

Pack, Pack, Pack

Grade 4

Lesson 404

Topic Overview

Students pack blocks as much as possible, sort the blocks by size, and put them on the Place mat. They identify the digit that represents the number of blocks in each place.

Objectives

Thinking Skills: Students develop strategies to determine when regrouping is necessary and then articulate a rule.

Mastery Skills: Students will pack a collection of single blocks until they cannot do any more packing and will identify the digits that represent the collection of blocks.

Materials

- Jars and/or boxes of different sizes. Label each container with different letters of the alphabet and fill each with between 100 and 500 single blocks.

Each group of four students needs:

- 1 jar or box filled with single blocks
- 20 - 100 small holders
- 2 - 10 medium holders
- 1 Place mat

- 3 sets of Digit Flip Cards
- One "Pack, Pack, Pack" activity sheet

Class Demonstration

(8 - 10 minutes)

Provide each group of students with all materials listed above. Present the situation:

- Students take blocks out of the container. They pack the blocks into holders until they have emptied the container and cannot do any more packing.
- When they have done all the packing they can, they sort the blocks by size and put them in the appropriate column on the Place mat. They use the flip cards to set the digits for each place.
- They make a record of what they have done by writing the container letter on their activity sheet and drawing a picture of the blocks, putting each size of block in the appropriate column. They also write the appropriate digit in each column of the activity sheet.
- When they are finished, they unpack all of the blocks and put all of the single blocks back into the container so that it is ready for the next group.

Student Activity

(10 - 20 minutes)

Provide each group of students with all materials listed above. Each time a group does the activity they should use a different container.

For each container, have each group of students:

- Pack blocks until they cannot do any more packing.
- Sort the blocks by size and put them in the appropriate columns on the Place mat.
- Use the flip cards to set the digits for each place.
- Record what they have done for that container on the activity sheet.
- Unpack the blocks and put all the single blocks back into the container.

Closure

(5 - 10 minutes)

Ask students to explain when they need to pack and when they have "packed as much as possible." Students should recognize the following:

- When there are more than 9 blocks of any one size, they can be packed some more.
- It is okay to have some blocks left unpacked, as long as there are less than 9 of any particular size.

As a class, compare the numbers that each group of students got for each container. If there are differences in the numbers for a container, ask the class why that might be. Students may decide they would like to go back to the containers where there were discrepancies and redo the activity.

Assessment

As the class works, walk around the room observing student behavior.

- Are the students working collaboratively?
- Are they following the directions correctly?

Observe students as they pack the blocks and set the digits.

- Are they able to pack the blocks correctly?
- Do students move a completely packed block to the next column of the place value counter or mat?
- Do students know when they are done packing the blocks that were in the container and cannot do any more packing?
- Do students correctly set the digits for each column with the flip cards? Observe students as they record what they have done on the activity sheet.
- Do students draw pictures of the correct number of blocks in each column?
- Do students correctly write the appropriate digit in each column of the activity sheet?

Extension

- Have students find other containers to fill with single blocks. For example, they might want to try filling shoes, hats, or even a backpack. Once they have a new container that is filled with single blocks, have them repeat all of the steps for this activity. Students can compare which containers hold the most, least, and the same number of single blocks. This activity can also be connected and related to measuring volume.