Big Idea – Building Size Reflects Priorities

Surface area measures the **total area of all sides of a 3D shape.** In housing, it can represent **the living space inside apartments or homes.** Families in lower-income neighborhoods often live in **smaller, more crowded spaces**, while families in higher-income areas have **larger, more comfortable living spaces.** Math helps us visualize and compare these differences so we can better understand and discuss **housing fairness, equity, and access to dignified living conditions.**

Math + Equity Example

Apartment A: 20 ft × 30 ft × 10 ft (height)

- Walls: 2(20 × 10) + 2(30 × 10) = 400 + 600 = **1,000 sq. ft**

- Ceiling & Floor: 2(20 × 30) = **1,200 sq. ft**

- **Total Surface Area = 2,200 sq. ft**

Apartment B: 15 ft × 20 ft × 10 ft (height)

- Walls: 2(15 × 10) + 2(20 × 10) = 300 + 400 = **700 sq. ft**

- Ceiling & Floor: 2(15 × 20) = **600 sq. ft**

- **Total Surface Area = 1,300 sq. ft**

Apartment A has **nearly 70% more living space** than Apartment B.
This difference highlights how **income zones and housing design** can affect the amount of personal space families have—impacting health, privacy, and quality of life.

Data Reflection

Circle or underline the word that stands out to you:
equity | space | fairness | opportunity | housing

Share Your Thinking

The word I picked is: _____

I picked this word because:

_____

_____

_____

Reflection:

How does this word connect to what we are learning about housing fairness today?

_____

_____

_____

_____

Student Equity Reflections

1. What does this math example show about how apartment size and income can be related?

_____

_____

2. Which apartment has more surface area? By how many square feet?

_____

_____

3. Why is it important for all families to have fair and dignified living space?

_____

_____

4. What could communities or leaders do to create more equitable housing options?

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