

## **Lexical Processing fMRI Protocol**

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## Index

<b>Contents</b>	<b>Page</b>	<b>Contents</b>	<b>Page</b>
Run 1a	1	Run 2 Lists	24
Run 1a Lists	2	4-Run Run 3	25
Run 1b	3	Run 3 Lists	26
Run 1b Lists	4	4-Run Run 4	27
Run 2a	5	Run 4 Lists	28
Run 2a Lists	6	4-Run List Timing	29-30
Run 2b	7	Semantic Lists	31-35
Run 2b Lists	8	Phonological Lists	36-40
Run 3a	9	Blank 8-Run timing sheet	41
Run 3a Lists	10	Blank 4-Run timing sheet	42
Run 3b	11		
Run 3b Lists	12		
Run 4a	13		
Run 4a Lists	14		
Run 4b	15		
Run 4b Lists	16		
Example Run	17		
8-Run List Timing	18-20		
4-Run Run 1	21		
Run 1 Lists	22		
4-Run Run 2	23		

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Run 1a

<b>TR</b>	<b>Slide #</b>	<b>Slide Content</b>	<b>Presentation Type</b>
1--5	1--5	"+"	fixation
6	6--7	"Meaning" for 2s then blank for 0.5s	Cue
7--10	8--40	Law list(0.5s word + 100ms blank & + at end for 400ms)	List 1
11--15	41--45	"+"	fixation
16	46--47	"Meaning" for 2s then blank for 0.5s	Cue
17--20	48--80	Hard list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Rhyme" for 2s then blank for 0.5s	Cue
27--30	88--120	Dog list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Meaning"	Cue
37--40	128--160	Cup list	List 4
41--45	161--165	"+"	fixation
46	166--167	"Rhyme"	Cue
47--50	168--200	Gun list	List 5
51--55	201--205	"+"	fixation
56	206--207	"Rhyme"	Cue
57--60	208--240	Fruit list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Rhyme"	Cue
67--70	248--280	Black list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Meaning"	Cue
77--80	288--320	Hate list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Meaning"	Cue
87--90	328--360	Rough list	List 9
91--100	361--370	"+"	fixation

## Run 1a Lists

1 <b>Law</b>	2 <b>Hard</b>	3 <b>Dog</b>	4 <b>Cup</b>	5 <b>Gun</b>	6 <b>Fruit</b>	7 <b>Black</b>	8 <b>Hate</b>	9 <b>Rough</b>
rights	rigid	bog	mug	run	newt	pack	dislike	smooth
attorney	difficult	hog	saucer	son	brute	track	love	bumpy
enforce	easy	fog	tea	ton	cute	sack	hostility	road
criminal	work	log	measuring	done	boot	crack	anger	tough
lawyer	cement	smog	coaster	sun	root	back	detest	sandpaper
court	concrete	clog	lid	spun	tribute	stack	resent	jagged
government	stiff	frog	handle	bun	lute	snack	fear	ready
regulation	tough	eggnog	coffee	fortune	flute	slack	jealousy	coarse
legal	rock	hedgehog	straw	felon	shoot	plaque	envy	uneven
officer	simple	prologue	goblet	fun	suit	tack	despise	riders
rules	complex	hotdog	soup	carton	salute	shack	abhor	rugged
justice	firm	Prague	stein	nun	dispute	fullback	war	sand
legislation	solid	flog	drink	won	compute	shellac	enemy	boards
amendment	soft	grog	plastic	arson	commute	jack	loathe	ground
police	sturdy	nog	sip	none	pursuit	hack	disgust	gravel
order	coarse	cog	glass	dungeon	acute	lack	like	beard

Run 1b

<b>TR</b>	<b>Slide #</b>	<b>Slide Content</b>	<b>Presentation Type</b>
1--5	1--5	"+"	fixation
6	6--7	"Meaning"	Cue
7--10	8--40	Fat list	List 1
11--15	41--45	"+"	fixation
16	46--47	"Rhyme"	Cue
17--20	48--80	Chair list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Rhyme"	Cue
27--30	88--120	Mail List	List 3
31--35	121--125	"+"	fixation
36	126--127	"Rhyme"	Cue
37--40	128--160	Wish List	List 4
41--45	161--165	"+"	fixation
46	166--167	"Meaning"	Cue
47--50	168--200	Cold List	List 5
51--55	201--205	"+"	fixation
56	206--207	"Meaning"	Cue
57--60	208--240	Snake List	List 6
61--65	241--245	"+"	fixation
66	246--247	"Rhyme"	Cue
67--70	248--280	Ball List	List 7
71--75	281--285	"+"	fixation
76	286--287	"Rhyme"	Cue
77--80	288--320	Sweet List	List 8
81--85	321--325	"+"	fixation
86	326--327	"Rhyme"	Cue
87--90	328--360	Smell List	List 9
91--100	361--370	"+"	fixation

## Run 1b Lists

10 <b>Fat</b>	11 <b>Chair</b>	12 <b>Mail</b>	13 <b>Wish</b>	14 <b>Cold</b>	15 <b>Snake</b>	16 <b>Ball</b>	17 <b>Sweet</b>	18 <b>Smell</b>
thin	air	stale	fish	hot	viper	call	beat	yell
obese	flair	fail	dish	snow	lizard	crawl	neat	fell
large	stair	quail	publish	warm	slither	stall	heat	well
weight	where	trail	establish	winter	serpent	small	seat	shell
calorie	hair	snail	swish	ice	deadly	wall	treat	spell
slim	swear	wail	Irish	popsicle	hiss	fall	sleet	cell
pudgy	their	cocktail	banish	frigid	reptile	doll	eat	bell
diet	bear	exhale	blemish	chilly	cobra	gall	greet	gel
slender	square	detail	fetish	heat	fangs	menthol	street	pastel
wide	scare	sail	rubbish	weather	poison	appall	feet	hell
cheek	prayer	scale	squish	freeze	venom	mall	sheet	sell
skinny	fair	nail	varnish	air	slimy	hall	pleat	tell
lean	hardware	frail	anguish	shiver	bite	squall	athlete	swell
plump	welfare	rail	ticklish	Arctic	python	all	defeat	dwell
chubby	nightmare	braille	furnish	frost	worm	drywall	fleet	gazelle
huge	pair	grail	flourish	windy	rattle	tall	meet	hotel

Run 2a

TR	Slide #	Slide Content	Presentation Type
1--5	1--5	"+"	fixation
6	6--7	"Meaning" for 2s then blank for 0.5s	Cue
7--10	8--40	Hand list(0.5s word + 100ms blank & + at end for 400ms)	List 1
11--15	41--45	"+"	fixation
16	46--47	"Rhyme" for 2s then blank for 0.5s	Cue
17--20	48--80	Bread list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Meaning" for 2s then blank for 0.5s	Cue
27--30	88--120	Right list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Meaning"	Cue
37--40	128--160	Sick list	List 4
41--45	161--165	"+"	fixation
46	166--167	"Meaning"	Cue
47--50	168--200	Smoke list	List 5
51--55	201--205	"+"	fixation
56	206--207	"Rhyme"	Cue
57--60	208--240	Beer list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Rhyme"	Cue
67--70	248--280	Test list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Rhyme"	Cue
77--80	288--320	Top list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Meaning"	Cue
87--90	328--360	Flag list	List 9
91--100	361--370	"+"	fixation

Run 2a Lists

1 <b>Hand</b>	2 <b>Bread</b>	3 <b>Right</b>	4 <b>Sick</b>	5 <b>Smoke</b>	6 <b>Beer</b>	7 <b>Test</b>	8 <b>Top</b>	9 <b>Flag</b>
glove	dread	correct	healthy	cigarette	jeer	pest	pop	banner
finger	head	perfect	ill	puff	fear	best	cop	American
shake	bed	equal	flu	blaze	spear	contest	slop	symbol
palm	thread	accurate	nausea	billows	near	stressed	hop	stars
thumb	shed	fair	cancer	pollution	here	suggest	drop	anthem
wave	shred	justify	cough	ashes	steer	midwest	crop	stripes
grip	wed	left	virus	cigar	deer	digest	mop	pole
foot	said	turn	disease	chimney	sincere	nest	stop	wave
fist	spread	angle	medicine	fire	revere	quest	flop	raised
mitten	lead	answer	doctor	tobacco	adhere	crest	workshop	national
wash	dead	mistake	fever	stink	sphere	vest	dewdrop	checkered
hold	sped	wrong	hospital	pipe	appear	processed	bellhop	emblem
knuckle	fled	truth	germ	lungs	premier	expressed	eavesdrop	sign
wrist	sled	ethics	clinic	flames	ear	dressed	gumdrop	freedom
arm	fed	direction	vomit	stain	gear	arrest	chop	pendant
clap	tread	proper	well	inhale	seer	zest	prop	pledge

Run 2b

<b>TR</b>	<b>Slide #</b>	<b>Slide Content</b>	<b>Presentation Type</b>
1--5	1--5	"+"	fixation
6	6--7	"Meaning"	Cue
7--10	8--40	Wet list	List 1
11--15	41--45	"+"	fixation
16	46--47	"Rhyme"	Cue
17--20	48--80	High list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Meaning"	Cue
27--30	88--120	Car list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Rhyme"	Cue
37--40	128--160	Trash list	List 4
41--45	161--165	"+"	fixation
46	166--167	"Rhyme"	Cue
47--50	168--200	Man list	List 5
51--55	201--205	"+"	fixation
56	206--207	"Rhyme"	Cue
57--60	208--240	Slow list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Meaning"	Cue
67--70	248--280	Rain list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Meaning"	Cue
77--80	288--320	Shirt list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Meaning"	Cue
87--90	328--360	Sleep list	List 9
91--100	361--370	"+"	fixation

Run 2b Lists

10 <b>Wet</b>	11 <b>High</b>	12 <b>Car</b>	13 <b>Trash</b>	14 <b>Man</b>	15 <b>Slow</b>	16 <b>Rain</b>	17 <b>Shirt</b>	18 <b>Sleep</b>
slippery	goodbye	truck	rash	ran	tow	umbrella	blouse	bed
damp	cry	bus	flash	ban	row	drench	sleeves	rest
paint	dye	train	bash	clan	dough	weather	pants	awake
splash	fly	automobile	cash	fan	throw	hail	tie	tired
dry	sky	vehicle	sash	tan	though	cloud	button	dream
humid	rye	drive	splash	bran	show	dew	shorts	wake
water	apply	jeep	ash	plan	snow	pour	iron	snooze
dripping	why	Ford	brash	scan	woe	storm	polo	blanket
soak	eye	race	stash	can	crow	thunder	collar	doze
moist	imply	keys	smash	van	no	wind	vest	slumber
saturate	buy	garage	crash	span	stow	puddle	pocket	snore
sponge	pie	highway	gash	pan	below	acid	jersey	nap
towel	lie	sedan	whiplash	rattan	hero	mist	belt	peace
slick	shy	van	eyelash	began	shallow	lightening	linen	yawn
soggy	try	taxi	mash	dustpan	hello	sunshine	cuffs	drowsy
douse	thigh	gas	clash	wingspan	ago	flood	cotton	pajamas

Run 3a

<b>TR</b>	<b>Slide #</b>	<b>Slide Content</b>	<b>Presentation Type</b>
1--5	1--5	"+"	fixation
6	6--7	"Rhyme" for 2s then blank for 0.5s	Cue
7--10	8--40	Law list(0.5s word + 100ms blank & + at end for 400ms)	List 1
11--15	41--45	"+"	fixation
16	46--47	"Rhyme" for 2s then blank for 0.5s	Cue
17--20	48--80	Hard list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Meaning" for 2s then blank for 0.5s	Cue
27--30	88--120	Dog list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Rhyme"	Cue
37--40	128--160	Cup list	List 4
41--45	161--165	"+"	fixation
46	166--167	"Meaning"	Cue
47--50	168--200	Gun list	List 5
51--55	201--205	"+"	fixation
56	206--207	"Meaning"	Cue
57--60	208--240	Fruit list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Meaning"	Cue
67--70	248--280	Black list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Rhyme"	Cue
77--80	288--320	Hate list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Rhyme"	Cue
87--90	328--360	Rough list	List 9
91--100	361--370	"+"	fixation

Run 3a Lists

1 <b>Law</b>	2 <b>Hard</b>	3 <b>Dog</b>	4 <b>Cup</b>	5 <b>Gun</b>	6 <b>Fruit</b>	7 <b>Black</b>	8 <b>Hate</b>	9 <b>Rough</b>
saw	yard	hound	pup	pistol	apple	white	weight	tough
jaw	lard	puppy	windup	shot	vegetable	dark	state	bluff
grandma	bard	bite	up	holster	orange	cat	plate	fluff
spa	guard	mutt	gallop	rifle	kiwi	charred	inflate	stuff
gnaw	card	pet	wallop	bullet	citrus	night	skate	puff
paw	marred	beware	dollop	hunt	ripe	funeral	slate	buff
awe	scarred	bone	syrup	military	pear	color	fate	handcuff
flaw	regard	tail	bishop	powder	banana	grief	gate	earmuff
slaw	charred	cat	hiccup	shoot	berry	blue	inmate	dandruff
jigsaw	bombard	animal	mixup	trigger	cherry	death	trait	enough
straw	diehard	paw	ketchup	murder	basket	ink	grate	duff
raw	junkyard	poodle	pinup	aim	juice	bottom	primate	scuff
thaw	sparred	flea	closeup	bang	salad	coal	relate	cuff
claw	jarred	bark	breakup	cannon	bowl	brown	create	scruff
draw	disbarred	Lassie	scallop	revolver	cocktail	gray	crate	snuff
squaw	lifeguard	vet	blowup	weapon	tree	tuxedo	rate	gruff

Run 3b

<b>TR</b>	<b>Slide #</b>	<b>Slide Content</b>	<b>Presentation Type</b>
1--5	1--5	"+"	fixation
6	6--7	"Rhyme"	Cue
7--10	8--40	Fat list	List 1
11--15	41--45	"+"	fixation
16	46--47	"Meaning"	Cue
17--20	48--80	Chair list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Meaning"	Cue
27--30	88--120	Mail list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Meaning"	Cue
37--40	128--160	Wish list	List 4
41--45	161--165	"+"	fixation
46	166--167	"Rhyme"	Cue
47--50	168--200	Cold list	List 5
51--55	201--205	"+"	fixation
56	206--207	"Rhyme"	Cue
57--60	208--240	Snake list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Meaning"	Cue
67--70	248--280	Ball list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Meaning"	Cue
77--80	288--320	Sweet list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Meaning"	Cue
87--90	328--360	Smell list	List 9
91--100	361--370	"+"	fixation

Run 3b Lists

10 <b>Fat</b>	11 <b>Chair</b>	12 <b>Mail</b>	13 <b>Wish</b>	14 <b>Cold</b>	15 <b>Snake</b>	16 <b>Ball</b>	17 <b>Sweet</b>	18 <b>Smell</b>
rat	table	stamp	want	fold	bake	bounce	sour	nose
bat	sit	deliver	dream	told	make	throw	candy	breathe
sat	legs	receive	desire	bold	take	basket	sugar	sniff
gnat	seat	bills	hope	sold	quake	bowling	bitter	aroma
brat	couch	letters	well	mold	stake	golf	good	hear
spat	desk	send	think	polled	wake	play	taste	see
that	recliner	fax	star	gold	cake	tennis	tooth	nostril
flat	sofa	express	bone	old	flake	soccer	nice	whiff
combat	wood	post	ring	strolded	rake	round	honey	scent
at	cushion	zip	wash	hold	fake	catch	soda	reek
doormat	swivel	address	thought	scold	mistake	pitch	chocolate	stench
cat	stool	envelope	get	unrolled	shake	moth	heart	fragrance
pat	sitting	package	true	twofold	forsake	bat	cake	perfume
splat	rocking	UPS	for	behold	cornflake	kick	tart	salts
slat	bench	telegram	money	billfold	ache	racket	pie	rose
hat	wicker	junk	birthday	rolled	brake	hit	dessert	odor

Run 4a

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1--5	1--5	"+"	fixation
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7--10	8--40	Hand list(0.5s word + 100ms blank & + at end for 400ms)	List 1
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16	46--47	"Meaning" for 2s then blank for 0.5s	Cue
17--20	48--80	Bread list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Rhyme" for 2s then blank for 0.5s	Cue
27--30	88--120	Right list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Rhyme"	Cue
37--40	128--160	Sick list	List 4
41--45	161--165	"+"	fixation
46	166--167	"Rhyme"	Cue
47--50	168--200	Smoke list	List 5
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56	206--207	"Meaning"	Cue
57--60	208--240	Beer list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Meaning"	Cue
67--70	248--280	Test list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Meaning"	Cue
77--80	288--320	Top list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Rhyme"	Cue
87--90	328--360	Flag list	List 9
91--100	361--370	"+"	fixation

Run 4a Lists

1 <b>Hand</b>	2 <b>Bread</b>	3 <b>Right</b>	4 <b>Sick</b>	5 <b>Smoke</b>	6 <b>Beer</b>	7 <b>Test</b>	8 <b>Top</b>	9 <b>Flag</b>
brand	butter	fight	pick	joke	drunk	quiz	bottom	bag
bland	food	light	kick	spoke	keg	final	peak	brag
stand	eat	white	stick	cloak	pub	study	hill	snag
sand	sandwich	sight	flick	yolk	suds	evaluate	over	zigzag
band	rye	quite	wick	stroke	liquor	experiment	roof	rag
land	jam	spite	clique	soak	booze	essay	summit	stag
and	milk	night	lick	broke	alcohol	stress	pinnacle	gag
watchband	flour	bite	slick	coke	Bud	screen	zenith	windbag
newsstand	jelly	might	quick	oak	bar	score	apex	tag
expand	dough	polite	nick	choke	bottle	exam	spin	drag
farmland	crust	plight	civic	evoke	wine	fail	above	sag
grand	slice	unite	frantic	folk	mug	lab	ceiling	sandbag
gland	wine	excite	mimic	poke	barrel	tube	tip	swag
demand	loaf	finite	brick	revoke	drink	pass	lid	nag
command	toast	flight	tick	baroque	can	grade	mountain	wag
disband	wheat	sprite	chick	stoke	cooler	analysis	best	shag

Run 4b

<b>TR</b>	<b>Slide #</b>	<b>Slide Content</b>	<b>Presentation Type</b>
1--5	1--5	"+"	fixation
6	6--7	"Rhyme"	Cue
7--10	8--40	Wet list	List 1
11--15	41--45	"+"	fixation
16	46--47	"Meaning"	Cue
17--20	48--80	High list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Rhyme"	Cue
27--30	88--120	Car list	List 3
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51--55	201--205	"+"	fixation
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57--60	208--240	Slow list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Rhyme"	Cue
67--70	248--280	Rain list	List 7
71--75	281--285	"+"	fixation
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77--80	288--320	Shirt list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Rhyme"	Cue
87--90	328--360	Sleep list	List 9
91--100	361--370	"+"	fixation

Run 4b Lists

10 <b>Wet</b>	11 <b>High</b>	12 <b>Car</b>	13 <b>Trash</b>	14 <b>Man</b>	15 <b>Slow</b>	16 <b>Rain</b>	17 <b>Shirt</b>	18 <b>Sleep</b>
bet	low	par	garbage	woman	fast	sane	alert	beep
net	clouds	bar	waste	husband	lethargic	main	hurt	cheap
set	up	scar	can	uncle	stop	crane	assert	weep
let	tall	star	refuse	lady	listless	retain	invert	sweep
jet	tower	far	sewage	mouse	snail	stain	skirt	jeep
asset	jump	czar	bag	male	cautious	drain	dessert	sheep
met	above	jar	junk	father	delay	plain	exert	keep
yet	building	are	rubbish	strong	traffic	pain	dirt	leap
cadet	noon	tar	sweep	friend	turtle	brain	flirt	steep
brunette	cliff	char	scraps	beard	hesitant	constrain	curt	seep
threat	sky	sonar	pile	person	speed	regain	blurt	deep
sweat	over	radar	dump	handsome	quick	humane	squirt	creep
sunset	airplane	memoir	landfill	muscle	sluggish	sustain	spurt	heap
corvette	dive	bizarre	debris	suit	wait	champagne	girt	peep
fret	elevate	cigar	litter	old	molasses	Maintain	quirk	reap
duet	ledge	guitar	recycle	guy	rapid	membrane	expert	bleep

### Example List Run

Presented	Presentation Length
-----------	---------------------

"rights"	500ms
blank	100ms
"attorney"	500ms
blank	100ms
"enforce"	500ms
blank	100ms
"criminal"	500ms
blank	100ms
"lawyer"	500ms
blank	100ms
"court"	500ms
blank	100ms
"government"	500ms
blank	100ms
"regulation"	500ms
blank	100ms
"legal"	500ms
blank	100ms
"officer"	500ms
blank	100ms
"rules"	500ms
blank	100ms
"justice"	500ms
blank	100ms
"legislation"	500ms
blank	100ms
"amendment"	500ms
blank	100ms
"police"	500ms
blank	100ms
"order"	500ms
blank	100ms
"+"	400ms

## 8-Run List Timing on a Dell Optiplex PC

	List 1		List 2		List 3		List 4		List 5		List 6		List 7		List 8		List 9		Total Time
	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	
Obsv 1	:00.15	:00.25	:00.42	:00.52	1:08.5	1:19	1:35	1:46	2:02	2:12	2:29	2:39	2:56	3:06	3:23	3:33	3:49	4:00	4:27
Obsv 2	:00.15	:00.26	:00.42	:00.53	1:09	1:19	1:36	1:46	2:03	2:13	2:29:29	2:40	2:56.5	3:07	3:23	3:33.5	3:50	4:00.5	4:27
Obsv 3	:00.15.5	:00.26	:00.42	:00.53	1:09	1:19	1:36	1:46	2:03	2:13	2:30	2:40	2:56	3:07	3:23	3:33.9	3:50	4:01	4:27.5
Obsv 4	:00.16	:00.26	:00.42	:00.53	1:09	1:20	1:36	1:46	2:03	2:13	2:29.5	2:40	2:56	3:07	3:23	3:34	3:50	4:01	4:27
Obsv 5	:00.15	:00.25.5	:00.42	:00.53	1:09	1:19.5	1:35.5	1:46	2:02.5	2:12.5	2:29	2:40	2:56	3:06	3:23	3:33.7	3:50	4:00	4:27
Obsv 6	:00.15	:00.25	:00.42	:00.53	1:09	1:19.5	1:36	1:47	2:02.5	2:13	2:29	2:40	2:56	3:07	3:23	3:33	3:50	4:00	4:26
Obsv 7	:00.15.5	:00.26	:00.42	:00.53	1:09	1:19	1:36	1:46	2:02.5	2:13	2:29.7	2:40	2:56	3:07	3:23	3:33	3:50	4:01	4:27
Obsv 8	:00.15	:00.26	:00.42	:00.53	1:09	1:19	1:36	1:46	2:02.5	2:13	2:29.7	2:40	2:56	3:07	3:23	3:33	3:50	4:01	4:27
Obsv 9	:00.15	:00.25	:00.42	:00.52	1:09	1:19	1:36	1:46	2:02.5	2:13	2:29	2:40	2:56	3:06	3:23	3:33	3:50	4:00	4:27
Obsv 10	:00.15.5	:00.26	:00.42	:00.53	1:09	1:19	1:36	1:46.5	2:03	2:13	2:30	2:40	2:56	3:07	3:23	3:33	3:50	4:01	4:27
Average:	:00.15.2	:00.25.6	:00.42	:00.52.8	1:09	1:19.2	1:35.9	1:46	2:02.7	2:13	2:29.3	2:40	2:56	3:06.7	3:23	3:33	3:50	4:00.5	4:27

TR Time

Should start on TR:

7

17

27

37

47

57

67

77

87

NOTE:

Timing is based on MS Powerpoint 2000 SR (9.0) through Windows XP on a Dell Optiplex GX300 at 1024x768 resolution

Times are from 10 observations of Run 1a

Timings may vary by Powerpoint version and/or operating system and/or screen resolution

## 8-Run List Timing on Fujitsu Laptop

	List 1		List 2		List 3		List 4		List 5		List 6		List 7		List 8		List 9		Total Time
	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	
Run 1a	16.3	29.35	45.37	58.26	1:14.56	1:27.84	1:43.4	1:56.62	2:12.62	2:25.74	2:41.77	2:54.6	3:10.84	3:23.83	3:39.93	3:53.21	4:09.21	4:22.53	4:48.77
Run 1b	16.35	29.52	45.45	58.61	1:14.54	1:27.63	1:43.69	1:56.79	2:12.69	2:25.73	2:41.76	2:55.02	3:10.79	3:23.86	3:39.76	3:53.01	4:08.83	4:22.1	4:48.29
Run 2a	16.19		45.07	57.76	1:13.19	1:26.73	1:42.42	1:55.73	2:11.35	2:24.48	2:40.23	2:53.26	3:09.01	3:22.01	3:38.01	3:51.48	4:06.86	4:19.76	4:46.23
Run 2b	16.1		45.23	58.38	1:14.54	1:27.35	1:43.35	1:56.29	2:12.79	2:26.10	2:41.79	2:55.04	3:11.07	3:24.19	3:40.35	3:53.42	4:09.42	4:22.48	4:48.45
Run 3a	16.23		45.51	58.6	1:14.35	1:27.48	1:43.45	1:56.6	2:12.57	2:25.69	2:41.69	2:55.67	3:10.76	3:23.92	3:39.92	3:53.04	4:09.30	4:22.23	4:48.63
Run 3b	16.23	29.26	45.26	58.38	1:14.45	1:27.84	1:43.34	1:56.57	2:12.63	2:25.79	2:41.86	2:55.1	3:10.86	3:24.07	3:40.04	3:53.26	4:09.17	4:22.26	4:48.63
Run 4a	16.19	29.35	45.19	58.57	1:14.26	1:27.29	1:43.07	1:56.38	2:12.32	2:25.35	2:41.42	2:54.38	3:10.45	3:23.73	3:39.57	3:53.17	4:08.73	4:22.04	4:48.45
Run 4b			45.8		1:14.89	1:27.93	1:43.93	1:57.02	2:12.93	2:25.51	2:41.93	2:55.23	3:11.08	3:24.52	3:40.14	3:53.36	4:09.08	4:22.23	4:48.61
Average:	16.22	29.37	45.36	58.36	1:14.34	1:27.51	1:43.33	1:56.5	2:12.49	2:25.55	2:41.56	2:54.79	3:10.61	3:23.77	3:39.72	3:52.99	4:08.83	4:21.95	4:48.26

TR Time

Should start on

TR:

7

17

27

37

47

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77

87

NOTE: Timing is based on MS Powerpoint 2002 (10.36) through Windows XP on a Fujitsu Lifebook at 1024 x 768 Resolution

Timings may vary by Powerpoint version and/or operating system and/or computer and/or screen resolution

Times from fMRI subject combined with Run 1a and 1b from practice runs

## 8-Run List Timing on Dell Inspiron Laptop

	List 1		List 2		List 3		List 4		List 5		List 6		List 7		List 8		List 9		Total Time
	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	
Run 1a	15.9	27.3	43	54.8	1:10.1	1:21.7	1:37.3	1:48.9	2:04.3	2:16	2:31.6	2:43.2	2:58.8	3:10.5	3:26	3:37.8	3:53.4	4:05.3	4:31.5
Run 1b	15.8	27.4	42.8	54.4	1:10	1:21.7	1:37	1:48.9	2:04.3	2:15.9	2:31.5	2:43	2:58.7	3:10.4	3:26	3:37.9	3:53.6	4:05.6	4:31.6
Run 2a	15.7	27.4	42.8	54.4	1:10	1:21.5	1:37.1	1:48.7	2:04.3	2:16.1	2:31.6	2:43.2	2:58.9	3:10.6	3:26.3	3:38	3:53.8	4:05.6	4:31.6
Run 2b	15.8	27.4	43	54.5	1:10	1:21.5	1:37.2	1:48.7	2:04.3	2:16.1	2:31.7	2:43.4	2:59	3:10.8	3:26.5	3:38.3	3:53.9	4:05.8	4:31.8
Run 3a	15.9	27.5	43.2	54.8	1:10.3	1:21.9	1:37.6	1:49	2:04.9	2:16.3	2:31.9	2:43.6	2:59.2	3:10.9	3:26.6	3:38.4	3:54	4:05.8	4:31.8
Run 3b	15.3	27	42.5	54.2	1:09.7	1:21.3	1:37	1:48.6	2:04	2:15.7	2:31.4	2:43	2:58.7	3:10.4	3:25.9	3:37.8	3:53.3	4:05	4:31.2
Run 4a	15.6	27.1	42.6	54.4	1:09.8	1:21.4	1:37	1:49	2:04.3	2:15.9	2:31.6	2:43.2	2:58.8	3:10.5	3:26.1	3:37.8	3:53.5	4:05.5	4:31.2
Run 4b	15.6	27.1	42.8	54.3	1:10	1:21.5	1:37.1	1:48.6	2:04.3	2:15.9	2:31.5	2:43.1	2:58.7	3:10.4	3:26.1	3:37.8	3:53.5	4:05.2	4:31.2
Average:	15.7	27.3	42.9	54.5	1:10	1:21.6	1:37.2	1:48.8	2:04.3	2:16	2:31.6	2:43.2	2:58.9	3:10.6	3:26.2	3:38	3:53.6	4:05.5	4:31.5

TR Time

Should start on TR:

7

17

27

37

47

57

67

77

87

NOTE: Timing is based on MS Powerpoint 2002 (10.35) SP-1 through Windows XP on a Dell Inspiron 8200 at 1024 x 768 Resolution  
 Timings may vary by Powerpoint version and/or operating system and/or computer and/or screen resolution

## 4-Run Setup Run 1

<b>TR</b>	<b>Slide #</b>	<b>Slide Content</b>	<b>Presentation Type</b>
1--5	1--5	"+"	fixation
6	6--7	"Meaning" for 2s then blank for 0.5s	Cue
7--10	8--40	Law list(0.5s word + 100ms blank & + at end for 400ms)	List 1
11--15	41--45	"+"	fixation
16	46--47	"Meaning" for 2s then blank for 0.5s	Cue
17--20	48--80	Hard list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Rhyme" for 2s then blank for 0.5s	Cue
27--30	88--120	Dog list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Meaning"	Cue
37--40	128--160	Cup list	List 4
41--45	161--165	"+"	fixation
46	166--167	"Rhyme"	Cue
47--50	168--200	Gun list	List 5
51--55	201--205	"+"	fixation
56	206--207	"Rhyme"	Cue
57--60	208--240	Fruit list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Rhyme"	Cue
67--70	248--280	Black list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Meaning"	Cue
77--80	288--320	Hate list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Meaning"	Cue
87--90	328--360	Rough list	List 9
91--95	361--365	"+"	fixation
96	366--367	"Meaning"	Cue
97--100	368--400	Fat list	List 10
101--105	401--405	"+"	fixation
106	406--407	"Rhyme"	Cue
107--110	408--440	Chair list	List 11
111--115	441--445	"+"	fixation
116	446--447	"Rhyme"	Cue
117--120	448--480	Mail List	List 12
121--125	481--485	"+"	fixation
126	486--487	"Rhyme"	Cue
127--130	488--520	Wish List	List 13
131--135	521--525	"+"	fixation
136	526--527	"Meaning"	Cue
137--140	528--560	Cold List	List 14
141--145	561--565	"+"	fixation
146	566--567	"Meaning"	Cue
147--150	568--600	Snake List	List 15
151--155	601--605	"+"	fixation
156	606--607	"Rhyme"	Cue
157--160	608--640	Ball List	List 16
161--165	641--645	"+"	fixation
166	646--647	"Rhyme"	Cue
167--170	648--680	Sweet List	List 17
171--175	681--685	"+"	fixation
176	686--687	"Rhyme"	Cue
177--180	688--720	Smell List	List 18
181--190	721--730	"+"	fixation

Run 1 Lists

1	2	3	4	5	6	7	8	9
Law	Hard	Dog	Cup	Gun	Fruit	Black	Hate	Rough
rights	rigid	bog	mug	run	newt	pack	dislike	smooth
attorney	difficult	hog	saucer	son	brute	track	love	bumpy
enforce	easy	fog	tea	ton	cute	sack	hostility	road
criminal	work	log	measuring	done	boot	crack	anger	tough
lawyer	cement	smog	coaster	sun	root	back	detest	sandpaper
court	concrete	clog	lid	spun	tribute	stack	resent	jagged
government	stiff	frog	handle	bun	lute	snack	fear	ready
regulation	tough	eggnog	coffee	fortune	flute	slack	jealousy	coarse
legal	rock	hedgehog	straw	felon	shoot	plaque	envy	uneven
officer	simple	prologue	goblet	fun	suit	tack	despise	riders
rules	complex	hotdog	soup	carton	salute	shack	abhor	rugged
justice	firm	Prague	stein	nun	dispute	fullback	war	sand
legislation	solid	flog	drink	won	compute	shellac	enemy	boards
amendment	soft	grog	plastic	arson	commute	jack	loathe	ground
police	sturdy	nog	sip	none	pursuit	hack	disgust	gravel
order	coarse	cog	glass	dungeon	acute	lack	like	beard
10	11	12	13	14	15	16	17	18
Fat	Chair	Mail	Wish	Cold	Snake	Ball	Sweet	Smell
thin	air	stale	fish	hot	viper	call	beat	yell
obese	flair	fail	dish	snow	lizard	crawl	neat	fell
large	stair	quail	publish	warm	slither	stall	heat	well
weight	where	trail	establish	winter	serpent	small	seat	shell
calorie	hair	snail	swish	ice	deadly	wall	treat	spell
slim	swear	wail	Irish	popsicle	hiss	fall	sleet	cell
pudgy	their	cocktail	banish	frigid	reptile	doll	eat	bell
diet	bear	exhale	blemish	chilly	cobra	gall	greet	gel
slender	square	detail	fetish	heat	fangs	menthol	street	pastel
wide	scare	sail	rubbish	weather	poison	appall	feet	hell
cheek	prayer	scale	squish	freeze	venom	mall	sheet	sell
skinny	fair	nail	varnish	air	slimy	hall	pleat	tell
lean	hardware	frail	anguish	shiver	bite	squall	athlete	swell
plump	welfare	rail	ticklish	Arctic	python	all	defeat	dwell
chubby	nightmare	braille	furnish	frost	worm	drywall	fleet	gazelle
huge	pair	grail	flourish	windy	rattle	tall	meet	hotel

## 4-Run Setup Run 2

TR	Slide #	Slide Content	Presentation Type
1--5	1--5	"+"	fixation
6	6--7	"Meaning" for 2s then blank for 0.5s	Cue
7--10	8--40	Hand list(0.5s word + 100ms blank & + at end for 400ms)	List 1
11--15	41--45	"+"	fixation
16	46--47	"Rhyme" for 2s then blank for 0.5s	Cue
17--20	48--80	Bread list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Meaning" for 2s then blank for 0.5s	Cue
27--30	88--120	Right list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Meaning"	Cue
37--40	128--160	Sick list	List 4
41--45	161--165	"+"	fixation
46	166--167	"Meaning"	Cue
47--50	168--200	Smoke list	List 5
51--55	201--205	"+"	fixation
56	206--207	"Rhyme"	Cue
57--60	208--240	Beer list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Rhyme"	Cue
67--70	248--280	Test list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Rhyme"	Cue
77--80	288--320	Top list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Meaning"	Cue
87--90	328--360	Flag list	List 9
91--95	361--365	"+"	fixation
96	366--367	"Meaning"	Cue
97--100	368--400	Wet list	List 10
101--105	401--405	"+"	fixation
106	406--407	"Rhyme"	Cue
107--110	408--440	High list	List 11
111--115	441--445	"+"	fixation
116	446--447	"Meaning"	Cue
117--120	448--480	Car list	List 12
121--125	481--485	"+"	fixation
126	486--487	"Rhyme"	Cue
127--130	488--520	Trash list	List 13
131--135	521--525	"+"	fixation
136	526--527	"Rhyme"	Cue
137--140	528--560	Man list	List 14
141--145	561--565	"+"	fixation
146	566--567	"Rhyme"	Cue
147--150	568--600	Slow list	List 15
151--155	601--605	"+"	fixation
156	606--607	"Meaning"	Cue
157--160	608--640	Rain list	List 16
161--165	641--645	"+"	fixation
166	646--647	"Meaning"	Cue
167--170	648--680	Shirt list	List 17
171--175	681--685	"+"	fixation
176	686--687	"Meaning"	Cue
177--180	688--720	Sleep list	List 18
181--190	721--730	"+"	fixation

Run2 Lists

1	2	3	4	5	6	7	8	9
<b>Hand</b>	<b>Bread</b>	<b>Right</b>	<b>Sick</b>	<b>Smoke</b>	<b>Beer</b>	<b>Test</b>	<b>Top</b>	<b>Flag</b>
glove	dread	correct	healthy	cigarette	jeer	pest	pop	banner
finger	head	perfect	ill	puff	fear	best	cop	American
shake	bed	equal	flu	blaze	spear	contest	slop	symbol
palm	thread	accurate	nausea	billows	near	stressed	hop	stars
thumb	shed	fair	cancer	pollution	here	suggest	drop	anthem
wave	shred	justify	cough	ashes	steer	midwest	crop	stripes
grip	wed	left	virus	cigar	deer	digest	mop	pole
foot	said	turn	disease	chimney	sincere	nest	stop	wave
fist	spread	angle	medicine	fire	revere	quest	flop	raised
mitten	lead	answer	doctor	tobacco	adhere	crest	workshop	national
wash	dead	mistake	fever	stink	sphere	vest	dewdrop	checkered
hold	sped	wrong	hospital	pipe	appear	processed	bellhop	emblem
knuckle	fled	truth	germ	lungs	premier	expressed	eavesdrop	sign
wrist	sled	ethics	clinic	flames	ear	dressed	gumdrop	freedom
arm	fed	direction	vomit	stain	gear	arrest	chop	pendant
clap	tread	proper	well	inhale	seer	zest	prop	pledge
10	11	12	13	14	15	16	17	18
<b>Wet</b>	<b>High</b>	<b>Car</b>	<b>Trash</b>	<b>Man</b>	<b>Slow</b>	<b>Rain</b>	<b>Shirt</b>	<b>Sleep</b>
slippery	goodbye	truck	rash	ran	tow	umbrella	blouse	bed
damp	cry	bus	flash	ban	row	drench	sleeves	rest
paint	dye	train	bash	clan	dough	weather	pants	awake
splash	fly	automobile	cash	fan	throw	hail	tie	tired
dry	sky	vehicle	sash	tan	though	cloud	button	dream
humid	rye	drive	splash	bran	show	dew	shorts	wake
water	apply	jeep	ash	plan	snow	pour	iron	snooze
dripping	why	Ford	brash	scan	woe	storm	polo	blanket
soak	eye	race	stash	can	crow	thunder	collar	doze
moist	imply	keys	smash	van	no	wind	vest	slumber
saturate	buy	garage	crash	span	stow	puddle	pocket	snore
sponge	pie	highway	gash	pan	below	acid	jersey	nap
towel	lie	sedan	whiplash	rattan	hero	mist	belt	peace
slick	shy	van	eyelash	began	shallow	lightening	linen	yawn
soggy	try	taxi	mash	dustpan	hello	sunshine	cuffs	drowsy
douse	thigh	gas	clash	wingspan	ago	flood	cotton	pajamas

<b>TR</b>	<b>Slide #</b>	<b>Slide Content</b>	<b>Presentation Type</b>
1--5	1--5	"+"	fixation
6	6--7	"Rhyme" for 2s then blank for 0.5s	Cue
7--10	8--40	Law list(0.5s word + 100ms blank & + at end for 400ms)	List 1
11--15	41--45	"+"	fixation
16	46--47	"Rhyme" for 2s then blank for 0.5s	Cue
17--20	48--80	Hard list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Meaning" for 2s then blank for 0.5s	Cue
27--30	88--120	Dog list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Rhyme"	Cue
37--40	128--160	Cup list	List 4
41--45	161--165	"+"	fixation
46	166--167	"Meaning"	Cue
47--50	168--200	Gun list	List 5
51--55	201--205	"+"	fixation
56	206--207	"Meaning"	Cue
57--60	208--240	Fruit list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Meaning"	Cue
67--70	248--280	Black list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Rhyme"	Cue
77--80	288--320	Hate list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Rhyme"	Cue
87--90	328--360	Rough list	List 9
91--95	361--365	"+"	fixation
96	366--367	"Rhyme"	Cue
97--100	368--400	Fat list	List 10
101--105	401--405	"+"	fixation
106	406--407	"Meaning"	Cue
107--110	408--440	Chair list	List 11
111--115	441--445	"+"	fixation
116	446--447	"Meaning"	Cue
117--120	448--480	Mail list	List 12
121--125	481--485	"+"	fixation
126	486--487	"Meaning"	Cue
127--130	488--520	Wish list	List 13
131--135	521--525	"+"	fixation
136	526--527	"Rhyme"	Cue
137--140	528--560	Cold list	List 14
141--145	561--565	"+"	fixation
146	566--567	"Rhyme"	Cue
147--150	568--600	Snake list	List 15
151--155	601--605	"+"	fixation
156	606--607	"Meaning"	Cue
157--160	608--640	Ball list	List 16
161--165	641--645	"+"	fixation
166	646--647	"Meaning"	Cue
167--170	648--680	Sweet list	List 17
171--175	681--685	"+"	fixation
176	686--687	"Meaning"	Cue
177--180	688--720	Smell list	List 18
181--190	721--730	"+"	fixation

Run 3 Lists

1	2	3	4	5	6	7	8	9
Law	Hard	Dog	Cup	Gun	Fruit	Black	Hate	Rough
saw	yard	hound	pup	pistol	apple	white	weight	tough
jaw	lard	puppy	windup	shot	vegetable	dark	state	bluff
grandma	bard	bite	up	holster	orange	cat	plate	fluff
spa	guard	mutt	gallop	rifle	kiwi	charred	inflate	stuff
gnaw	card	pet	wallop	bullet	citrus	night	skate	puff
paw	marred	beware	dollop	hunt	ripe	funeral	slate	buff
awe	scarred	bone	syrup	military	pear	color	fate	handcuff
flaw	regard	tail	bishop	powder	banana	grief	gate	earmuff
slaw	charred	cat	hiccup	shoot	berry	blue	inmate	dandruff
jigsaw	bombard	animal	mixup	trigger	cherry	death	trait	enough
straw	diehard	paw	ketchup	murder	basket	ink	grate	duff
raw	junkyard	poodle	pinup	aim	juice	bottom	primate	scuff
thaw	sparred	flea	closeup	bang	salad	coal	relate	cuff
claw	jarred	bark	breakup	cannon	bowl	brown	create	scruff
draw	disbarred	Lassie	scallop	revolver	cocktail	gray	crate	snuff
squaw	lifeguard	vet	blowup	weapon	tree	tuxedo	rate	gruff
10	11	12	13	14	15	16	17	18
Fat	Chair	Mail	Wish	Cold	Snake	Ball	Sweet	Smell
rat	table	stamp	want	fold	bake	bounce	sour	nose
bat	sit	deliver	dream	told	make	throw	candy	breath
sat	legs	receive	desire	bold	take	basket	sugar	sniff
gnat	seat	bills	hope	sold	quake	bowling	bitter	aroma
brat	couch	letters	well	mold	stake	golf	good	hear
spat	desk	send	think	polled	wake	play	taste	see
that	recliner	fax	star	gold	cake	tennis	tooth	nostril
flat	sofa	express	bone	old	flake	soccer	nice	whiff
combat	wood	post	ring	stroked	rake	round	honey	scent
at	cushion	zip	wash	hold	fake	catch	soda	reek
doormat	swivel	address	thought	scold	mistake	pitch	chocolate	stench
cat	stool	envelope	get	unrolled	shake	moth	heart	fragrance
pat	sitting	package	true	twofold	forsake	bat	cake	perfume
splat	rocking	UPS	for	behold	cornflake	kick	tart	salts
slat	bench	telegram	money	billfold	ache	racket	pie	rose
hat	wicker	junk	birthday	rolled	brake	hit	dessert	odor

TR	Slide #	Slide Content	Presentation Type
1--5	1--5	"+"	fixation
6	6--7	"Rhyme" for 2s then blank for 0.5s	Cue
7--10	8--40	Hand list(0.5s word + 100ms blank & + at end for 400ms)	List 1
11--15	41--45	"+"	fixation
16	46--47	"Meaning" for 2s then blank for 0.5s	Cue
17--20	48--80	Bread list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Rhyme" for 2s then blank for 0.5s	Cue
27--30	88--120	Right list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Rhyme"	Cue
37--40	128--160	Sick list	List 4
41--45	161--165	"+"	fixation
46	166--167	"Rhyme"	Cue
47--50	168--200	Smoke list	List 5
51--55	201--205	"+"	fixation
56	206--207	"Meaning"	Cue
57--60	208--240	Beer list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Meaning"	Cue
67--70	248--280	Test list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Meaning"	Cue
77--80	288--320	Top list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Rhyme"	Cue
87--90	328--360	Flag list	List 9
91--95	361--365	"+"	fixation
96	366--367	"Rhyme"	Cue
97--100	368--400	Wet list	List 10
101--105	401--405	"+"	fixation
106	406--407	"Meaning"	Cue
107--110	408--440	High list	List 11
111--115	441--445	"+"	fixation
116	446--447	"Rhyme"	Cue
117--120	448--480	Car list	List 12
121--125	481--485	"+"	fixation
126	486--487	"Meaning"	Cue
127--130	488--520	Trash list	List 13
131--135	521--525	"+"	fixation
136	526--527	"Meaning"	Cue
137--140	528--560	Man list	List 14
141--145	561--565	"+"	fixation
146	566--567	"Meaning"	Cue
147--150	568--600	Slow list	List 15
151--155	601--605	"+"	fixation
156	606--607	"Rhyme"	Cue
157--160	608--640	Rain list	List 16
161--165	641--645	"+"	fixation
166	646--647	"Rhyme"	Cue
167--170	648--680	Shirt list	List 17
171--175	681--685	"+"	fixation
176	686--687	"Rhyme"	Cue
177--180	688--720	Sleep list	List 18
181--190	721--730	"+"	fixation

Run 4 Lists

1 <b>Hand</b>	2 <b>Bread</b>	3 <b>Right</b>	4 <b>Sick</b>	5 <b>Smoke</b>	6 <b>Beer</b>	7 <b>Test</b>	8 <b>Top</b>	9 <b>Flag</b>
brand	butter	fight	pick	joke	drunk	quiz	bottom	bag
bland	food	light	kick	spoke	keg	final	peak	brag
stand	eat	white	stick	cloak	pub	study	hill	snag
sand	sandwich	sight	flick	yolk	suds	evaluate	over	zigzag
band	rye	quite	wick	stroke	liquor	experiment	roof	rag
land	jam	spite	clique	soak	booze	essay	summit	stag
and	milk	night	lick	broke	alcohol	stress	pinnacle	gag
watchband	flour	bite	slick	coke	Bud	screen	zenith	windbag
newsstand	jelly	might	quick	oak	bar	score	apex	tag
expand	dough	polite	nick	choke	bottle	exam	spin	drag
farmland	crust	plight	civic	evoke	wine	fail	above	sag
grand	slice	unite	frantic	folk	mug	lab	ceiling	sandbag
gland	wine	excite	mimic	poke	barrel	tube	tip	swag
demand	loaf	finite	brick	revoke	drink	pass	lid	nag
command	toast	flight	tick	baroque	can	grade	mountain	wag
disband	wheat	sprite	chick	stoke	cooler	analysis	best	shag
10 <b>Wet</b>	11 <b>High</b>	12 <b>Car</b>	13 <b>Trash</b>	14 <b>Man</b>	15 <b>Slow</b>	16 <b>Rain</b>	17 <b>Shirt</b>	18 <b>Sleep</b>
bet	low	par	garbage	woman	fast	sane	alert	beep
net	clouds	bar	waste	husband	lethargic	main	hurt	cheap
set	up	scar	can	uncle	stop	crane	assert	weep
let	tall	star	refuse	lady	listless	retain	invert	sweep
jet	tower	far	sewage	mouse	snail	stain	skirt	jeep
asset	jump	czar	bag	male	cautious	drain	dessert	sheep
met	above	jar	junk	father	delay	plain	exert	keep
yet	building	are	rubbish	strong	traffic	pain	dirt	leap
cadet	noon	tar	sweep	friend	turtle	brain	flirt	steep
brunette	cliff	char	scraps	beard	hesitant	constrain	curt	seep
threat	sky	sonar	pile	person	speed	regain	blurt	deep
sweat	over	radar	dump	handsome	quick	humane	squirt	creep
sunset	airplane	memoir	landfill	muscle	sluggish	sustain	spurt	heap
corvette	dive	bizarre	debris	suit	wait	champagne	girt	peep
fret	elevate	cigar	litter	old	molasses	Maintain	quirk	reap
duet	ledge	guitar	recycle	guy	rapid	membrane	expert	bleep

	List 1		List 2		List 3		List 4		List 5		List 6		List 7		List 8		List 9		Total Time
	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	
Run 1	0:16.27	0:28.8	0:44.7	0:57.3	1:13	1:25.7	1:41.5	1:54	2:09.8	2:22.4	2:38.3	2:50.7	3:06.6	3:19.3	3:35	3:47.7	4:03.6	4:16.2	
R1 cont.	4:32	4:44.8	5:00.7	5:13.5	5:29.4	5:42.5	5:58.1	6:11.1	6:27	6:39.8	6:55.7	7:08.5	7:24.5	7:37.3	7:53.3	8:06.1	8:22	8:34.9	9:01.1
Run 2	0:16.2	0:28.8	0:44.5	0:57.1	1:12.9	1:25.5	1:41.3	1:53.9	2:09.8	2:22.3	2:38.2	2:50.7	3:06.5	3:19.1	3:34.9	3:47.5	4:03.4	4:16.4	
R2 cont.	4:32.1	4:44.9	5:00.7	5:13.6	5:29.5	5:42.4	5:58.3	6:11.3	6:26.9	6:39.9	6:55.8	7:08.7	7:24.6	7:37.4	7:53.3	8:06.2	8:22.3	8:35	9:01.4
Run 3	0:16.2	0:28.6	0:44.5	0:57.1	1:12.9	1:25.4	1:41.3	1:53.8	2:09.7	2:22.1	2:38.1	2:50.6	3:06.4	3:18.9	3:34.8	3:47.3	4:03.3	4:15.9	
R3 cont.	4:31.8	4:44.6	5:00.5	5:13.2	5:29.2	5:42	5:58.9	6:10.7	6:26.7	6:39.6	6:55.5	7:08.3	7:24.3	7:37.2	7:53	8:05.9	8:21.9	8:34.8	9:01.2
Run 4	0:16.1	0:28.6	0:44.6	0:57	1:12.8	1:25.6	1:41.2	1:53.7	2:09.5	2:22.3	2:38.1	2:50.7	3:06.3						
R4 cont.																			
Average:	0:16.2	0:28.7	0:44.6	0:57.1	1:12.9	1:25.6	1:41.3	1:53.9	2:09.7	2:22.3	2:38.2	2:50.7	3:06.5	3:19.1	3:34.9	3:47.5	4:03.4	4:16.2	9:01.2
Ave. cont.	4:32	4:44.8	5:00.6	5:13.4	5:29.4	5:42.3	5:58.4	6:11	6:26.9	6:39.8	6:55.7	7:08.5	7:24.5	7:37.3	7:53.2	8:06.1	8:22.1	8:34.9	
Correct	0:15	0:25	0:40	0:50	1:05	1:15	1:30	1:40	1:55	2:05	2:20	2:30	2:45	2:55	3:10	3:20	3:35	3:45	
Time:	4:00	4:10	4:25	4:35	4:50	5:00	5:15	5:25	5:40	5:50	6:05	6:15	6:30	6:40	6:55	7:05	7:20	7:30	7:55

NOTE: Timing is based on MS Powerpoint 2002 (10.36) through Windows XP on a Fujitsu Lifebook at 1024 x 768 Resolution  
 Timings may vary by Powerpoint version and/or operating system and/or computer and/or screen resolution

#### 4-Run List Timing

Long list timing—1 run=18 lists, ie. Run 1= Run 1a and 1b combined

	List 1		List 2		List 3		List 4		List 5		List 6		List 7		List 8		List 9		Total Time
	Begin	End																	
Run 1	0:15.5	0:27.1	0:42.7	0:54.2	1:09.8	1:21.3	1:36.9	1:48.4	2:04	2:15.6	2:31.1	2:42.6	2:58.2	3:09.8	3:25.4	3:36.9	3:52.5	4:04.1	
R1 cont.	4:19.7	4:31.3	4:46.9	4:58.6	5:14.2	5:26	5:41.6	5:53.4	6:09	6:20.9	6:36.7	6:48.7	7:04.2	7:16.1	7:31.7	7:43.6	7:59.3	8:11.2	8:37.1
Run 2	0:15.5	0:27.1	0:42.7	0:54.2	1:09.8	1:21.4	1:37	1:48.8	2:04.2	2:15.9	2:31.4	2:43.2	2:58.7	3:10.5	3:26	3:38	3:53.6	4:05.3	
R2 cont.	4:21	4:32.9	4:48.6	5:00.4	5:16.1	5:28.1	5:43.7	5:55.7	6:11.2	6:23.1	6:38.8	6:50.7	7:06.4	7:18.3	7:33.9	7:45.8	8:01.5	8:13.4	8:39.5
Run 3	0:15.5	0:27.2	0:42.7	0:54.5	1:10.1	1:21.7	1:37.3	1:48.8	2:04.3	2:15.9	2:31.6	2:43	2:58.6	3:10.2	3:25.8	3:37.3	3:52.9	4:04.5	
R3 cont.	4:20.2	4:31.7	4:47.4	4:58.9	5:14.5	5:26.2	5:41.9	5:53.6	6:09.2	6:21.1	6:36.9	6:48.7	7:04.4	7:16.3	7:32	7:43.8	7:59.5	8:11.4	8:37.4
Run 4	0:15.7	0:27.2	0:42.8	0:54.4	1:09.9	1:21.4	1:36.8	1:48.6	2:04.2	2:15.7	2:31.3	2:42.8	2:58.7	3:09.9	3:25.5	3:37	3:52.7	4:04.4	
R4 cont.	4:19.9	4:31.6	4:47.2	4:59.2	5:14.6	5:26.3	5:41.9	5:53.7	6:09.4	6:21.2	6:36.8	6:48.7	7:04.4	7:16.3	7:32	7:43.9	7:59.6	8:11.5	8:37.5
Average:	0:15.6	0:27.2	0:42.7	0:54.3	1:09.9	1:21.5	1:37	1:48.7	2:04.2	2:15.8	2:31.4	2:42.9	2:58.6	3:10.1	3:25.7	3:37.3	3:52.9	4:04.6	
Avg.cont.	4:20.2	4:31.9	4:47.5	4:69.3	5:14.9	5:26.7	5:42.3	5:54.1	6:09.7	6:21.6	6:37.3	6:49.2	7:04.9	7:16.8	7:32.4	7:44.3	7:70	8:11.9	8:37.9
Correct	0:15	0:25	0:40	0:50	1:05	1:15	1:30	1:40	1:55	2:05	2:20	2:30	2:45	2:55	3:10	3:20	3:35	3:45	
Time:	4:00	4:10	4:25	4:35	4:50	5:00	5:15	5:25	5:40	5:50	6:05	6:15	6:30	6:40	6:55	7:05	7:20	7:30	7:55

Timing is based on MS Powerpoint 2002 (10.35) SP-1 through Windows XP on a Dell Inspiron 8200 at 1024 x 768

NOTE: Resolution

Timings may vary by Powerpoint version and/or operating system and/or computer and/or screen resolution

## Semantic Lists

<b>Ball</b>	<b>Beer</b>	<b>Black</b>	<b>Bread</b>
bounce	drunk	white	butter
throw	keg	dark	food
basket	pub	cat	eat
bowling	suds	charred	sandwich
golf	liquor	night	rye
play	booze	funeral	jam
tennis	alcohol	color	milk
soccer	Bud	grief	flour
round	bar	blue	jelly
catch	bottle	death	dough
pitch	wine	ink	crust
moth	mug	bottom	slice
bat	barrel	coal	wine
kick	drink	brown	loaf
racket	can	gray	toast
hit	cooler	tuxedo	wheat

<b>Car</b>	<b>Chair</b>	<b>Cold</b>	<b>Cup</b>
truck	table	hot	mug
bus	sit	snow	saucer
train	legs	warm	tea
automobile	seat	winter	measuring
vehicle	couch	ice	coaster
drive	desk	popsicle	lid
jeep	recliner	frigid	handle
Ford	sofa	chilly	coffee
race	wood	heat	straw
keys	cushion	weather	goblet
garage	swivel	freeze	soup
highway	stool	air	stein
sedan	sitting	shiver	drink
van	rocking	Arctic	plastic
taxi	bench	frost	sip
gas	wicker	windy	glass

## Semantic Lists

Dog	Fat	Flag	Fruit
hound	thin	banner	apple
puppy	obese	American	vegetable
bite	large	symbol	orange
mutt	weight	stars	kiwi
pet	calorie	anthem	citrus
beware	slim	stripes	ripe
bone	pudgy	pole	pear
tail	diet	wave	banana
cat	slender	raised	berry
animal	wide	national	cherry
paw	cheek	checkered	basket
poodle	skinny	emblem	juice
flea	lean	sign	salad
bark	plump	freedom	bowl
Lassie	chubby	pendant	cocktail
vet	huge	pledge	tree

Gun	Hand	Hard	Hate
pistol	glove	rigid	dislike
shot	finger	difficult	love
holster	shake	easy	hostility
rifle	palm	work	anger
bullet	thumb	cement	detest
hunt	wave	concrete	resent
military	grip	stiff	fear
powder	foot	tough	jealousy
shoot	fist	rock	envy
trigger	mitten	simple	despise
murder	wash	complex	abhor
aim	hold	firm	war
bang	knuckle	solid	enemy
cannon	wrist	soft	loathe
revolver	arm	sturdy	disgust
weapon	clap	coarse	like

## Semantic Lists

<b>High</b>	<b>Law</b>	<b>Mail</b>	<b>Man</b>
low	rights	stamp	woman
clouds	attorney	deliver	husband
up	enforce	receive	uncle
tall	criminal	bills	lady
tower	lawyer	letters	mouse
jump	court	send	male
above	government	fax	father
building	regulation	express	strong
noon	legal	post	friend
cliff	officer	zip	beard
sky	rules	address	person
over	justice	envelope	handsome
airplane	legislation	package	muscle
dive	amendment	UPS	suit
elevate	police	telegram	old
ledge	order	junk	guy

<b>Rain</b>	<b>Right</b>	<b>Rough</b>	<b>Shirt</b>
umbrella	correct	smooth	blouse
drench	perfect	bumpy	sleeves
weather	equal	road	pants
hail	accurate	tough	tie
cloud	fair	sandpaper	button
dew	justify	jagged	shorts
pour	left	ready	iron
storm	turn	coarse	polo
thunder	angle	uneven	collar
wind	answer	riders	vest
puddle	mistake	rugged	pocket
acid	wrong	sand	jersey
mist	truth	boards	belt
lightening	ethics	ground	linen
sunshine	direction	gravel	cuffs
flood	proper	beard	cotton

## Semantic Lists

<b>Sick</b>	<b>Sleep</b>	<b>Slow</b>	<b>Smell</b>
healthy	bed	fast	nose
ill	rest	lethargic	breathe
flu	awake	stop	sniff
nausea	tired	listless	aroma
cancer	dream	snail	hear
cough	wake	cautious	see
virus	snooze	delay	nostril
disease	blanket	traffic	whiff
medicine	doze	turtle	scent
doctor	slumber	hesitant	reek
fever	snore	speed	stench
hospital	nap	quick	fragrance
germ	peace	sluggish	perfume
clinic	yawn	wait	salts
vomit	drowsy	molasses	rose
well	pajamas	rapid	odor

<b>Smoke</b>	<b>Snake</b>	<b>Sweet</b>	<b>Test</b>
cigarette	viper	sour	quiz
puff	lizard	candy	final
blaze	slither	sugar	study
billows	serpent	bitter	evaluate
pollution	deadly	good	experiment
ashes	hiss	taste	essay
cigar	reptile	tooth	stress
chimney	cobra	nice	screen
fire	fangs	honey	score
tobacco	poison	soda	exam
stink	venom	chocolate	fail
pipe	slimy	heart	lab
lungs	bite	cake	tube
flames	python	tart	pass
stain	worm	pie	grade
inhale	rattle	dessert	analysis

## Semantic Lists

Top	Trash	Wet	Wish
bottom	garbage	slippery	want
peak	waste	damp	dream
hill	can	paint	desire
over	refuse	splash	hope
roof	sewage	dry	well
summit	bag	humid	think
pinnacle	junk	water	star
zenith	rubbish	dripping	bone
apex	sweep	soak	ring
spin	scraps	moist	wash
above	pile	saturate	thought
ceiling	dump	sponge	get
tip	landfill	towel	true
lid	debris	slick	for
mountain	litter	soggy	money
best	recycle	douse	birthday

## Phonological Lists

<b>Ball</b>	<b>Beer</b>	<b>Black</b>	<b>Bread</b>
call	jeer	pack	dread
crawl	fear	track	head
stall	spear	sack	bed
small	near	crack	thread
wall	here	back	shed
fall	steer	stack	shred
doll	deer	snack	wed
gall	sincere	slack	said
menthol	revere	plaque	spread
appall	adhere	tack	lead
mall	sphere	shack	dead
hall	appear	fullback	sped
squall	premier	shellac	fled
all	ear	jack	sled
drywall	gear	hack	fed
tall	seer	lack	tread

<b>Car</b>	<b>Chair</b>	<b>Cold</b>	<b>Cup</b>
par	air	fold	pup
bar	flair	told	windup
scar	stair	bold	up
star	where	sold	gallop
far	hair	mold	wallop
czar	swear	polled	dollop
jar	their	gold	syrup
are	bear	old	bishop
tar	square	strolled	hiccup
char	scare	hold	mixup
sonar	prayer	scold	ketchup
radar	fair	unrolled	pinup
memoir	hardware	twofold	closeup
bizarre	welfare	behold	breakup
cigar	nightmare	billfold	scallop
guitar	pair	rolled	blowup

## Phonological Lists

<b>Dog</b>	<b>Fat</b>	<b>Flag</b>	<b>Fruit</b>
bog	rat	bag	newt
hog	bat	brag	brute
fog	sat	snag	cute
log	gnat	zigzag	boot
smog	brat	rag	root
clog	spat	stag	tribute
frog	that	gag	lute
eggnog	flat	windbag	flute
hedgehog	combat	tag	shoot
prologue	at	drag	suit
hotdog	doormat	sag	salute
Prague	cat	sandbag	dispute
flog	pat	swag	compute
grog	splat	nag	commute
nog	slat	wag	pursuit
cog	hat	shag	acute

<b>Gun</b>	<b>Hand</b>	<b>Hard</b>	<b>Hate</b>
run	brand	yard	weight
son	bland	lard	state
ton	stand	bard	plate
done	sand	guard	inflate
sun	band	card	skate
spun	land	marred	slate
bun	and	scarred	fate
fortune	watchband	regard	gate
felon	newsstand	charred	inmate
fun	expand	bombard	trait
carton	farmland	diehard	grate
nun	grand	junkyard	primate
won	gland	spared	relate
arson	demand	jarred	create
none	command	disbarred	crate
dungeon	disband	lifeguard	rate

## Phonological Lists

<b>High</b>	<b>Law</b>	<b>Mail</b>	<b>Man</b>
goodbye	saw	stale	ran
cry	jaw	fail	ban
dye	grandma	quail	clan
fly	spa	trail	fan
sky	gnaw	snail	tan
rye	paw	wail	bran
apply	awe	cocktail	plan
why	flaw	exhale	scan
eye	slaw	detail	can
imply	jigsaw	sail	van
buy	straw	scale	span
pie	raw	nail	pan
lie	thaw	frail	rattan
shy	claw	rail	began
try	draw	braille	dustpan
thigh	squaw	grail	wingspan

<b>Rain</b>	<b>Right</b>	<b>Rough</b>	<b>Shirt</b>
sane	fight	tough	alert
main	light	bluff	hurt
crane	white	fluff	assert
retain	sight	stuff	invert
stain	quite	puff	skirt
drain	spite	buff	dessert
plain	night	handcuff	exert
pain	bite	earmuff	dirt
brain	might	dandruff	flirt
constrain	polite	enough	curt
regain	plight	duff	blurt
humane	unite	scuff	squirt
sustain	excite	cuff	spurt
champagne	finite	scruff	girt
Maintain	flight	snuff	quirk
membrane	sprite	gruff	expert

## Phonological Lists

<b>Sick</b>	<b>Sleep</b>	<b>Slow</b>	<b>Smell</b>
pick	beep	tow	yell
kick	cheap	row	fell
stick	weep	dough	well
flick	sweep	throw	shell
wick	jeep	though	spell
clique	sheep	show	cell
lick	keep	snow	bell
slick	leap	woe	gel
quick	steep	crow	pastel
nick	seep	no	hell
civic	deep	stow	sell
frantic	creep	below	tell
mimic	heap	hero	swell
brick	peep	shallow	dwell
tick	reap	hello	gazelle
chick	bleep	ago	hotel

<b>Smoke</b>	<b>Snake</b>	<b>Sweet</b>	<b>Test</b>
joke	bake	beat	pest
spoke	make	neat	best
cloak	take	heat	contest
yolk	quake	seat	stressed
stroke	stake	treat	suggest
soak	wake	sleet	midwest
broke	cake	eat	digest
coke	flake	greet	nest
oak	rake	street	quest
choke	fake	feet	crest
evoke	mistake	sheet	vest
folk	shake	pleat	processed
poke	forsake	athlete	expressed
revoke	cornflake	defeat	dressed
baroque	ache	fleet	arrest
stoke	brake	meet	zest

## Phonological Lists

Top	Trash	Wet	Wish
pop	rash	bet	fish
cop	flash	net	dish
slop	bash	set	publish
hop	cash	let	establish
drop	sash	jet	swish
crop	splash	asset	Irish
mop	ash	met	banish
stop	brash	yet	blemish
flop	stash	cadet	fetish
workshop	smash	brunette	rubbish
dewdrop	crash	threat	squish
bellhop	gash	sweat	varnish
eavesdrop	whiplash	sunset	anguish
gumdrop	eyelash	corvette	ticklish
chop	mash	fret	furnish
prop	clash	duet	flourish

	List 1		List 2		List 3		List 4		List 5		List 6		List 7		List 8		List 9		Total Time
	Begin	End																	
Run 1a																			
Run 1b																			
Run 2a																			
Run 2b																			
Run 3a																			
Run 3b																			
Run 4a																			
Run 4b																			
Average																			
TR Time																			
Should start on TR:																			
NOTE:																			

	List 1		List 2		List 3		List 4		List 5		List 6		List 7		List 8		List 9		Total Time
	Begin	End																	
Run 1																			
R1 cont.																			
Run 2																			
R2 cont.																			
Run 3																			
R3 cont.																			
Run 4																			
R4 cont.																			
Average:																			
Correct																			
Time:																			
NOTE:																			