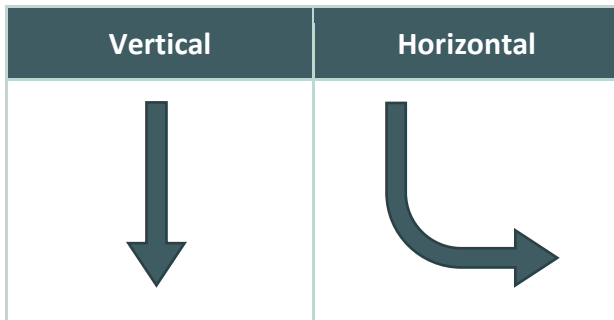


DRILLING FOR FILLING: PLAY-DOH

Objectives:

- Determine whether vertical or horizontal drilling is more effective.



- Use the straw to extract the most filling, trying each method.

Materials:

- 2 – Containers of Play-Doh (two different colors)
- 4 – Bendy Straws
- 2 – 3” x 2.5” Rectangles of Wax Paper
- 2 – Writing Utensils (two different colors)
- 2 – Paper Plates

Drilling Records

Use the table below to measure the amount of filling in the straw. There are two rows to record your results for vertical drilling, one row for each partner. Use the rows for horizontal drilling in the same manner. Use one color for each partner when completing the table.

											Total Number of Squares
Vertical											
Horizontal											

Adapted from: Stem Labs. Ohio Natural Energy Institute. (n.d.). <https://www.ohionaturalenergy.org/stem-labs>

Directions:

Keep your Play-Doh on your plate.

1. Divide each color of Play-Doh between you and your partner.
2. Place one color on the wax paper and roll it out into the shape and size of the wax paper.
3. Flip the rectangle over so that the wax paper side is facing up.
4. Use the second color of Play-Doh to create a 3-inch-long cylinder. It will be about 1-inch thick. This is your core.
5. Place the cylinder on the wax paper. Roll the Play-Doh rectangle and the wax paper around the core. You will be creating a Play-Doh “burrito.”
6. Place your Play-Doh burrito seam-side down on the plate.
7. Use the non-bendy end of your straw to “drill” a vertical hole in the Play-Doh burrito. As you are drilling, slowly rotate the straw and apply slight pressure. Drill until the straw hits the plate.
8. While still turning, slowly pull the straw straight out of the Play-Doh.
9. Lay the straw down on the Drilling Records table. Color the corresponding squares representing how much Play-Doh you extracted for this vertical drill.
10. Using the bendy end of a new straw, start drilling straight down, but use the bend in the straw to make the end of the straw horizontal. Do not turn the straw as you drill.
11. Slowly remove the straw.
12. Lay the straw down on the Drilling Records table. Color the corresponding squares representing how much Play-Doh you extracted for this horizontal drill.

Clean up your workspace.

13. Dispose of the straws and the Play-Doh inside the straws.
14. Separate the Play-Doh layers and put the two colors into their two separate containers.
15. Dispose of the wax paper.