

Fire!

Exploration Questions

- Run five experiments where you set the fire in the middle of the forest with each of the five probabilities listed and fill in the chart below:

Burn Probability	$1/6 = 0.166667$				
Trial number	1	2	3	4	5
Percent Burned					

Burn Probability	$2/6 = 0.333333$				
Trial number	1	2	3	4	5
Percent Burned					

Burn Probability	$3/6 = .5$				
Trial number	1	2	3	4	5
Percent Burned					

Burn Probability	$4/6 = .666667$				
Trial number	1	2	3	4	5
Percent Burned					

Burn Probability	$5/6 = .833333$				
Trial number	1	2	3	4	5
Percent Burned					

2. Now, combine your data with the rest of the class. Use the entire class's data to find the average percent burned for each probability. Do you see any relation between the burn probability and the average percent burned? Can you describe the relationship in words?

3. Now, find your individual average percent burned for each probability. Compare your individual average with the class average. Describe what you see. Which average do you think is more accurate?

4. Finally, run several experiments to see if you can figure out how the directional probabilities affect the way the fire will burn. Write a paragraph on how you would explain how the directional probabilities affect the way the fire will burn.