Keep the Leftovers

Strands:

Number & Quantity	X
Algebra	
Functions	
Geometry	
Statistics & Probability	

Materials Needed:
- Deck of cards
- 1 die
- Real or play money

Where:

Outside	
Inside	X
On-line	
On-site	

Determine the amount of money left over when a given amount is shared by the number of people rolled on a die.

Set-Up:
- Remove the tens, jacks, kings, and jokers from a deck of cards. Ace = 1. Queen = 0.

Object of the Activity: Practice exchanging money and dividing it into equal groups to find the amount left over.

On Your Turn:
1. Flip 2 cards to determine an amount of money. The first card represents the tens digit and the second card represents the units digit.
2. Model the amount of money with actual coins or with play money.
3. Roll a die. This is the number of people who will share the money.
4. Figure out how much money each person gets so that all players get the same amount of money. Exchange coins for denominations that can be partitioned into the number of groups you need. Act out making piles of money for each person.
5. Keep the leftovers.
6. Your turn ends. Play moves to the left.

To Win: After 4 rounds, the player with the most money wins.

Think About It:
1. When do you get the most money, when you share an amount among 5 people or when you share the amount among 3 people? Why do you think so?
2. When you share an amount of money among 4 people, what are the possible amounts of leftovers?

Variation:
Sharing Pocket Change: If you tend to let change build up around your house, play the game with children using your change. Let them keep what they win and trade it for privileges like 10 minutes of extra reading time or getting out of drying the dishes one night.

Helpful Hints:
- If a player has trouble dividing amounts into equal groups, encourage the player to exchange coins for smaller denominations that can be shared more easily.
- When a player is able to reason about equivalence of amounts in different denominations, encourage the player to make as few exchanges as possible.