Challenges

1. Create a problem situation similar to the mouse-cage problem that would be appropriate for your class.

2. Can you create a problem situation similar to the mouse-cage problem that would naturally allow fractions as answers?

3. Write some number sentences involving two variables that would be appropriate for your class. Describe how students might solve them.

4. Give the number sentences you wrote to your class, and then describe how students solved them. Did they solve them in ways that you expected?

5. Describe different ways that students might solve the following number sentences:
   a. $2 \times S + 5 \times S = 15 + 13$
   b. $16 = 4 - T + 3 \times T$
   c. $15 + P = 2 \times P - 3$
   d. $6 \times W + 43 = 10 + 9 \times W$
   e. $3 \times H = 20 - H$
   f. $25 + 3 \times K = 5 \times K - 7$

6. How do you think students might respond to the following number sentence?
   $P + 4 = P + 7$

7. Write some number sentences involving repeated variables that might be appropriate for your students. Pick several different students in your class, and describe how you think they would solve them.