

Denver Arts
& Venues
Presents

ADVENTURE GUIDE

ONE
BOOK
ONE
DENVER
YOUTH

Youth One Book
One Denver
2019 Selection

THE CARDBOARD KINGDOM



Welcome to **THE CARDBOARD Kingdom,**

where you can be anything
you want to be—*imagine that!*

Welcome to a neighborhood of kids who transform ordinary boxes into colorful costumes, and their ordinary block into *The Cardboard Kingdom*. This is the summer when 16 kids encounter knights and rogues, robots and monsters on a grand creative adventure before school starts again.

Source: www.PenguinRandomhouse.com



CHAD SELL grew up in a small town in central Wisconsin. He lived in a neighborhood much like *The Cardboard Kingdom*, where he and his friends bounded through backyards in imaginative games and outfits! He also drew a lot and came up with all kinds of colorful characters. His favorites were usually the villains because, despite being different and often misunderstood, they were powerful, confident, and got the best costumes.

Chad lives in Chicago with his husband and two cats.

Chad Sell invited ten other writers to help bring *The Cardboard Kingdom* to life and fill it with the many heroes of the realm: Jay Fuller, David DeMeo, Katie Schenkel, Kris Moore, Manuel Betancourt, Molly Muldoon, Vid Alliger, Cloud Jacobs, Michael Cole, and Barbara Perez Marquez.



A SHORT INTERVIEW WITH AUTHOR CHAD SELL

Why did you want to write this book with a group of other writers versus on your own?

I wanted *The Cardboard Kingdom* to have lots of different characters and a wide variety of stories, so I thought it would be a good idea to have a bunch of different writers helping out! Everyone brought their own perspective and talents to the team. Plus, I had never written a whole book by myself, so I thought a team of ten talented writers would help me out a lot!

What was great about collaborating on this book?

A lot of my collaborators based their stories on their own childhoods, so it was amazing to hear about their experiences and help share their stories. Collaboration allows you to better understand other people's lives and perspectives, and it can also help you better understand your own. Sometimes it takes someone else to point out what is interesting about your own life!

What were some of the challenges of collaborating with others? How did you get past these challenges?

Working with a team can be tricky. Everyone has their own idea, and they might think that their idea is best. So I tried to be really sensitive to the feelings of my team, always pointing out their good ideas and trying to be gentle when I disagreed with them about anything. I also tried to be very honest with my collaborators, making sure that we had the same expectations of each other, and that we could trust each other!

5 FACTS ABOUT CHAD SELL

- 1 My favorite superhero is Spider-Man.
- 2 I'm not good at drawing cars (they're hard!!)
- 3 My favorite thing to draw is people.
- 4 I have two brothers, a sister-in-law, and a niece who all live in Denver!
- 5 I love cooking and making up my own recipes!



This guide was written
by Tara Bardeen.
tarabardeen.com

WELCOME!

Now in its eighth year, the Youth One Book, One Denver reading program is a citywide, shared reading adventure just for kids. Pick up a copy of this year's book, *The Cardboard Kingdom* by Chad Sell, and join in the fun!

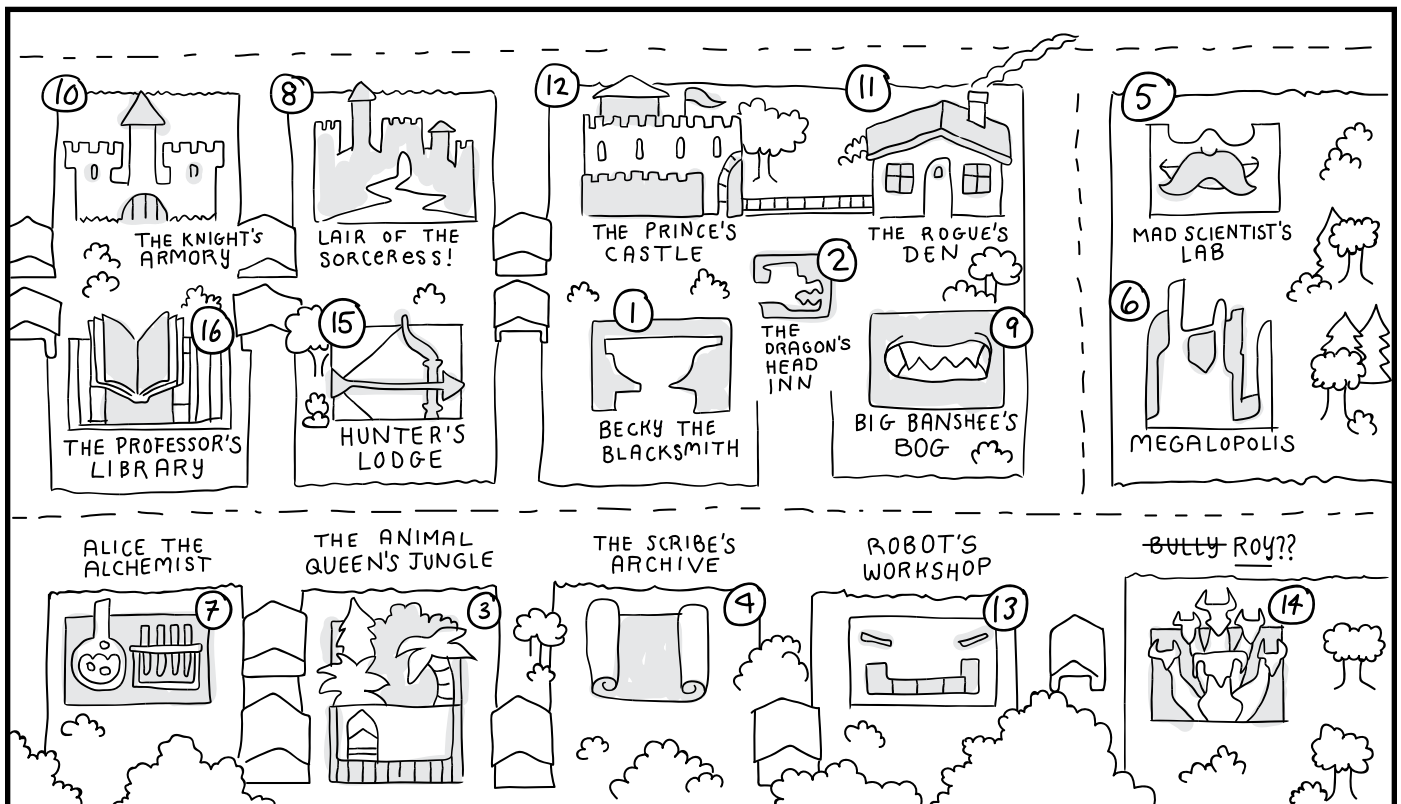
HOW TO USE YOUR ADVENTURE GUIDE

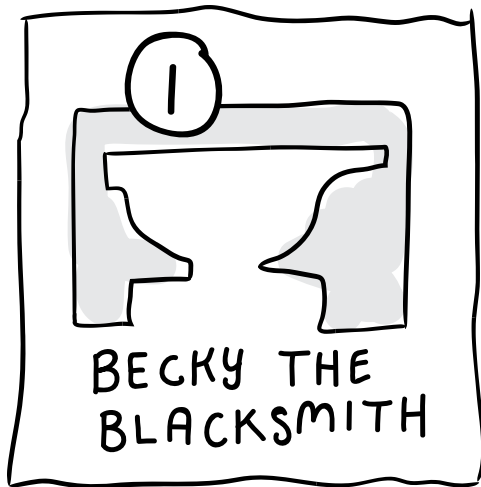
- 1 Complete activities in any order and at any time while reading the book.
Keep track of the activities you finish on the adventure map below by coloring in the numbered circle at each location. Activities are numbered throughout the guide.
- 2 Throughout the summer, don't forget to check the Youth One Book, One Denver calendar at ArtsandVenues.com/YOBOD for upcoming free events!

WORK WITH AN ADULT!

Reading, doing science experiments, building with cardboard, visiting websites and exploring our city can be a wonderful adventure for you and your family! It's very important that you participate in these activities with a parent, guardian, or other trusted adult. Not only is it safer, but activities are also more fun when you have someone to share them with!

PARENTAL DISCLAIMER: Activities in this booklet are intended for children 8-12 with support from an adult as needed. You know your child(ren) best and should accordingly adjust the supervision you provide. The City is not responsible for any injuries or damages which occur in connection with the recommended activities, experiments, or crafts in this booklet or on the YOBOD website.





MY INNER SUPERHERO

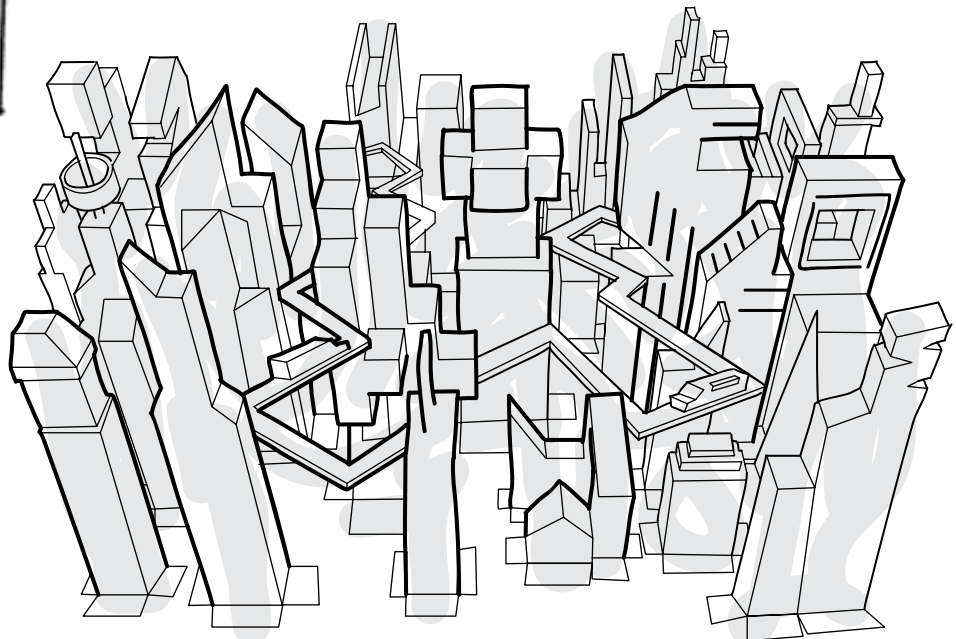
Becky helps her friends become bold warriors and heroes through the cardboard props she creates. What do you think your inner hero looks like? Make a list of your favorite qualities. What about yourself makes you feel the most proud? Accomplished? Wonderful? Awesome? Next, think about how you could show these qualities. If you're proud of your soccer skills, perhaps create a shield covered in black and white hexagons. Sketch out your hero costume idea and then bring it to life using cardboard, tape, paint, markers and recycled objects!

CARDBOARD MOVIE MAGIC

Using cardboard and their imaginations, the kids in *The Cardboard Kingdom* create exciting locations like castles, laboratories and skyscraper-filled cities for their adventures. Recreate a favorite scene from a movie by making a set and props using cardboard and found objects. Stage just one scene or act out the whole story.

**SHARE PHOTOS OF
YOUR ACTIVITIES AND
CARDBOARD CREATIONS AT
[ARTSANDVENUES.COM/YOBOD](https://www.artsandvenues.com/yobod)
BE SURE TO GET AN ADULT'S
PERMISSION FIRST BEFORE
SHARING ANYTHING ONLINE.**

**LIGHTS...
CARDBOARD...
ACTION!**





CARDBOARD CARNIVAL

Life is more fun when people work together and collaborate! Invite your friends, family and neighbors to create a cardboard game to share at a backyard gathering. What could people make? Perhaps a cardboard ring toss, a shipping box corn hole set, an appliance box photo booth, toilet paper roll selfie props, a handheld maze in a cereal box, or even games that haven't been invented yet! Pick a date, send out invitations and bring your community together to share in the fun.

MISSION: COLLABORATE

The Cardboard Kingdom was created as a collaboration between writer and illustrator Chad Sell and 10 other authors. In a recent interview, Chad observed, "You can exceed your own limits as a creator by allowing others to contribute." Test his observation for yourself as you invite friends and family to create a one-of-a-kind woven work of art. Find video instructions for weaving on a cardboard loom at artsandvenues.com/YOBOD.

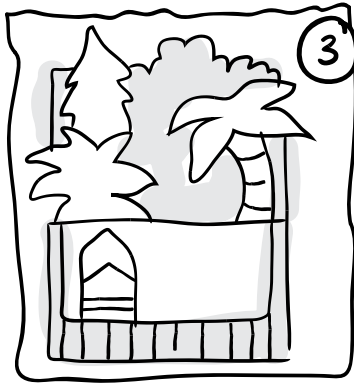
an 8" by 8" piece of cardboard, a large plastic needle, a pencil, a ruler, scissors, yarn and tape.

YOU'LL
NEED

HOW TO
MAKE IT

- 1 MAKE LOOM:** Begin by marking a line that is $\frac{1}{2}$ " from each edge of your piece of cardboard. Starting from the $\frac{1}{2}$ " mark on one side, cut $\frac{1}{2}$ " deep notches every $\frac{1}{2}$ ". Cut the same series of notches on the opposite side of the cardboard square.
- 2 STRING LOOM:** String your loom by threading a bit of yarn into the first notch on the upper left side. Leave a yarn tail of a few inches and tape it to the back of the cardboard. Carry the yarn down to the bottom left notch on the loom and then around the back to the next notch on the top. Continue until you've reached the last notch and then tape the loose end to the back of the cardboard.
- 3 WEAVE:** Cut a piece of yarn that's about 18" long and thread it through a plastic needle. Tie the yarn to the needle so it doesn't slip out. Next, guide the yarn through the loom strings in an under-over pattern (under the first string, over the second, under the next, etc.). Once the needle has passed through all of the strings, pull the yarn through and leave a tail of a few inches at the end. Push the yarn up on the loom so it's even. To make the next row, go under the strings you went over and over the strings you went under. When you get to the end of your yarn, untie the needle and leave a tail hanging off to the side.
- 4 INVITE OTHERS:** Weave your piece of yarn and then invite someone else to add a piece of yarn. Take turns until the loom is full.
- 5 ADD STRINGS:** Tidy up your weaving by working in the loose ends. To do this, thread the end of the loose yarn tail through the needle, insert the needle into the side of the weaving and pull the needle through. Cut off any extra yarn. You can leave your weaving on the loom, or you can take it off by cutting the strings on the backside of the loom and then tying each pair or trio of strings together with a knot. Trim the strings to make a decorative fringe and admire your collaboration!

THE ANIMAL QUEEN'S JUNGLE

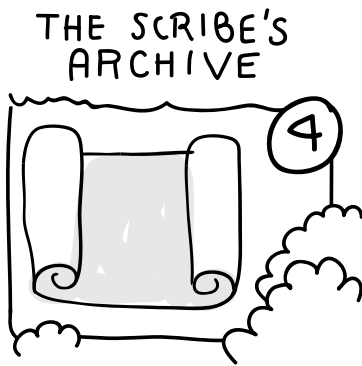


WORD SEARCH

Can you find these words hidden in the grid? Words may be horizontal, vertical, diagonal and even backwards.

DENVER	ROBOT
SUMMER	ROGUE
READ	GARGOYLE
CARDBOARD	SCIENTIST
BANSHEE	ALCHEMIST
SORCERESS	BLACKSMITH
DRAGON	SCRIBE
PRINCE	BEAST

R	H	X	M	M	A	D	L	Y	D	C	H	R	B	B	N	S	F	F	Y
G	Q	M	A	L	W	Q	X	L	V	U	J	F	B	A	O	C	R	X	H
Y	F	X	G	U	H	C	A	O	D	Q	P	D	Q	N	G	I	F	B	I
J	Y	J	Q	J	P	R	S	P	H	E	Y	C	F	S	A	E	R	F	X
V	T	S	A	B	D	T	A	V	L	V	D	I	B	H	R	N	T	V	R
W	K	O	F	S	Z	I	L	P	D	C	W	J	Z	E	D	T	L	K	W
S	G	U	Z	S	S	Z	C	W	G	Z	J	K	Y	E	F	I	R	I	P
B	O	N	L	E	K	Q	H	U	E	R	H	K	P	C	K	S	J	C	K
V	K	S	C	R	I	B	E	A	D	Q	T	Z	E	F	H	T	W	A	N
E	A	G	G	E	M	L	M	K	T	D	R	E	M	M	U	S	N	R	E
M	T	P	A	C	B	A	I	O	U	H	X	O	R	G	I	E	E	D	R
G	P	Z	R	R	H	C	S	I	G	U	Q	A	O	A	O	U	W	B	V
W	T	L	G	O	K	K	T	M	Q	E	B	E	T	H	G	N	Y	O	P
J	G	V	O	S	E	S	N	V	M	C	R	N	J	O	T	U	O	A	K
O	B	W	Y	U	R	M	W	P	Y	N	E	A	R	B	O	Q	U	R	D
X	E	S	L	Z	E	I	M	D	Q	I	A	G	T	C	Z	M	R	D	H
G	A	U	E	Q	V	T	W	U	C	R	D	O	M	U	W	S	P	H	F
D	S	J	T	E	N	H	X	R	G	P	B	M	C	D	K	Y	Y	U	S
T	T	G	G	F	E	D	A	J	Z	O	N	G	K	J	A	E	O	X	P
U	V	O	D	H	D	F	L	N	R	N	G	Z	W	K	R	X	F	T	B

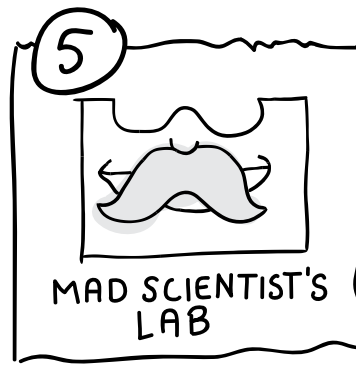


JUST ADD WORDS

Some parts of *The Cardboard Kingdom* are wordless like the book's first chapter, "The Sorceress." If you were sharing this chapter with someone who couldn't see well, how would you describe the characters, the setting and the story? Re-read the chapter and then write your own retelling of what happens. Be sure to include not only what the characters are doing, but their feelings too.

THE STORY OF A NEIGHBORHOOD

The scribe chronicles the adventures of the neighborhood kids over the course of the summer in *The Cardboard Kingdom*. Capture the uniqueness of your neighborhood by creating your own book using two sheets of cardboard for the covers, some sheets of plain paper, plus a hole punch and binder rings to keep everything together. Over the course of the summer, you can add pages to your book with new observations about life on your street. Fill your book with photos and drawings of important events, a map of your street and stories you collect through a neighborhood survey. Get to know your neighbors better by creating a short survey that includes questions like: "When did you move to this neighborhood?", "What do you love most about our neighborhood?", "What do you like to do for fun?" or "What was your favorite book as a kid?" Ask an adult to come with you to deliver your surveys or help you collect responses through an online neighborhood group.

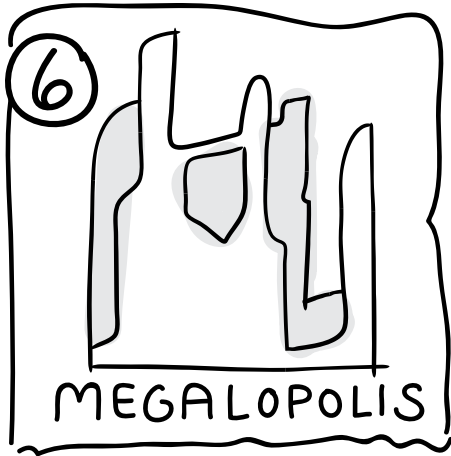


DARE TO BE DIFFERENT

When Amanda's father reminds her that people are different for a reason and she should never be afraid to be different, Amanda vows to use her cardboard science experiments to help make her friends even more different and awesome. Think of a character from a book you read this past school year. What made that character stand out? Was there something that made him or her self-conscious? What do you think Amanda would make for that character? How would it help? Sketch out your idea and label all the awesome features. What would you want Amanda to make for you?

DESTINATION: DOMINICAN REPUBLIC

Amanda comes from a Dominican American family. Her father's stories of mythical creatures like ciguapas (mythical women of the mountains with backward feet), galipotes (shape-shifters) and la bruja (a Dominican witch) influence her ideas as she conducts cardboard experiments in her backyard laboratory. Learn about this island nation with a bit of research and create a travel brochure covering the basic facts and a few of the places you'd want to visit. Do your research online or at your local library!

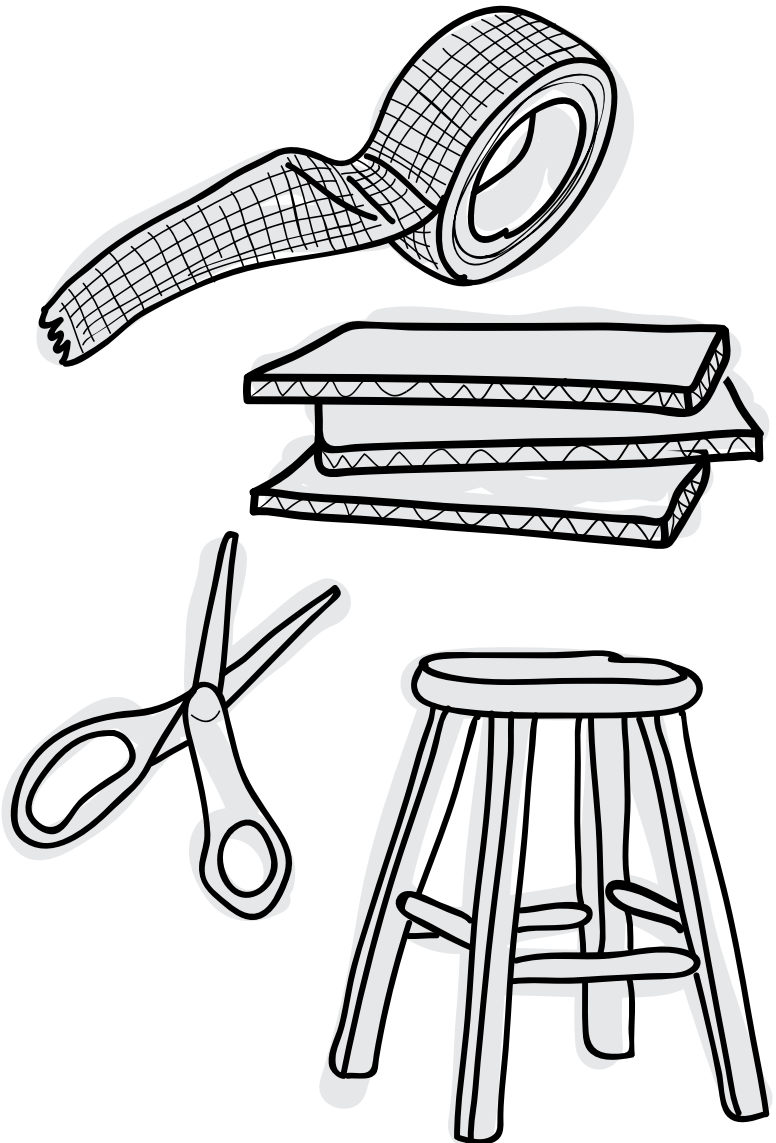


CITY IN A BOX

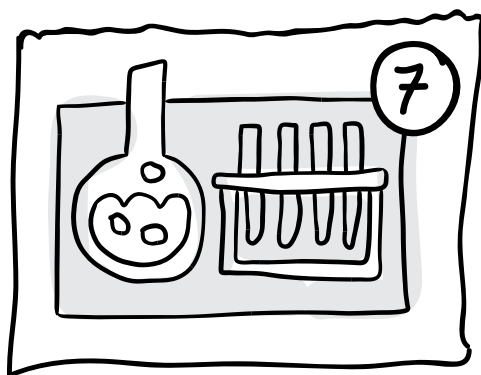
Under the cover of a great big cloth, Peter constructs a futuristic city with skyscrapers, hover cars and an elevated train. What do you think Denver might be like in the future? How will new technology change the way buildings look? Will people still drive cars? Do you think certain parts of Denver like the capitol building or the iconic “cash register” building will stay the same? What will your house look like? Create your vision of Denver’s future in a shoe box or clean pizza box using cardboard, paper, printed images, tape and markers.

DIY FURNITURE

Cardboard can be pretty stiff if you learn to use its corrugated nature to your advantage. The word “corrugated” refers to the wavy layer of peaks and valleys in the middle of some types of cardboard. Corrugated cardboard is common in shipping boxes because the corrugated layer adds strength to the box so it doesn’t crush as easily. Experiment with a piece of corrugated cardboard, how easily does it fold up if the corrugated edge is facing up? What about if the edge is to the side? How could you use the direction of the corrugation to help you make a stool that’s strong enough to sit on? Using corrugated cardboard, tape and scissors, build a piece of cardboard furniture for you or your toys. Watch a short video about building sturdy designs with cardboard at artsandvenues.com/YOBOD.

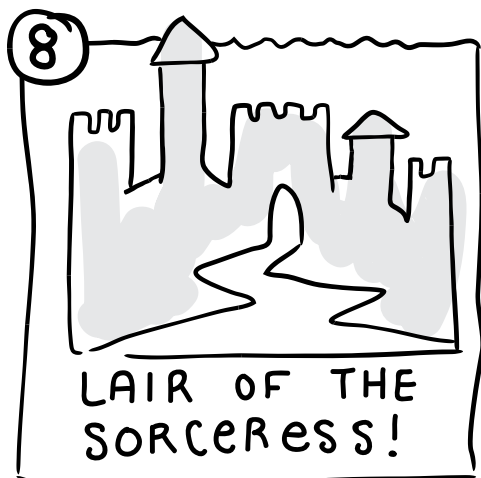


ALICE THE ALCHEMIST



BE YOUR OWN BOSS

Alice's drink stand offers potions to satisfy all her customers' needs from curing curses to refueling robots to making beasts feel more beastly. Many businesses get their start by solving a problem people have. Think about your neighborhood and the people you know; what kinds of challenges do you see? Perhaps it's dogs that need to be walked or flowerbeds that are full of weeds. How could you offer a product or service to help? Write down a list of five needs or problems you see and an idea for a business that could help.



MARVELOUS MERINGUE DROPS

With the help of her trusty assistant, The Sorceress bakes cookies. With the power of her imagination though, the cookie dough becomes a magic potion. In the case of meringue cookies, the magic happens as egg whites turn from runny to stiff when whisked.

Adapted from Meringue Drops in Simple & Delicious March/April 2006.

*Makes about 24
gluten free treats

3 egg whites

1/2 teaspoon
vanilla extract

1/4 teaspoon
cream of tartar

Food coloring,
if desired

3/4 cup sugar

HOW TO
MAKE IT

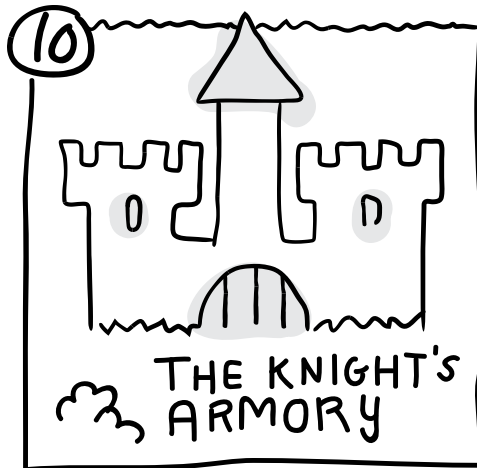
YOU'LL
NEED

- 1 Preheat oven to 200°. Line two baking sheets with parchment paper.
- 2 Carefully separate the egg yolks from the egg whites. Place the egg whites in a large bowl. If any egg yolk is mixed in with the whites, you'll need to start over, so separate each egg in a separate bowl before adding the whites to the large bowl.
- 3 Add vanilla, cream of tartar and a few drops of food coloring (if desired) to egg whites; beat on medium speed until soft peaks form. Soft peaks barely hold their shape and flop over immediately when the beaters are lifted.
- 4 Gradually beat in sugar, 1 tablespoon at a time, on high until stiff peaks form. Stiff peaks stand straight up when the beaters are lifted.
- 5 Spoon the meringue mixture onto the parchment paper creating 2-inch circles of batter.
- 6 Bake 20-25 minutes or until set and dry. Turn the oven off, but don't take the meringues out until the oven has completely cooled. Store meringues in an airtight container.



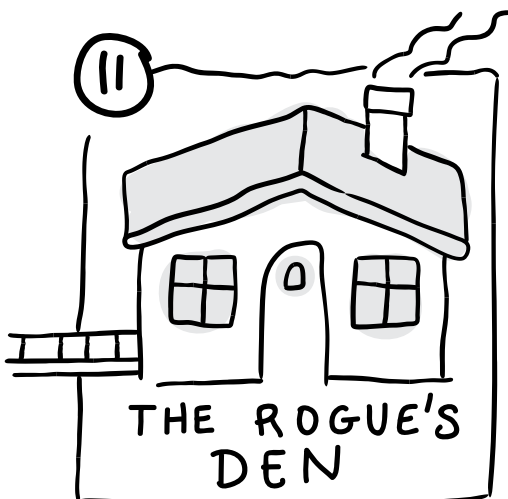
COLORING PAGE





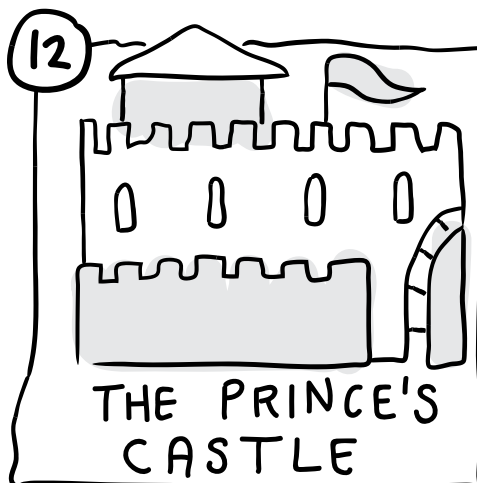
THE ART OF ACTION

In graphic novels and comics, illustrators have to show the movement of a character in only one or two panes, which means looking carefully at what body positions best show a certain movement like running, jumping, dancing or sword fighting. First, choose a specific motion to study, like running. Next, use the “burst” mode on a smartphone camera to take a series of photos as a friend or family member performs the action. Look through the photos you captured. Which one or two images seem to best represent the action? Experiment with other actions and try your hand at drawing these action poses!



THE PERFECT PART

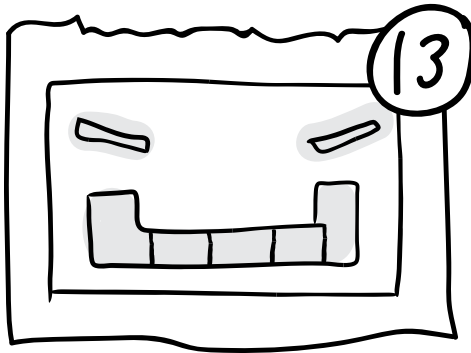
As Miguel and his friends act out one of his favorite movies, *The Prince and the Pea*, the kids take turns playing different roles until eventually they find one that really suits them. Imagine you were asked to play a part in your favorite movie; which role do you feel best suits you? Why? Write a list of five reasons you would give the movie director. For example, “I would be perfect for the role of the clever inventor because I like math and science and am always making toys for my friends out of cardboard.”



FAIRY TALE REWRITE

“It’s only boring if you stick to the script!” exclaims Jack in the chapter titled “The Prince.” As the kids act out the plot of a fairy tale movie, they discover it’s actually more fun to change the story to suit their own personalities. What have you always wanted to change about a classic tale or familiar movie? Rewrite the story by changing a character, the setting or even the whole plot! What if Rapunzel had rescued herself? What if your favorite Star Wars character moved in next door?

ROBOT'S WORKSHOP

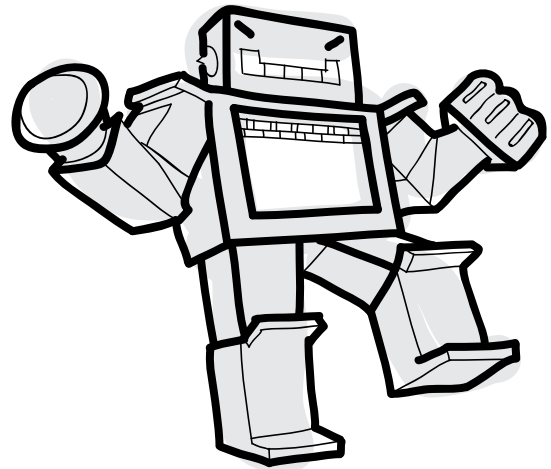


THE HERO'S QUEST

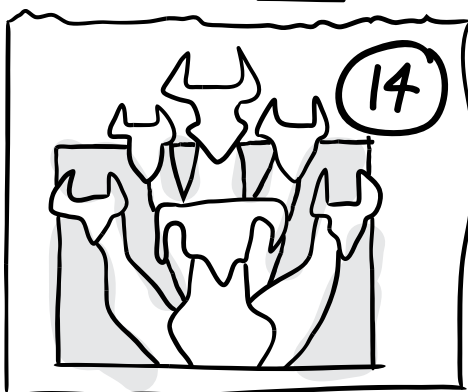
What if you and your friends were real, live game pieces in a board game? Using sidewalk chalk and/or cardboard squares, lay out a game board on the sidewalk or in your yard. Create special squares featuring “hero challenges” like doing a handstand, walking backward across the yard or tossing a water balloon back and forth with another player. Once the game is laid out, use a die to determine how many spaces a player can go during each turn. How can you make your game a highlight of the summer?

MEET A REAL ROBOT

In the chapter “The Robot,” Connie creates a cardboard robot costume. Robots are used in many fields to help humans grow food, make products, get from one place to another, treat illnesses and even explore distant planets. In 2015, NASA created ROV-E, a real robot with a computer brain that helps people learn about Mars. You can chat with ROV-E online and help it learn to talk. Always ask an adult before going online and then visit mars.nasa.gov/ask-nasa-mars.

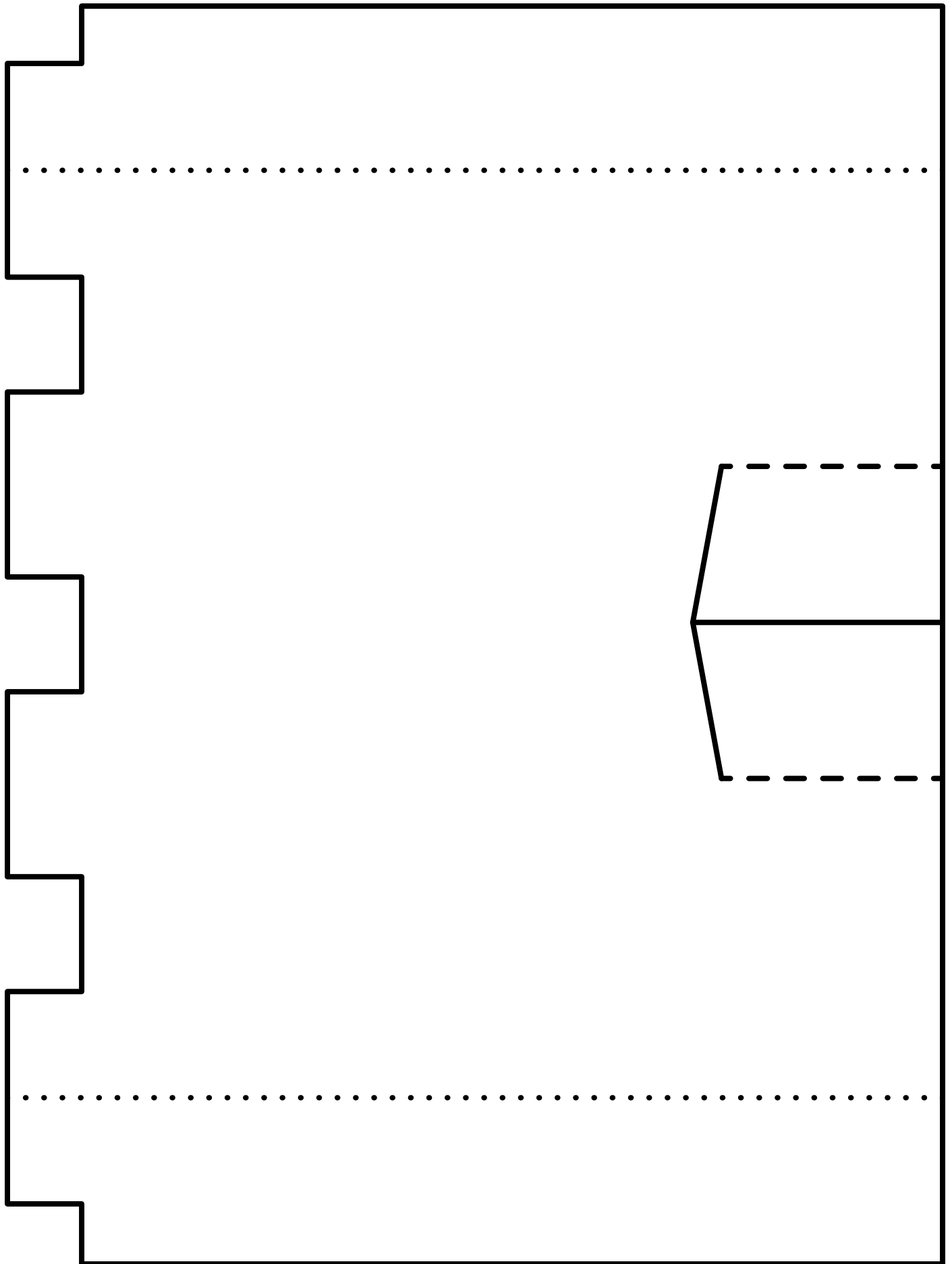


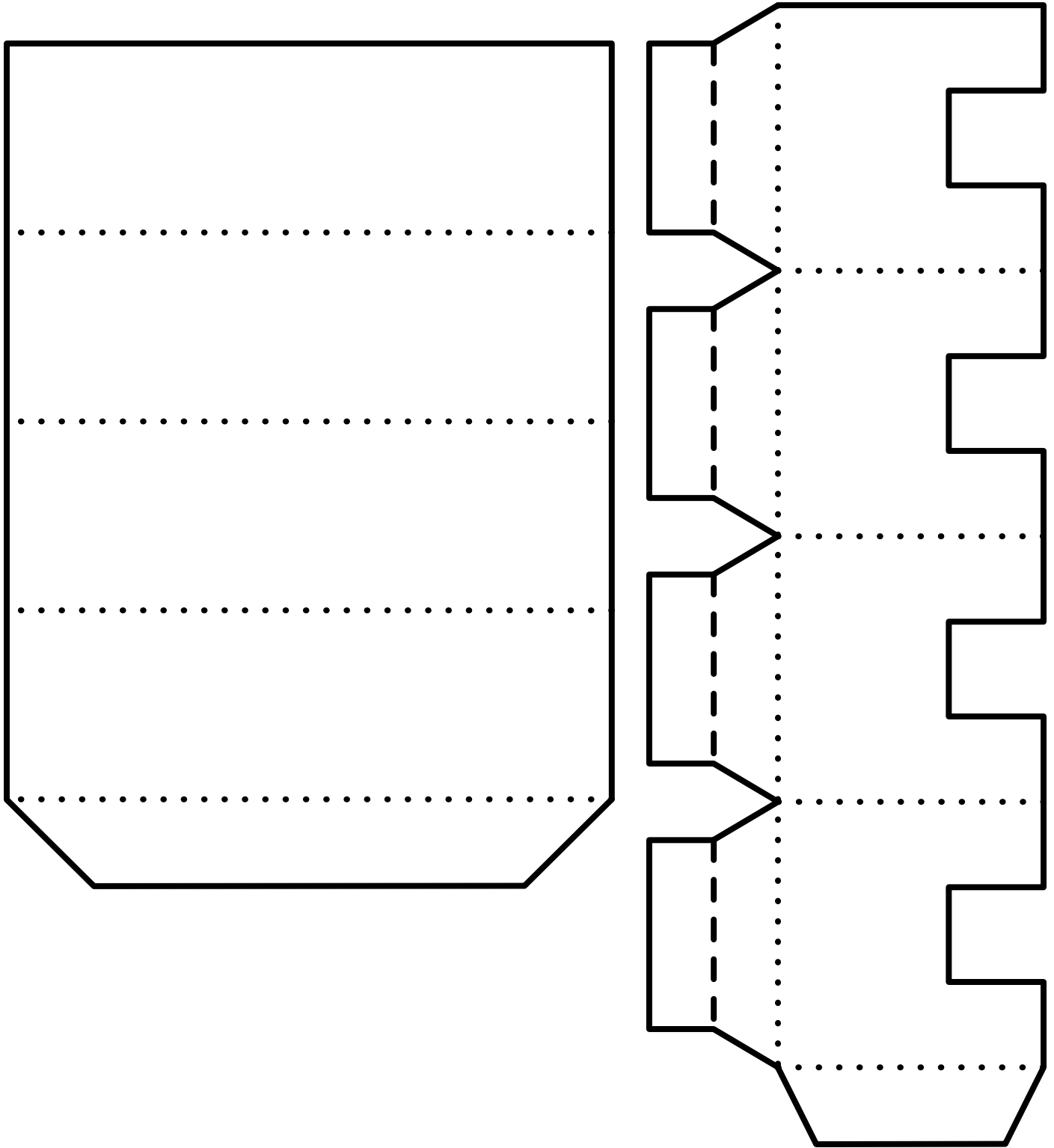
~~BULLY~~ ROY??

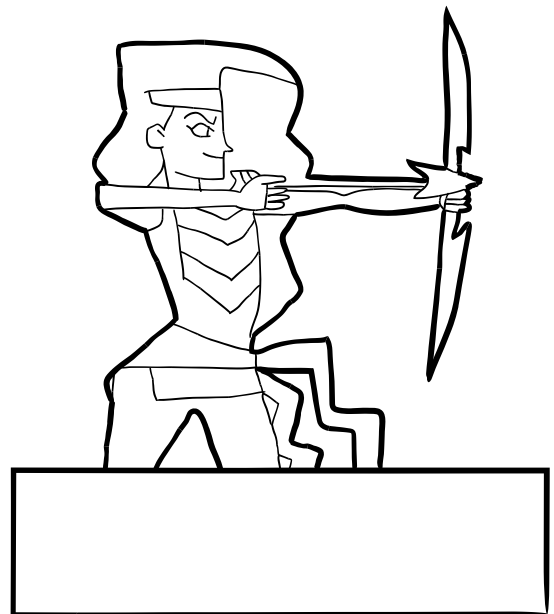
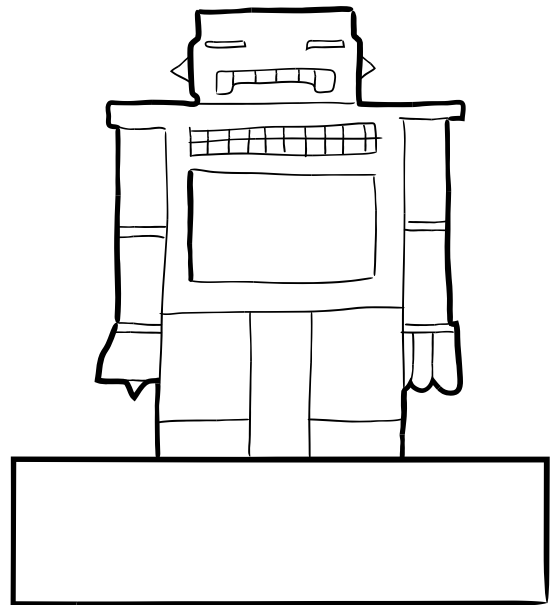


MAKE YOUR OWN JOURNAL

For Roy, it's hard moving to a new neighborhood to live with his grandmother while his mom is away. When life gets tough, having a place to write down your thoughts and untangle your feelings is a tool many people use. Create your own personal journal using an empty cereal box, paper and a rubber band. First, fully open the box so it lays flat as a single sheet of cardboard. Next, cut a piece of cardboard that is the same size as a sheet of paper. Stack about 10 sheets of plain paper on top of the cardboard sheet and bend the whole pile in half to create a booklet. Bind the cover and pages together with a rubber band wrapped around the center crease of the booklet. Decorate the cover and start writing, doodling and dreaming!



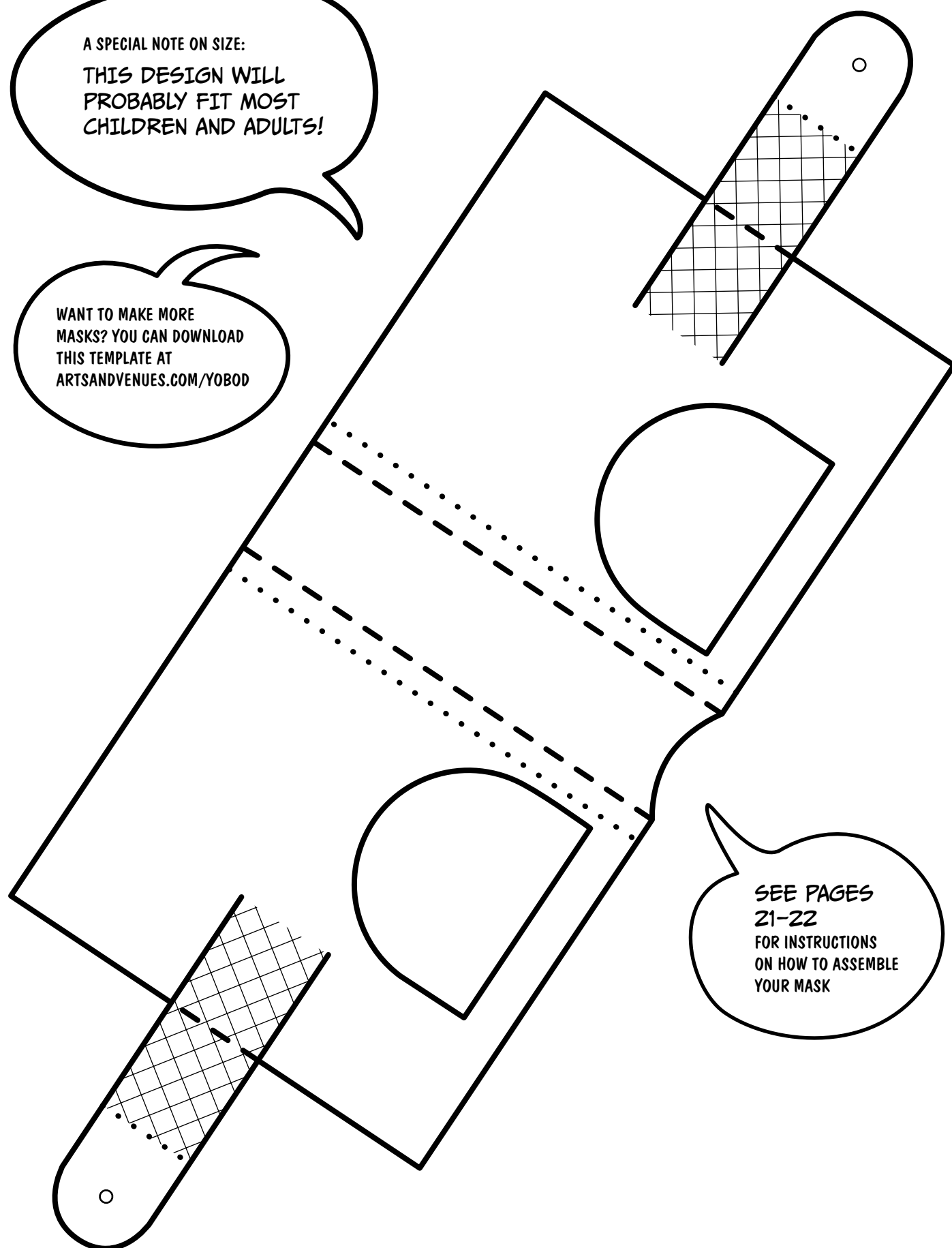




A SPECIAL NOTE ON SIZE:

THIS DESIGN WILL
PROBABLY FIT MOST
CHILDREN AND ADULTS!

WANT TO MAKE MORE
MASKS? YOU CAN DOWNLOAD
THIS TEMPLATE AT
ARTSANDVENUES.COM/YOBOD



SEE PAGES
21-22
FOR INSTRUCTIONS
ON HOW TO ASSEMBLE
YOUR MASK

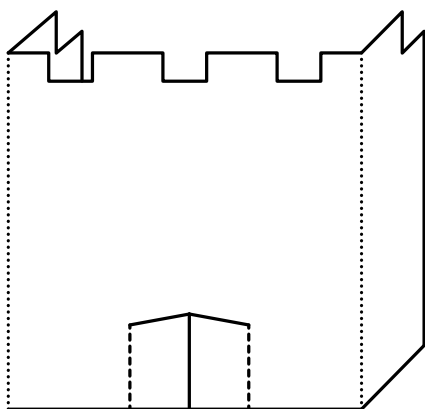
FINGER PUPPET FUN!

We've provided you some fun cut-out props so you can act out your favorite Cardboard Kingdom scenes or make up your own adventures.

- Markers, crayons or colored pencils
- Scissors
- Tape

YOU'LL
NEED

- 1 Color your castle, turret and finger puppets. You can be creative on the colors or even add windows, vines, bricks or other decoration to your castle and turret.
- 2 Carefully cut out each figure along the solid outlines. Do not cut along the dashed lines.
- 3 Fold the castle, turret and figures.
 - Remember not to cut the dashed lines. The dashed lines are Valley Folds, meaning they fold inward. The dotted lines are Mountain Folds, meaning they fold outward.
 - Score all of the valley and mountain folds using either the corner of your ruler, a butter knife, scissors, or pen that's run out of ink. Fold all of the scored lines well to create sharp folds.
- 4 Assemble the castle. This one is pretty easy; fold your doors outward, then fold the two side walls at a 90-degree angle so the castle can stand up like this:

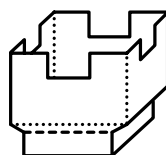


- 5 Assemble the turret. Start with the pillar piece. Fold each wall at a 90-degree angle so the tower can stand up like this:

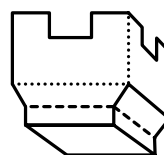


Carefully tape the tab onto the fourth wall so that the piece stays together. You can even put the tape on the inside of the tower so no one sees it.

Now for the harder part. Fold the top of the tower using 90-degree angles. Now fold the bottom pieces inward at a 90-degree angle to make a base, and then fold the second part back out to make a tab to slide into the tower. Tape the side tab to the fourth side so it stays together. It should look like this:

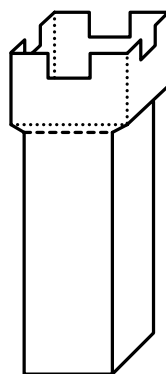


View from above



View from underneath

- 6 Now slide the tabs into the top of your tower so it looks like this:



- 7 Assemble your finger puppets. Wrap the bottom tab around your finger and tape it to make a loop. You might need a friend to help you tape as you hold the puppet on your finger.

PROFESSOR EVERYTHING!

Paper craft design by Kostas Ntanos

Based on Professor Everything from
The Cardboard Kingdom.

ASK AN ADULT FOR HELP WITH THIS EXPERIMENT

YOU'LL NEED

- An adult to help you with cutting and gluing
- Double-sided tape or fast-drying glue
- Scissors
- Ruler
- String, ribbon, or elastic to hold the final piece in place
- Clear tape (you may want to reinforce some parts on the inside)
- Plenty of time to be crafty!
You don't want to rush this project!

TIP #3:
THIN ELASTIC STRING
IS THE BEST WAY TO
GET A GOOD FIT!



1. CUT OUT THE MASK

Cut out the mask on page 18. Cut the pieces along the solid outlines. Do not cut along the dashed lines. A diagram is on the next page (labeled Diagram A) to let you know how to fold these pieces.

TIP #1:
USE EITHER
DOUBLE-
SIDED TAPE
OR AN EXTRA
STRENGTH
GLUE STICK

TIP #2:
ASSEMBLING THE FOLDED
PIECES CAN BE VERY TRICKY.
TAKE YOUR TIME AND
CONSULT THE DIAGRAMS!

2. FOLD AND ASSEMBLE THE MASK

Remember not to cut the dashed lines. The dashed lines are Valley Folds, meaning they fold inward; the dotted lines are Mountain Folds, meaning they fold outward.

Score all the valley and mountain folds using either the corner of your ruler, a butter knife, scissors, or pen that's run out of ink. Fold all the scored lines well to create sharp folds.

Fold the hashed areas onto each other and glue, referenced in Diagram B.

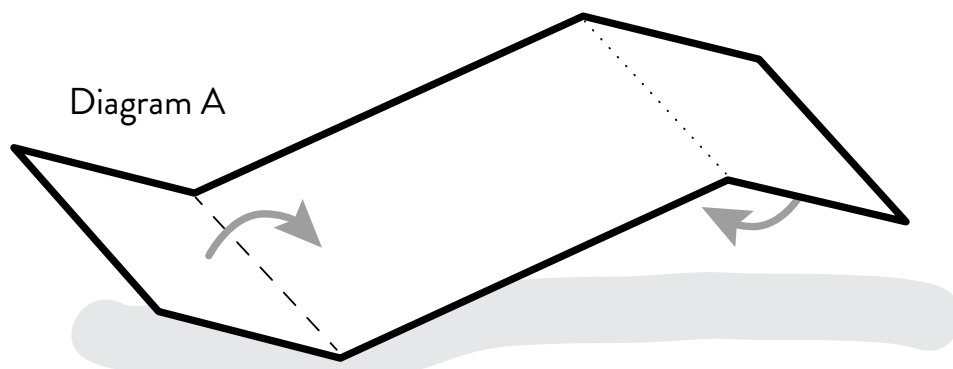
Make two small holes where indicated. Put a piece of string, ribbon, or elastic through the holes and secure with a knot and some tape.

3. DECORATE

Decorate your creation however you want! You don't need to make everything look exactly like you see it in The Cardboard Kingdom. You can use different colors and even glue things like glitter, feathers, and fabric!

TIP #4: BEFORE MAKING THE HOLES, PUT A PIECE OF TAPE INSIDE THE MASK TO REINFORCE THE CARD STOCK.

MOUNTAIN FOLD



VALLEY FOLD

4. SHARE YOUR WORK!

We would love to see your costumes and creations! Use **#thecardboardkcosplay** on social media and tag **@kntanos** and **@thecardboardk** on Instagram or Twitter, or upload photos at **artsandvenues.com/YOBOD**.

If you'd like to share the design with others, please direct them to **ntanos.co.uk** so they can download the files to put together their own masks!

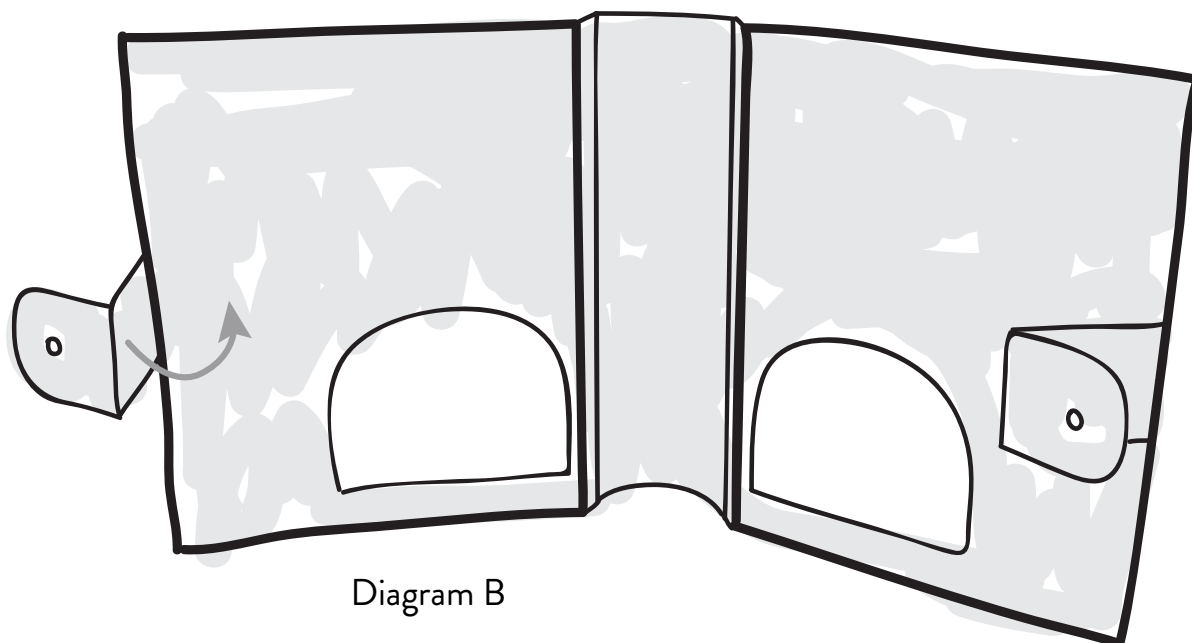
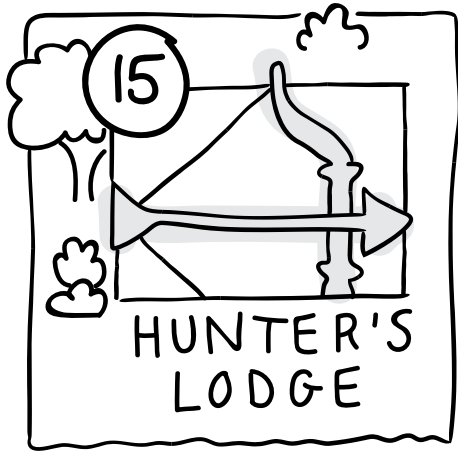


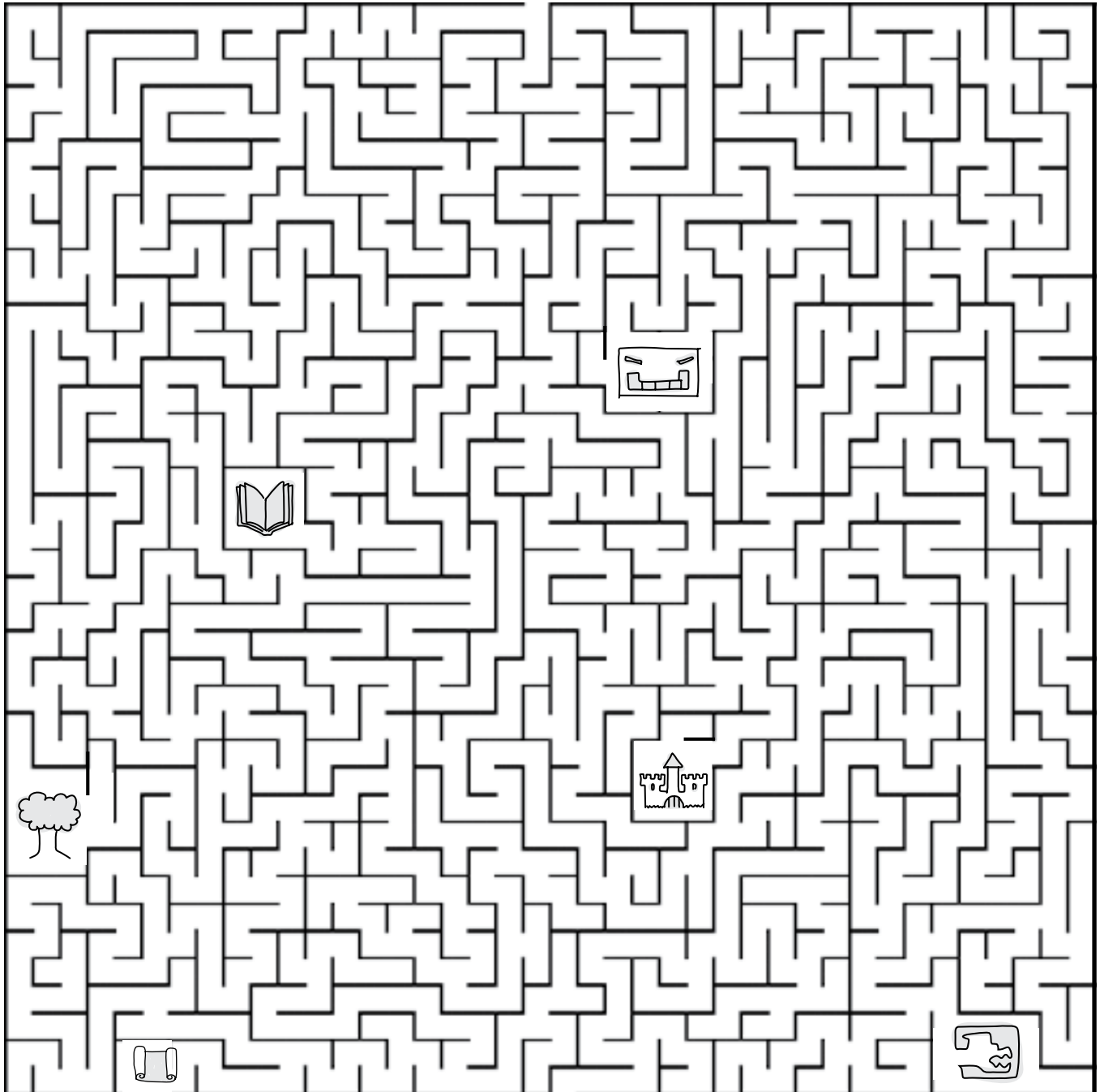
Diagram B



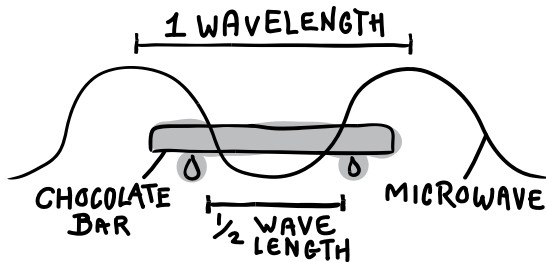
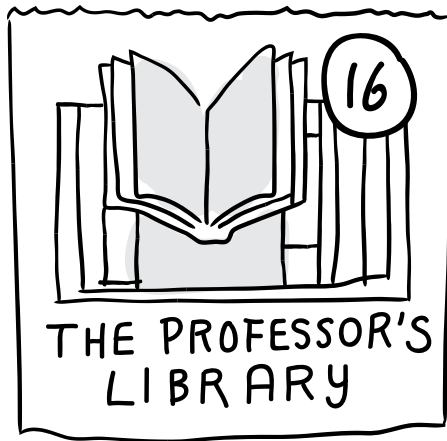
A MAZE THROUGH THE CARDBOARD KINGDOM

Start at the top and see if you can get to the bottom!

START



FINISH



CALCULATE THE SPEED OF LIGHT WITH YOUR MICROWAVE

As the group of friends act out an epic battle scene, Egon calls out, "You can't superpunch a dragon at the speed of light! Physics won't allow it!" It's true that light travels faster than a fist ever could. In fact, the speed of light is 299,792,458 meters/second (186,000 miles/second). You can calculate the speed of light for yourself using a microwave, a chocolate bar and a ruler. How? Light travels as a wave and its speed can be calculated by finding the length of the wave and multiplying that by its frequency (the number of times it goes up and down in a second). Microwaves are a type of electromagnetic radiation, just like light waves, so microwaves also travel at the speed of light. See video instructions and learn more about the science of light waves at [artsandvenues.com/YOBOD](https://www.artsandvenues.com/YOBOD).

ASK AN ADULT FOR HELP WITH THIS EXPERIMENT

- 1 ADJUST MICROWAVE:** Take the turntable out of the microwave so the chocolate bar will stay in one place.
- 2 ADD CHOCOLATE:** Unwrap a chocolate bar. Put it on a plate and put the plate in the microwave.
- 3 MELT:** Heat the chocolate until it starts to melt in a few spots. This should only take 15-20 seconds.
- 4 MEASURE:** Carefully take the plate out of the microwave. IT WILL BE HOT! Using a ruler, measure the distance in centimeters between two melted spots. This distance represents $\frac{1}{2}$ a wavelength. Multiply this distance by 2 to get a full wavelength in centimeters. Convert this measurement from centimeters to meters by dividing it by 100.

Wavelength in centimeters = _____ x 2 =
(distance between melted spots in centimeters)

Wavelength in meters = _____ ÷ 100 =
(wavelength in centimeters)

- 5 CALCULATE:** The speed of light (in meters per second) = wavelength (in meters) x frequency (in hertz). Most standard microwaves have a frequency of 2.45 gigahertz, meaning that the microwaves move up and down 2.45 billion (2,450,000,000) times per second. Check the back or side of your microwave to find its frequency. For wavelength, use the number you found in step 4. Now calculate! Did you get a number close to the speed of light listed above?

Speed of Light = _____ x 2,450,000,000 =
(wavelength in meters from step 4) (average microwave frequency)

- 6 EAT THE CHOCOLATE!**

MAKE A ROBOT ARM

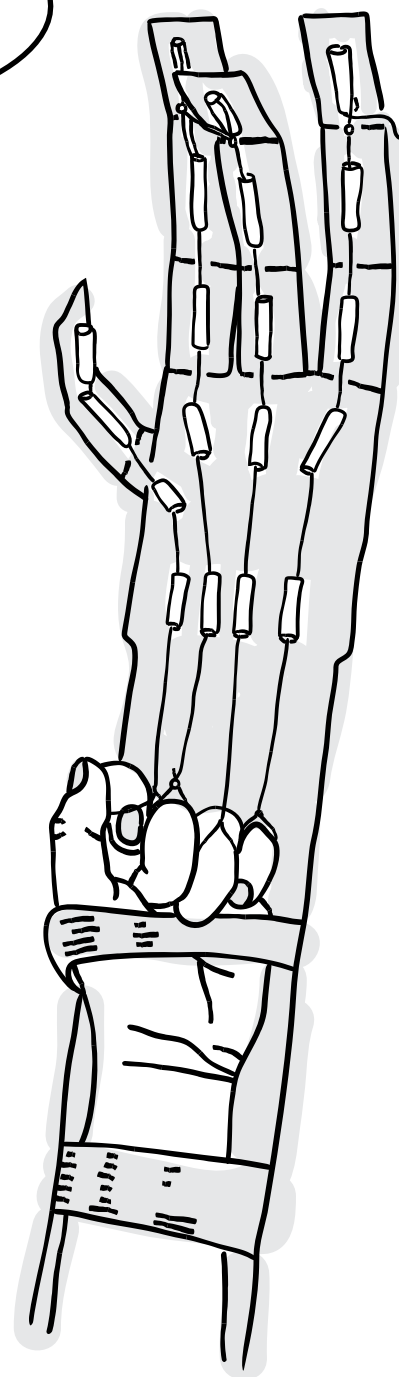
In *The Cardboard Kingdom*, Connie creates a full robot costume out of cardboard. In this activity, you'll create a cool cardboard robot arm. Find video instructions for building a robot arm at artsandvenues.com/YOBOD.

A piece of corrugated cardboard (from a shipping box) that is a bit longer than the length of your hand and forearm, scissors, 3 plastic straws, a pencil, duct tape and string.

YOU'LL
NEED

HOW TO
MAKE IT

- 1 DRAW:** Outline a robot arm with three fingers, a thumb and forearm on the cardboard. The hand should be larger than yours and the forearm should be longer than yours. Cut out the arm.
- 2 BEND:** Notice how your fingers are jointed creating three segments to each finger. Bend the cardboard fingers to create three segments. Bend the cardboard thumb to create two segments.
- 3 MAKE STRAPS:** Take a piece of duct tape that is a little longer than your arm is wide and fold it in half the long way so the sticky sides are touching. Use this strip of tape to create an arm strap near the bottom of the robot arm. Attach the strap with duct tape. Use a second piece of folded tape that is a little longer than your palm is wide to create a hand strap about 6" from the base of the robot fingers. Attach strap with duct tape.
- 4 ATTACH TUBES:** Cut the straws into 19 pieces: one piece for each segment of the fingers and 8 tubes to attach at the base of the fingers. Use duct tape to attach one straw piece to each finger and thumb segment, plus one straw piece to the palm below each finger and thumb, and one row of four straw pieces at the base of the palm.
- 5 ADD STRINGS:** Cut four pieces of string, each 16" long. For each finger, thread a piece of string through the straw at the tip of the finger and tie it to secure. Then thread the other end of the string through the remaining straws. Tie a loop in the loose end of the string for your finger.
- 6 ADJUST AND EXPERIMENT:** Put your arm through the armband and position your hand so the hand strap is across your palm. Loop the strings over your fingers and adjust the length of the strings if needed. Make the robot hand open and close by pulling on the strings!



GREAT BOOKS SPARK GREAT CONVERSATIONS

After reading *The Cardboard Kingdom*, use these questions to start a book chat with a friend or family member.

- 1 Why is the book called *The Cardboard Kingdom*? Who lives in this kingdom? What places make up the kingdom?
- 2 Has this book inspired you to make something out of cardboard? If so, what do you plan to make? Which part of the story gave you inspiration for this idea?
- 3 In *The Cardboard Kingdom*, the characters create unique costumes that make them feel like the person they want to be. What are some of the costumes they make? How do they feel when they're wearing them? What kind of costume would make you feel awesome?
- 4 Becky runs a shop selling cardboard weapons she makes herself and Alice runs a lemonade stand that sells "potions." If you could choose to run Becky's business or Alice's, which would you choose? Why? If you created your own business, what would it be like?
- 5 Sophie's Meemaw (grandmother) tells her that "nice little girls don't talk so loud" and "In my day, girls knew how to behave and be quiet. Not act like a hellion or yell like a banshee" (p. 39). What do you think about Meemaw's words? Do you think there are certain expectations of how girls and boys should behave? What are they? Are boys and girls expected to act differently? If you think they are expected to act differently, how so? What have you noticed about how boys and girls act in your family, at school or in movies and on TV?
- 6 As the Mad Scientist, Amanda loves creating cardboard accessories to help solve her friends' problems. When they don't like their hair, she makes them a new head! Big feet? Here are new feet! At the dinner table though, her dad tells her, "All people are different for a reason... Changing them isn't helping them" (p. 149). Do you agree with his statement? Why or why not?
- 7 Seth's parents are going through a challenging divorce. As Seth's mom points out, this can be a confusing time, and as we can see on Seth's face, it can be a really upsetting time. Who do you think Seth could talk to? What conversations might Seth want to have with his mom in order to feel better? Who are some trusted adults you can talk to when you're feeling upset or confused?
- 8 Thinking about the whole book, what brought all the kids together over the course of the summer? Was it the cardboard or something else? How do you think people become friends even if they look different and have different backstories? Are there ways we're all the same?
- 9 What was one of your favorite parts of the story? What was one of your favorite illustrations?
- 10 If this was the first graphic novel you've read, what did you think about this format? Are you likely to read another graphic novel? Why or why not? Did anything surprise you about reading this type of book?

CHECK OUT THESE GREAT READS

If you enjoyed reading *The Cardboard Kingdom*, the children's librarians at Denver Public Library think you'll like these, too.

OPTIONS FOR YOUNGER READERS (PICTURE BOOKS TO TRANSITIONAL BOOKS)

IMAGINATION

What is *The Cardboard Kingdom* without imagination? Spark creativity with these reads.

POETRY

A Stick is an Excellent Thing: Poems Celebrating Outdoor Play
Marilyn Singer

PICTURE BOOKS

Fraidyzo
Thyra Heder

Julián is a Mermaid
Jessica Love

Roxaboxen
Alice McLerran

The Quiet Place
Sarah Stewart

FOR DEVELOPING READERS

Dory Fantasmagory
Abby Scanlon

Let's Go to the Moon
Erica Silverman

FRIENDSHIP/ MISFITS UNITED

There are all kinds of kids in *The Cardboard Kingdom* and together they find a way to make something fantastic. These books all explore the power of friendship.

GRAPHIC NOVELS

Colette's Lost Pet
Isabelle Arsenault

Narwhal: Unicorn of the Sea
Ben Clanton

TRANSITIONAL CHAPTER BOOK

Absolutely Alfie and the First Week
Friends
Sally Warner

MAKING/STEAM

The kids in *The Cardboard Kingdom* demonstrate problem-solving, curiosity and tenacity to create cardboard structures. They also demonstrate STEAM skills.

POETRY

With My Hands: Poems about Making Things
Amy Ludwig VanDerwater

PICTURE BOOKS

Maybe Something Beautiful
F. Isabel Campoy

Dreaming Up: A Celebration of Building
Christy Hale

FOR DEVELOPING READERS

The Un-Friendship Bracelet
Martha Maker



CHECK OUT THESE GREAT READS (CONTINUED)

READ ALOUDS AND READ ALIKES FOR 9-12 YEAR OLDS

IMAGINATION

GRAPHIC NOVELS

Recess Warriors
Marcus Emerson

Nightlights
Lorena Alvarez Gomez

Mighty Jack
Ben Hatke

Binky the Space Cat
Ashley Spires

NONFICTION

Jabberwalking
Juan Felipe Herrera

MAKING/STEAM

CHAPTER BOOKS

Nothing but Trouble
Jacqueline Davies

Escape from Mr. Lemoncello's Library
Chris Grabenstein

The Seventh Most Important Thing
Shelley Pearsall

GRAPHIC NOVELS

Secret Coders
Gene Luen Yang

NONFICTION

Whoosh! Lonnie Johnson's Super-Soaking Stream of Inventions
Chris Barton

Ada's Violin: The Story of the Recycled Orchestra of Paraguay
Susan Hood

Radiant Child: The Story of Young Artist Jean-Michel Basquiat
Javaka Steptoe

The Secret Kingdom: Nek Chand, a Changing India, and a Hidden World of Art
Barb Rosenstock

FRIENDSHIP/ MISFITS UNITED

CHAPTER BOOKS

The Truth as Told by Mason Buttle
Leslie Connor

Raymie Nightingale
Kate DiCamillo

The Season of Styx Malone
Kekla Magoon

The First Rule of Punk
Celia C. Pérez

Lumberjanes: Unicorn Power
Mariko Tamaki

GRAPHIC NOVELS

All's Faire in Middle School
Victoria Jamieson

LEARN TO DRAW THE GARGOYLE



STEP 1:

Start with two little dots for his eyes!



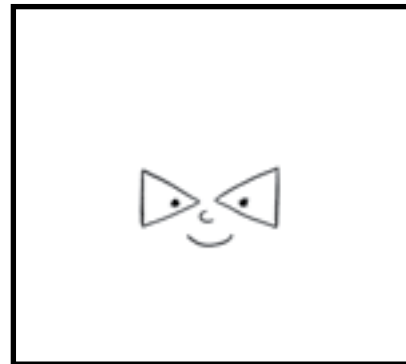
STEP 2:

Give him a nose! It's just a simple line that looks like the letter "C".



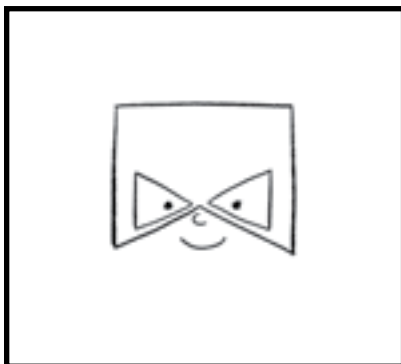
STEP 3:

Give him a smile!



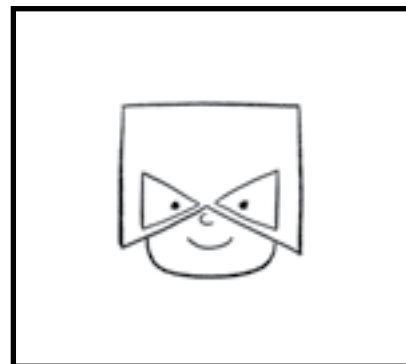
STEP 4:

The eyeholes for his mask are just two triangles around his eyes.



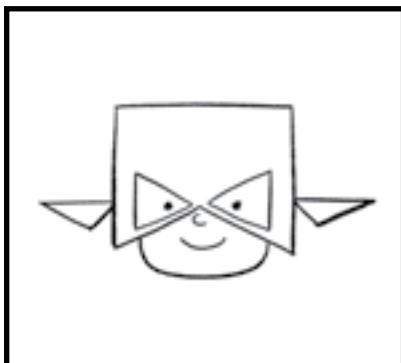
STEP 5:

Draw the rest of his mask! On the top, it's a simple square, and then the bottom is like a triangle that goes just above his nose.



STEP 6:

Draw his chin! It is kind of like a squashed circle underneath his mask.



STEP 7:

Draw his ears! They are two upside-down triangles on either side of his head.



COMMON COMICS/GRAPHIC NOVEL TERMS

CAPTION

Text that contains narration to move the story along or provide additional information. This text is in contrast to dialogue, which generally occurs in speech balloons.

PANEL

A panel is an individual frame, or single drawing, in the multiple-panel sequence of a comic strip or comic book. A panel consists of a single drawing depicting a frozen moment.

GUTTER

The space between panels. This space may seem blank, but in fact, it is in this space where readers are forced to forge a link between one image and the next.

SPEECH/DIALOGUE BALLOONS/WORD BUBBLES

Oval shapes containing text representing speech, a pointing element links the speech bubble to the character who is talking

MOTION LINE

A line or multiple lines used to add a sense of motion to an object.

SOUND EFFECT

Sound effects or onomatopoeia are words that mimic sounds. They are non-vocal sound images. Examples include “click,” “crunch” and “pow.”



RESOURCES FOR MAKING YOUR OWN COMICS

Free online comics/storyboard maker

storyboardthat.com/storyboard-creator

Smile Comic Maker

scholastic.com/kids/games/make-a-comic/smile-comic-maker/

Printable Comic Strip Templates

scholastic.com/parents/kids-activities-and-printables/printables/writing-worksheets/create-your-own-comic-strip-template.html

JOIN OTHER YOUTH ONE BOOK, ONE DENVER READERS FOR FUN FREE EVENTS THROUGHOUT THE SUMMER!

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DENVER
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RANDOM HOUSE
GRAPHIC