Advanced Fire Exploration Questions

1. Run five experiments in the tiny forest 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	Percent Burned in Trial 1	Percent Burned in Trial 2	Percent Burned in Trial 3	Percent Burned in Trial 4	Percent Burned in Trial 5	Average Percent Burned
1/6=0.166667						
2/6=0.333333						
3/6 = 0.5						
4/6=0.666667						
5/6=0.833333						

2. Run five experiments in the small forest 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	Percent Burned in Trial 1	Percent Burned in Trial 2	Percent Burned in Trial 3	Percent Burned in Trial 4	Percent Burned in Trial 5	Average Percent Burned
1/6=0.166667						
2/6=0.333333						
3/6 = 0.5						
4/6=0.666667						

5/6=0.833333					

3. Run five experiments in the medium forest 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	Percent Burned in Trial 1	Percent Burned in Trial 2	Percent Burned in Trial 3	Percent Burned in Trial 4	Percent Burned in Trial 5	Average Percent Burned
1/6=0.166667						
2/6=0.333333						
3/6 = 0.5						
4/6=0.666667						
5/6=0.833333						

4. Run five experiments in the large forest 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	Percent Burned in Trial 1	Percent Burned in Trial 2	Percent Burned in Trial 3	Percent Burned in Trial 4	Percent Burned in Trial 5	Average Percent Burned
1/6=0.166667						
2/6=0.333333						
3/6 = 0.5						
4/6=0.666667						
5/6=0.833333						

5. Do you see any relationship between the burn probability, the forest size, and the average percent burned? Provide a written explanation of this relationship.

6. Now, combine your averages for all of the forest sizes and probabilities with your class. Now find the average percent burned for each probability for the entire class. Compare your individual average with the class average. Are they similar? Which average do you think is more representative of the general behavior? Why?

7. Graph the data for the large forest size. What does the graph look like? Add points on your graph to represent the class averages. How do the two graphs compare? (Hint: the Average Percent Burned will be on the Y axis and the Probability will be on the X axis).

8. In any given probability were there two results (percent burned) that were significantly different? Why do you think that happened? What kind of affect do you think this had on your averages?