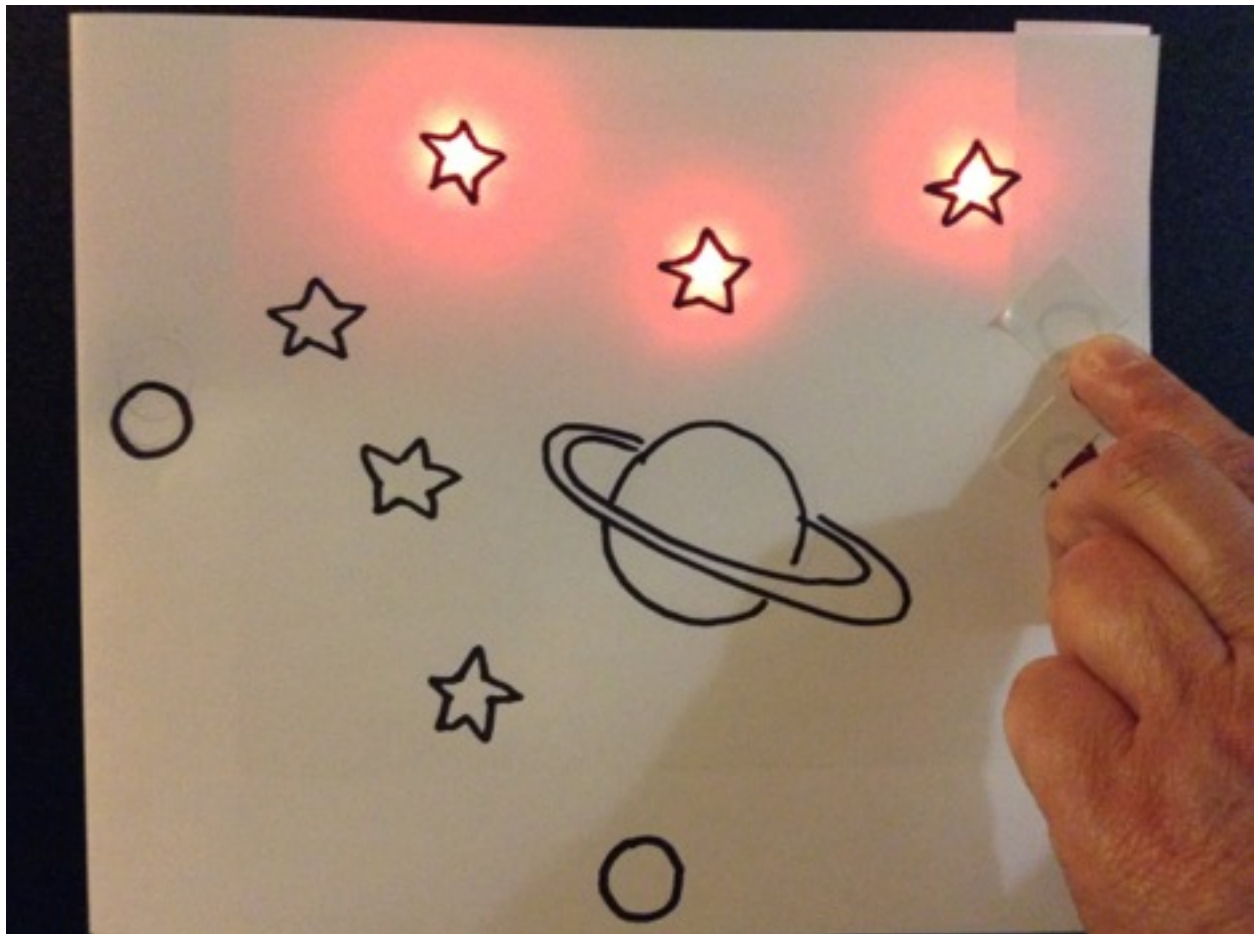
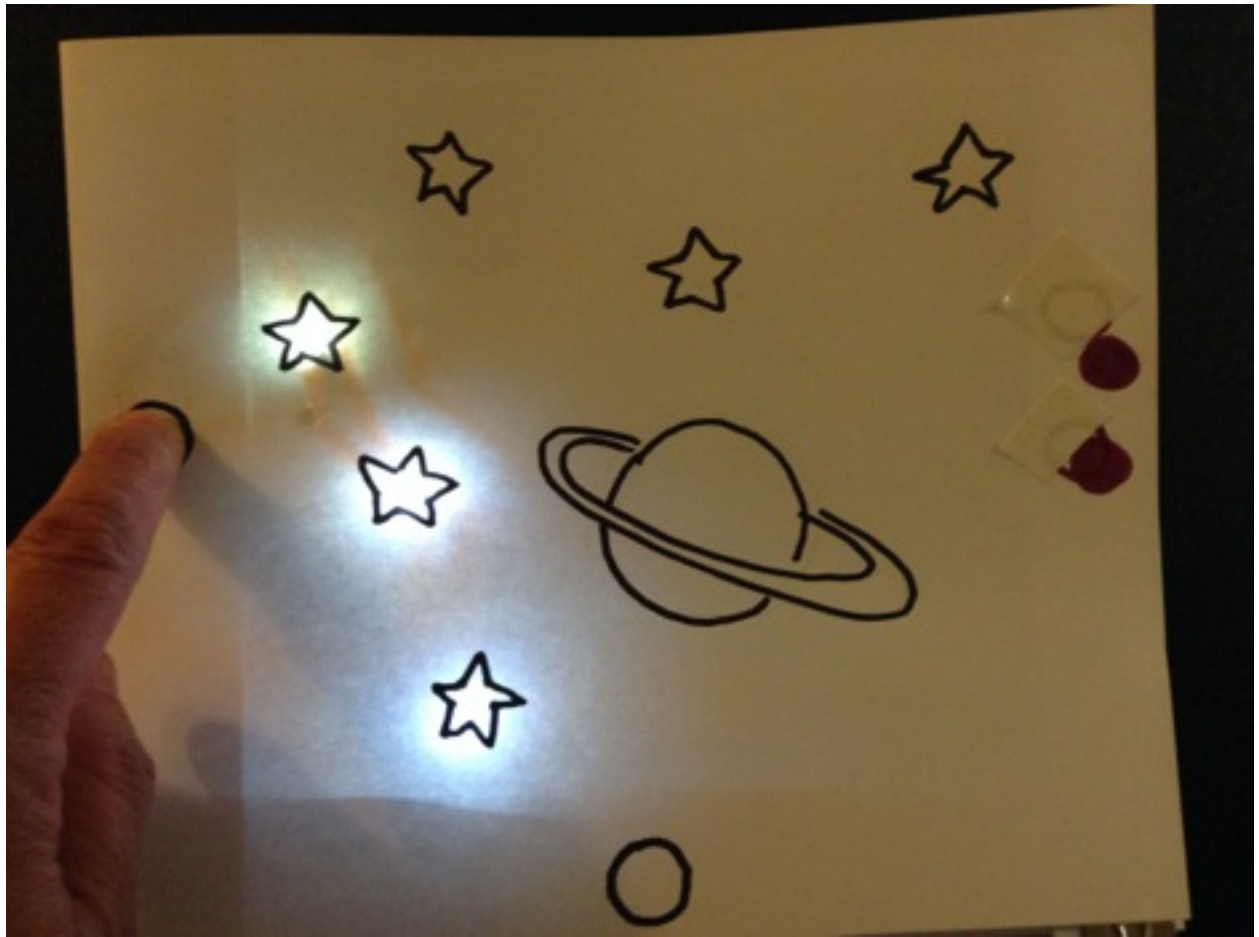
The example below includes both AND and OR logic circuits.

Materials: regular office paper, Chibitronics LED lights - white and colour, 3V battery, copper tape

Tools: scissor







Conductive materials that can be used:

copper tape (either with conductive adhesive or regular adhesive), self adhesive aluminum tape (from Home Depot, Rona, Home Hardware etc.), copper wire or aluminum wire used in crafts and jewelry making, household aluminum foil crumpled and flattened (it will become stronger this way)

If the adhesive on the tape is not conductive the end of the tape has to be folded back.



The Chibitronics workbook can be downloaded free from the internet. It is licensed under creative commons.

<http://bunniefoo.com/chibi/sketchbook-en-v1.pdf>

Resources

Tutorials

<http://chibitronics.com/education/>

<http://bunniefoo.com/chibi/sketchbook-en-v1.pdf> circuit sticker sketchbook to download for free

<http://www.bareconductive.com/education/>

<https://learn.adafruit.com> (for more advanced level)

Where to buy materials

electronics

<http://eelsu.com> Electric and Electronic Supply Inc.

501C Nightingale Ave, London, ON, N5W 5N1

Richard Comfort

Phone: 519-913-5122

Email: richard@eelsu.com

Electric and Electronic Supply Inc. is the only Canadian reseller of Chibitronics; sells also tiny vibrating motors, copper tape etc.

adafruit.com Chibitronics circuit stickers, Bare Conductive paint, copper tape with conductive adhesive, velostat - pressure sensitive conductive sheet, conductive yarn,

<http://chibitronics.com> (US based, prices are more expensive than at Adafruit)

<http://www.robotshop.com/ca/en/> conductive thread, bare conductive paint

<http://www.conductivethread.ca> conductive thread

<http://shop.evilmadscientist.com> chibitronics, conductive thread

<http://www.canadarobotix.com> conductive thread - Arduino LilyPad Conductive Thread Bobbin), Bare conductive electric paint

<http://www.bc-robotics.com> velostat - pressure sensitive conductive sheet

other materials

self adhesive aluminum foil tape - any kind in Home Depot, Rona, Home Hardware etc.

Resources

Tutorials

<http://chibitronics.com/education/>

<http://bunniefoo.com/chibi/sketchbook-en-v1.pdf> circuit sticker sketchbook to download for free

<http://www.bareconductive.com/education/>

<https://learn.adafruit.com> (for more advanced level)

Where to buy materials

electronics

<http://elelsu.com> Electric and Electronic Supply Inc.

501C Nightingale Ave, London, ON, N5W 5N1

Richard Comfort

Phone: 519-913-5122

Email: richard@elelsu.com

Electric and Electronic Supply Inc. is the only Canadian reseller of Chibitronics; sells also tiny vibrating motors, copper tape etc.

adafruit.com Chibitronics circuit stickers, Bare Conductive paint, copper tape with conductive adhesive, velostat - pressure sensitive conductive sheet, conductive yarn,

<http://chibitronics.com> (US based, prices are more expensive than at Adafruit)

<http://www.robotshop.com/ca/en/> conductive thread, bare conductive paint

<http://www.conductivethread.ca> conductive thread

<http://shop.evilmadscientist.com> chibitronics, conductive thread

<http://www.canadarobotix.com> conductive thread - Arduino LilyPad Conductive Thread (Bobbin), Bare conductive electric paint

<http://www.bc-robotics.com> velostat - pressure sensitive conductive sheet

other materials

self adhesive aluminum foil tape - any kind in Home Depot, Rona, Home Hardware etc.