1. For the first function the words eat and ate would have the same result in function 1 but not in function 2.
2. The second function is better because it takes into consideration the character position for the letters in the word to create less collisions than would occur in function 2.
3. No because the hashMapSize function will not change since the same number of words will be input and therefore cause the same number of hashLinks in both function.
4. No, because the hashMapTableLoad is based on the total number of links possible and the number of buckets that have been filled. Since both function are running through the same number of words then the number of buckets filled will be the same.
5. Yes, because there could be more collisions in the first function compared to the second one and therefore would have more open buckets than the second one resulting in a different value being returned by the function.
6. Yes, there is a difference in the number of empty buckets when the table size is changed from an even number such as 1000 to a prime number like 997. A prime number of buckets also does a better job of distributing the links to different hash buckets and will therefore result in the possibility of less collisions.