Interpreting Children's Strategies, Part 2

For each pair of problem and strategy shown, do the following:
• Solve the problem using a picture.
• Interpret the child's strategy shown.
• Write a similar problem & solve it the way the student did.

1. The zookeeper has 4 cups of frog food. His frogs eats 1 third of a cup of food each day. How long can he feed his frogs before he runs out of food?

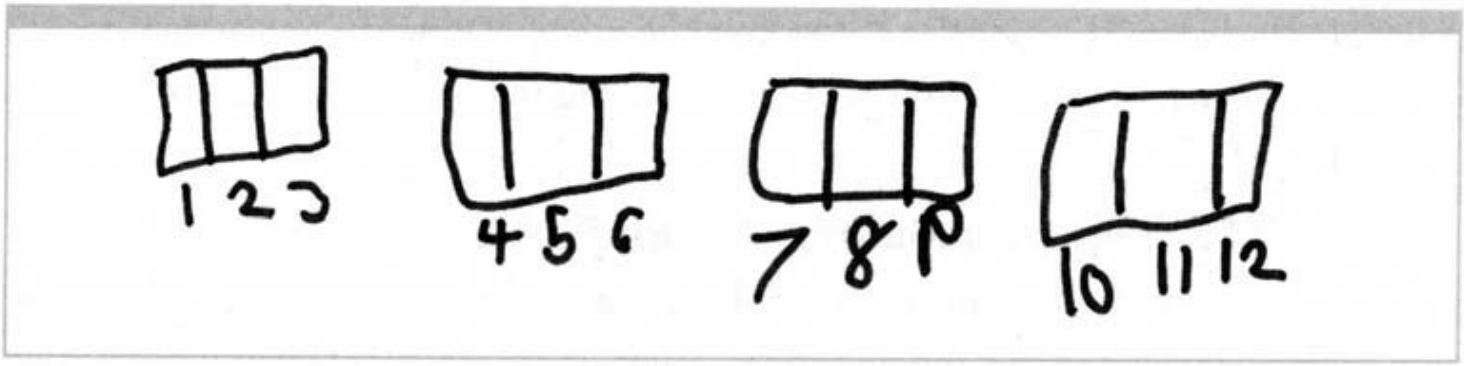

Figure 3–2. *Jack's strategy for the frog problem*

2. Nina has 10 and one-half yards of fabric to make pillows. If each pillow takes 3 eighths of a yard of material, how many pillows can Nina make?

a. Grace's strategy

Figure 3–4.
Grace's strategy for $10\frac{1}{2} \div \frac{3}{8}$

2. Nina has 10 and one-half yards of fabric to make pillows. If each pillow takes 3 eighths of a yard of material, how many pillows can Nina make?

b. Nishi's strategy

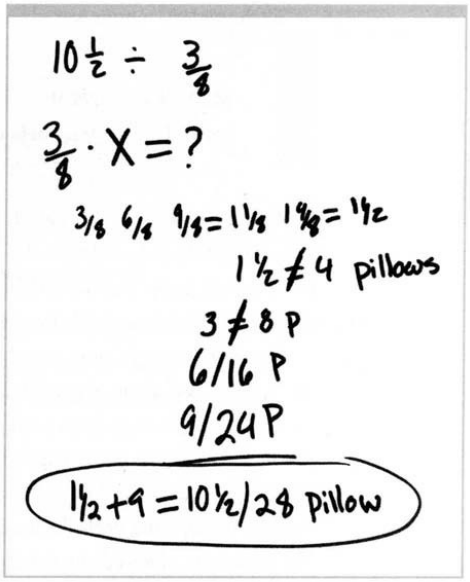

Figure 3–8. *Nishi's strategy*

3. Mr. T has 12 cups of frog food. His frogs eat 1 and one-half cups of food each day. How long can he feed the frogs before the food runs out?

Trenton's strategy:
He began by writing "12" and "1 and a half" and then said, "2 times 1 and a half is 3, because 2×1 is 2, and 2 times one half is 1, and then $2 + 1$ is 3. So the frogs eat 3 cups of food in 2 days. A lot of people know that 12 divided by 3 is 4. ... If each 3 cups of food would last 2 days, then 4 times as much food would last 8 days" (Empson & Levi, 2001, p. 60).