(D) Wheel of Fortune Cookies (1/2) [15 points]

A popular category on the game show *Wheel of Fortune* is the "Before and After" clue, in which contestants have to guess the middle word in a phrase like "CANDY BAR CHART" or "CHESHIRE CAT FOOD". The fun of these phrases lies in the fact that even though each adjacent pair of words is a familiar combination, the resulting chain is often absurd.

D1. Below, we've used Google Ngram Viewer (books.google.com/ngrams) to construct chains of nouns where the 2-word co-occurrence frequency is very high, but the 3-word (and 4- and 5-…) frequency is extremely low, like STORM CLOUD COVER LETTER. For each noun in the chain, we just chose the noun that most frequently followed it in Google's enormous collection of books: STORM was most frequently followed by CLOUD, CLOUD was most frequently followed by COVER, etc.

Can you work out the intermediate words in the following chains? Each blank represents a letter, and as a hint, blanks with the same number under them represent the same letter. Remember that we want the most common 2-word combination that *starts* with the given word, not just any 2-word combination.

CREDIT __ __ __ __ GAME
1

ICE __ __ __ __ __ CHEESE
2

COUCH __ __ __ __ __ __ CHIP
3

BOWLING __ __ __ __ __ __ __ __ FOOD
4   5   6

BEACH __ __ __ __ __ __ __ __ __ __ WARRANT
7   8   9   5

FLOWER __ __ __ __ __ __ __ __ __ __ TEMPERATURE
10   1   9   11   3

SPACE __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ WAGON
7   4   10 8   11   12   13

COWBOY __ STORE
14   2   12   6   14   13

Fill out the table below with the letters that correspond to each number above.

1	2	3	4	5	6	7	8	9	10	11	12	13	14

n → a → c → l → o

(D) Wheel of Fortune Cookies (2/2)

D2. Below, invent your own three-word "Before and After" chains. Each pair of words should be much more common than you'd expect from the frequencies of its individual words, but the whole triplet should be rare. You don't have to stick just to nouns; you can use any words.

1. _____   _____   _____

2. _____   _____   _____

3. _____   _____   _____