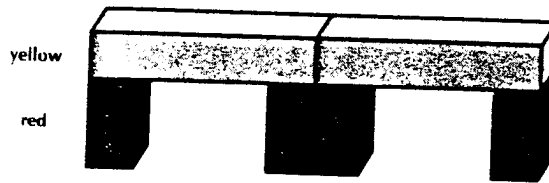


Name _____ Date _____

Part 1

All of the bridges in Part 1 are built with yellow rods for spans and red rods for supports, like the one shown here. This is a 2-span bridge like the one you just built. Note that the yellow rods are 5 cm long.



1. Now, build a 3-span bridge.
 - a. How many yellow rods did you use? _____
 - b. How long is your bridge? _____
 - c. How many red rods did you use? _____
 - d. How many rods did you use altogether? _____

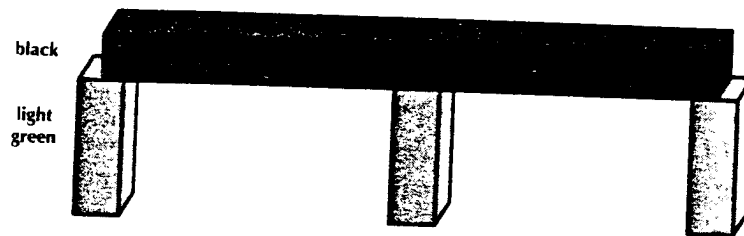
2. Try to answer these questions without building a 5-span bridge. If you want, build a 5-span bridge to check your answers.
 - a. How many yellow rods would you need for a 5-span bridge? _____
 - b. How long would your bridge be? _____
 - c. How many red rods would you need? _____
 - d. How many rods would you need altogether? _____

3. Without building a 12-span bridge, answer the following questions.
 - a. How many yellow rods would you need for a 12-span bridge? _____
 - b. How long would your bridge be? _____
 - c. How many red rods would you need? _____
 - d. How many rods would you need altogether? _____
4. How many yellow rods and red rods would you need to build a 28-span bridge? _____ yellow rods and _____ red rods. Explain your answer.
5. Write a rule for figuring out the total number of rods you would need to build a bridge if you knew how many spans the bridge had.
6. How many yellow rods and red rods would you need to build a bridge that is 185 cm long? _____ yellow rods and _____ red rods. Explain your answer.

Name _____ Date _____

Part 2

The bridges for this part are built like this 2-span bridge:



The black rods are 7 cm long, and the light green rods are 3 cm long. Notice that the supports are shared between spans, except at the ends.

1. Build a 3-span bridge of this same kind, with black and light green.
 - a. How many black rods did you use? _____
 - b. How long is your bridge? _____
 - c. How many light green rods did you use? _____
 - d. How many rods did you use altogether? _____

2. Try to answer these questions without building a 5-span bridge. If you want to, build a 5-span bridge to check your answers.
 - a. How many black rods would you need for a 5-span bridge? _____
 - b. How long would your bridge be? _____
 - c. How many light green rods would you need? _____
 - d. How many rods would you need altogether? _____

3. Without building a 13-span bridge, answer the following questions.
- How many black rods would you need for a 13-span bridge? _____
 - How long would your bridge be? _____
 - How many light green rods would you need? _____
 - How many rods would you need altogether? _____
4. How many black rods and light green rods would you need to build a 56-span bridge? _____ black rods and _____ light green rods. Explain your answer.

5. Write a rule for figuring out how many rods you would need to build a bridge if you knew how many spans the bridge had.

6. How many black rods and light green rods would you need to build a bridge that is at least 429 cm long? _____ black rods and _____ light green rods. Explain your answer.

C

"BRIDGES" ASSESSMENT
Performance Task Exercise
Discussion Questions

1. What are the major objectives that the teacher would be trying to measure with this performance task?
2. Given that the task was designed for Grade 4, do you feel that it is appropriate for children of this age? Why or why not?
3. How do you feel about the use of manipulatives being embedded into an assessment task?
4. What do you see as the strengths of using this type of a performance task? What data were you able to gather as a teacher that would not have been available had you used a traditional testing format, on which students simply wrote "final answers" and had them scored "right" or "wrong?"
5. What do you see as the limitations of using this type of a performance task with your students?