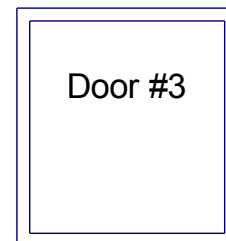
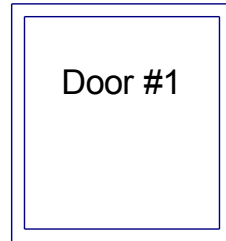


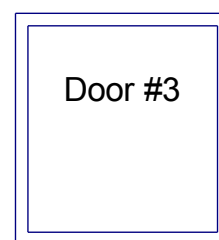
What Would/Should You Do??

You're a contestant on "Let's Make a Deal" with Monty Hall as the Game Show Host.

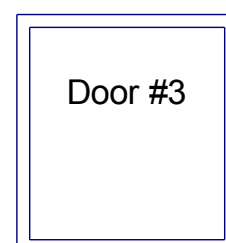
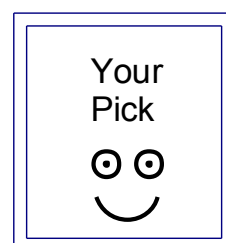
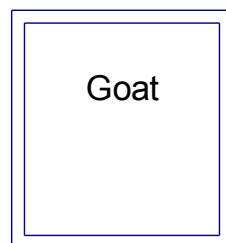
Monty Hall offers you the choice of three doors.



Behind one door is a car, and behind the other two doors are goats. You pick a door.



Before revealing what you have won, the host knowingly opens one of the other two doors to reveal a goat.



Now...you are given the opportunity to switch your choice for the remaining unopened door (#3 here). Should you? Is it to your advantage to change your choice? Does it matter? Why or why not?

If you want to try this problem online, go to:

<http://www.shodor.org/interactivate/activities/SimpleMontyHall>

DIRECTIONS:

1. Divide into pairs. Select one person to be the HOST and the other person will be the CONTESTANT. There are three doors numbered 1, 2, and 3.
2. I will give you three cards. The face card is the CAR. The numbered cards are the GOAT. The host will place the three cards face down (knowing which is which).
3. The contestant should now select one of the doors and inform the host.
4. The host should now select a door that contains a goat (not the one the contestant just guessed) and inform the contestant that behind that particular door is a goat by flipping it over.
5. The contestant now has to inform the host if he/she wants to switch doors or stay with his/her original selection.
6. Repeat this process 20 times and record your results on the provided chart.

GAME	01	02	03	04	05	06	07	08	09	10
Switch (S) Or Stick (T)										
Win car (W) Or Lose (L)										

GAME	11	12	13	14	15	16	17	18	19	20
Switch (S) Or Stick (T)										
Win car (W) Or Lose (L)										

Out of the twenty games, how many times did the contestant win by switching? _____

Out of the twenty games, how many times did the contestant win by sticking? _____

Based on your results, would you advise a contestant to switch or stick with his/her original choice?

You previously based your decision on an experiment. Now consider the theoretical probability. Complete all the possible scenarios...

- Suppose contestant picks door #1
 - If the car is behind door 1, contestant will win if _____
 - If the car is behind door 2, contestant will win if _____
 - If the car is behind door 3, contestant will win if _____

- Suppose contestant picks door #2
 - If the car is behind door 1, contestant will win if _____
 - If the car is behind door 2, contestant will win if _____
 - If the car is behind door 3, contestant will win if _____

- Suppose contestant picks door #3
 - If the car is behind door 1, contestant will win if _____
 - If the car is behind door 2, contestant will win if _____
 - If the car is behind door 3, contestant will win if _____

Is it better to switch doors or stick with original pick?