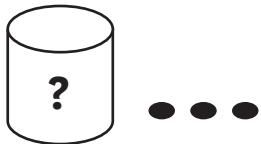


## Exit Question Choices

- › The picture shows how many of the five (or ten) counters Toni took out of the cup. How many counters are in the cup?



- › There are ten (or five) counters in the cup. Team 1 takes four counters out of the cup. Write a subtraction sentence to find how many counters are in the cup.

## Extension

Have students respond to word problems such as the following one.

*There are 10 bikes for sale at the yard sale. Some are bicycles and some are tricycles. How many of each could there be?*

This game is adapted from Kathy Richardson's *Hiding Assessment* (2003).

**Move Along**

**Why This Game or Puzzle?**

*Move Along* also focuses on subtraction with facts to ten, but, in this game, manipulatives are not required. Baroody (2006) suggests that students' fact knowledge evolves through three stages: use of counting; use of strategies or reasoning; and efficient retrieval. It is more likely that students' fact knowledge will evolve when they have opportunities to discuss and practice subtraction strategies with peers.

In this game teams try to move their game pieces along the path on the game board until they reach the Home space. On each turn, players draw two number cards and subtract each number from ten. If at least one of the differences is listed in the next space, the team may move its game piece forward to that space; otherwise, the team does not get to move its piece.

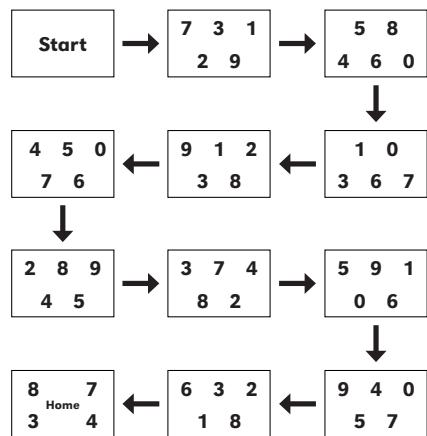
## Math Focus

- › Finding differences
- › Deciding which number to subtract to get a given difference

## Materials Needed

- › 2 game pieces per group
- › 1 *Move Along* Game Board per group (page A-50)
- › 1 deck of *Move Along* Cards per group (page A-51)
- › Optional: 1 *Move Along* Directions per group (page A-52)

*Move Along* Game Board



## Directions

Goal: Be the first team to land on the Home space.

- › Each team puts its game piece on Start.
- › Mix up the game cards and spread them out facedown between the teams.
- › Take turns.
- › On each turn:
  - › Pick up two cards. Choose a number on one of the cards to subtract from ten.
  - › If the answer is in the next space on the game board, move your team's piece to that space.
  - › If the answer is not there, subtract the other number from ten.
  - › If that answer is there, move your team's game piece to that space.
  - › If neither answer is there, your team's game piece stays where it is, and your turn is over.
- › After each turn, put your cards facedown and mix up all the cards.
- › Whichever team makes it to the Home space first wins the game.

## How It Looks in the Classroom

A first-grade teacher writes the numbers 5, 3, 7, 1, and 4 on a piece of paper placed under the classroom projection device. She shuffles the *Move Along* cards, draws one of them, and places the card faceup under the projection device. She asks, “If we subtract this six from ten, is the answer one of these numbers? If so, which one?”

After a brief time the teacher asks students who found an answer to write it on their whiteboards and hold them up so she can see them. As the teacher glances at the responses,

she notes that nearly all of the students have written 4, while one student did not record anything, and two students wrote 3. The teacher holds up a filled ten-frame and asks, “Who can use this ten-frame to prove your answer?”

Jasmina says, “We can see the ten. I can split the six to subtract it. I think of the top five being gone and one more in the next row. That leaves four.”

“Zuri, can you explain Jasmina’s thinking in your own words?” the teacher asks.

Zuri says, “You can think of six as a five and a one. If you take away the top row, you need to take away one more. That leaves four.”

The teacher then writes five new numbers less than ten, turns over another card, and repeats the activity. Satisfied that the students understand the process with one card, the teacher displays the *Move Along* game board and explains that in this game, they’ll turn over two numbers. She tells them that their task will be to try to find at least one of these numbers that they can subtract from ten and see the answer in the next space. The class plays a few rounds of the game as two large teams and then the students play in teams of two.

### Tips from the Classroom

- › Some students will be more successful if counters and ten-frames are available for use.
- › There are times in the game when one team’s piece can obscure numbers on the space to which the other team hopes to move. Have teams use transparent colored discs or have players move their piece just above the space, so the other team can see the numbers.
- › Encourage partners to identify the numbers they hope to get on their turns.
- › If you plan to have students respond to the second suggested exit question, tell them the question before the game begins so that they can think about their fact knowledge as they play. You may wish to make sticky notes available for students so that they can note examples of facts they know or have to figure out as they play.

### What to Look For

- › Do partners randomly choose a number to subtract or recognize a choice that will allow them to move their game piece forward?
- › What subtraction strategies do students use?
- › What facts can students recall?
- › Do students subtract accurately?

### Variations

- › Change the game board so that each space lists only two numbers from 0 to 5, and have players subtract from five.
- › For students ready for a greater challenge, change the numbers on the game board and the cards to be multiples of ten, and have the players subtract from one hundred.

## Exit Question Choices

- › You are one space before the Home space. What number would you like on one of your cards? Why?
- › What facts did you know without having to think about them? What facts did you have to figure out?

## Extension

Have players create fact recall goals and write them in their journals or tell them to you to record. Encourage them to also discuss how they will reach their goals.



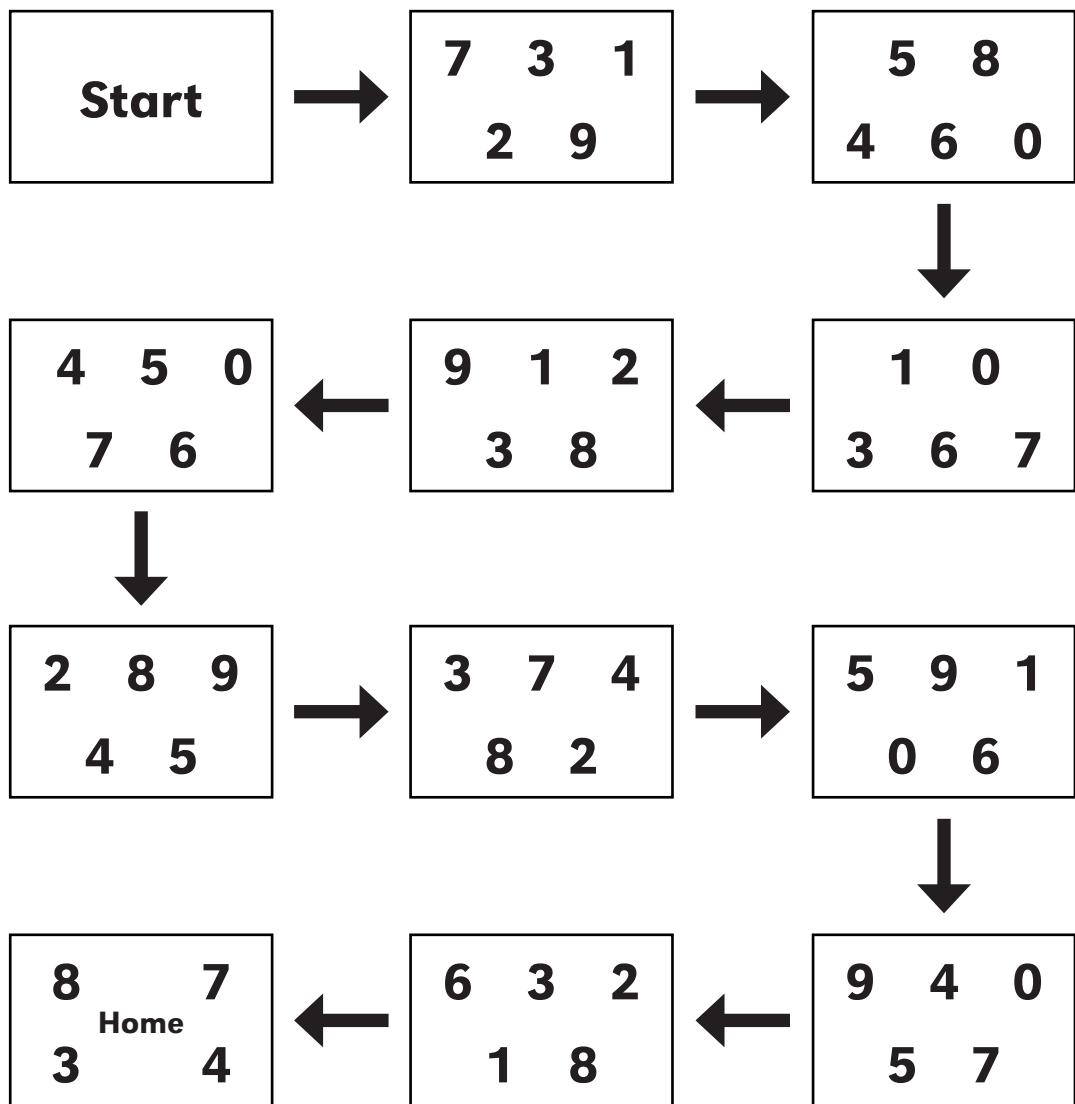
### Take the Numbers

#### Why This Game or Puzzle?

There are a variety of ways to think about subtraction. A student might find  $6 - 2$  by taking two counters away from six counters and finding the number of counters left or by counting backward to identify two less than six. Alternatively, a student might show two counters, add counters until there is a total of six, and then identify how many were added, or count forward from two up to six and identify how many numbers she said. Torbeyns and colleagues (2009) refer to the taking-away situation as direct subtraction and the missing-addend approach as indirect subtraction and suggest that direct is easier than indirect. Either subtraction strategy may be applied in this game, as well as mental arithmetic or paper-and-pencil strategies.

In this game a set of cards labeled 11–19 are referred to as the board numbers. Each team gets four cards from a deck of playing cards. (Face cards have been removed; aces stand for 1.) When a team places the first playing card beneath a board number, it finds the difference of these two numbers. The team then finds the board number on the *Take the Numbers* recording sheet, crosses it out, and records this difference below it. (The recording sheet provides space for two games.)

14	14 13 9
A ♠	
4 ♥	

**Move Along Game Board**

***Move Along Cards***

1	2	3	4
5	6	7	8
9	10		

## Move Along Directions

### Materials Needed

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- › 1 deck of *Move Along* Cards per group (page A-51)
- › Optional: 1 *Move Along* Directions per group

### Directions

Goal: Be the first team to land on the Home space.

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- › Take turns.
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  - › If the answer is not there, subtract the other number from ten.
  - › If that answer is there, move your team's game piece to that space.
  - › If neither answer is there, your team's game piece stays where it is, and your turn is over.
- › After each turn, put your cards facedown and mix up all the cards.
- › Whichever team makes it to the Home space first wins the game.