

Enough Stuff

Grade 4

Activity #420

Relevant Chapters in the *Digi-Block Comprehensive Teacher's Guide*:
Book III, 3-5: Multiplying by One-Digit Numbers

Overview

Students model multiplication story problems with blocks. They predict if there are enough blocks for the given situation. They check their predictions by packing the blocks and/or using paper-and-pencil techniques.

Objectives

Thinking Skills: Students use their understanding of multiples of ten to predict products.

Mastery Skills: Students learn to represent and solve multiplication story problems with blocks.

Materials

Each group of 2-4 students needs:

- Approximately 40 blocks-of-10 and 40 single blocks
- Small and medium holders
- 1 activity sheet
- 1 place value mat with digit cards

Class Introduction

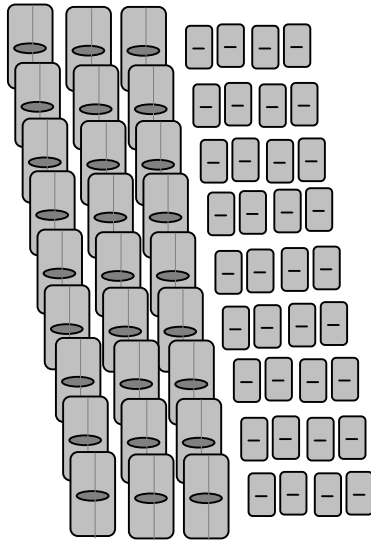
(10-15 minutes)

Pass out materials to each group. Read the following aloud:

- The school's community room is set up with 9 rows of chairs.
- Each row has 34 chairs in it.

Have each group use blocks to model the story. Students may:

- Create an array using all single blocks on their desks. If so, encourage them to try using packed blocks.
- Make 9 groups (rows) using blocks-of-10 and single blocks (9 x 34):



Ask:

- Are there enough chairs for all 300 parents to have a seat?

Before counting or packing to find the total number of blocks (chairs), have students consider the question by predicting if there are enough blocks (chairs). Use these questions to facilitate a discussion:

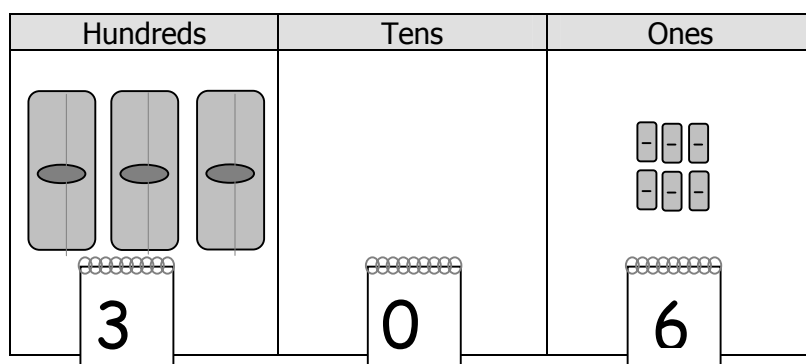
- What information do you have about this story problem?

- How does knowing that you will have at least 9 groups of 3 blocks-of-10 help you?
- Will you have more than 27 blocks-of-10? Why or why not?
- Do you think that your total blocks, when packed as much as possible, will be more or less than 30 blocks-of-10?

Give students the option to find the total number of chairs by packing the blocks as much as possible and/or by using paper-and-pencil techniques. Discuss different strategies and solutions:

- How did you find the total number of chairs (blocks)?
- How does your prediction compare with what you found out with the blocks or your paper-and-pencil answer?

End by having every group pack the blocks as much as possible to show the total number of blocks (chairs):



Small Group Activity

(20-25 minutes)

Pass out the activity sheets. Have students work in groups of 2-4. They will:

- Model stories with blocks.
- Predict if there are enough blocks for the given situations.
- Find the totals (products).
- Compare the products to their predictions.

Closure

(10-15 minutes)

Discuss each story as a class. Have student groups describe their prediction strategies as well as their solutions.

Pose a new story problem to model and discuss:

157 parents will attend the school talent show. In order to know that every parent has a seat, how many rows would you set up and how many chairs would you put each row?

Discuss different possible arrangements. One possible arrangement is 16 rows of 10.

Assessment

- Do students provide an accurate model of the story problem with the blocks?
- Do students get an accurate YES or NO answer when predicting?
- Do students explain their technique for predicting the answer?
- Do students find the actual product and connect the product to the answer to the question?
- Do the students use the blocks to solve the problems or do they use the paper-pencil techniques?

Extension

- Have students write their own story problems and a question to accompany the problem.
- Give students a number such as 423 and ask them to give a story problem that would result in an answer less than 423 (or more than 423).