



## A-maze-ing Design

Build a cardboard ping-pong maze.

Creativity Skills Developed					
 Imagination & Originality	 Flexibility	 Decision Making	 Collaboration		
Topic	Age	Participants	Complexity	Duration	Cost & Resources
<ul style="list-style-type: none"> <li>Making, Building &amp; Tinkering</li> <li>Sports &amp; Games</li> </ul>	<ul style="list-style-type: none"> <li>6-9 yrs.</li> <li>10-14 yrs.</li> <li>14+ yrs.</li> <li>Can be adapted for fun at all ages</li> </ul>	<ul style="list-style-type: none"> <li>Individuals</li> <li>Small groups (2-4 participants)</li> </ul>	<p><b>Moderate</b> <i>Guidance needed from an expert peer or adult</i></p>	<ul style="list-style-type: none"> <li><b>Extended</b> (15 min. - 2 hrs.)</li> <li><b>Multi-day</b></li> </ul>	<p><b>Medium</b> <i>Need to collect some everyday household objects or easy to find purchase of \$10 or less</i></p>

### Get Ready...

Design a tabletop maze using materials from your household recycling bin. The maze will be grounds for a ping-pong ball race. The movement of the ping-pong balls will be powered by air blown through straws!

### Get Set...

Gather these materials:

- Drinking straws (enough for each participant to have one)
- 2 ping-pong balls
- Large base for your maze to be built on (a large flat piece of cardboard or foam core are good choices)
- Materials to repurpose such as coffee cup sleeves, cardboard, cereal boxes or paper tubes
- Paper-backed tape such as masking tape, artist's tape or painter's tape
- Scissors or an X-Acto knife
- Aluminum foil and pipe cleaners (optional)



## Go!

1. It's time to start planning your maze. Will you sketch it out in advance or dive right in and start adding materials to your base? That's up to you and your design team.
  - Make sure to choose a start and a finish. The start and finish must be on the base of your maze.
  - Use as many different materials as you can to create as many twists, turns and obstacles as you can in your ping-pong ball maze.
  - Be sure to make your paths wide enough for a ping-pong ball to travel through!
  - There's no height limit for the paths in your maze.
2. Test the maze! Push your ball along by blowing air through a straw to make the ball move.
3. Blow your ball from start to finish.

## We're Finished! What Now?

- Time yourself or a friend as you race against the clock to move your ball from start to finish.
- Have one participant begin at the start and the other begin at the finish line. Choose a mutually agreed upon mid-point and race to be the first to reach that point. Careful not to crack a smile! Blowing through a straw is nearly impossible when smiling or laughing.
- Make changes and improvements to your maze.
- Take your maze apart and build another one!

## Links to Creativity Research

Designing your own game is a good way to use beginner's mind (Richards, 2007) by taking used materials and looking at them with new eyes to create something original. Putting the game together takes a lot of creative problem solving to make it work—and that's before you even get to play it! Playing with these cool materials shows that they can do a lot more than just what they were made for. Working your way through a maze requires decisions too. If you don't make it through the first time, you'll need to know what the problem is and how to solve it (for a summary of problem-finding and -solving, see Runco, 1994).

Richards, R. (2007). Everyday creativity: Our hidden potential. In R. Richards (Ed.), *Everyday creativity and new views of human nature* (pp. 25-54). Washington, DC: American Psychological Association.

Runco, M. A. (Ed.). (1994). *Problem finding, problem solving, and creativity*. Norwood, NJ: Greenwood Publishing Group.

### Source

This activity was contributed by the Center for Childhood Creativity at the Bay Area Discovery Museum. For more information and resources see [www.centerforchildhoodcreativity.org](http://www.centerforchildhoodcreativity.org).

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