



[Unit 2: Conditional Probability and](#) [2.2 Interactive: Monty Hall](#)
[Course](#) > [Bayes' Rule](#) > [Simulation](#) > Interactive: Monty Hall Simulation

Interactive: Monty Hall Simulation

This interactive simulates the Monty Hall problem. Recall that a contestant chooses one of three closed doors, two of which have a goat behind them and one of which has a car. Monty, who knows where the car is, then opens one of the two remaining doors. The door he opens always has a goat behind it (he never reveals the car!). If Monty has a choice of which door to open, then he picks at random with equal probabilities. Monty then offers the contestant the option of switching to the other unopened door. Should the contestant switch doors (assuming the contestant prefers a car to a goat)?

You can play the game in the following simulation.

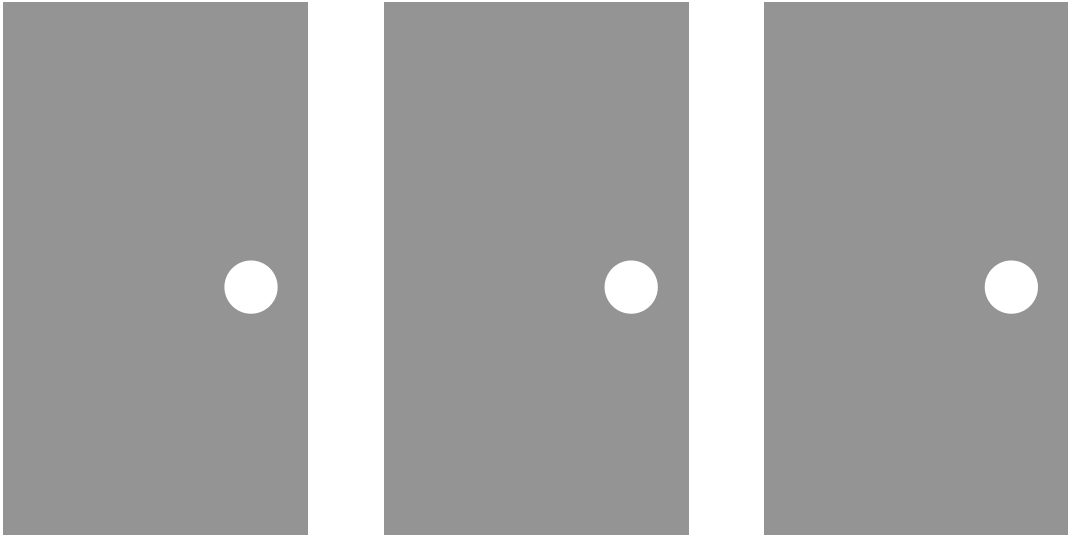
Monty Hall Simulation - Directions for Use

1. Click on one of the doors shown below. Then, make a choice as directed by the interactive.
2. After you've played a few times, try out the controls: switch to a different number of doors, change whether Monty knows the car's location, or run the simulation thousands of times to accumulate more data. Note that if Monty doesn't know the car's location, sometimes the game will be "spoiled" by Monty revealing the car.
3. If you can't click on the doors, you can use the buttons below the slider, entitled "Randomly Pick Door", "Switch", "Stay", and "New Game".

YOU SHOULD TRY:

- Comparing the "always switch" strategy to the "always stay" strategy, seeing how well both perform in the long run.
- Seeing what happens as you increase the number of doors.
- Experimenting to build intuition for the difference between Monty knowing and not knowing where the car is.

Behind one door lies a prize. If you can guess it, it's yours. Click on a door to guess.



Controls



Number of available doors: 3

☒ Monty knows the car's location

Keyboard Controls:

Randomly Pick Door

Switch

Stay

New Game

Play above, or simulate playing below:

Switch 1000 times

Don't switch 1000 times

Results

Clear

Switched Stayed

Attempts:

Goats:

Cars:

Won (%):

Spoiled Games:

Image Credits:

Present by Naomi Atkinson from the Noun Project, CC-BY 3.0, <https://thenounproject.com/term/present/5599>
Goat by Anand Prahlad from the Noun Project, CC-BY 3.0, <https://thenounproject.com/term/goat/18892/>

© All Rights Reserved

