



**Science Department - Take Home Experiment
Answers!!**

Trial	Initial mass (g)	Final mass (g)	Change in mass (initial - final) (g)	Water per kernel mass water/# of kernels (g/kernel)
1	52.4	49.9	2.3	0.01
2	53.2	48.2	5.0	0.02
3	52.7	48.0	4.7	0.02

Analysis Questions:

1. The liquid water inside the kernels was heated and turned into a gas (steam). The increase in temperature caused the pressure to increase as well, so the kernels popped.
2. The un-popped kernels would have affected both of your calculations.

Since the water is released from the kernels in the form of steam when they pop, if some kernels don't pop, some of the water does not get released. This means your calculation of the total weight of water required to pop the popcorn would be lower than if all the kernels popped.

Your calculation for the weight of water per kernel would also be affected if some the kernels did not pop. When you divided the weight of water by 210 (the number of kernels), you assumed all kernels popped and released the water inside of them. The number of kernels that actually popped though was lower. This means the calculation of the weight of water per kernel would also have been lower than if you calculated it using the actual number of kernels that popped.