

LOG CABINS

In this lesson, children use Unifix Cubes to build physical models of fact families for 5, 6, and 7. They connect real objects to written equations and clarify their understanding by describing their work. Use in conjunction with work on fact families.

Classroom Organization

Five groups of six sharing materials
Working together

Materials

Each group of six children will need these materials:

- 120 Unifix[®] Cubes, 60 each of two colors
- 20 sheets of Unifix[®] Paper, page A.62
- 6 copies of Log Cabin Recording Sheet, page A.61
- 6 sheets of 12" x 18" construction paper
- Scissors, crayons, and paste



CONNECTIONS: GRADE 1

[Source: Connections-Linking Manipulatives to Mathematics-Grade 1, Creative Publications]

Introducing the Problem

Today you are going to use two colors of cubes to make some logs. Then you are going to use them to build some log cabins. For your first cabin, each log must be five cubes long, but it must also be different from any other log.

How many different five-cube logs can you make?

Exploring with Unifix® Cubes

1. Have the children work together with their two colors of cubes to make as many different five-cube logs as they can. You are trying to get them to make all the combinations of five ($0 + 5$, $1 + 4$, $2 + 3$, $3 + 2$, $4 + 1$, $5 + 0$).
2. After they have worked for a while, ask them to put their logs in some sort of order. Discuss the different ways they could order their logs.
3. Work together to decide upon the correct addition equation for each of the five-cube logs. Write the equations where the children can see them.
4. Repeat the activity in the same way by having the children make logs using two colors of cubes for all the combinations of 6, then for 7.

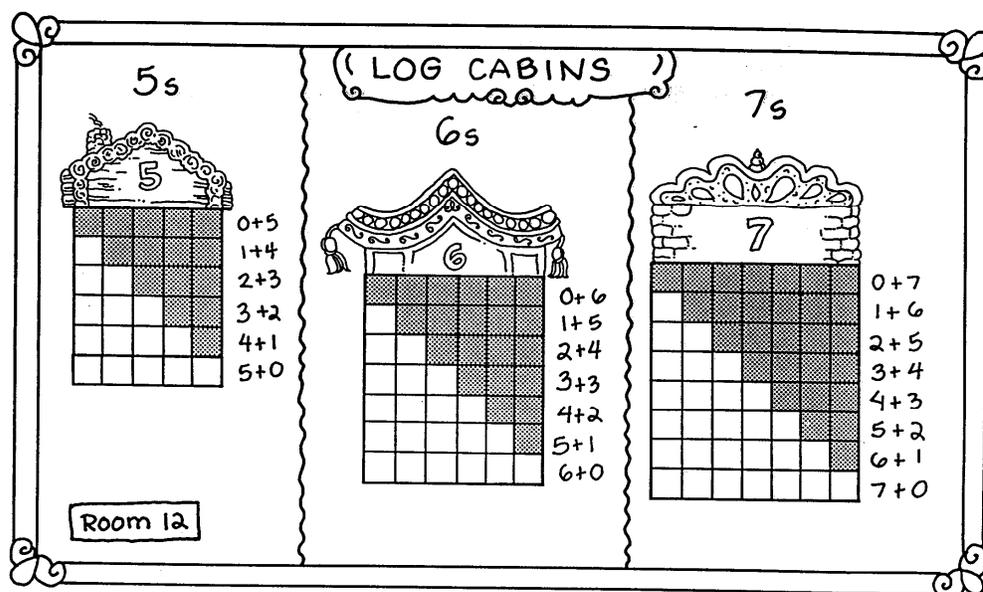
Recording the Connection

1. Have each child record the arrangements their group has made for Log Cabin 5, 6, and 7 by coloring on Unifix paper. Have them paste the appropriate roofs on their arrangements.
2. They should cut out the log cabins and paste them on large drawing paper for display. Finally, they should write the correct equations next to the logs.

[Source: Connections-Linking Manipulatives to Mathematics-Grade 1, Creative Publications]

Reporting and Displaying

Display the log cabins on a bulletin board. Have the children help decide what would be an interesting way to show their work. They may want to put them in housing developments with all the 5s together, all the 6s together, and all the 7s together. They could also classify them by color or they could put them in order by height. All ways will be interesting and will provide sources for discussion.



Solutions and Suggestions

Log Cabin 5

$$\begin{aligned}0+5 &= 5 \\1+4 &= 5 \\2+3 &= 5 \\3+2 &= 5 \\4+1 &= 5 \\5+0 &= 5\end{aligned}$$

Log Cabin 6

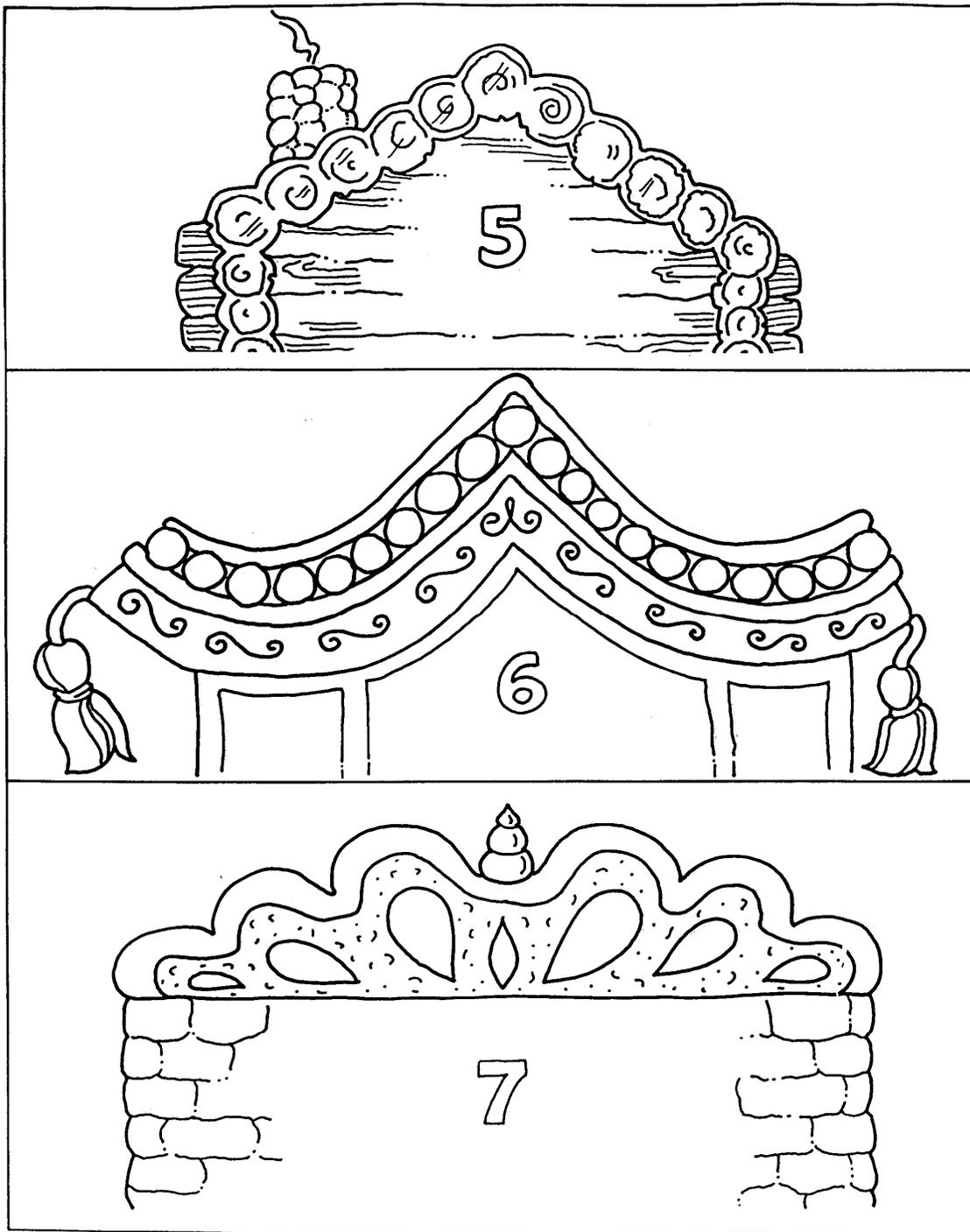
$$\begin{aligned}0+6 &= 6 \\1+5 &= 6 \\2+4 &= 6 \\3+3 &= 6 \\4+2 &= 6 \\5+1 &= 6 \\6+0 &= 6\end{aligned}$$

Log Cabin 7

$$\begin{aligned}0+7 &= 7 \\1+6 &= 7 \\2+5 &= 7 \\3+4 &= 7 \\4+3 &= 7 \\5+2 &= 7 \\6+1 &= 7 \\7+0 &= 7\end{aligned}$$

[Source: [Connections-Linking Manipulatives to Mathematics-Grade 1](#), Creative Publications]

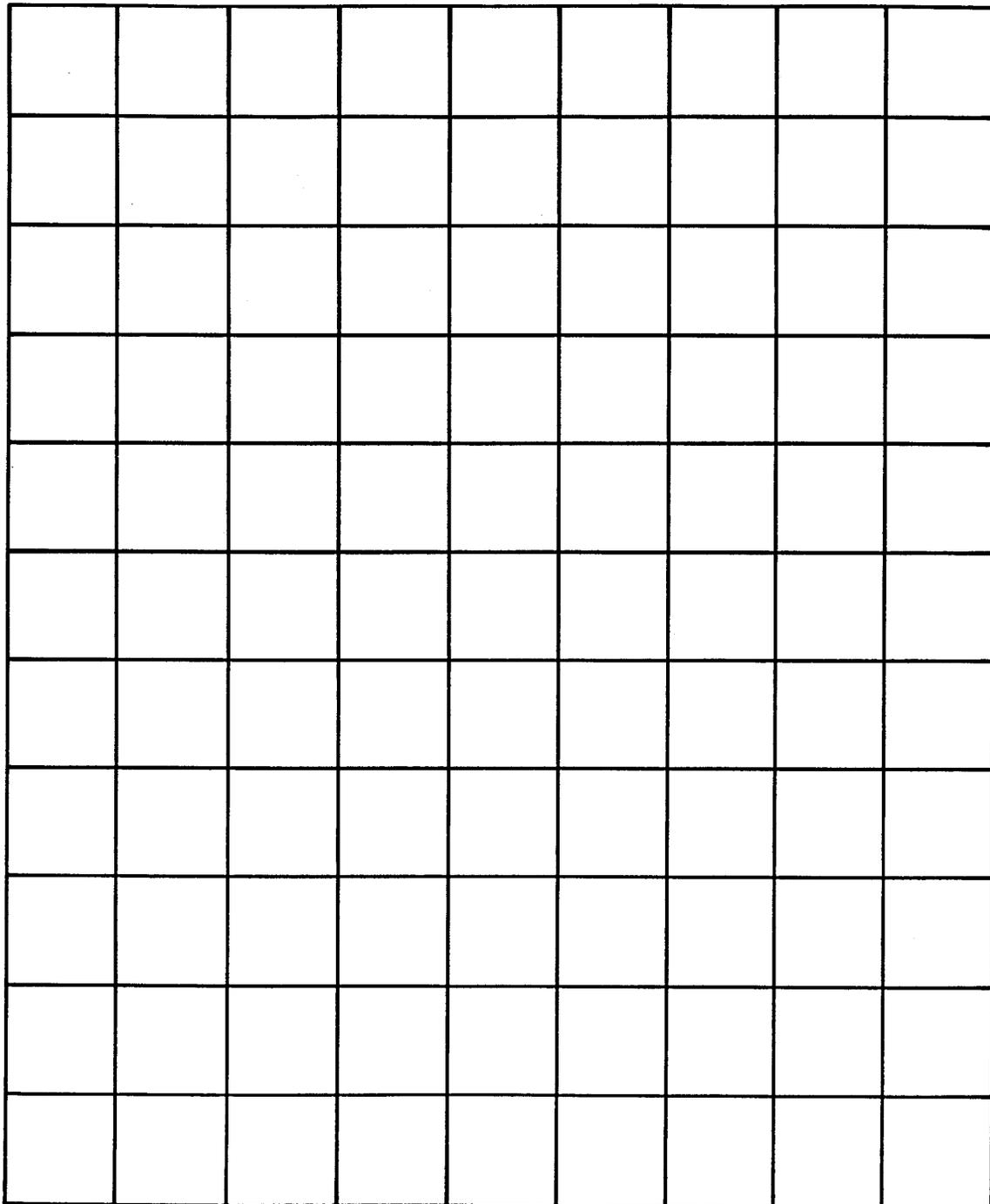
Log Cabins



[Source: [Connections-Linking Manipulatives to Mathematics-Grade 1](#), Creative Publications]

A.61

Unifix[®] Paper
See page A.58 for directions.



[Source: Connections-Linking Manipulatives to Mathematics-Grade 1, Creative Publications]