

ACTIVITY!

WATCH SOUND TRAVEL

As he built musical instruments, Leonardo was still doing experiments. He didn't fully develop the idea of sound waves, but he had a basic understanding that sound traveled through air.

Leonardo performed experiments to learn about sound waves. He wrote that, "If you tap a board covered with dust, that dust will collect in diverse little hills."

► **Pour a small amount of your "dust" onto your board.** Tap the board from underneath.

► **Observe how the dust behaves.** Where does the dust settle? Is it close to where you are tapping? What shape do the little hills of dust form? How does the dust move as you tap?

► **Leonardo wrote that, "The hills will always pour down that dust from the tips of their pyramids to their base...[and] re-enter the underneath [rise up] through the center, and fall back again."** Do you find that to be true in your experiment?

INVENTOR KIT

- box or flat board that is easy to hold from underneath
- rice, lentils, or flour (Leonardo used dust)

Sound wave art can be pretty amazing. **Take a look at some of the designs that result from passing sound waves through different materials.**



🔗 [sound wave video](#)



Think Like Leo!

How smooth is your board? If you use a board with a rough surface, does that change how the dust behaves? What concept does this show? (Hint: Look back at Chapter 2!)