# inside + x = ÷ mathematics

# Inside Problem Solving

#### Part and Whole

### PreK

Materials: The enlarged paper with cookies of all different shapes, scissors, pencils, and rulers.

**Discussion on the rug**: The teacher holds up the heart that was cut from the shapes. **"We want to share this cookie between two friends. How can we make one cut so each friend gets the same sized piece?"** Students think about how to share the cookie. After soliciting some ideas from students (folding, drawing different lines, measuring, etc.), the teacher asks, **"How will we know for sure?"** 

In small groups: Students have enlarged cookie paper, rulers, pencils, tissue paper, and scissors available. The teacher says, "Here are different shaped cookies. You want to share each cookie, so you need to cut each one in half so the pieces are the same. Where should you cut it to make sure each one of you has the same size cookie? Draw a line to show where to cut." Students draw a line to show where to make the cut. After the students are done, the teacher asks how we can show that both friends get the same amount. The class may actually cut out some of the shapes and cut them to show whether or not they are cut in half.

At the end of the investigation: Students either discuss or dictate a response to this summary question. "Explain how you know that both friends have the same amount after you cut the cookie." - Inside Problem Solving: Part and Whole -

Inside Problem Solving: Part and Whole | © 2021 The Charles A. Dana Center at The University of Texas at Austin | This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 3.0 Unported License ((CC BY-NC-ND 3.0): https://creativecommons.org/licenses/by-nc-nd/3.0/deed.en\_US

### inside + x = ÷ mathematics

### Inside Problem Solving

## Part and Whole

#### **Manipulatives**



Inside Problem Solving: Part and Whole | © 2021 The Charles A. Dana Center at The University of Texas at Austin | This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 3.0 Unported License ((CC BY-NC-ND 3.0): https://creativecommons.org/licenses/by-nc-nd/3.0/deed.en\_US

- Inside Problem Solving: Part and Whole -

Inside Problem Solving: Part and Whole | © 2021 The Charles A. Dana Center at The University of Texas at Austin | This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 3.0 Unported License ((CC BY-NC-ND 3.0): https://creativecommons.org/licenses/by-nc-nd/3.0/deed.en\_US