

How to Make Your ZOOMerang

You can print out your ZOOMerang and make it into a little booklet.

Here's how:

- Print all the ZOOMerang pages.
- Cut out each page along the dotted lines.
- Tape pages 1–6 together from end to end so that you have a long row.
- Tape pages A–F together to make a second long row.
- Lay one row face down on a table and put some glue on the back of the pages.
- Place the second row on top of the first row. The printed part of the second row should face you.
- Smooth out the glue with your hand.
- Let it dry and then fold your ZOOMerang where the pages join together.



What You Need

- scissors
- tape
- glue

Voilà!



When you're not taping ZOOM, what do you like to do? *Swim, dance, talk on the phone.*

What do you want to be when you grow up? *A pediatrician who works with kids who have special needs.*

Are you right- or left-handed? *Right-handed, but I eat soup with my left.*

What animal most resembles you? *Bunny (cake).*

What's your best party trick? *I can write my name with my toes.*

Who from history or the present day would you most like to meet? *Keiko (the whale).*

If you could change one thing about the world, what would it be? *Fix the ozone.*

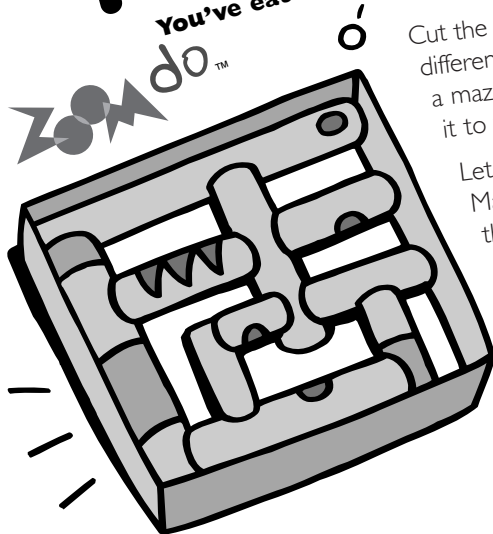
KEIKO

What You Need

marbles • 1 pizza box • paper towel rolls • scissors • duct or masking tape

Pizza

You've eaten the pizza...



Box Maze

but you don't have to throw away the box!

Cut the lid off the pizza box. Cut the paper towel rolls into different lengths. Tape them to the inside of the box to make a maze. (You might want to fold the tape so you can stick it to the underside of the roll and it won't show.)

Let some of the tubes connect and leave some separate. Make any kind of design you want. Try cutting holes in the sides of some of the tubes to make extra "doors."

Put a marble in the maze and tilt the box around so that the marble rolls through the maze. You can keep adding tubes or moving them around to make the maze more complex. Try painting your maze to make it look really cool.

How can you make your maze more amazing? Can you build it up in levels? Draw your designs and send them to ZOOM.

sent in by Kevin T. of Fort Benning, GA

**If an athlete gets
athlete's foot, what does
an astronaut get?**

(from Channell S., Jamaica Plain, MA)
Missile toe.

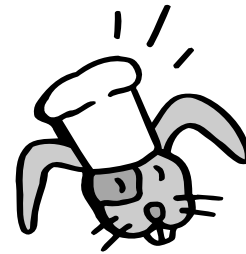
Fannee Doolee

Fannee Doolee loves sweets but hates candy. She loves kittens but doesn't care for cats. She adores books but can't stand novels. Can you figure this riddle out? (Hint: the answer is in the letters, not the words.) Once you've got it, stump your friends. And don't forget to send your own mind-bending riddles to

3 ZOOM.

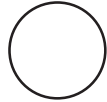
What You Need

- 2 round eight-inch baking pans
- vegetable oil
 - store-bought or homemade cake mix
 - big tray
 - 1 can of cake frosting
 - cake frosting decorating tubes
 - candy for decorations

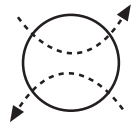


Cafe

ZOOM™



Make the cakes from your own recipe or follow the directions for the store-bought mix. Be sure to ask an adult for help or permission when using the oven. Grease the baking pans with vegetable oil and pour the batter in. Bake the cakes, then remove them from the oven. Let them cool 2–3 hours.



One cake will be the face of the bunny and the other cake will be the bow tie and the ears. So leave one cake whole and cut the ears and the bow tie from the other one. (See diagram.)



Put the cake on a tray. Frost the entire cake. Then use the decorating frosting to outline the ears and bow tie.

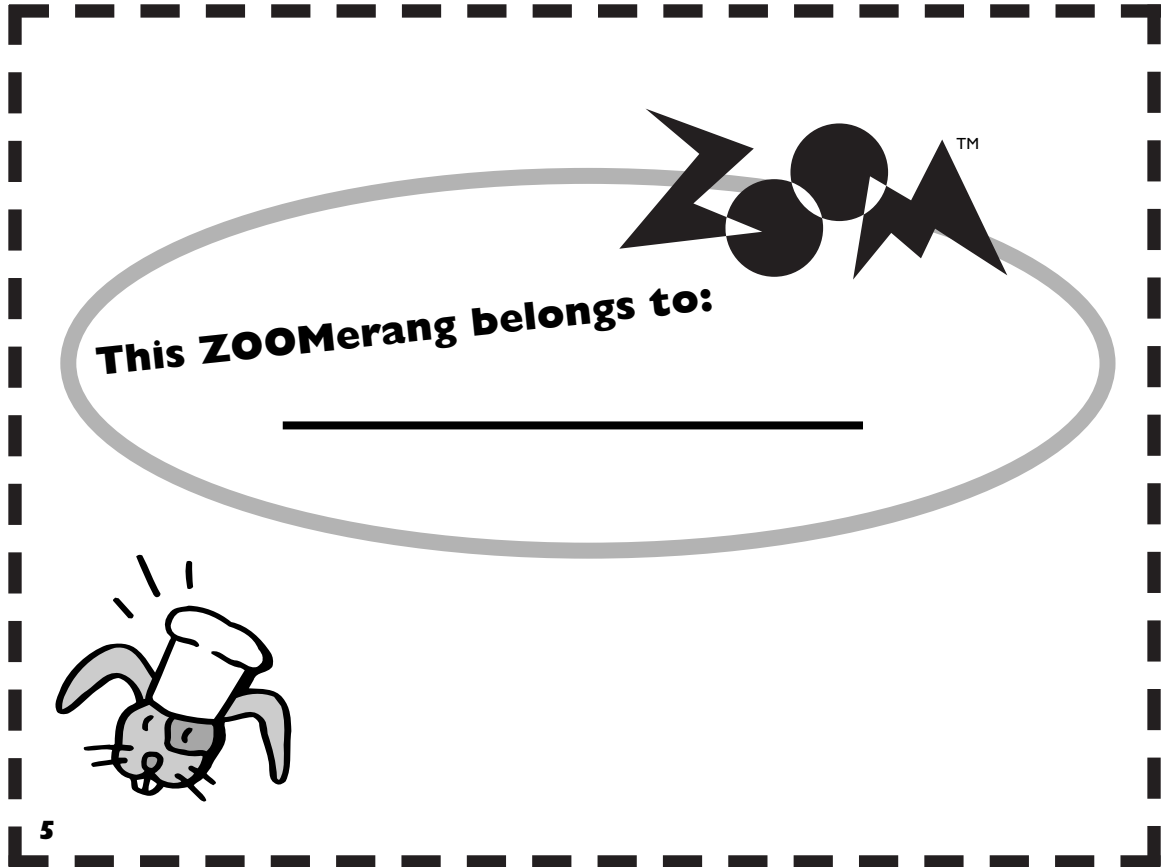


ZOOM used jelly beans for eyes, licorice to make whiskers, and polka dots for the bow tie, but you can use whatever you want. Then draw on a nose and mouth with the decorating frosting. Try changing the recipe to make other things—how about a snowman cake? Or a dinosaur cake?

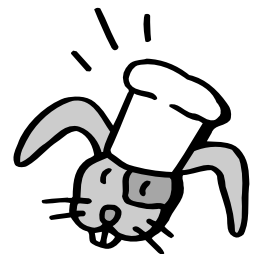
Sent in by Will T. of Brookline, MA. Will and his family make Bunny Cake for Easter. What food does your family make to celebrate holidays?



**Send your recipes
to ZOOM, Box 350,
Boston, MA 02134.**



This ZOOMerang belongs to:





PBS
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Zoomerang™

Thaumatrope

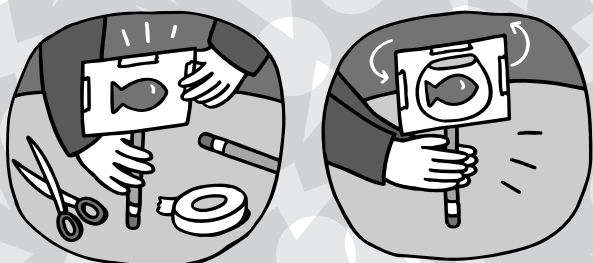
What You Need: 2 index cards • markers • pencil • scissors • tape

A thauma-what? It's a toy from the 1800s that uses an optical illusion to work. That means that it fools your brain. The two pictures in a thaumatrope move so fast that your brain thinks it's seeing one moving image. Movies work the same way—they're just a bunch of still pictures that move really fast.

Draw one picture in the middle of each index card. The pictures should be related, like a fish and a bowl, or an umbrella and rain, because they will appear as if they are together on one card when you use your thaumatrope.

Fold some tape to make it sticky on both sides and attach the index cards, picture sides out, to opposite sides of the pencil. Put some tape around the outside edges of the cards to make them sturdy.

Spin the pencil between your hands. You should see the fish and the bowl, or whatever your pictures are, combined.



sent in by Ecole St. Pierre, Montreal, Quebec, Canada

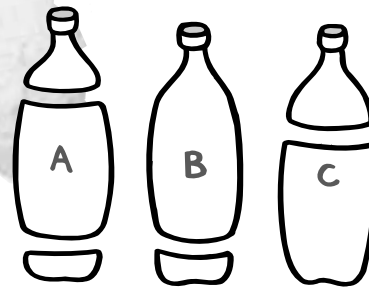
What fun things with weird names do you know how to make? Go electronic and send the directions for your ZOOMdo to www.pbs.org/zoom.

Compost

Build your own Composter and find out how to turn garbage into really good dirt.

What You Need

newspaper (to cover your work surface) • marker • 3 two-liter soda bottles • scissors • ruler • 2 bottle caps • thumbtack • tape • old vegetable or fruit scraps (like lettuce or orange peels) • dirt • water



Take the labels off the soda bottles and mark them A, B, and C with your marker. **Cut** them as shown in the illustrations above. **Punch** holes in one of the bottle caps with the thumbtack and screw it on *bottle B*. **Turn** *bottle B* upside down and put it into *bottle C*. **Tape** them together. Tape *bottle A* over or inside of *bottle B*.



Fill them with all the fruit and veggie pieces. Don't add any meat or dairy products because they smell really bad when they decompose.



Put some soil in there because it contains living stuff like bacteria, organisms, and fungi that will turn the scraps to dirt. Add a little water to make the ingredients damp. **Take** the top that you cut off of *bottle A* and tape it to the top of the column. Screw on the cap. Shake it all up.

Use a pin to poke air holes in the compost. Air will help the ingredients decompose. You'll see some changes in your composter in the first few days. After 2–3 months you'll end up with nice, mineral-rich dirt—also known as compost—that your houseplants will thank you for.

Set up another composter and experiment. Think of a question you want answered, like what would happen if you put one composter in the sun and one in the dark? Be sure to predict what you think will happen. Then test it out and tell us what happened by writing to ZOOM, Box 350, Boston, MA 02134.

thanks to Taylor T., Rebecca B., and Anna V. of Longview, TX, for their Compost and Biodome directions.



Can you grow plants that you'll never have to water? Build a Biodome and find out. (And if you use compost for soil, your plants will have really good dirt to help them grow.)

What You Need

2 bottle caps • 3 two-liter soda bottles • scissors • seeds (like dried beans) • potting soil • tape • thick cotton string

Check out a really big biodome at www.bio2.edu. This biosphere contains a desert, marsh, savanna, rainforest, and even an ocean!

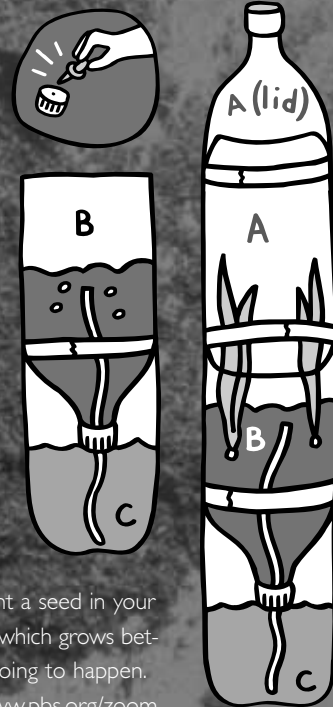
Bio

C

Follow the directions in Compost for labeling the soda bottles A–C and cutting them. **Pour** water into *bottle C* so that it's halfway full. **Poke** a hole in a bottlecap and enlarge it with scissors so you can get the string through. **Soak** the string in the water and run it through the hole in the cap. The string will draw water into the soil. **Attach** the cap to *bottle B*. **Invert** *bottle B* into *bottle C*. The bottlecap should touch the top of the water. **Tape** the bottles together. **Add** a few handfuls of dirt to *bottle B*. Make sure the string runs up the middle of the dirt and is not stuck along the side of the bottle. **Poke** a 2-cm hole in the dirt and drop in some seeds. **Cover** the seeds with dirt and add a little water until the soil is moist. **Put** *bottle A* on top of *bottle B* and tape them together. **Tape** the top that you cut off of *bottle A* to the rest of the bottle structure. Screw on the cap. **Now** your seeds have water, soil, and air. Just leave the biodome in a sunny spot so it can use the light to make its own food.

dome

Now it's time to experiment. You can plant a seed in your biodome and one in a flowerpot and see which grows better. Be sure to predict what you think is going to happen. Then, test your question and log onto www.pbs.org/zoom to tell us about it.



The Web

Metafile: <http://www.pbs.org/wgbh/zoom/>

Check out www.pbs.org/zoom to find more CafeZOOMs, ZOOMscis, ZOOMdos, and lots more. Oh, and if you don't have access to the Web at home, you should be able to find it at your school, public library, or the community centers in your neighborhood.



Learn to Speak

Ubbi Dubbi™

Just add "ub" before each vowel sound. Accent the "ub" each time it comes up. Tubeach ubit tubo uba frubiend! Use the Ubbi Dubbi translator on ZOOM's Web site to turn Ubbi Dubbi into English, uband Ubenglubish ubintubo Ubbi Dubbi.



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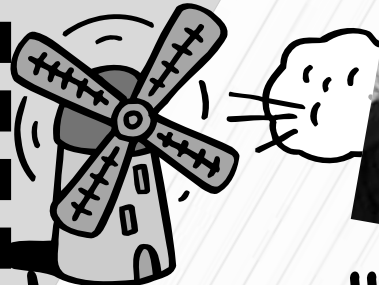
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Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

All submissions become the property of ZOOM and will be eligible for inclusion in all ZOOMmedia. This means that we can share your ideas with other ZOOMers on TV, the Web, in print materials, and in other media. So, send it to ZOOM. Thanks!

Illustrations: Stephen Schudlich
Photos by Mark Ostow

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Windmill

Kit B. of Santa Rosa, CA, challenged ZOOM to build a windmill using only index cards, tape, string, a pencil, pushpins, and a cup. The ZOOM cast had to make the windmill lift quarters from the floor to the top of a table using a fan or hair dryer to create the wind. Pablo, Alisa, and Keiko figured out how to do it—can you?

If you have a ZOOMsci challenge that will blow our minds, send it to ZOOM, Box 350, Boston, MA 02134, or www.pbs.org/zoom.



"Don't forget that your windmill has to turn. Think about how to attach it to the table so the blades can turn."—Alisa

"This was a tough challenge. It really helped to fold the windmill blades at the sides so that they could catch the wind more easily."—Pablo

sci™

ZOOM Needs You



Lights, camera, action!
Make your own 2-minute video and send it to ZOOM.



What's the coolest game you and your friends ever made up? Tell us how to play it!



Be the next Bill Shakespeare. Send ZOOM your short original plays.

Send your ideas to ZOOM, Box 350, Boston, MA 02134, or www.pbs.org/zoom.