

## Linear and Binary Search

1. Pick a word you would like to find in the dictionary, and record what it is in your journal.
2. Go through the pages of the dictionary in order from the beginning until you find the page containing your word. After a while, you may get tired of this process, so, instead, you can just look at the page numbers and figure out how many steps it would take. Record the number of steps (pages) in your journal.
3. Now find the word using the binary search technique that will be explained in class. How many pages did you need to look at? Record the answer in your journal.
4. Repeat steps 1–3 using three other words, and record the results for each in your journal.
5. (A) Record in your journal a summary of how linear and binary search work and which one is typically better when searching in a dictionary. (B) Can you draw any connection to your experience with the Tower Building activity?
6. For binary search to work, what condition must be satisfied by the list of things in which we are searching? Note the answer in your journal.