

# 17. Cover the Cactus


## • ESTIMATE AND COUNT THE BLOCKS NEEDED TO FILL A SHAPE

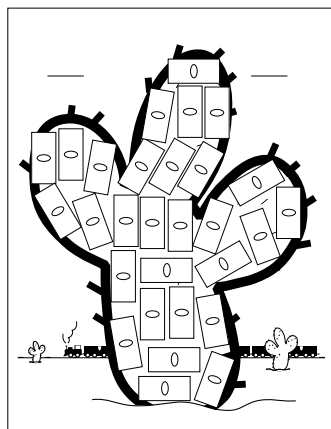
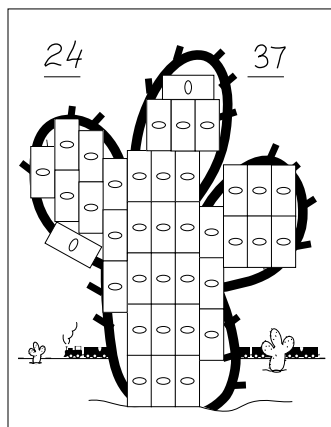
### STUDENT NEEDS:

50 single blocks

5 small holders

worksheet

 20 minutes



Worksheet examples:  
It takes approximately  
25 – 40 blocks to cover  
the cactus. Students'  
answers will vary.

### GROUP ACTIVITY:

1. Review the vocabulary word “estimate.” (Make an intelligent guess; think of how many.)
2. Distribute worksheets.
3. Review filling a space. (Blocks must lay flat and not overlap, leaving as little white space as possible. Blocks can be arranged grid-like or scattered within the shape.)
4. Ask students, “Do you think that everyone will have the same number of blocks on their cactus?” (No.) “There are many different correct ways to fill the cactus with blocks.”

### INDEPENDENT WORK:

1. Students estimate how many blocks will fill the cactus and write the number on the top left of their worksheet.
2. Students fill the cactus with as many blocks as possible.
3. Students load their blocks into holders to make a train.
4. Students count the number of blocks on their train and write that number on the top right of their worksheet.

### OPTIONAL EXTENSION:

1. Students make a separate train with the number of blocks they estimated would fill the cactus.
2. Students compare the two trains side by side and explain if they think their estimate was close. “Did you guess too high, too low, or exactly?”

### *Assessment:*

---

#### DOES THE STUDENT:

- make a reasonable estimate for the number of blocks needed
- lay blocks on worksheet to reasonably fill the shape
- count the number of blocks in their train accurately
- write the correct number of blocks

### *Differentiation:*

---

#### REINFORCEMENT:

- Before beginning the lesson, lay 10 blocks flat on a table placed close together to show what 10 blocks looks like. Repeat with 20, 30, 40, and 50 blocks to give students a reference point.
- Review the rules for making a good train.
- Review counting trains by tens.

#### EXTENSION:

- “What is the difference between your estimate and the actual amount?” “How close was your estimate?” Suggest that students compare two trains to calculate the difference between their estimate and their actual number.
- “How many blocks do you estimate would cover the whole worksheet?”
- “How many needles are drawn on the cactus?” (17) Ask students to count the needles simply by pointing to them (without placing one block on top of each needle, as was done in previous lessons).

Name: \_\_\_\_\_

\_\_\_\_\_ Estimate

\_\_\_\_\_ Count

