Cigarette Smoking Problem

- Assume a cigarette requires three ingredients to smoke:
  - Tobacco
  - Paper
  - Match
- Assume there are also three smokers around a table, each of whom has an infinite supply of one of the three ingredients

- Assume there is also a non-smoking arbiter. The arbiter enables the smokers to make their cigarettes by
  - selecting two of the smokers at random,
  - taking one item out of each of their supplies,
  - and placing the items on the table.
  - He then notifies the third smoker that he has done this.

- The third smoker removes the two items from the table and uses them (along with his own supply) to make a cigarette, which he smokes for a while.

- Meanwhile, the arbiter, seeing the table empty, again chooses two smokers at random and places their items on the table. This process continues forever.