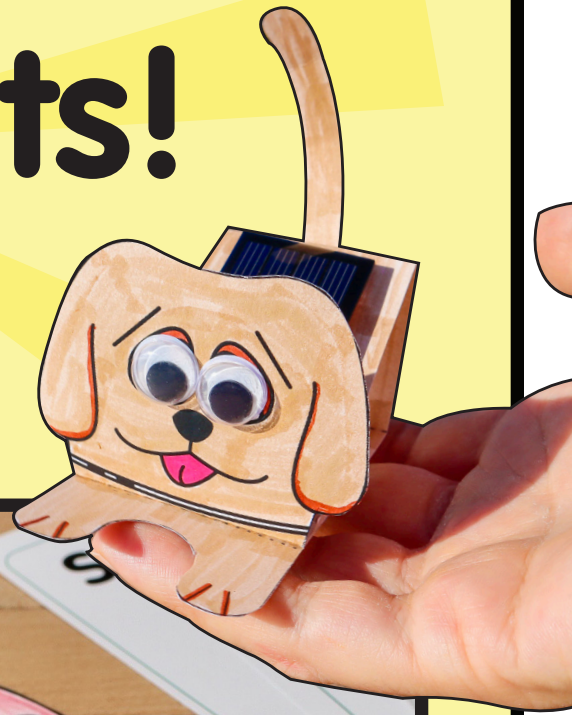




BROWN DOG *Gadgets*

Let's Make Solar Bots!



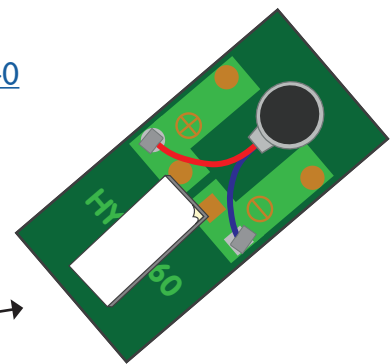
Let's make Solar Bots!

Solar Bots are small vibrating robots that move around when they're in the sun! In this E-Book, we'll show you how to build a Solar Bot starting with the "base build", then share "body" templates that will help you bring them to life.



You can also follow along with the "How to Build a Solar Bot" video by scanning this code.

For materials to make these projects, go to [BrownDogGadgets.com/products/solar-bug-2-0](https://www.browndoggadgets.com/products/solar-bug-2-0)



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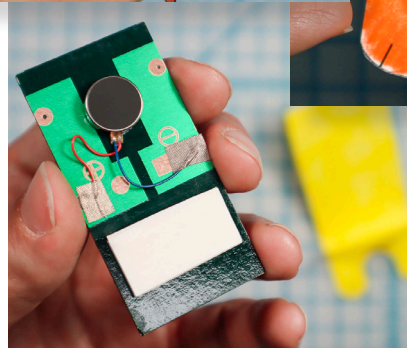
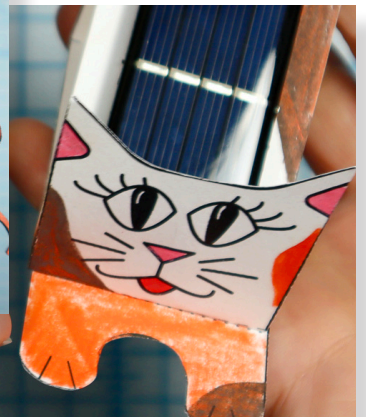
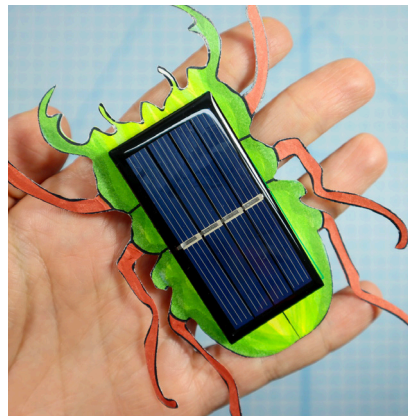
Page 13 - Instructions: Animal Bodies

Page 14 - Solar Cat

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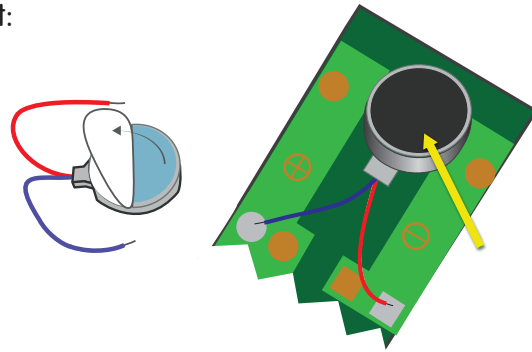
Building the Solar Bot Base:

A Solar Bot is a fun little robot that's quick and easy to make! It uses a solar cell to harvest energy from the sun that powers a vibrating motor. When you place your bot in the sunlight, it will vibrate and wiggle around!

Here's how you assemble the basic bot base circuit:

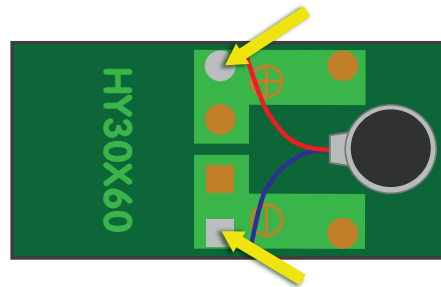
- 1** Peel the backing from the self-sticking vibrating motor. Stick it to the underside of the solar cell where shown:

*Note: The green and copper marks may look different than pictured due to different manufacturing runs, but all will have two silver contacts.

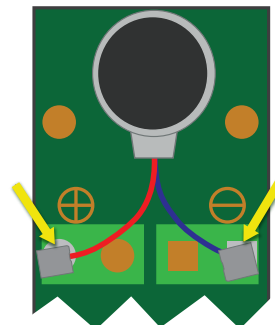


- 2** Position the motor wires as pictured. You will need to connect the motor wires to the silver dot and square; NOT to the copper colored shapes:

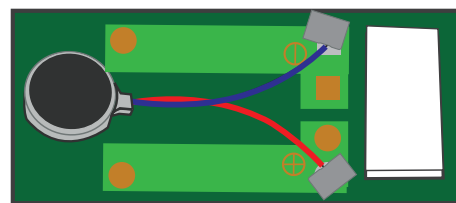
*Note: It doesn't matter which wire connects to which contact.



- 3** Use two small pieces of Maker Tape to secure the wires to the the silver dot and square contacts as shown:



- 4** Peel ONE SIDE of the foam tape and stick it to the underside of the solar cell as shown:

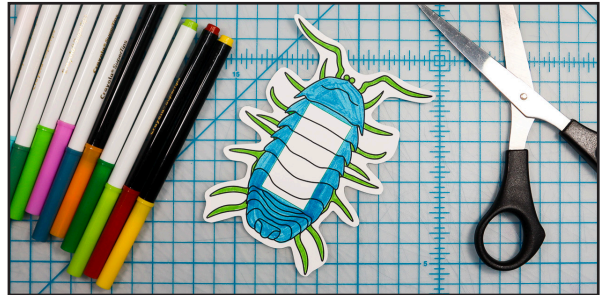


Now that you've made the base, choose a "Body" from the following pages to finish your project.

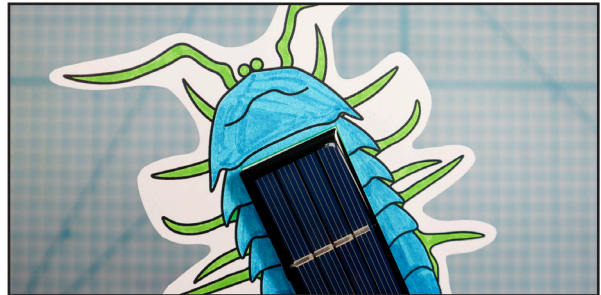
Instructions for Bugs & Crabs

Now that you've made your base, here's how to finish your Solar Bug or Solar Crab project:

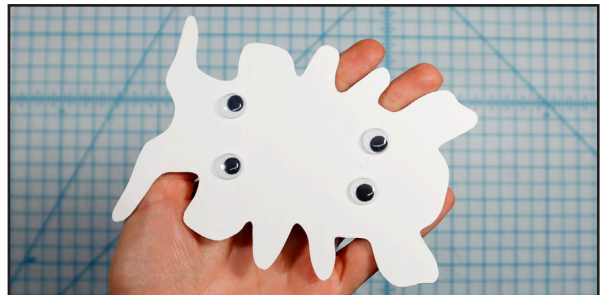
- 1** Color and cut out the body of your choice.



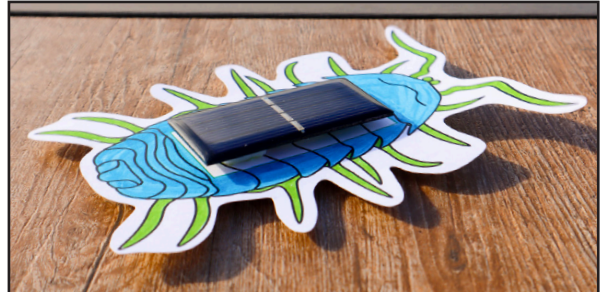
- 2** Peel the other side of the double-stick tape and adhere it to the top of the body over the green rectangle.



- 3** Use 4 googly eyes on the bottom to act as "legs" and help the project scoot across the surface.

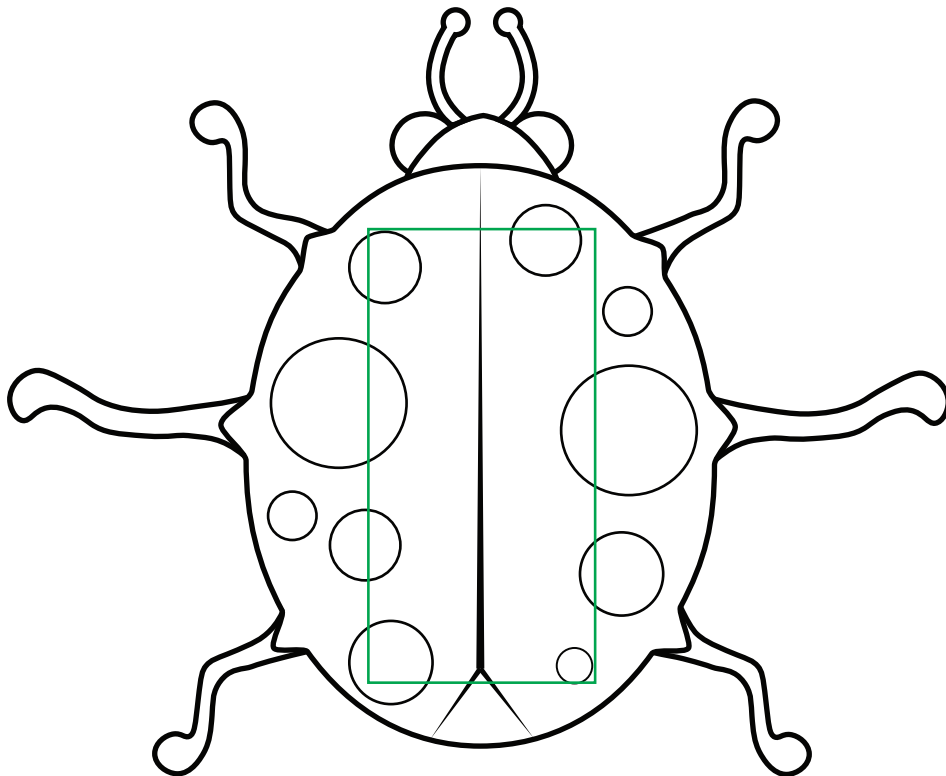
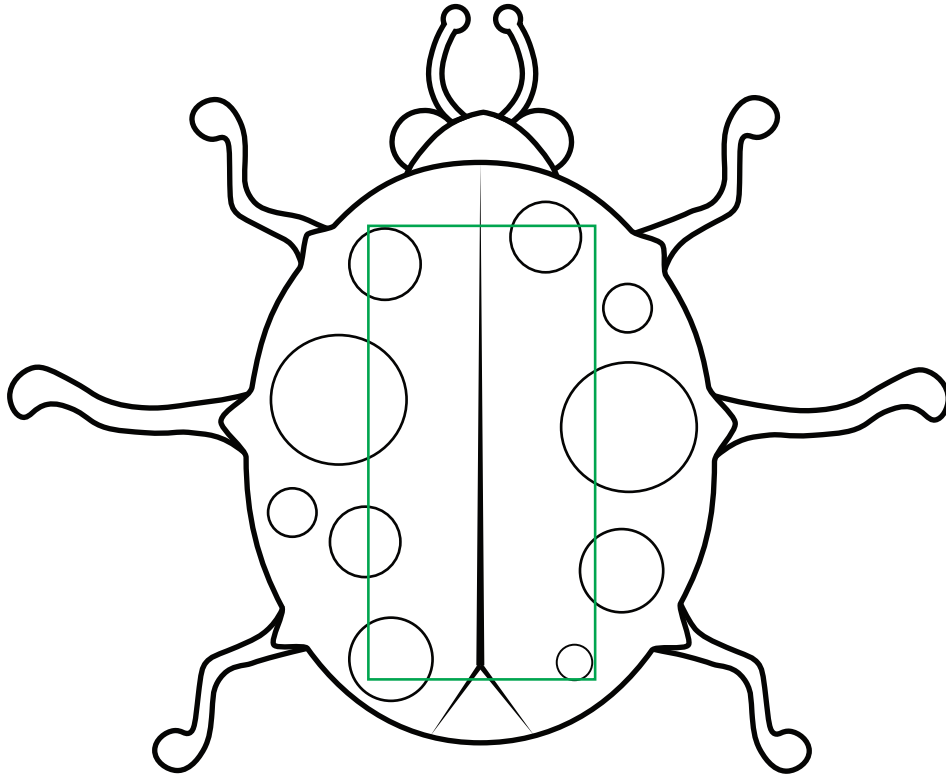


- 4** Place the Solar Bot in the sun and watch it buzz around!

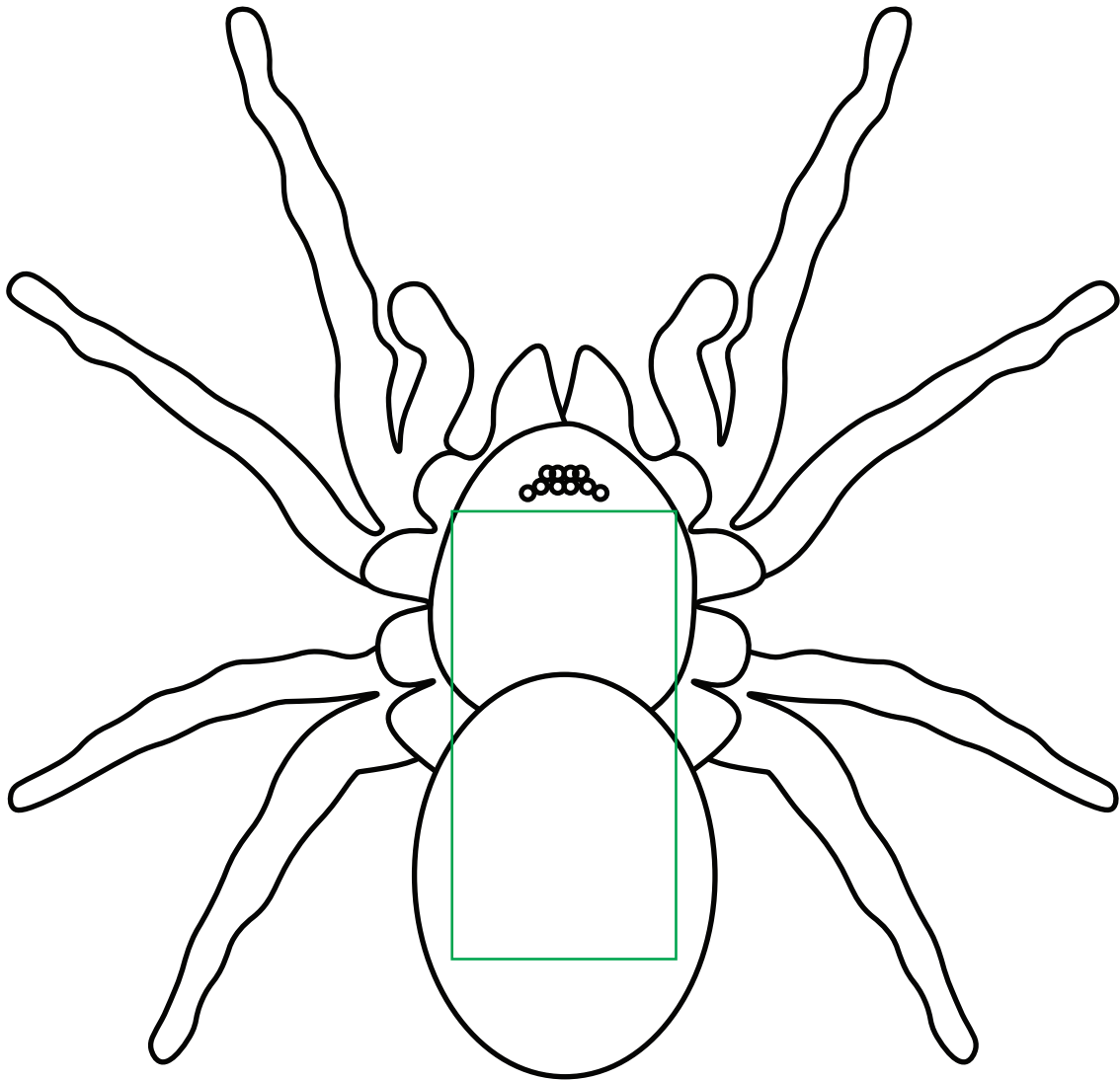


Tip! When making solar bots in a classroom, a high-powered flashlight is a great tool to test the projects on a cloudy day. Keep moving the flashlight closer to the solar panel until the bug starts moving (you may need to be very close depending on how bright the light is).

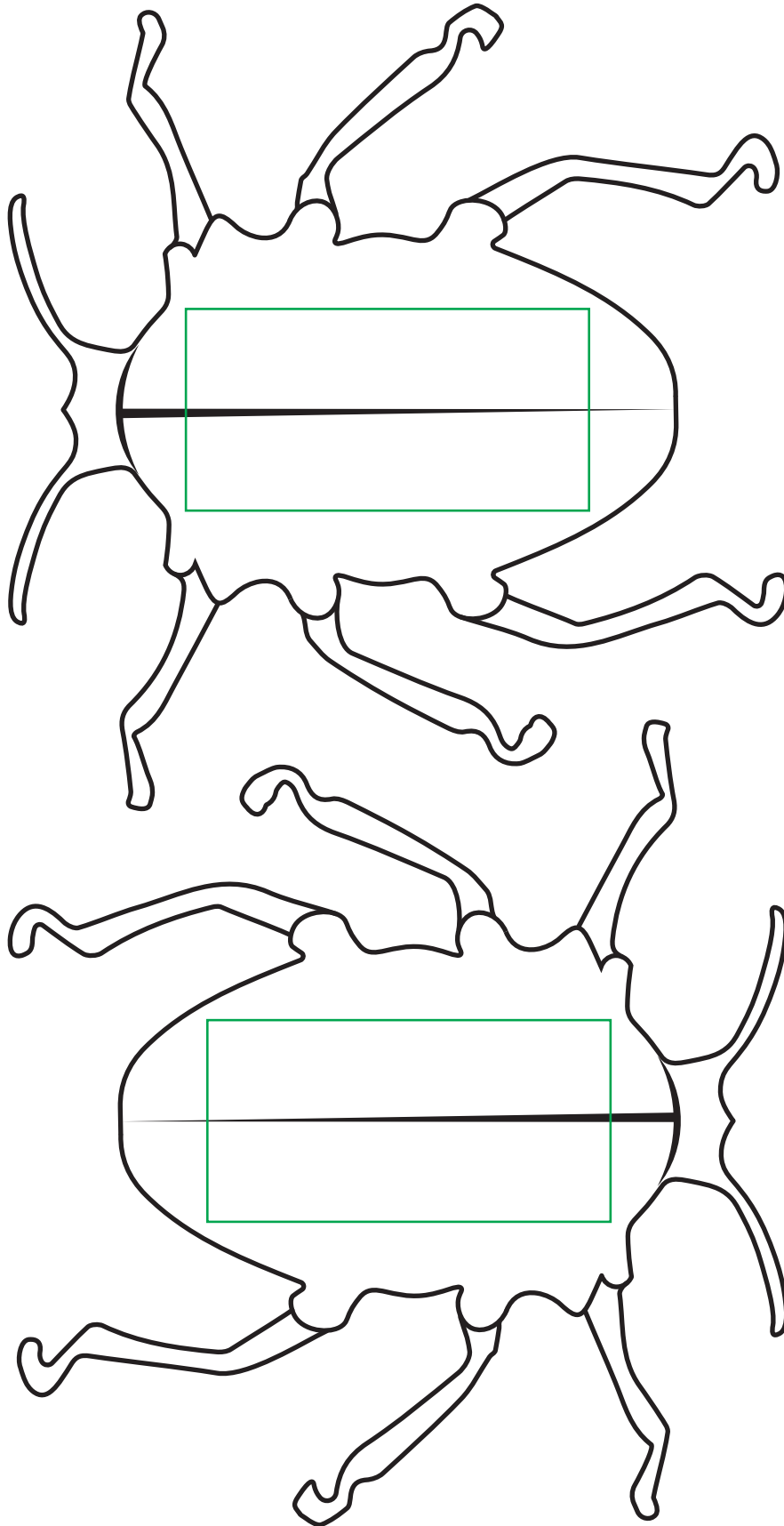
1. Lady Bug



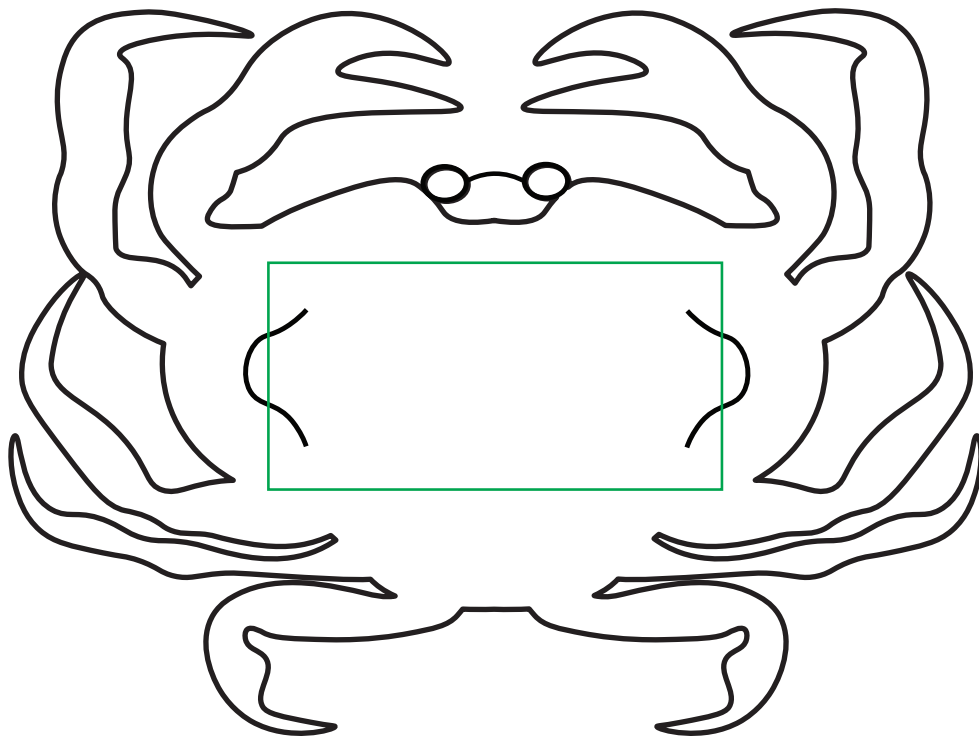
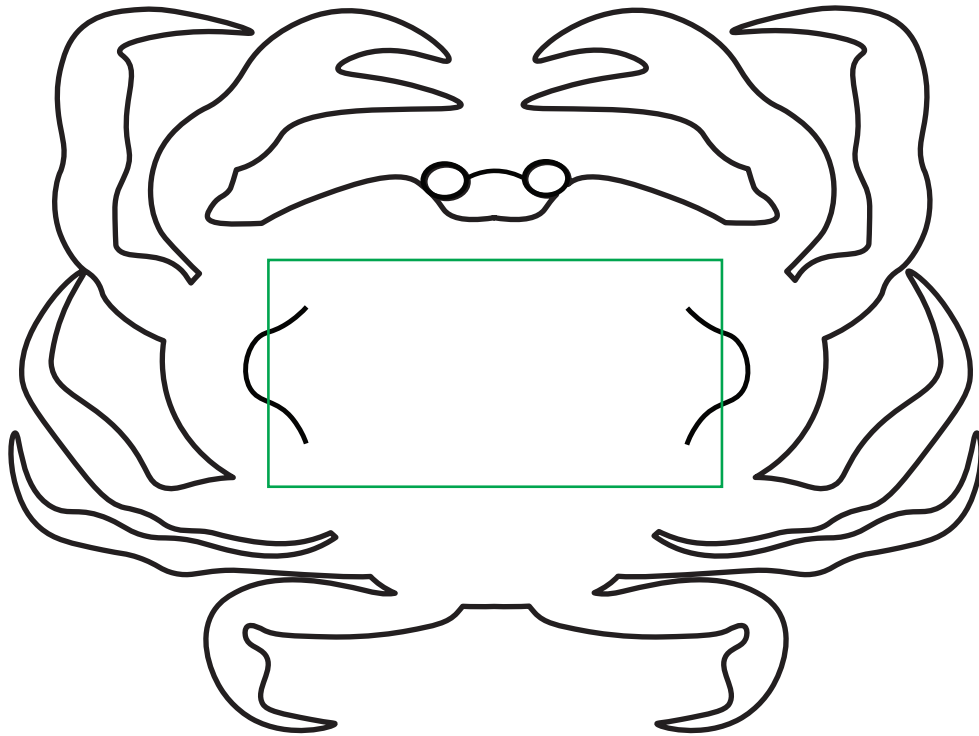
2. Tarantula



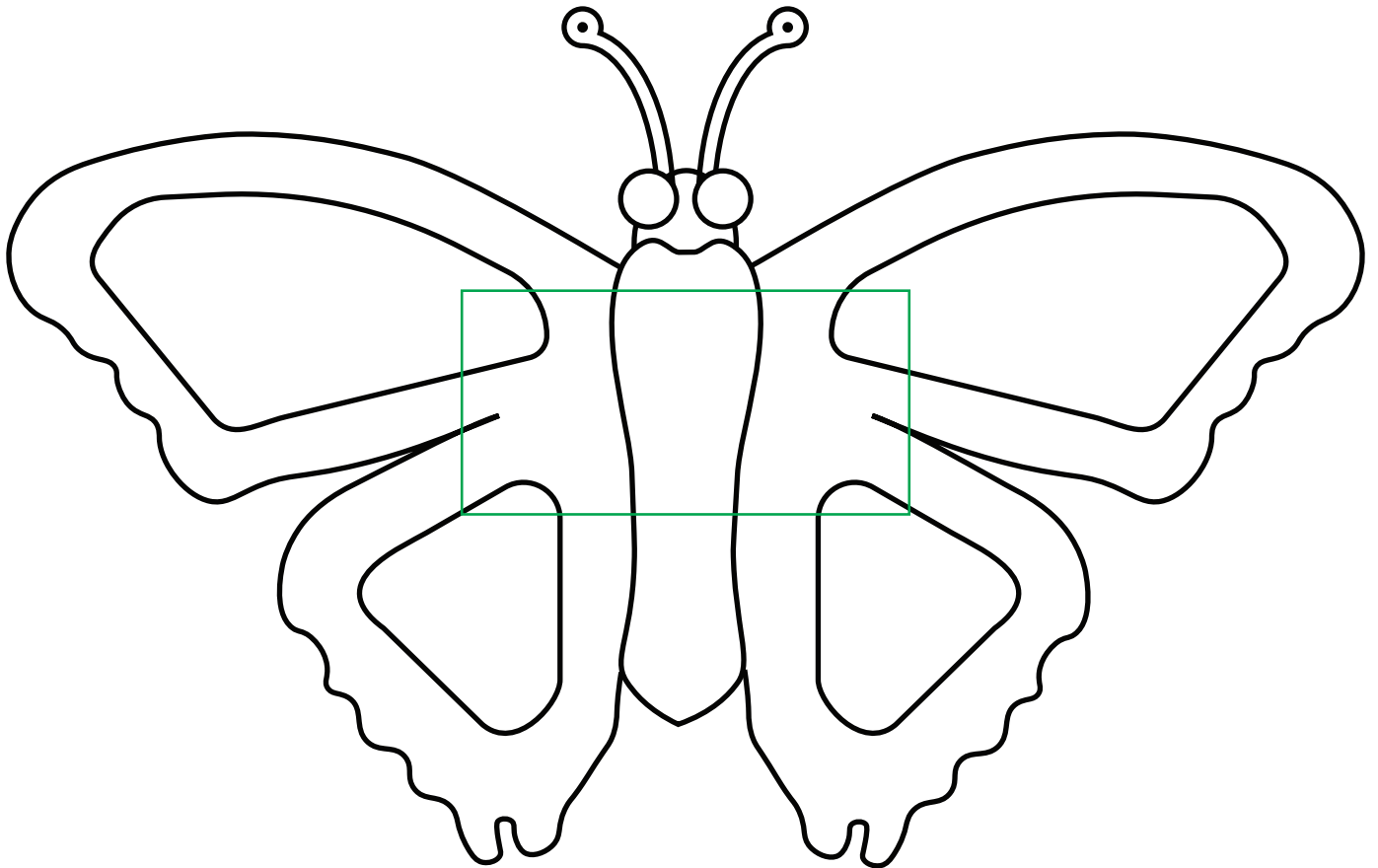
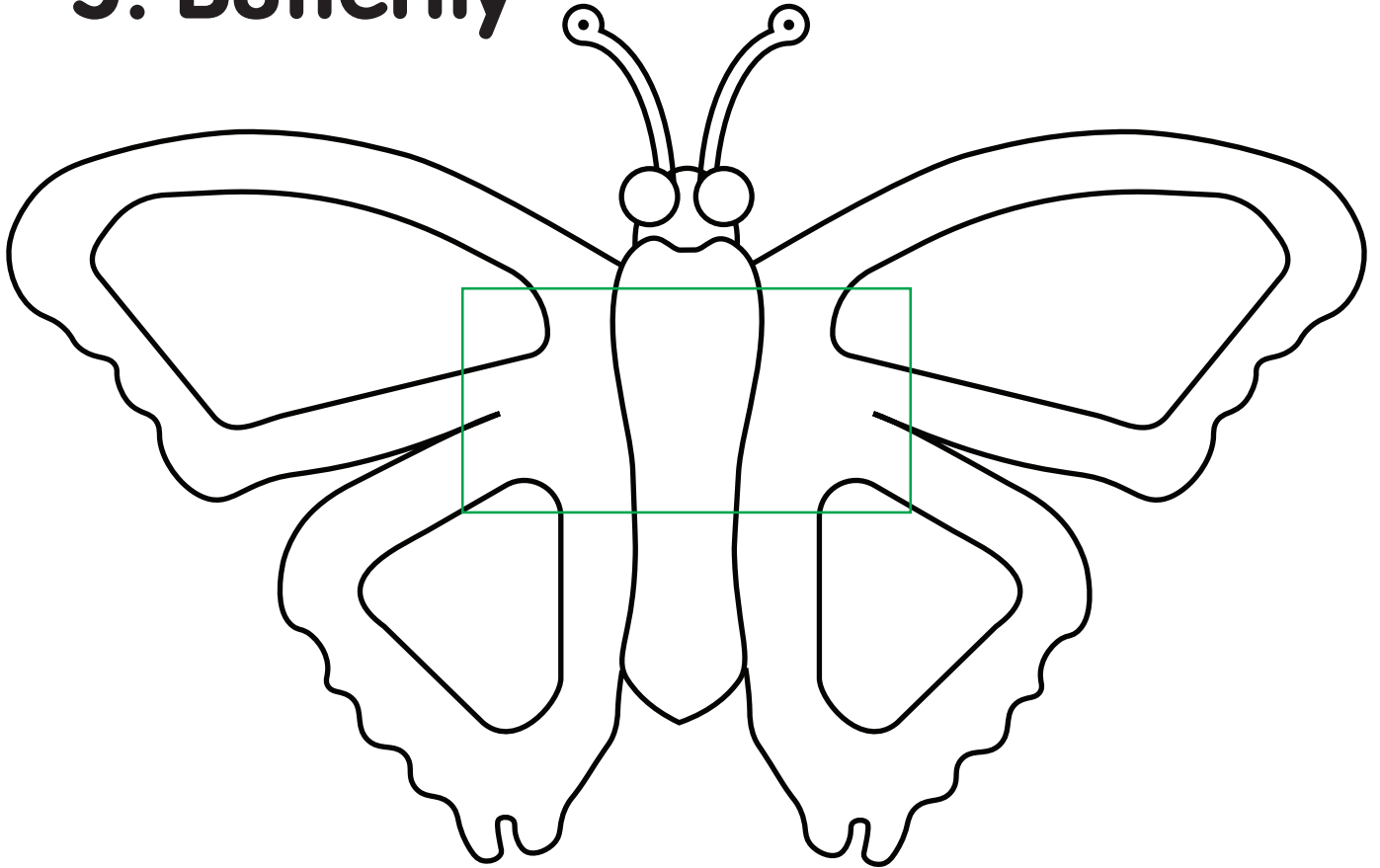
3. Stink Bug



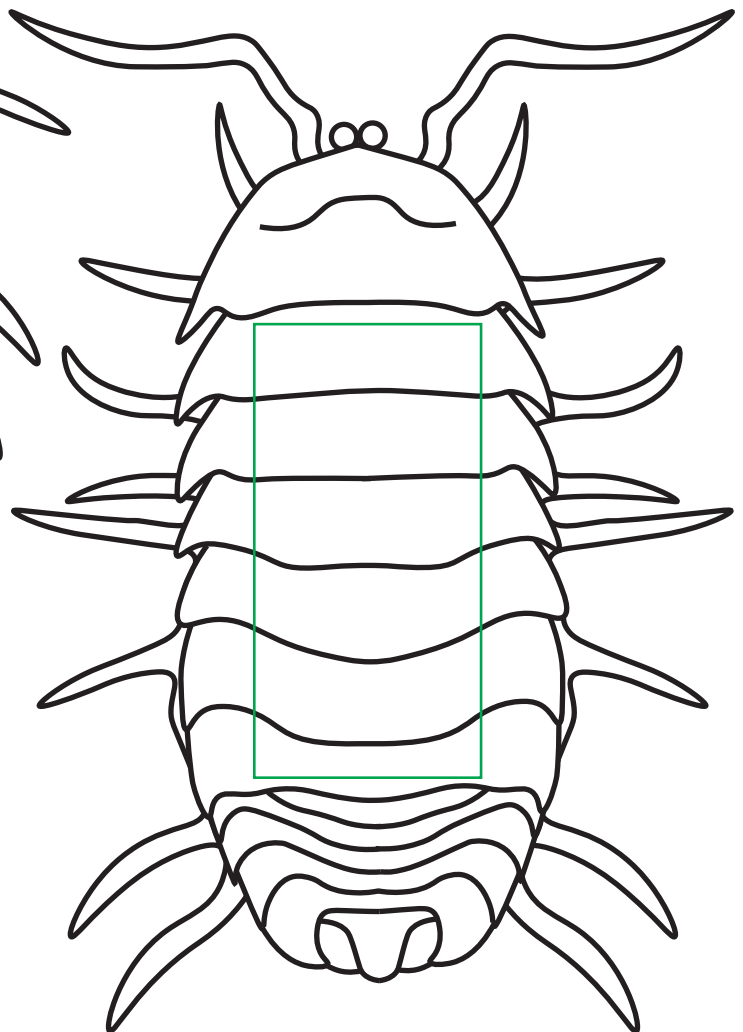
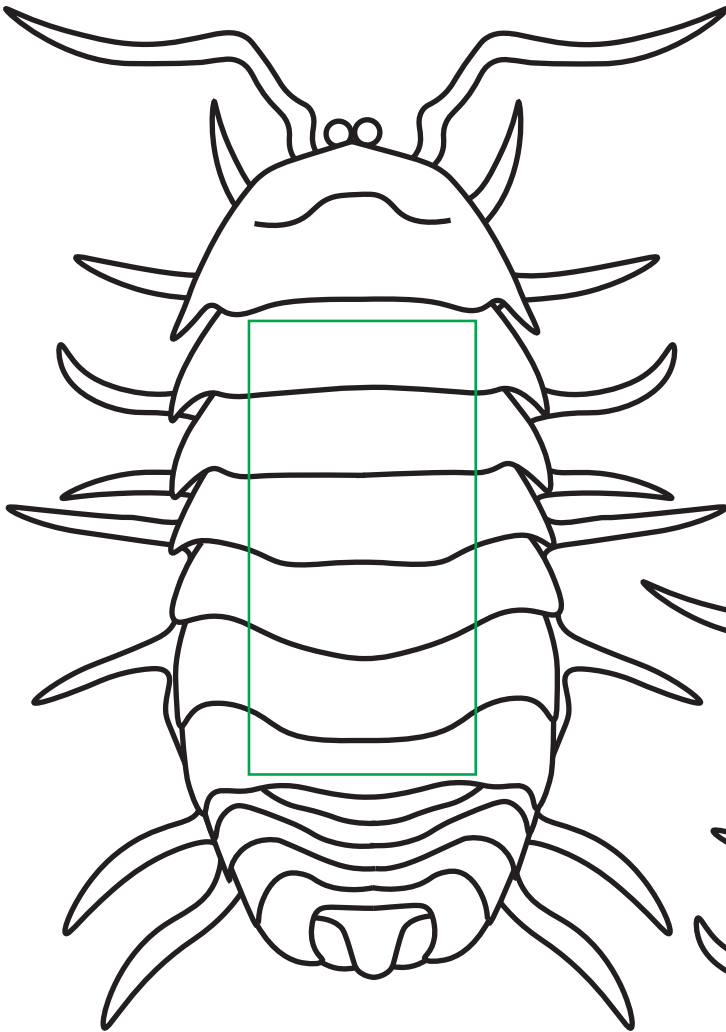
4. Crab



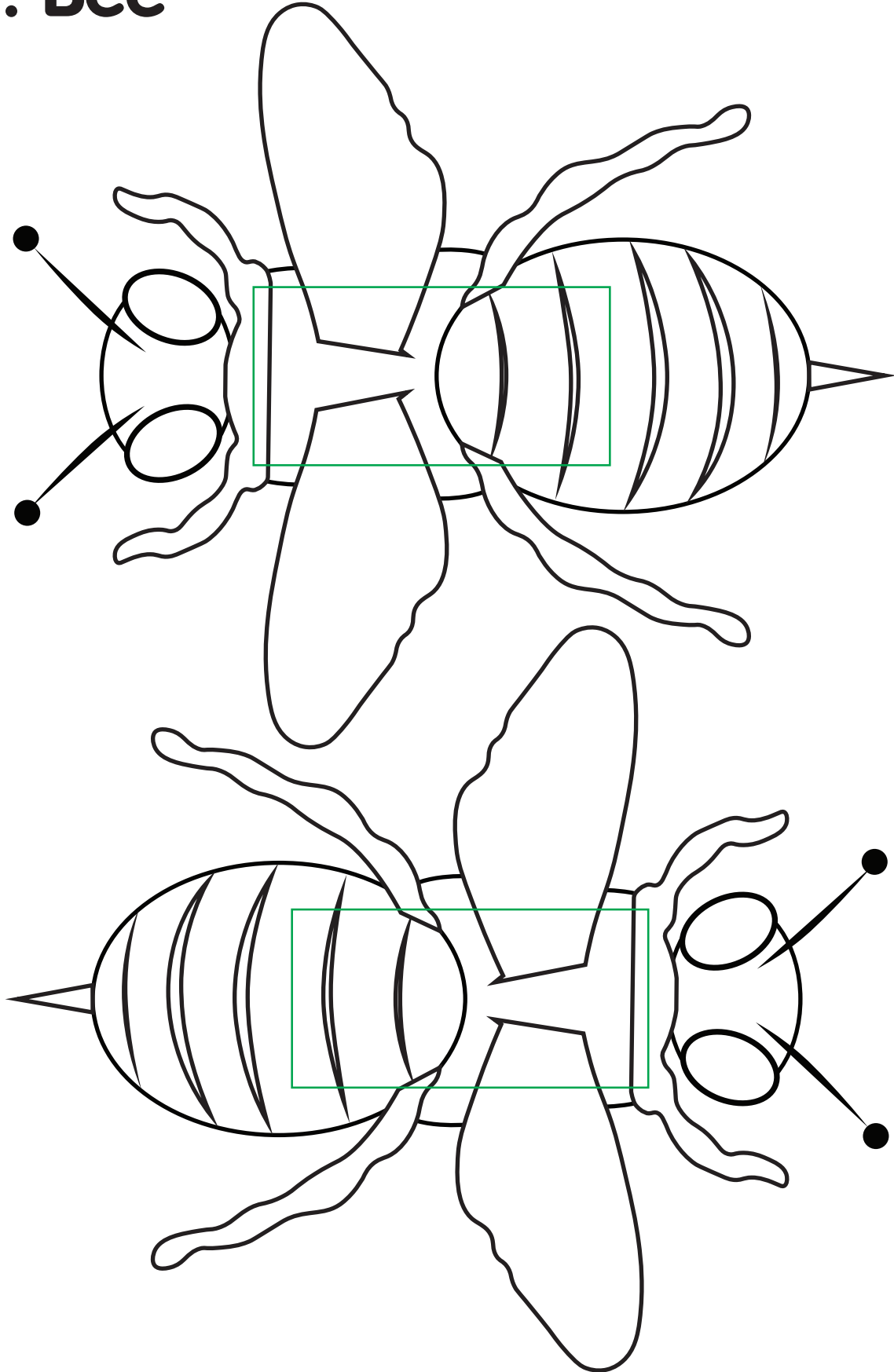
5. Butterfly



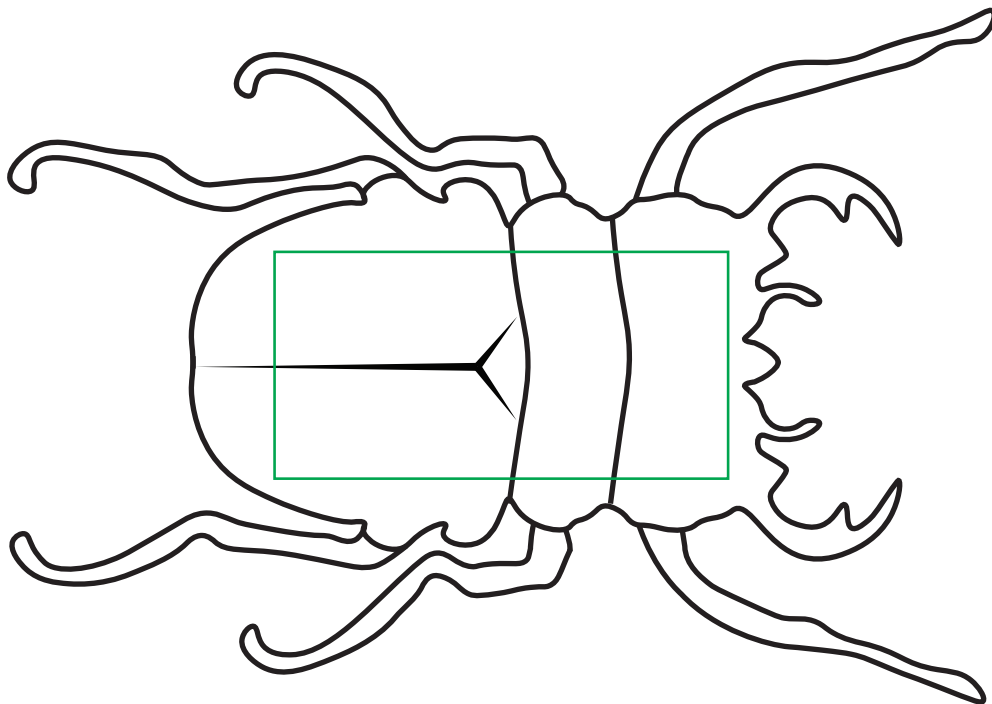
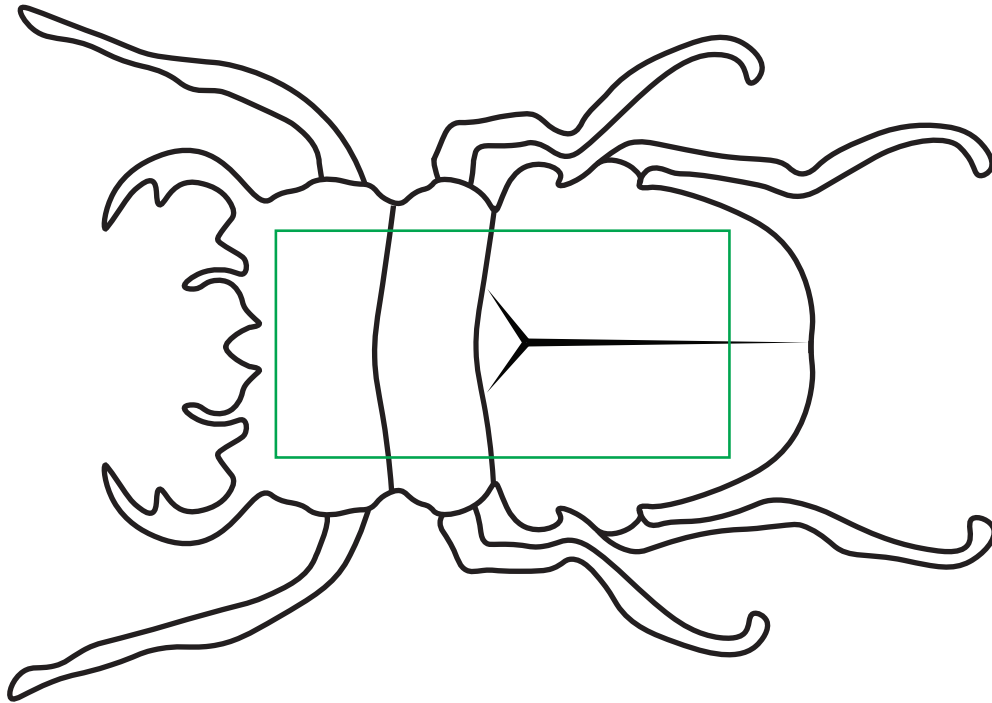
6. Pill Bug



7. Bee



8. Stag Beetle



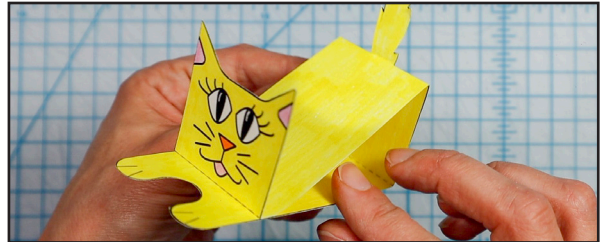
Instructions for Animal Bots

Now that you've made your base, here's how to finish your Solar Cat, Dog, or Rooster project:

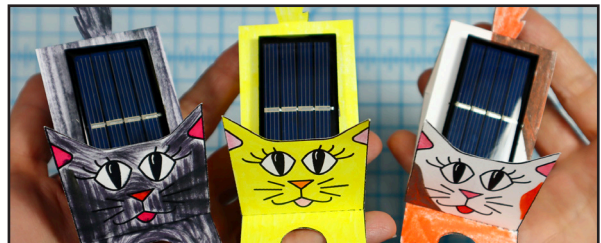
- 1** Cut out the body of your choice, and color both sides as shown. Fold along the dashed lines.



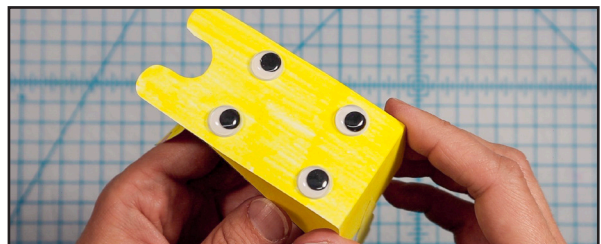
- 2** Apply glue and stick the glue where noted to configure the body into a triangle shape. Cut out the tail and glue it in place.



- 3** Peel the other side of the double-stick tape and adhere it to the "back" of the animal's body, as indicated on the template.



- 4** Use 4 googly eyes on the bottom to act as "legs" and help the project scoot across the surface.

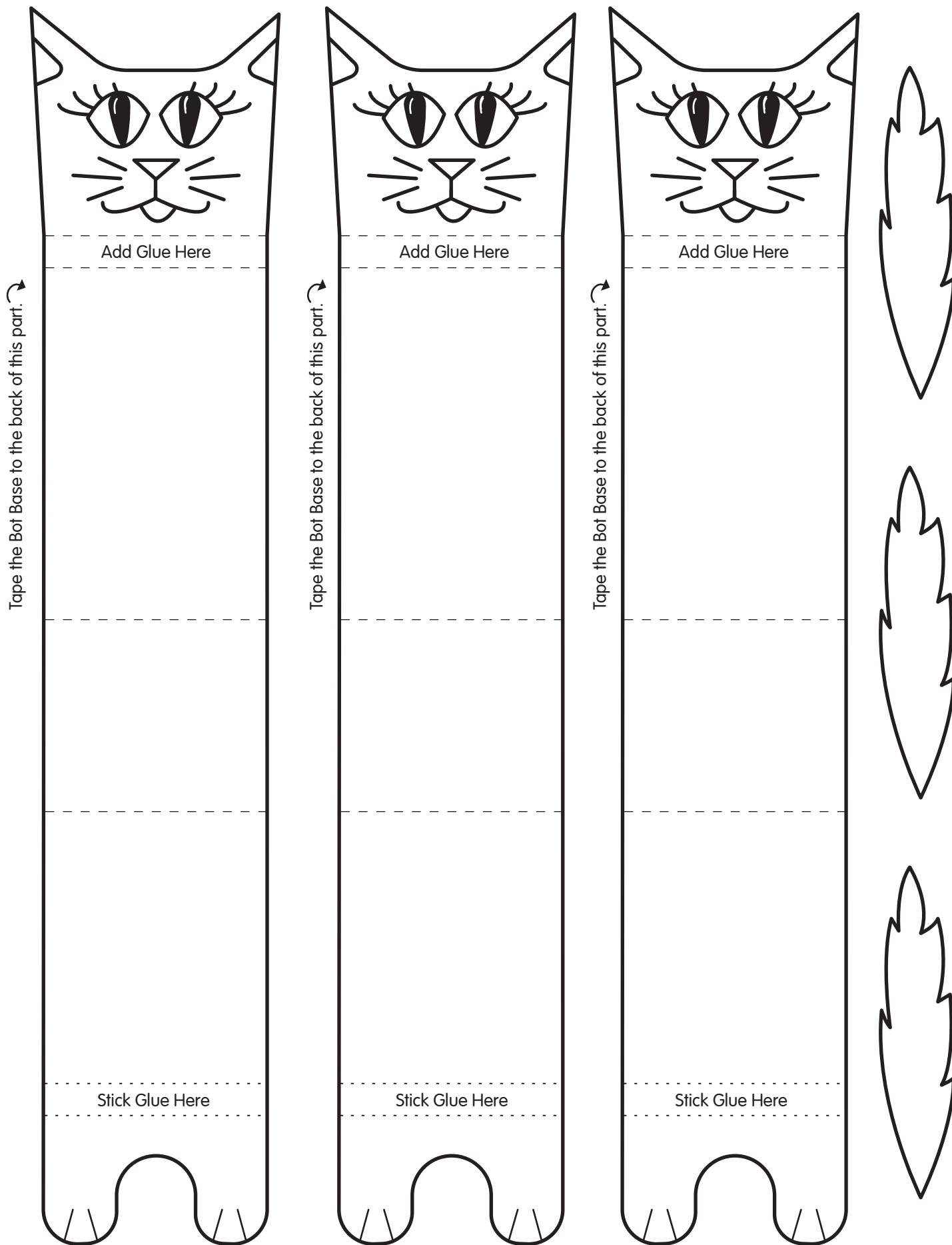


- 5** Place the Solar Bot in the sun and watch it buzz around!

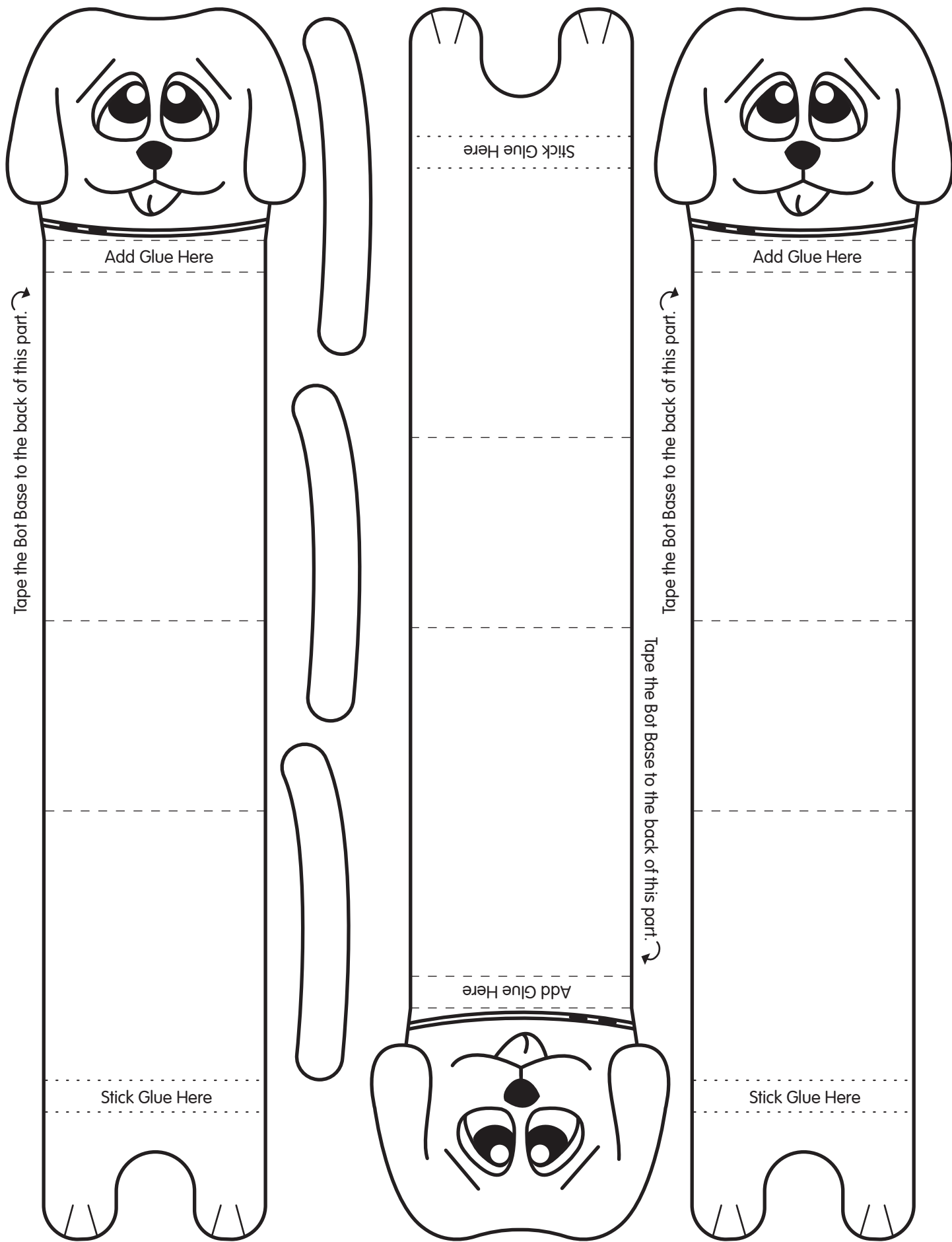


Tip! When making solar bots in a classroom, a high-powered flashlight is a great tool to test the projects on a cloudy day. Keep moving the flashlight closer to the solar panel until the bug starts moving (you may need to be very close depending on how bright the light is).

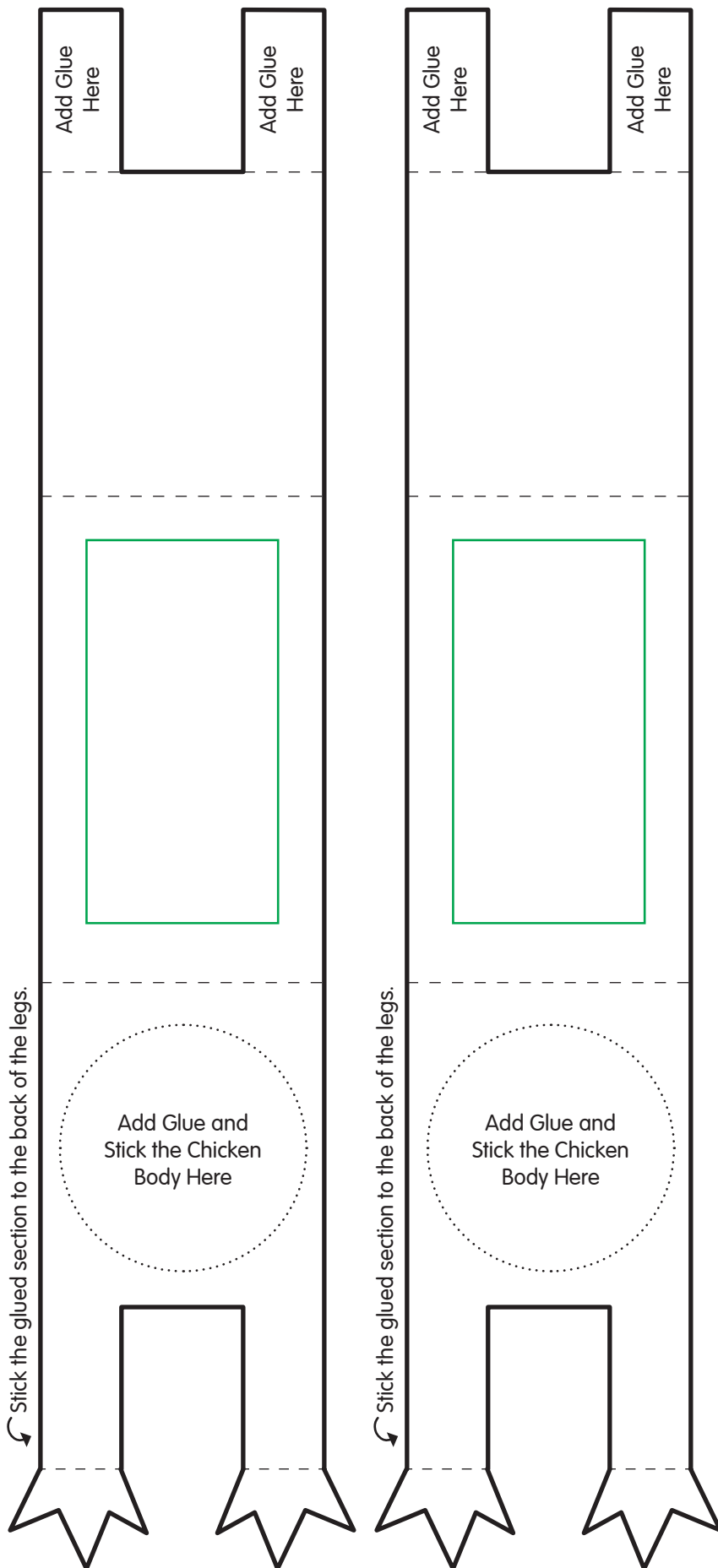
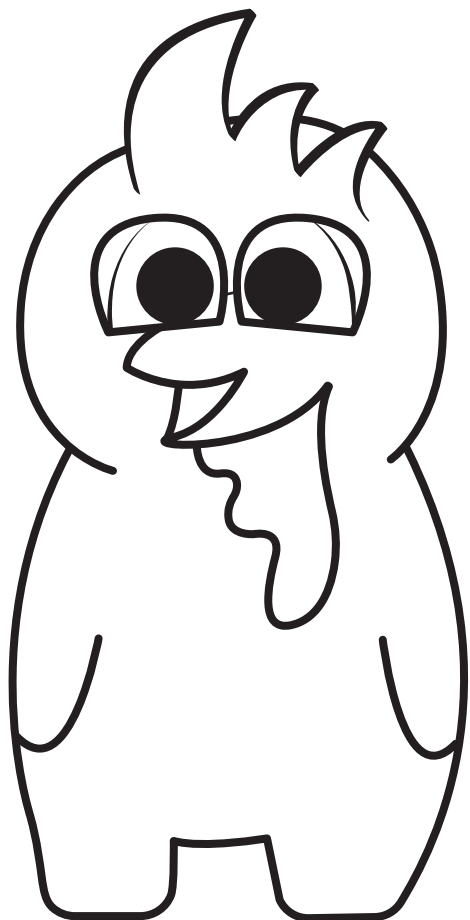
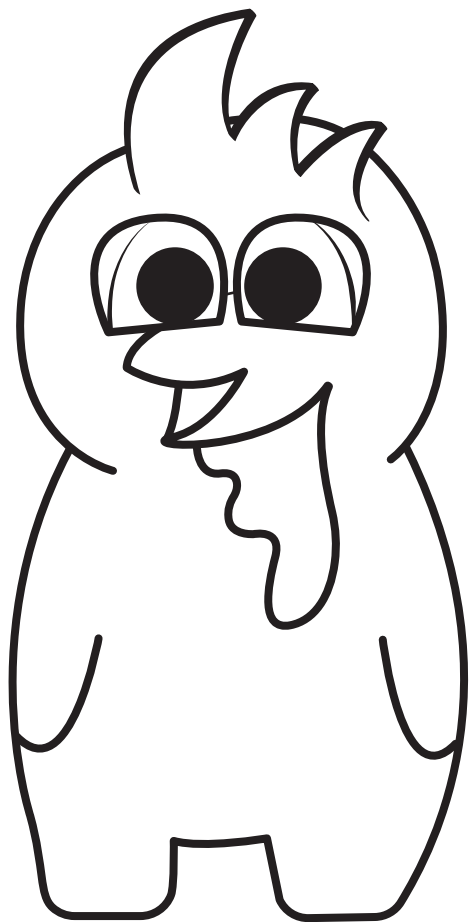
*For best results, print on 50-100lb cardstock.



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Kits from Brown Dog Gadgets

You don't need to buy our kits to make the projects in our eBooks and website, but we do have everything you need for your convenience.

The Solar Bug Kit (Featured in this eBook)



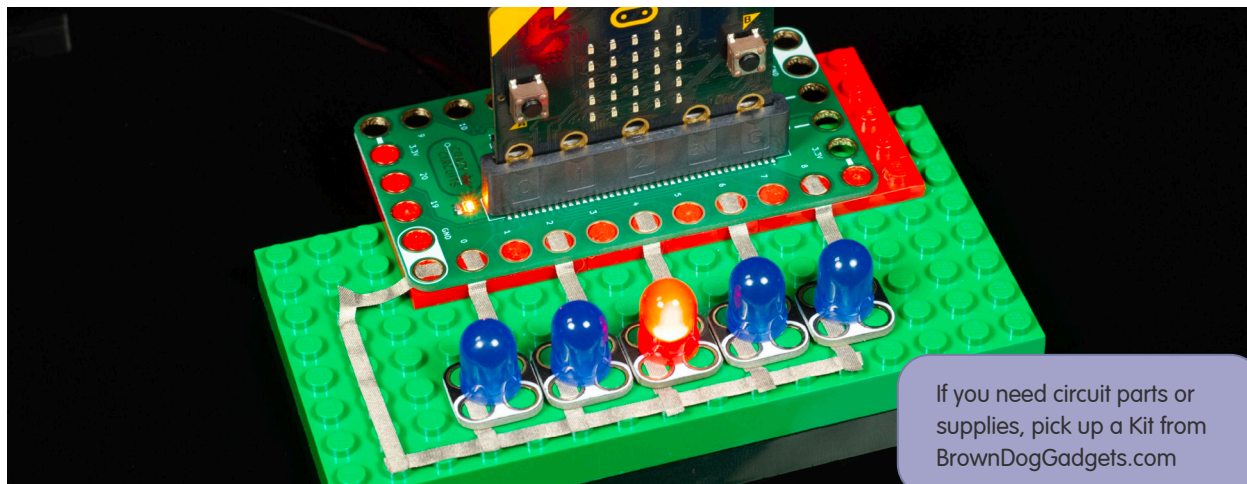
Create more Maker Tape projects with The Wearable Circuits Kit



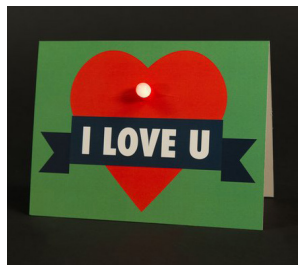
More Projects & Inspiration

Other Materials

Build upon the basic circuit techniques that you learned in this eBook to design circuits on top of other craft materials like felt, paper and bricks. Add lights, movement, and interactivity to any project that you can dream up - the possibilities are endless. Keep going!



Light-Up Cards (Maker Tape, LEDs, Batteries, and Paper)



Light-Up Heart



Laser Cat

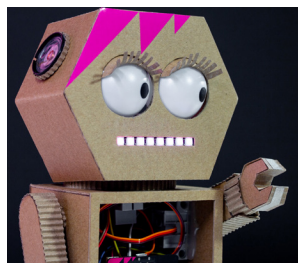


Birthday Candles



Light-Up Tree

Robots & More (Maker Tape, LEDs, Motors, Batteries, Paper, Felt, LEGO, Crazy Circuits)



"High-Fivey" the Bot



Motor Robot Buddy



Motor Robot Vacuum



LED Shoes

These are just some of the projects to try next! Check out all of our free project templates and guides available to download at www.BrownDogGadgets.com



BROWN DOG *Gadgets*

Learn, Create, and Inspire—Even on a Budget

Creating a project from scratch can be difficult for the casual builder. Finding the right directions, the right parts, and the right tools—all at the right price—can be a major hurdle.

At Brown Dog Gadgets, we've created kits and projects for creators of all ages and budgets. Follow our step-by-step project directions and learn more with our classroom resources or find individual parts to dream up your own creations. No matter how or what you create, our products can help you learn the basics of electronics, circuitry, and solar energy.

Find additional eBooks, crafting guides, videos, directions, and educational resources at BrownDogGadgets.com. Contact us for educational discounts and free professional development classes.

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