Garbage In, Garbage Out!

Ben and Jenny decide to toss a penny to see who will take out the garbage as part of their weekly chores. Neither one of them likes this chore.

Ben tells Jenny, “You can toss the penny first. If it comes up tails, I win and you take out the garbage; if it comes up heads, I get to toss the penny. If the penny comes up tails, I win and you take out the garbage; if it’s heads, you win and I take out the garbage!”

Jenny complains, “But that’s not fair because you can get tails more often. You won’t be taking out the garbage as often as I will!”

Ben says, “I’ll make the game fair! If I win, you take out the garbage. If you win, I take out the garbage twice.

Jenny says, “Let the games begin!”

Conduct an experiment to simulate this game and determine whether the game is fair.

1. What is the sample space for this problem?

2. State the winner for each possible outcome.

3. What is the probability of Jenny winning? What is the probability of Ben winning?

4. Is the game fair? If not, how could Jenny make it fair?

Score Sheet for Jenny and Ben

Place a tally mark in the appropriate column for each simulated game.

Turn Number	First Coin – Tails Ben wins. (Jenny takes out the garbage once.)	Second Coin – Tails Ben wins. (Jenny takes out the garbage once.)	Second Coin - Heads Jenny wins. (Ben takes out the garbage twice.)
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When there's "garbage in", who takes the "garbage out"?