

Polly Gone

PreK

Materials:

- 20 multilink cubes per pair,
- a sheet of 1-inch grid paper to measure and record.

Discussion on the rug:

The teacher asks the class, **“Where do the animals in the zoo live?”** The teacher invites students to tell the whole class about cages or pens at the zoo. The teacher says, **“Suppose we want to make a cage or pen where an animal can live. We want to make our pen out of these cubes.”** The teacher shows the multi-link cubes to the class. **“We want to make the pen as big as possible so the animal can roam around, but we have only 20 cubes we can use. What shape can we make?”** The teacher asks the class. Students share their ideas. Then the teacher shows two different pens—one with interior dimensions 1 by 7 and a second with interior dimensions 3 by 5—to illustrate what is meant by different. The teacher says, **“I would like you to go back to your desk and work with your partner and make all the different possible shapes using 20 cubes.”**

In pairs: Students have cubes and grid paper available.

Teacher says, **“Look at all the animal-pen shapes you made. Which shape has the most room for the animal?”** Students work together to find a solution. After the students are done, the teacher asks students to share their answers and how they know.

At the end of the investigation: Students either discuss or dictate a response to this summary question: **“Show all the shapes you can make with 20 cubes. Explain which shape has the most room for the animal. How do you know?”**

