

CHOOSE A PLACE

NUMBER • LOGIC

- Addition
- Estimation
- Place value
- Game strategies

Getting Ready

What You'll Need

Base Ten Blocks, 1 set per pair

Put-in-Place Mats, 1 per child, page 90

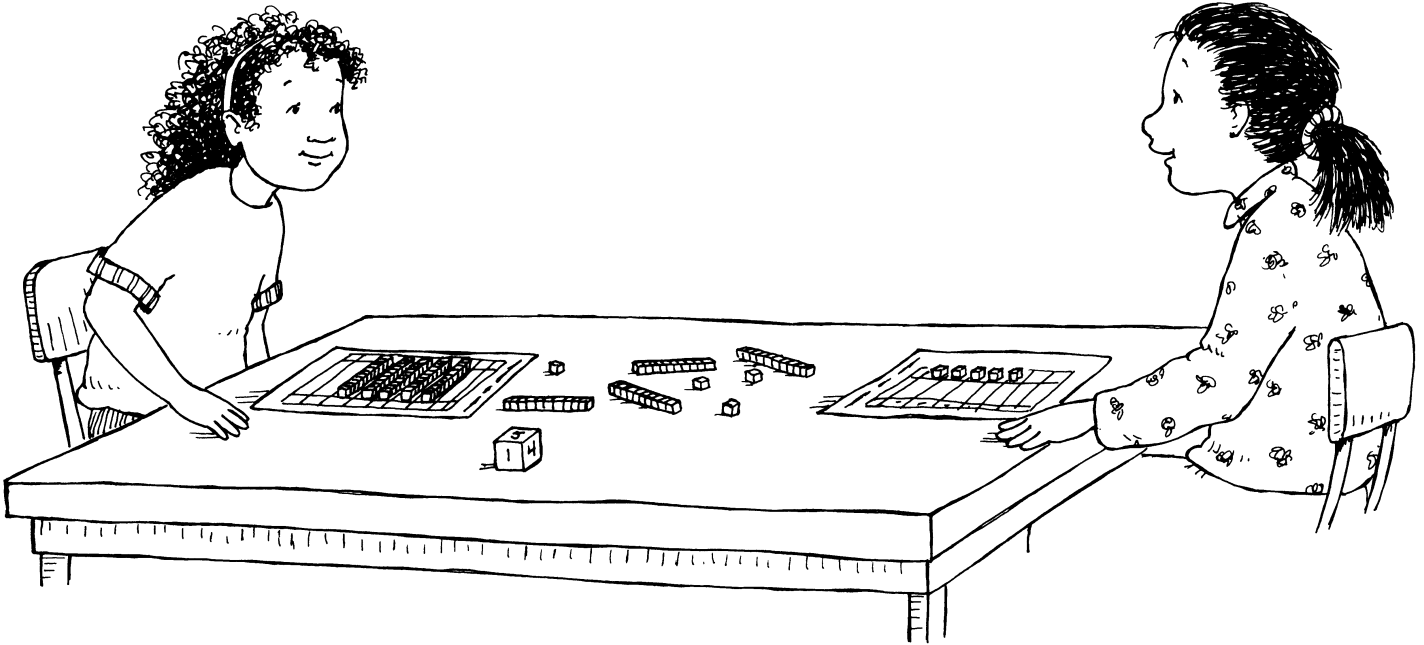
Number cube marked 1 to 6, 1 per group

Overhead Base Ten Blocks and/or Put-in-Place Mat transparency (optional)

Overview

In this game for two to four players, children represent each roll of a number cube with units or longs in an effort to collect Base Ten Blocks with a total value of 100. In this activity, children have the opportunity to:

- ◆ develop understanding of place value
- ◆ use addition
- ◆ develop strategic thinking skills



The Activity

Point out that once children have decided whether to put units or longs on their mats for a particular roll and have placed those blocks on their mat, they may not decide to make changes.

Introducing

- ◆ Display and then distribute the Put-in-Place Mats. Roll a number cube. Explain that the number you roll will tell children how many units or longs to place on their mats for a round.
- ◆ Model two sample rounds of *Choose a Place*.
- ◆ After children have placed their second number of units or longs on their mats, ask them to find the total value of their blocks.
- ◆ Lead children to talk about how they got their sums.

On Their Own

Play Choose a Place!

Here are the rules.

1. This is a game for 2 to 4 players. The object is to collect Base 10 Blocks with a total value closest to 100 without going over 100. Players decide who will be first.
2. To begin a round, a player rolls a number cube and says the number rolled.
3. Each player decides whether to place that number of units or that number of longs on a mat that looks like this.

PUT-IN-PLACE MAT

Round	LONGS	UNITS
1		

4. Players take turns rolling the number cube and putting either units or longs on their mats.
 5. After 5 rounds, players figure out their scores. They do this by finding the sum of the values of their blocks, trading if they need to.
 6. Players record their totals for the game. Whoever gets the total that is closest to 100 without going over is the winner.
- Play 5 games of *Choose a Place*.
 - Be ready to talk about good moves and bad moves.

The Bigger Picture

Thinking and Sharing

Invite children to talk about their games and describe some of the thinking they did.

Use prompts like these to promote class discussion:

- ◆ On each turn, how did you decide whether to put down units or longs?
- ◆ Were you ever sorry about the choice you made on a turn? Explain.
- ◆ How did you decide whose sum was closest to 100?
- ◆ Were there any scores that went over 100? Were any of these closer to 100 than the winning score? Explain.
- ◆ What did you find out from playing this game?

Writing

Have children record the numbers they rolled for one game and the value of the blocks they put down for each roll. Suggest that they examine this data and describe how, if they could have changed one move or another, they would have gotten closer to 100.

Extending the Activity

1. Have children play *Choose a Place* so that the winner is the one whose total is closest to 100 even if it goes over 100.

Teacher Talk

Where's the Mathematics?

Playing this game helps children develop their understanding of the structure of the base ten number system. Children become able to link their concrete work with blocks to the more abstract notion of place value and the algorithm for addition with regrouping. After playing individually several times, children might want to play as pairs—one member of each pair manipulating the blocks and the other member recording the five addends and finding the sum of their values.

When children begin to play *Choose a Place*, they are likely not to think about strategies as they place blocks on their mats. For each round they may merely take longs or units at random. Some children may begin to strategize by picking only longs for the first few rounds of a game (in hopes of quickly getting a sum of 80 or 90) and then picking only units for the last round or two. Other children may think that by picking only units throughout the game they will be protected from going beyond 100, unaware at first of how far from 100 that strategy will leave them after five rounds. Still other children become so focused on accumulating 10 longs that they forget about the units they have collected altogether. They may think that they've won the game only to realize that their unit blocks will take them beyond 100. For example, throughout the game shown at right, player B had been keeping an eye on her longs column only. She was pleased to have gotten a total of 10 longs; that is, until she realized that she had forgotten all about her units!

- Have children play the game using a 4–9 number cube. With this cube, children should try for a total of 200 without going over.
- Extend the Put-in-Place Mat by adding a “Flats” column to the left of the “Longs” column. Copy and distribute these three-places mats for children’s use in playing the game again. This time, have them first choose a target number between 700 and 1,000. For each roll of the number cube, children should decide whether to put down units, longs, or flats. Again, whoever gets closest to the target number without going over is the winner.

Player A			Digits Rolled	Player B		
PUT-IN-PLACE MAT				PUT-IN-PLACE MAT		
Round	LONGS	UNITS		Round	LONGS	UNITS
1			5	1		
2			5	2		
3			3	3		
4			6	4		
5			2	5		
TOTAL →		84		TOTAL →		160-NO :+5 III !

Upon reviewing their own recordings of lost games, children usually determine that if they had chosen a different place for one move or another they could have come closer to winning. Ideally then, as they play, children begin to use their experiences with previous games and start to estimate their totals at the end of each round to help them better make their choices for subsequent rounds. Children will then intuitively begin to use probability to guide their choices of blocks as they apply their strategies for getting close to 100.