

Wildfire Simulation

NAME _____

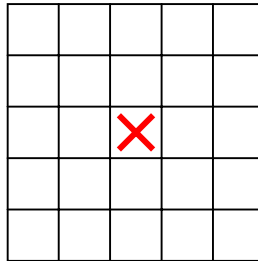
The grid below represents a forest. Each square indicates a portion of the forest.

The X in the middle square indicates the starting point of a forest fire. (You may wish to color this square red.) The fire may spread to one of four adjacent squares (above, below, or on either side).

Choose one of the adjacent squares, and flip two coins. Depending on the group to which your teacher assigns you, the trees in that square will catch fire if:

- Both coins land heads (Group A)
- The coins are different (Group B)
- At least one coin lands heads (Group C)

If the square catches fire, place an X in it (or color it red). If the square has not caught fire, place an O in it (or color it green).



Continue this process, checking each square adjacent to an on-fire square. (Note that some squares may need to be tested more than once, if more than one square adjacent to it catches fire.) If all squares adjacent to those on fire have an O in them (or are green), then the forest fire has been contained. The fire cannot spread beyond the boundary of the grid.

1. To which group were you assigned?
2. For your group, what is the probability that an adjacent square will catch fire?
3. How many of the trees in the forest burned during your simulation? What percent of the forest caught fire?
4. Explain how the probability of spreading affects the percent of the forest that catches fire.