Hangman

Difficulty: Advanced

Constructs: Functions, loops, File I/O

(This assignment was partially adapted from MIT's open courseware: `http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-189-a-gentle-introduction-to-programming-using-python-january-iap-2011/assignments/`)

Problem Description

Hangman is a word game in which the player is trying to guess a secret word. The player guesses letters, one at a time, and is told where each such letter appears in the secret word. If a guessed letter does not appear at all, it is considered a mistake. If the player makes six mistakes in total, the game is lost (you can, of course, make the game easier or harder by allowing more or fewer mistakes). If the player successfully guesses all the letters in the secret word, the player wins.

For this assignment, you will write a program that allows a human player to play the game of Hangman to their heart's content.

You'll write this program in several steps. But first take a look at the desired output for your program.

Example

Your output for the program should look similar to the following:

```
Mystery Word: ------
Letters Guessed: []
Guesses Remaining: 6

Guess a letter: a

Mystery Word: ------
Letters Guessed: ['a']
Guesses Remaining: 5
```

```
Guess a letter: e

Mystery Word: -----e
Letters Guessed: ['a', 'e']
Guesses Remaining: 5

Guess a letter: o

Mystery Word: -oo--e
Letters Guessed:  ['a', 'e', 'o']
Guesses Remaining: 5

Guess a letter: s

Mystery Word: -oo--e
Letters Guessed:  ['a', 'e', 'o', 's']
Guesses Remaining: 4

Guess a letter: c

Mystery Word: coo--e
Letters Guessed: ['a', 'e', 'o', 's', 'e']
Guesses Remaining: 4

Guess a letter: k

Mystery Word: cook-e
Letters Guessed: ['a', 'e', 'o', 's', 'e', 'k']
Guesses Remaining: 4

Guess a letter: i

Mystery Word was: cookie
You win!!
```

Part 1

Write a basic Hangman program in Python that can be played as shown above. You can follow the basic layout provided in Hangman_template.py if you like. For now, hardcode the secret word so that it is always 'cookie.'

Part 2

Add a function called `load_from_list()` that will set the secret word to be a random word selected from a list of ten words.

Part 3

Download the file `Hangman_words.txt`. This file contains thousands of possible words for your Hangman game (each separated by a single space character). Add a function to your program called `load_from_file()` that reads these words from the text file into a list. Your program should then use a randomly selected word from this list to play Hangman.