



Curiosity Guide #410

Matter

Accompanies Curious Crew, Season 4, Episode 10 (#410)

Enormous Notecard

Investigation #4

Description

Can you make a solid grow bigger? Amaze your friend with this trick!

Materials

3 by 5 or 4 by 6-inch notecard

Scissors

A friend

Procedure

1. Ask a friend to describe the properties of the notecard. Talk about color, texture, size, and shape.
2. Fold the card in half lengthwise.
3. Cut through one end of the folded edge about one-fourth inch from the edge of the card, and continue to cut across the card. Stop one-fourth inch from the opposite edge.
4. Keeping the card folded, flip the card over and begin another cut parallel to the first but starting on the open edge of the fold. Again, leave one-fourth inch between each cut and stop one-fourth inch before the edge of the paper.
5. Continue to flip the card, adding additional cuts. Alternate between cutting on the folded edge and the open edge, each one-fourth inch apart and one-fourth inch from the opposite edge.
6. The final cut should be made from the folded edge.

7. Carefully stretch the card open to make a large chain. Is the chain large enough to fit around your friend's head?
8. How would you describe the card's properties now?

My Results

Explanation

All matter has physical properties that can be described from our five senses. The card starts as a solid, so the card will keep its shape unless another force acts on it. In this case, cutting the card creates a physical change that we can see in its new size and shape. Think about this: Stone milk, which you can make in Investigation 3, is a solid, so it will keep its shape unless another force acts on it. Imagine if I were to cut the Stone Milk in half and kept cutting it smaller and smaller. Each piece would still be Stone Milk, but the particles would eventually be too small for me to even see. Particles in a solid have much stronger forces attracting them than do the particles in a liquid or gas. In fact, solid particles are often arranged in crystal structures that have such strong bonds that the particles can wiggle, but they remain together, and that's why solids keep their shape.

Parents and Educators: use #CuriousCrew #CuriosityGuide to share what your Curious Crew learned!



Curious Crew is a production of Michigan State University.

Learn more at WKAR.org.

© MSU Board of Trustees. All rights reserved.