

# Our Answers to Cubies

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# Introduction

Hi, this is Maxwell, Willa, Nina and Ila Rae and we're from Los Angeles, California, and this our solution the Cubies problem.

## Question no.1

How many flats are there on each floor of the building?

We noticed that some of the information from the scientists was useful like: "Floors E and F of the block have the same number of flats,"and some were not useful. After that we gathered the information and made a chart.

$$F=2$$

$$E=2$$

$$D=6$$

$$C=6$$

$$B=6$$

$$A=10$$

## Question no.2

# How many of each family?

The first thing we did to answer the question was read through all the observations that the scientists made and sort out what was useful like, “there are 9 families of 3 cubies,” or what we didn’t need like “The bins are emptied on a wednesday .” After we had gathered all are information we made several charts and we concluded with this chart.

6-1 family

5-6 families

4-12 families

3-9 families

2-4 families

## Question no.3

# Which size families on which floors?

To figure out the answer to this question, we drew a diagram of the building. We already knew how many families of some number there were, and statements like “Only two of the families of five don’t live on the lowest floor” told us how to make this diagram.

A hand-drawn diagram of a building floor plan on crumpled paper. The diagram shows a grid of rooms with family sizes written in each. The floors are labeled A, B, C, D, E, and F. Floor A is the bottom-most and widest, with 8 rooms. Floors B, C, and D are narrower, with 6 rooms each. Floor E is narrower still, with 2 rooms. Floor F is the top-most and narrowest, with 2 rooms. The family sizes are: Floor A: 5, 5, 5, 5, 4, 4, 4, 4; Floor B: 3, 3, 3, 4, 4, 4; Floor C: 2, 2, 2, 2, 4, 4; Floor D: 3, 3, 3, 3, 4, 5; Floor E: 6, 5; Floor F: 3, 3.

F	3	3							
E	6	5							
D	3	3	3	3	4	5			
C	2	2	2	2	4	4			
B	3	3	3	4	4	4			
A	5	5	5	5	4	4	4	4	4

## Question no.4

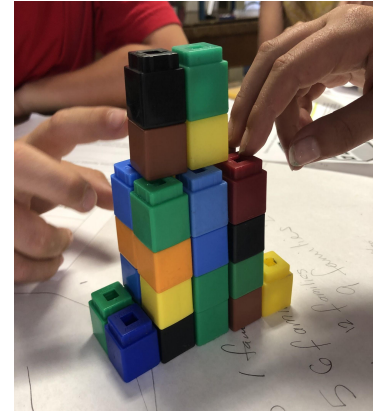
Question: what does the building look like?

- First we used pencil and paper to draw it out and then we noticed that we had to see it in 3D to really understand it.

- Next we tried unifix cubes. At first we thought we were doing it right but then we saw the information that said that all the flats were exactly on top of each other so we tried again with that information in our heads and this is what we got.

- You have to imagine the staircase wrapping around the building. Can you see it?

Before



After

