



Pizza Box Motion Maze



Adults: You are the **navigators** of today's exploration, and you will be asking questions of your student to observe, predict, and explain their thinking.

Kids: You will be the **investigators**. Your job is to observe, make predictions, and explain your thinking!

Challenge: Build a maze for a ping pong ball that incorporates multiple forms of motion between the start and finish.

Navigator (Adult) ask your **Investigator (Kid):**

- How many ways can you get an object to move?
- Can you use your finger to draw these motions in the air?

What's the SCIENCE?

- 🍃 **Motion:** a change in the position of an object
- 🍃 In order to start or stop motion, a force such as a **push** or **pull** must be applied to the object.
- 🍃 The way an object moves can vary depending on the **direction** and **strength** of the **force** causing the motion.

Now, try drawing these types of motion...

straight

zig zag

circle

spiral

Create a maze that can get a ball to move in as many different ways as possible between the start and finish!

- Draw your maze **design** right on your pizza box. Be sure to label your "*start*" and "*finish*".
- Next, **build** your maze using the cardboard strips and masking tape. **Note:** *Make sure your paths are wide enough for your ball to travel through!*
- Then, **test** your pizza box maze by tilting the box to move the ping pong ball from start to finish. Take turns describing to each other how the ball is traveling through the maze.

Talking Tip

Encourage your **Investigator** to talk out loud and describe what they are doing and why.

This will often prompt children to say more about their ideas, so that you get to understand them better. When they do more talking, they do more learning.

Navigator ask your **Investigator:**

- Why does the ball move when you tilt the maze?
- How many different ways does your ball move in your maze?
- Which type of motion was the most challenging to put in your maze? Why?



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