

Project 5

The Brick Street Irregulars

Objective: Child will be able to find the area of an irregular shape.

Essential Question(s): What strategies can we use to find the area of an irregular shape?

Special Materials: Paper and pencil for recording data

Bricks Required: 16x16 plates, 2x2 bricks, 2xN plates, 2x2 clear blue tiles

Project Structure:

Engage/Explore:

1. Show child a SOHO brick of your choosing and ask them to find the area of the brick using the SOHO studs as units.
 - a. Provide time for child to solve the problem and facilitate their critical thinking.
 - b. Pending their familiarity with area, you may have to do additional scaffolding.
2. Solve the problem as a team, exploring ways of determining the area by adding and multiplying the studs. Review the idea that multiplication is just a faster way of adding.
3. Ask child to design a 2-dimensional image of their choosing.
 - a. Use no more than 3 colors of bricks.
 - b. Bricks may not overlap.
4. Ask child, "how might we find the area of the entire 2-dimensional image?"
 - a. Provide child time to brainstorm their approach to solving the challenge.
 - b. Have child map out their strategies, for example:
 - i. Counting each dimple independently.
 - ii. Calculating the area of each color/type brick and multiplying by amount of bricks.

Explain

1. Have child execute their chosen strategy to determine the area of their image.
2. Child should keep track of their data in a table.
3. When they are finished, have the child reflect on their process for determining the area.
 - a. What techniques did they use to determine the area?
 - b. Was their method the simplest and most efficient way to determine area, or did they modify their strategy as they went?

Elaborate

1. Ask child to repeat the process using a different method than the first time.
2. For an added challenge, ask child to determine the areas using metric units.

