Experiment One

Variable under test: **Population Size**

	# of generations to find solution:						
	Pop Size	test1	test2	test3	test4	test5	Average:
	4	388027	59745	141287	248691	42356	176021.2
	8	4297	172	991	1981	8183	3124.8
	16 (default)	55	79	147	164	105	110
	64	19	18	12	25	45	23.8
	1024	7	7	5	10	8	7.4

Experiment Two

Variable under test: **Word Length**

	# of generations to find solution:						
	Word Length	test1	test2	test3	test4	test5	Average:
	2	6	4	2	6	16	6.8
	4	79	15	15	7	48	32.8
	6	174	116	40	55	95	96
	8 (default)	55	96	846	264	132	278.6
	16	174880	44993	162035	564812	666220	322588

Experiment Three

Variable under test: **Mutation Probability**

	# of generations to find solution:						
	Mutation Chance	test1	test2	test3	test4	test5	Average:
	10%	80	396	156	126	205	192.6
	20% (default)	100	500	227	116	116	211.8
	50%	413	156	15	163	145	178.4
	80%	1211	232	159	64	918	516.8
	100%	2044	382	188	1312	2000	1185.2

Experiment Four

Variable under test: **Values Per Letter**

	# of generations to find solution:						
	Values Per Letter	test1	test2	test3	test4	test5	Average:
	2	8	7	14	11	1	8.2
	5	175	55	12	111	211	112.8
	8 (default)	135	248	396	64	73	183.2
	9	491	96	140	257	131	223
	10	139	172	312	163	247	206.6

Experiment Four

Variable under test: **Stopping Condition** (Fitness Benchmark)

	# of generations to find solution:						
	# of Wrong Letters Allowed	test1	test2	test3	test4	test5	Average:
	6	1	1	0	1	1	0.8
	4	9	5	7	4	5	6
	2	17	38	94	28	44	44.2
	1	34	77	106	116	149	96.4
	0 (default)	83	71	166	180	175	135

Default Variable values:

Population Size:	16
Random Mutation Probability:	20%
Word Length	8
Possible values per letter:	8

Default Fitness Function:

Increments score linearlly for each matching letter in word under test compared to optimal word

Mate Selection: Works as a raffle system: Each individual starts with a ticket, and gets an additional ticket for each letter that is correct in their word. Mate selection is then drawn from all available raffles.

Stopping Condition: Default condition is that an individual must be perfectly fit. He must match our target string exactly.