

A Minspeak®  
adult Quick learning system, AQLS  
*Alphabetic – Power in an Hour*

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4,661,916	5,097,425	5,210,689
5,297,041	5,309,546	5,317,671

Patent Pending Application Serial No. 08/487,661

adult *Quick* learning system

*AQLS*

*Alphabetic – Power in an Hour*

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AQLS Alphabetic • Liberator/DeltaTalker/PathFinder Version

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# MINSPEAK® MATRICES

A Minspeak® Matrix is a way of referring to the *arrangement of language* in Minspeak® vocabulary programs.

Each matrix is composed of short key combinations, each of which follows a pattern. They are easy to learn and very powerful.

There are 20 Minspeak® Matrices, an Alphabetic Sort, and Frequently Used Commands for Microsoft Word:

- #1 SINGLE HITS
- #2 DOUBLE HITS
- #3 BIGRAMS, LETTERS, NUMBERS
- #4 PERSONAL PRONOUNS COMBINED WITH HELPING VERBS
- #5 POWER VERB PHRASES
- #6 PERSONAL PRONOUNS
- #7 INDEFINITE PRONOUNS
- #8 POSITIVE PRONOUN-HELPING VERB CONTRACTIONS
- #9 DO VERBS
- #10 QUESTION WORDS
- #11 ADJECTIVES
- #12 NO/NOT HELPING VERBS
- #13 POLITENESS PHRASES
- #14 THE “ALL” MATRIX
- #15 THE “TH” MATRIX
- #16 THE “M” MATRIX
- #17 DAYS OF THE WEEK AND MONTHS OF THE YEAR
- #18 MEASUREMENTS OF TIME
- #19 CARDINAL AND ORDINAL NUMBERS
- #20 MAJOR CITIES IN THE UNITED KINGDOM AND THE REPUBLIC OF IRELAND,  
AND STATES, CAPITALS, COUNTRIES AND PROVINCES OF THE U.S. AND  
CANADA
- Frequently Used Commands for Microsoft Word
- ALPHABETIC DICTIONARY WITH KEY COMBINATIONS

Certain words occur with great frequency. Many, but not all, of these words have been included in this program.

Your first look begins with the arrangement of the color coded overlay that is on your device:

- PINK** = words that are accessed with a single hit on the key;
- GREEN** = words that are accessed by making 2 hits on the same key;
- YELLOW** = spelling characters and numbers.

The following pages will guide you through the vocabulary in detail.

# MINSPEAK® MATRIX #1

## *SINGLE HITS*

**PINK** is the color of the *single hits*. Pushing the location 1 time will speak the word on the key.

The first six of these words in the top row share a space with verb labels. You will learn about the verbs (in blue print below) at a later time.

All of the *single hits* are shown below. Try them.

	<b>a</b> VERB Spch I/O	<b>as</b> VERB +s	<b>if</b> VERB +ing	<b>in</b> VERB +ed	<b>on</b> VERB +en	<b>to</b> to+ VERB	<b>be</b>	<b>been</b>							
		<b>'</b> <b>an</b>													
		<b>.</b> <b>the</b>													
			<b>th</b> <i>THING</i>	<b>st</b> <i>TIME</i>	<b>nd</b> <i>MORE</i>	<b>rd</b> <i>BODY</i>	<b>ONE</b>	<b>WAY</b>	<b>and</b>	<b>but</b>	<b>of</b>	<b>at</b>	<b>so</b>	<b>up</b>	
<b>not</b>  control			<b>YES</b> enter	<b>NO</b> escape							<b>each</b> ←	<b>many</b> ▼	<b>own</b> ▲	<b>other</b> →	

# MINSPEAK® MATRIX #2

## DOUBLE HITS

**GREEN** is the color which indicates the *DOUBLE HITS*. These words will be spoken after 2 presses on the same key.

Nine of these words share a space with other options. (Don't let the half-shaded green space confuse you. They still require a double hit on the same location to say the word).

All of the *DOUBLE HITS* are shown below. Try them.

										will	can	may	would	could	should	
WELL <small>OBJ/day</small>	's <small>POSS/mos</small>							is Hi	are	was Bye	were	has	have	had	might	
( I	) WE							THIS	THAT	THESE	THOSE	THERE	DO 	DOES 	DID 	
- YOU	/ THEY	~ WHERE	" HOW													
@ HE	.com WHO											from	with	by	for	be- cause
\$ SHE	£ WHAT											over	after	then	or	down
! IT	? WHEN												out	else	now	off
	WHY <small>alt/mod</small>	WHICH <small>alt/latch</small>								than	all					

# MINSPEAK® MATRIX #3

## *BI-GRAMS, LETTERS, NUMBERS*

BI-GRAMS are two-letter combinations that occur frequently.

**YELLOW** is the color indicating letters, numbers, and bi-grams.

To use the yellow keys, begin pressing the letters, or bi-grams, and the device will automatically switch into spelling.

A final press of the SPACE key adds a space at the end of the word, speaks the word, and returns the device into the word or Minspeak® mode.

To capitalize the first letter of a word, press the SHIFT key, let it go, and begin spelling. Only the letter following the press of the SHIFT key will be capitalized. DEL CHAR deletes characters (letters) while spelling. DEL LAST deletes the last thing selected in Minspeak mode. This can be a word or an icon.

To delete a letter, press



	0	1	2	3	4									
	5	6	7	8	9									
Q	W	E <small>every</small>	R	T	Y	U	I	O	P	bl	br	ch	cl	
A	S	D	F	G	H	J	K	L	cr	dr	en	es	gl	
'	Z	X	C	V	B	N	M	gr	ph	sh	sl	st	str	
				SHIFT	DEL CHAR DEL LAST	SPACE		tr						

# MINSPEAK® MATRIX #4 PERSONAL PRONOUNS COMBINED WITH HELPING VERBS

A very large Minspeak® Matrix is formed by combining the seven personal pronouns on the left, with the 17 helping verbs in green in the upper right quadrant:

I, you, he, she, it, we, they, + will, can, may, would, could, should, is, are, was, were, has, have, had, might, do, does, did.

Beginning with the pronoun and selecting the helping verb, you generate a statement.

Examples:

I + will = "I will"      I + can = "I can"      I + may = "I may"  
I + would = "I would"      I + could = "I could"      I + should = "I should"

Reversing the sequence gives you the question form:

will + I = "will I"      can + I = "can I"      are + I = "am I"  
would + I = "would I"      could + I = "could I"      should + I = "should I"

The red prediction lights will guide you.

<b>I + will = I will</b>										<b>will + I = will I</b>						
SPEAK DISPLAY	a <small>VERB Spch I/O</small>	as <small>VERB +s</small>	if <small>VERB +ing</small>	in <small>VERB +ed</small>	on <small>VERB +en</small>	to <small>to+ VERB</small>	be	been	CLEAR DISPLAY	will	can	may	would	could	should	
WELL <small>OBJ/day</small>	's <small>POSS/mos</small>	an <small>state/prov.</small>	0 <small>next</small>	1 <small>first</small>	2 <small>second</small>	3 <small>minute</small>	4 <small>hour</small>	IS <small>"hi"</small>	are	was <small>"bye"</small>	were	has	have	had	might	
( ) <small>I</small>	the <small>capital</small>	5 <small>day</small>	6 <small>week</small>	7 <small>month</small>	8 <small>year</small>	9 <small>last</small>	THIS	THAT	THESE	THOSE	THERE	DO <small>adj</small>	DOES <small>adj+er</small>	DID <small>adj+est</small>		
- YOU	/ THEY	~ WHERE	" HOW	th THING	st TIME	nd MORE	rd BODY	ONE	WAY	and	but	of	at	so	up	
@ HE	.com WHO	Q want	W every	E think	R use	T like	Y know	U like	I like	O Polite	from bl	with br	by ch	for cl	be- cause	
\$ SHE	£ WHAT	A any	S some	D go	F go	G go	H go	J know	K like	L like	over cr	after dr	then en	or es	down gl	
! IT	? WHEN	get sun	Z come	X come	C come	V believe	B no(t)	N need	M make	gr give	ph say	out sh	else sl	now st	off str	
not control	WHY alt/mod	WHICH alt/latch	YES enter	NO escape	Spell Minspeak rel.	SHIFT	DEL CHAR DEL LAST BKSP	SPACE	PLURAL TAB	than tr	all	each ←	many ↓	own ↑	other →	

# MINSPEAK® MATRIX #4 (cont.) PERSONAL PRONOUNS COMBINED WITH HELPING VERBS

You can create negative phrases as well.

Adding the ✂ in the lower left, adds the word “not” to the end of your phrase:

I + will + ✂ = *I will not.*      Will + I + ✂ = *Will I not.*

If you place the ✂ between the 2 words, you form a contraction:

I + ✂ + will = *I won't.*      will + ✂ + I = *Won't I.*

**I + knot + will = I won't**

**will + knot + I = won't I**

SPEAK DISPLAY	a VERB Spch I/O	as VERB +s	if VERB +ing	in VERB +ed	on VERB +en	to to+ VERB	be	been	CLEAR DISPLAY	will	can	may	would	could	should	
WELL OBJ/day	's POSS/mos	an state/prov.	0 next	1 first	2 second	3 minute	4 hour	is be	is be	was "bye"	were	has	have	had	might	
( I - YOU @ HE \$ SHE ! IT not control	) WE / THEY .com WHO £ WHAT ? WHY alt/mod	the capital	5 day	6 week	7 month	8 year	9 last	THIS MORE BODY ONE	THAT WAY	THESE and	THOSE but	THERE of	DO adj	DOES adj+er	DID adj+est	up
		WHERE ~	HOW "	THING th	TIME st	MORE nd	BODY rd	ONE WAY	and but	of at	so up	from Polite	with bl	by br	for ch	be- cause cl
		A any	S son	D go	F go	G go	H go	J know	K like	L like	over cr	after dr	then en	or es	down gl	
		Z go	X go	C come	V go	B believe	N no(t)	M make	gr give	ph say	out sh	else sl	now st	off str		
		WHICH alt/latch	YES enter	NO escape	Spell Minspeak rel.	SHIFT	DEL CHAR DEL LAST BKSP	SPACE	PLURAL TAB	than tr	all	each ←	many ↓	own ↑	other →	

# MINSPEAK® MATRIX #5

## POWER VERB PHRASES

"Do" verbs are often used in conjunction with personal pronouns. Such phrases as: "I need," "I think," and "I want" are used consistently throughout our language. Therefore, all of our useful "Do" verbs are also tied to pronouns in the same way as helping verbs.

I +  = "I want"

I +  = "I like"

As with the helping verbs, the reverse of the sequence produces the question form. However, when a "Do" verb forms a question or a negation, the support of "do" is necessary. For example, the question form of "I want," is "Do I want?" The negative forms are "I don't want." and "Don't I want." The "do support" for the "Do" verbs has been added to the icon sequences so that no more keystrokes are required.

 + I = "do I want"

 + I = "do I like"

I + want = I want

want + I = do I want

SPEAK DISPLAY	a VERB Spch I/O	as VERB +s	if VERB +ing	in VERB +ed	on VERB +en	to to + VERB
: WELL OBJ/day	; 's POSS/mos	, an state/prov.	0 next	1 first	2 second	3 minute
( ) I	ve capital	the capital	5 day	6 week	7 month	8 year
- YOU	THE	WHE	" HOW	th THING	st TIME	nd MORE
@ HE	.com WHO	Q W want 	E every	R	T think 	
\$ SHE	£ WHAT	A any	S some	D	F	G go 
! IT	? WHEN	' get 	Z	X	C come 	V
not  control	WHY alt/mod	WHICH alt/latch	YES enter	NO escape	Spell Minspeak rel.	SHIFT

# MINSPEAK® MATRIX #5 (cont.) POWER VERB PHRASES

The negative works in the same way. If you place the  between the 2 words, you form a contraction:

I +  +  = "I don't want"

 +  + I = "Don't I want."

**I + knot + want = I don't want**

**want + knot + I = don't I want**

SPEAK DISPLAY	a VERB Spch I/O	as VERB +s	if VERB +ing	in VERB +ed	on VERB +en	to to+ VERB
WELL OBJ/day	's POSS/mos	an state/prov.	0 next	1 first	2 second	3 minute
( I	) WE	the capital	5 day	6 week	7 month	8 year
- OU	/ THEY	~ WHERE	" HOW	th THING	st TIME	nd MORE
@ HE	.com WHO	Q want 	W every	E every	R think 	T think 
\$ HE	£ WHAT	A some	S some	D go 	F go 	G go 
! IT	? WHEN		Z	X	C come 	V
not  control	WHY alt/mod	WHICH alt/latch	YES enter	NO escape	Spell Minspeak rel.	SHIFT

# MINSPEAK® MATRIX #6

## PERSONAL PRONOUNS

Personal pronouns are within the GREEN two-stroke category.

The subject pronouns: *I, you, he, she, it, we, they* are a double hit on the same location.

The other pronoun forms require sequencing with the OBJ and POSS locations.

OBJ is located on the half-green WELL button, POSS is located on the half-green 's button.

The sequences are as follows:

### SUBJECT PRONOUNS = 2 HITS ON THE SAME ICON

- I = I + I
- you = YOU + YOU
- he = HE + HE
- she = SHE + SHE
- it = IT + IT
- we = WE + WE
- they = THEY + THEY

### OBJECT PRONOUNS

#### *PRONOUN + OBJECT*

- me = I+ OBJ.
- you = YOU + OBJ.
- him = HE + OBJ.
- her = SHE + OBJ.
- it = IT + OBJ.
- us = WE + OBJ.
- they = THEY + OBJ

### REFLEXIVE

#### *OBJECT + PRONOUN*

- myself = OBJ. + I
- yourself = OBJ. + YOU
- himself = OBJ. + HE
- herself = OBJ. + SHE
- itself = OBJ. + IT
- ourselves = OBJ. + WE
- themselves = OBJ. + THEY

SPEAK DISPLAY	a <small>VERB Spch I/O</small>	as <small>VERB +s</small>	if <small>VERB +ing</small>	in <small>VERB +ed</small>	on <small>VERB +en</small>	to <small>to+ VERB</small>
WELL <small>OBJ/day</small>	'; <small>POSS/mos</small>	'an <small>state/prov.</small>	0 <small>next</small>	1 <small>first</small>	2 <small>second</small>	3 <small>minute</small>
↑ I ↓	) WE	.the <small>capital</small>	5 <small>day</small>	6 <small>week</small>	7 <small>month</small>	8 <small>year</small>
- YOU	/ THEY	~ WHERE	" HOW	th THING	st TIME	nd MORE
@ HE	.com WHO	Q <small>want</small>	W <small>WANTED</small>	E <small>every</small>	R <small>think</small>	T <small>think</small>
\$ SHE	£ WHAT	A <small>any</small>	S <small>some</small>	D	F	G <small>go</small>
! IT	? WHEN	get <small>get</small>	Z	X	C <small>come</small>	V <small>go</small>
not <small>control</small>	WHY <small>alt/mod</small>	WHICH <small>alt/latch</small>	YES <small>enter</small>	NO <small>escape</small>	_Spell Minspeak	SHIFT

# MINSPEAK® MATRIX #6 (cont.)

## PERSONAL PRONOUNS

### POSSESSIVE ADJECTIVE

#### *PRONOUN + POSS.*

my = I + POSS.  
 your = YOU + POSS.  
 his = HE + POSS.  
 her = SHE + POSS.  
 its = IT + POSS.  
 our = WE + POSS.  
 their = THEY + POSS.

### POSSESSIVE PRONOUN

#### *POSS. + PRONOUN*

mine = POSS. + I  
 yours = POSS. + YOU  
 his = POSS. + HE  
 hers = POSS. + SHE  
 its = POSS. + IT  
 ours = POSS. + WE  
 theirs = POSS. + THEY

SPEAK DISPLAY	a VERB Spch I/O	as VERB +s	if VERB +ing	in VERB +ed	on VERB +en	to to+ VERB
WELL OBJ/day	's POSS/mos	' an state/prov.	0 next	1 first	2 second	3 minute
( I	) WE	the capital	5 day	6 week	7 month	8 year
- YOU	/ THEY	~ WHERE	" HOW	th THING	st TIME	nd MORE
@ HE	.com WHO	Q	W want 	E every	R	T think 
\$ SHE	£ WHAT	A any	S some	D	F	G go 
! IT	? WHEN	' get 	Z	X	C come 	V
not  control	WHY alt/mod	WHICH alt/latch	YES enter	NO escape	Spell Minspeak	SHIFT

## MINSPEAK® MATRIX #7 INDEFINITE PRONOUNS

Any, every, some, and no, combined with .....

*WHERE, HOW, THING, TIME, MORE, BODY, ONE, WAY*

create a large part of our vocabulary.

Remember to get the words *WHERE, HOW, THING, TIME, MORE, BODY, ONE, WAY* alone, you hit once, PINK or twice, GREEN depending on the color of the key.

The words *any, every, some* and *no* alone are accessed by a double hit on the *A, E, S,* or *N* yellow letter key.

*A + A = any*

*E + E = every*

*S + S = some*

*N + N = no*

To say the words *anywhere, something, everybody* or *no more* you can save keystrokes by following this matrix for indefinite pronouns:

### FIRST HIT

Any

Every

Some

No

### SECOND HIT

WHERE

HOW

THING

TIME

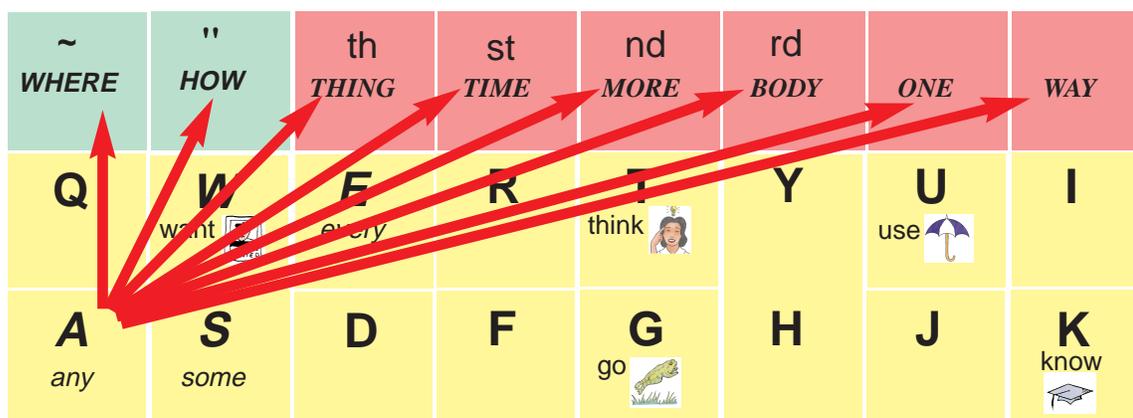
MORE

BODY

ONE

WAY

### EXAMPLES:



***any* + WHERE = anywhere**

***any* + HOW = anyhow**

***any* + THING = anything**

***any* + TIME = anytime**

***any* + MORE = anymore**

***any* + BODY = anybody**

***any* + ONE = anyone**

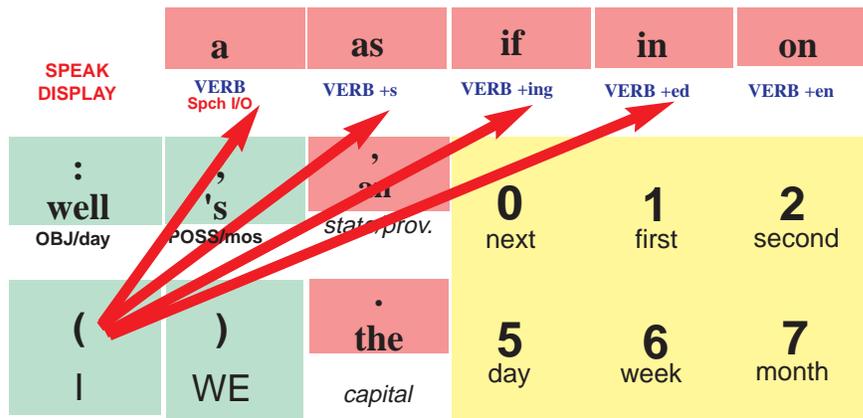
***any* + WAY = anyway**

# MINSPEAK® MATRIX #8

## POSITIVE PRONOUN-HELPING VERB CONTRACTIONS

The subject personal pronouns: I, you, he, she, it, we, they combine with certain helping verbs to form contractions.

The keys you will be using in this Minspeak® Matrix are the **GREEN** pronoun keys on the left of the overlay and the half-pink and white verb form keys in the top row.



**I + verb = I'm**

**I + verb+s = I've**

**I + verb+ing = I'll**

**I + verb+ed = I'd**

### EXAMPLES:

I + VERB = I'm

I + VERB+s = I've

I + VERB+ing = I'll

I + VERB+ed = I'd

YOU + VERB = you're

YOU + VERB+s = you've

YOU + VERB+ing = you'll

YOU + VERB+ed = you'd

HE + VERB = he's

HE + VERB+s = he's

HE + VERB+ing = he'll

HE + VERB+ed = he'd

SHE + VERB = she's

SHE + VERB+s = she's

SHE + VERB+ing = she'll

SHE + VERB+ed = she'd

IT + VERB = it's

IT + VERB+s = it's

IT + VERB+ing = it'll

IT + VERB+ed = it'd

WE + VERB = we're

WE + VERB+s = we've

WE + VERB+ing = we'll

WE + VERB+ed = we'd

THEY + VERB = they're

THEY + VERB+s = they've

THEY + VERB+ing = they'll

THEY + VERB+ed = they'd

# MINSPEAK® MATRIX #9

## "Do" VERBS

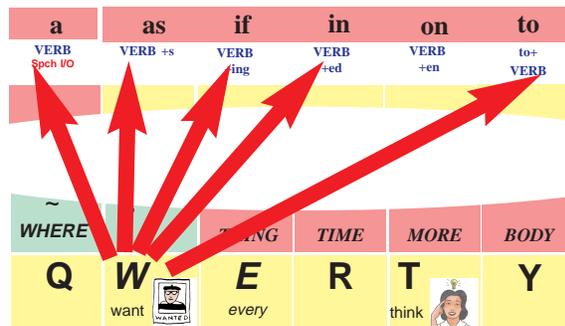
English has two kinds of verbs. "Helping" verbs form questions by changing or inverting their order. The question form of "I will" is "will I." "Do" verbs become questions by adding a form of "do" in front of the verb. The question form of "I talk" is "do I talk" not "talk I." 13 "Do" verbs have been selected for AQLS Alphabetic because of their frequency and usefulness. Each "Do" verb has several forms. For example:

want, wants, wanting, wanted, to want  
 need, needs, needing, needed, to need

To generate verb forms, you will be using the 13 **YELLOW** keys with icons on them, paired with the half **PINK** and white verb keys in the top row:

Here are the first 13.

- WANT + VERB = want**
- WANT + VERB +s = wants**
- WANT + VERB +ing = wanting**
- WANT + VERB +ed = wanted**
- WANT + to+VERB = to want**



Following is a list of the icons, the rationale for the association, and one form of the verb:

- (W) + VERB = want      The *criminal* is "wanted."
- (') + VERB = get      The *rising sun* tells us to "get" up.
- (T) + VERB = think      The *woman* is "thinking."
- (U) + VERB = use      We "use" an *umbrella* when it rains.
- (ph) + VERB = say      The *telephone* helps us "say" things.
- (G) + VERB = go      The *frog* is "going" somewhere.
- (K) + VERB = know      When we graduate, we think we "*know*" everything.
- (L) + VERB = like      The *sun* has a "likable" smiling face.
- (C) + VERB = come      We tell the *dog* to "come."
- (N) + VERB = need      Sometimes your *signature* is "needed."
- (gr) + VERB = give      You "give" *flowers*.
- (B) + VERB = believe      The *philosopher* teaches us what to "believe."
- (M) + VERB = make      You "make" things with a *hammer*.

MINSPEAK® MATRIX #9 (cont.)  
 "Do" VERBS (double hits + verb)

Here are the next 13. There are 26 in all.

A double hit on each icon, will produce another "Do" verb if it is followed by one of the verb keys in the top row. For example, two hits on "W" or "WANTED criminal" followed by a verb key in the top row produces the word "mean" because the "WANTED criminal" is "mean." Here is a list of 13 double hit "Do" verbs.

 (W)	+	 (W)	+	VERB	=	mean
 (T)	+	 (T)	+	VERB	=	remember
 (U)	+	 (U)	+	VERB	=	save
 (G)	+	 (G)	+	VERB	=	leave
 (K)	+	 (K)	+	VERB	=	understand
 (L)	+	 (L)	+	VERB	=	hope
 (')	+	 (')	+	VERB	=	put
 (C)	+	 (C)	+	VERB	=	bring
 (B)	+	 (B)	+	VERB	=	guess
 (N)	+	 (N)	+	VERB	=	learn
 (gr)	+	 (gr)	+	VERB	=	take
 (M)	+	 (M)	+	VERB	=	make
 (ph)	+	 (ph)	+	VERB	=	call

# MINSPEAK® MATRIX #10

## QUESTION WORDS

English has a series of words which are called “question words.”

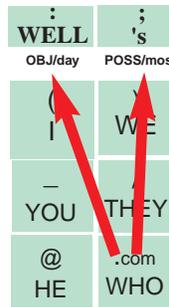
They are in the category of **GREEN** words which are accessed by two hits on the same key.

Question Words are located in the area of the personal pronouns which are on the left of the device.

- |  |  |
|--|--|
| <p><i>who</i> = WHO + WHO<br/> <i>when</i> = WHEN + WHEN<br/> <i>why</i> = WHY + WHY<br/> <i>how</i> = HOW + HOW</p> | <p><i>what</i> = WHAT + WHAT<br/> <i>where</i> = WHERE + WHERE<br/> <i>which</i> = WHICH + WHICH</p> |
|--|--|

There are, of course, two exceptions:

- whom* = WHO + OBJ/day  
*whose* = WHO + POSS/mos



These question words also combine with the 17 helping verbs in the right to form phrases. Here are 3 examples:

- WHO + is = *who is*  
 WHO + was = *who was*  
 WHO + will = *who will*

SPEAK DISPLAY	<b>a</b> <small>VERB Spch W0</small>	<b>as</b> <small>VERB +s</small>	<b>if</b> <small>VERB +ing</small>	<b>in</b> <small>VERB +ed</small>	<b>on</b> <small>VERB +en</small>	<b>to</b> <small>to+ VERB</small>	<b>be</b>	<b>been</b>	CLEAR DISPLAY	<b>will</b>
<b>well</b> <small>OBJ/day</small>	<b>'s</b> <small>POSS/mos</small>	<b>'an</b> <small>state/prov.</small>	<b>0</b> <small>next</small>	<b>1</b> <small>first</small>	<b>2</b> <small>second</small>	<b>3</b> <small>minute</small>	<b>4</b> <small>hour</small>	<b>is</b> <small>mi</small>	<b>are</b>	<b>was</b> <small>"bye"</small>
<b>(</b>	<b>)</b> <b>WE</b>	<b>the</b> <small>capital</small>	<b>5</b> <small>day</small>	<b>6</b> <small>week</small>	<b>7</b> <small>month</small>	<b>8</b> <small>year</small>	<b>9</b> <small>last</small>	<b>THIS</b>	<b>THAT</b>	<b>THESE</b>
<b>-</b> <b>YOU</b>	<b>/</b> <b>THEY</b>	<b>WHERE</b>	<b>"</b> <b>ANY</b>	<b>THING</b>	<b>TIME</b>	<b>nd</b> <b>MORE</b>	<b>rd</b> <b>BODY</b>	<b>ONE</b>	<b>WAY</b>	<b>and</b>
<b>@</b> <b>HE</b>	<b>.com</b> <b>WHO</b>	<b>Q</b> <b>W</b> <small>want</small>	<b>E</b> <small>every</small>	<b>R</b> <small>think</small>	<b>T</b> <small>think</small>	<b>Y</b> <small>use</small>	<b>U</b> <small>use</small>	<b>I</b>	<b>O</b>	

### "EVER" WORDS

These question words also combine with the letter E (every) to form several words:

- |  |   |
|--|---|
| <p><i>whoever</i> = WHO + Every<br/> <i>whenever</i> = WHEN + Every<br/> <i>why ever</i> = WHY + Every</p> | <p><i>whatever</i> = WHAT + Every<br/> <i>whichever</i> = WHICH + Every</p> |
|--|---|



# MINSPEAK® MATRIX #12

## NO/NOT + HELPING VERBS

English has many ways to negate.

*No* and *not* are similar in meaning.

Both "NO" and "not" are SINGLE HITS PINK keys on the bottom left of the keyboard.

However, the English language forms many negative contractions with helping verbs.

These forms are obtained by striking one of 17 green keys in the upper right quadrant followed by the "N" key.

EXAMPLES:

**is + N = isn't**

been	CLEAR DISPLAY	will
is "hi"	are	was "bye"
THIS	THAT	THESE

U use	I	O
J	K	L
N no(t)	M	gr
need	make	give

↓

**are + N = aren't**

been	CLEAR DISPLAY	will
is "hi"	are	was "bye"
THIS	THAT	THESE

U use	I	O
J	K	L
N no(t)	M	gr
need	make	give

↙

**will + N = won't**

been	CLEAR DISPLAY	will
is "hi"	are	was "bye"
THIS	THAT	THESE

U use	I	O
J	K	L
N no(t)	M	gr
need	make	give

↘

**was + N = wasn't**

been	CLEAR DISPLAY	will
is "hi"	are	was "bye"
THIS	THAT	THESE

U use	I	O
J	K	L
N no(t)	M	gr
need	make	give

↘

# MINSPEAK® MATRIX #13

## POLITENESS PHRASES

Short phrases to express politeness are features of every language. In English, perhaps, the three most important are: “Please.” “Thank you.” and “You’re welcome.” They are achieved in AQLS Alphabetic by selecting the letter “P” for politeness followed by the three keys; “do,” “does,” and “did.”

### POLITE RESPONSES

- Polite + (DO) = Please.
- Polite + (DOES) = Thank you.
- Polite + (DID) = You’re welcome.

### GREETINGS (“is” indicates the present tense)

- is “hi” + (DO) = Hello.
- is “hi” + (DOES) = Good morning.
- is “hi” + (DID) = How are you?

### PARTINGS (“was” indicates the past tense)

- was “bye” + (DO) = Good-bye.
- was “bye” + (DOES) = See you later.
- was “bye” + (DID) = So long.

All the green helping verb keys in the upper right quadrant are available to be combined with the (DO) keys for special phrases.

- P +  (DO) = Please
- P +  (DOES) = Thank you
- P +  (DID) = You’re welcome

<b>SPEAK DISPLAY</b>	<b>a</b> <small>VERB Spch VO</small>	<b>as</b> <small>VERB +s</small>	<b>if</b> <small>VERB +ing</small>	<b>in</b> <small>VERB +ed</small>	<b>on</b> <small>VERB +en</small>	<b>to</b> <small>to+ VERB</small>	<b>be</b>	<b>been</b>	<b>CLEAR DISPLAY</b>	will	can	may	would	could	should
<b>WELL</b> <small>OBJ/day</small>	<b>'s</b> <small>POSS/mos</small>	<b>'an</b> <small>state/prov.</small>	<b>0</b> <small>next</small>	<b>1</b> <small>first</small>	<b>2</b> <small>second</small>	<b>3</b> <small>minute</small>	<b>4</b> <small>hour</small>	<b>is</b> <small>"hi"</small>	are	was <small>"bye"</small>	were	has	have	had	might
<b>(</b> <b>I</b>	<b>)</b> <b>WE</b>	<b>the</b> <small>capital</small>	<b>5</b> <small>day</small>	<b>6</b> <small>week</small>	<b>7</b> <small>month</small>	<b>8</b> <small>year</small>	<b>9</b> <small>last</small>	<b>THIS</b>	<b>THAT</b>	<b>THESE</b>	<b>THOSE</b>	<b>THERE</b>	<b>DO</b> <small>adj</small>	<b>DOES</b> <small>adj+er</small>	<b>DID</b> <small>adj+est</small>
<b>_</b> <b>YOU</b>	<b>/</b> <b>THEY</b>	<b>WHERE</b>	<b>"</b> <b>HOW</b>	<b>th</b> <small>THING</small>	<b>st</b> <small>TIME</small>	<b>nd</b> <small>MORE</small>	<b>rd</b> <small>BODY</small>	<b>ONE</b>	<b>WAY</b>	<b>and</b>	<b>but</b>	<b>of</b>	<b>at</b>	<b>so</b>	<b>up</b>
<b>@</b> <b>HE</b>	<b>.com</b> <b>WHO</b>	<b>Q</b>	<b>W</b> <small>want</small>	<b>E</b> <small>every</small>	<b>R</b>	<b>T</b> <small>think</small>	<b>Y</b>	<b>U</b> <small>use</small>	<b>I</b>	<b>O</b>	<b>from</b> <b>Polite</b>	<b>with</b> <b>bl</b>	<b>by</b> <b>br</b>	<b>for</b> <b>ch</b>	<b>be-cause</b> <b>cl</b>
<b>\$</b> <b>SHE</b>	<b>£</b> <b>WHAT</b>	<b>A</b> <small>any</small>	<b>S</b> <small>some</small>	<b>D</b>	<b>F</b>	<b>G</b> <small>go</small>	<b>H</b>	<b>J</b>	<b>K</b> <small>know</small>	<b>L</b> <small>like</small>	<b>over</b> <b>cr</b>	<b>after</b> <b>dr</b>	<b>then</b> <b>en</b>	<b>or</b> <b>es</b>	<b>down</b> <b>gl</b>
<b>!</b> <b>IT</b>	<b>?</b> <b>WHEN</b>	<b>'</b> <small>get</small>	<b>Z</b>	<b>X</b>	<b>C</b> <small>come</small>	<b>V</b>	<b>B</b> <small>believe</small>	<b>N</b> <small>no(t)</small>	<b>M</b> <small>make</small>	<b>gr</b> <small>give</small>	<b>ph</b> <small>say</small>	<b>out</b> <b>sh</b>	<b>else</b> <b>sl</b>	<b>now</b> <b>st</b>	<b>off</b> <b>str</b>
<b>not</b> <small>control</small>	<b>WHY</b> <small>alt/mod</small>	<b>WHICH</b> <small>alt/latch</small>	<b>YES</b> <small>enter</small>	<b>NO</b> <small>escape</small>	<b>Spell</b> <b>Minspeak</b> <small>rel.</small>	<b>SHIFT</b>	<b>DEL CHAR</b> <b>DEL LAST</b> <b>BKSP</b>	<b>SPACE</b>	<b>PLURAL</b> <b>TAB</b>	<b>than</b> <b>tr</b>	<b>all</b>	<b>each</b> <small>←</small>	<b>many</b> <small>↓</small>	<b>own</b> <small>↑</small>	<b>other</b> <small>→</small>

# MINSPEAK® MATRIX #14

## THE "ALL" MATRIX

There are six "all" words:

"All" is in the bottom row in green:

After pressing the "all" key, six locations in the Minspeak® Matrix will be predicted (by a red light):

- all + M = almost
- all + T = although
- all + R = already
- all + S = also
- all + W = always
- all + tr = alright

- all + M = almost
- all + S = also
- all + T = although
- all + W = always
- all + R = already
- all + tr = alright

Q	W <small>want</small> 	E <small>every</small>	R <small>think</small> 	T <small>use</small> 	Y	U <small>use</small> 	I	O	from <b>Polite</b>
A <small>any</small>	S <small>some</small>	D	F <small>go</small> 	G <small>go</small> 	H	J <small>know</small> 	K <small>like</small> 	L <small>like</small> 	over <b>cr</b>
<small>get</small> 	Z	X	C <small>come</small> 	V <small>believe</small> 	B <small>believe</small> 	N <small>need</small> 	M <small>make</small> 	W <small>give</small> 	ph <small>say</small> 
WHICH <small>alt/latch</small>	YES <small>enter</small>	NO <small>escape</small>	<u>Spell</u> Minspeak rel.	SHIFT	<u>DEL CHAR</u> <u>DEL LAST</u> BKSP	SPACE	PLURAL TAB	than tr	all

# MINSPEAK® MATRIX #15

## "TH" MATRIX

"TH" words - *this, that, these, those, there* are in **GREEN** and therefore require a double hit to speak those words.

**this + this = this**

is "hi"	are	was "bye"	were	has
THIS	THAT	THESE	THOSE	THERE

These words are also frequently used in partner with words:  
*will, can, may, would, could, should, is, are, was, were, has, have, had, might, do, does, did*

To say a phrase such as "*this is*", you press the THIS key followed by "is".  
 To get the question form, you reverse the sequence.

### STATEMENT

THIS + will = this will  
 THIS + can = this can  
 THIS + may = this may  
 THIS + would = this would  
 THIS + could = this could  
 THIS + should = this should  
 THIS + is = this is  
 THIS + was = this was  
 THIS + has = this has  
 THIS + might = this might  
 THIS + does = this does

### QUESTION

will + THIS = will this  
 can + THIS = can this  
 may + THIS = may this  
 would + THIS = would this  
 could + THIS = could this  
 should + THIS = should this  
 is + THIS = is this  
 was + THIS = was this  
 has + THIS = has this  
 might + THIS = might this  
 does + THIS = does this

**THIS+ is = this is**  
**THIS+ was = this was**  
**THIS+ has = there has**

**is + THIS = is this**  
**was + THIS = was this**  
**has + THIS = has this**

is "hi"	are	was "bye"	were	has
THIS	THAT	THESE	THOSE	THERE

## MINSPEAK® MATRIX #16

### THE “M” ADVERB MATRIX

The “M” matrix is a minor but useful matrix with only three members.  
All three words are adverbs of quantity: *much*, *very*, and *most*.

Because adverbs are describing words like adjectives, the  key is used.  
The codes for these words start with the letter “M”.

M +  do = much

M +  does = very

M +  did = most

NOTE: Although *more* and *many* belong with these quantity modifiers, they are so common that they merit their own single-hit **PINK** keys.

# MINSPEAK® MATRIX #17

## DAYS OF THE WEEK

### MONTHS OF THE YEAR

The day and month names, while not individually significant, are as a group quite useful to have available as short forms.

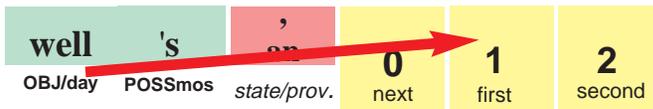
#### DAYS OF THE WEEK

Select the half-green and white well-**OBJ/day** button followed by the numbers 1 through 7 (Monday through Sunday.)

*Example:*            OBJ/day + 1 = Monday

OBJ/day + 2 = Tuesday

#### OBJ/day + 1 = Monday



#### OBJ/day + 2 = Tuesday

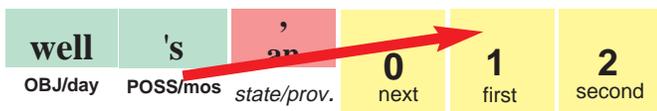


#### MONTHS OF THE YEAR

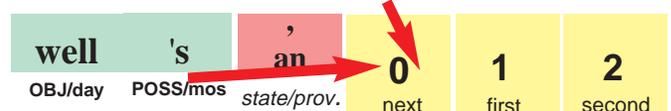
Select the half-green and white 's-**POSS/mos** button followed by 1 through 9 (January through September)  
And 0 0 for October, 0 1 for November, 0 2 for December

*Example:*            POSS/mos + 1 = January  
                           POSS/mos + 6 = June  
                           POSS/mos + 0 + 0 = October  
                           POSS/mos + 0 + 1 = November

#### POSS/mos + 1 = January



#### POSS/mos + 00 = October



#### POSS/mos + 6 = June



#### POSS/mos + 01 = November



# MINSPEAK® MATRIX #18

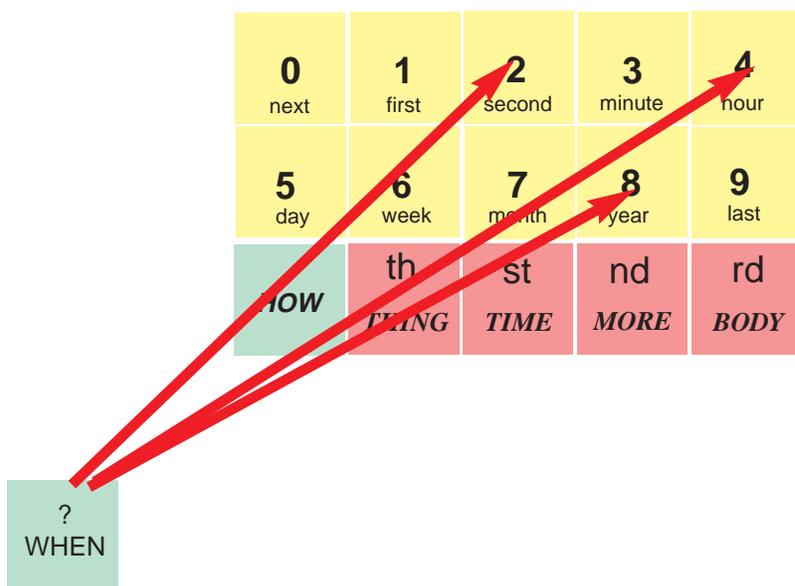
## MEASUREMENTS OF TIME

Language is rich in words used to measure time.

The **GREEN** WHEN key combines with the numbers 2 through 8 to form increasing increments of time beginning with *second*.

- WHEN + 1 = first
- WHEN + 2 = second
- WHEN + 3 = minute
- WHEN + 4 = hour
  
- WHEN + 5 = day
- WHEN + 6 = week
- WHEN + 7 = month
- WHEN + 8 = year
- WHEN + 9 = last

**HELPFUL HINTS:** The first row of numbers = small units of time: next, first, second, minute, hour  
 The second row = larger measures of time: day, week, month, year, last  
 To make these words **PLURAL**, hit the plural key that is on the bottom row to the right of the SPACE key.



## MINSPEAK® MATRIX # 19

### CARDINAL AND ORDINAL NUMBERS

Cardinal numbers (1, 2, 3) are achieved by actuating the number keys 0 through 9. If you wish to say 634 (six hundred thirty-four), press, 6 3 4. You will hear each number as you activate it. Hitting the SPACE key then synthesizes the number to speak “six hundred and thirty-four.”

Ordinal numbers (1st, 2nd, 3rd, 4th) can be achieved by speaking the number followed by the desired ending (th, st, nd, or rd) located on the pink keys in row 4 shared with the single hit words **th/THING**, **st/TIME**, **nd/MORE**, **rd/BODY**.

**1 + 8 + th + space = 18th**

<b>0</b> next	<b>1</b> first	<b>2</b> second	<b>3</b> minute	<b>4</b> hour
<b>5</b> day	<b>6</b> week	<b>7</b> month	<b>8</b> year	<b>9</b> last
“ <b>HOW</b>	<b>th</b> <b>THING</b>	<b>st</b> <b>TIME</b>	<b>nd</b> <b>MORE</b>	<b>rd</b> <b>BODY</b>

**3 + 2 + nd + space = 32nd**

<b>0</b> next	<b>1</b> first	<b>2</b> second	<b>3</b> minute	<b>4</b> hour
<b>5</b> day	<b>6</b> week	<b>7</b> month	<b>8</b> year	<b>9</b> last
“ <b>HOW</b>	<b>th</b> <b>THING</b>	<b>st</b> <b>TIME</b>	<b>nd</b> <b>MORE</b>	<b>rd</b> <b>BODY</b>

MINSPEAK® MATRIX # 20  
*MAJOR CITIES IN THE UNITED KINGDOM AND  
 THE REPUBLIC OF IRELAND AND STATES, CAPITALS,  
 COUNTRIES AND PROVINCES OF THE U.S. AND CANADA*

Ten major cities in the British Isles have been included. The way to produce the names of these cities is to select the WHERE key followed by a two-letter combination. For instance, WHERE + L + I gives you Liverpool.

Birmingham	WHERE	+	B	+	I
Cardiff	WHERE	+	C	+	A
Dublin	WHERE	+	D	+	U
Edinburgh	WHERE	+	br		
Glasgow	WHERE	+	G	+	L
Liverpool	WHERE	+	L	+	I
London	WHERE	+	L	+	O
Belfast	WHERE	+	B	+	E
Manchester	WHERE	+	M	+	A
Swansea	WHERE	+	S	+	W

*Countries of the United Kingdom and the British Isles*

England	WHERE	+	en		
Scotland	WHERE	+	S	+	C
Wales	WHERE	+	W	+	A
Northern Ireland	WHERE	+	N	+	I
Republic of Ireland	WHERE	+	R	+	I

*States in the U.S. (postal code followed by state key)*

Alabama	A	+	L	+	an-state/prov.	Iowa	I	+	A	+	an-state/prov.
Alaska	A	+	K	+	an-state/prov.	Kansas	K	+	S	+	an-state/prov.
Arizona	A	+	Z	+	an-state/prov.	Kentucky	K	+	Y	+	an-state/prov.
Arkansas	A	+	R	+	an-state/prov.	Louisiana	L	+	A	+	an-state/prov.
California	C	+	A	+	an-state/prov.	Maine	M	+	E	+	an-state/prov.
Colorado	C	+	O	+	an-state/prov.	Maryland	M	+	D	+	an-state/prov.
Connecticut	C	+	T	+	an-state/prov.	Massachusetts	M	+	A	+	an-state/prov.
Delaware	D	+	E	+	an-state/prov.	Michigan	M	+	I	+	an-state/prov.
Florida	F	+	L	+	an-state/prov.	Minnesota	M	+	N	+	an-state/prov.
Georgia	G	+	A	+	an-state/prov.	Mississippi	M	+	S	+	an-state/prov.
Hawaii	H	+	I	+	an-state/prov.	Missouri	M	+	O	+	an-state/prov.
Idaho	I	+	D	+	an-state/prov.	Montana	M	+	T	+	an-state/prov.
Illinois	I	+	L	+	an-state/prov.	Nebraska	N	+	E	+	an-state/prov.
Indiana	I	+	N	+	an-state/prov.						

## MINSPEAK® MATRIX # 20 (cont.)

### *STATES IN THE U.S. (Postal codes followed by state key)*

Nevada	N	+	V	+	an-state/prov.	South Carolina	S	+	C	+	an-state/prov.
New Hampshire	N	+	H	+	an-state/prov.	South Dakota	S	+	D	+	an-state/prov.
New Jersey	N	+	J	+	an-state/prov.	Tennessee	T	+	N	+	an-state/prov.
New Mexico	N	+	M	+	an-state/prov.	Texas	T	+	X	+	an-state/prov.
New York	N	+	Y	+	an-state/prov.	Utah	U	+	T	+	an-state/prov.
North Carolina	N	+	C	+	an-state/prov.	Vermont	V	+	T	+	an-state/prov.
North Dakota	N	+	D	+	an-state/prov.	Virginia	V	+	A	+	an-state/prov.
Ohio	O	+	H	+	an-state/prov.	Washington	W	+	A	+	an-state/prov.
Oklahoma	O	+	K	+	an-state/prov.	West Virginia	W	+	V	+	an-state/prov.
Oregon	O	+	R	+	an-state/prov.	Wisconsin	W	+	I	+	an-state/prov.
Pennsylvania	P	+	A	+	an-state/prov.	Wyoming	W	+	Y	+	an-state/prov.
Rhode Island	R	+	I	+	an-state/prov.						

### *Capitals of U.S. Cities (postal codes followed by capital key)*

Montgomery	A	+	L	+	the-capital	Helena	M	+	T	+	the-capital
Juneau	A	+	K	+	the-capital	Lincoln	N	+	E	+	the-capital
Phoenix	A	+	Z	+	the-capital	Carson City	N	+	V	+	the-capital
Little Rock	A	+	R	+	the-capital	Concord	N	+	H	+	the-capital
Sacramento	C	+	A	+	the-capital	Trenton	N	+	J	+	the-capital
Denver	C	+	O	+	the-capital	Santa Fe	N	+	M	+	the-capital
Hartford	C	+	T	+	the-capital	Albany	N	+	Y	+	the-capital
Washington, D.C.	D	+	C	+	the-capital	Raleigh	N	+	C	+	the-capital
Dover	D	+	E	+	the-capital	Bismarck	N	+	D	+	the-capital
Tallahassee	F	+	L	+	the-capital	Columbus	O	+	H	+	the-capital
Atlanta	G	+	A	+	the-capital	Oklahoma City	O	+	K	+	the-capital
Honolulu	H	+	I	+	the-capital	Salem	O	+	R	+	the-capital
Boise	I	+	D	+	the-capital	Harrisburg	P	+	A	+	the-capital
Springfield	I	+	L	+	the-capital	Providence	R	+	I	+	the-capital
Indianapolis	I	+	N	+	the-capital	Columbia	S	+	C	+	the-capital
Des Moines	I	+	A	+	the-capital	Pierre	S	+	D	+	the-capital
Lexington	K	+	Y	+	the-capital	Nashville	T	+	N	+	the-capital
Topeka	K	+	S	+	the-capital	Austin	T	+	X	+	the-capital
Baton Rouge	L	+	A	+	the-capital	Salt Lake City	U	+	T	+	the-capital
Augusta	M	+	E	+	the-capital	Montpelier	V	+	T	+	the-capital
Boston	M	+	A	+	the-capital	Richmond	V	+	A	+	the-capital
Annapolis	M	+	D	+	the-capital	Olympia	W	+	A	+	the-capital
Lansing	M	+	I	+	the-capital	Charleston	W	+	V	+	the-capital
St. Paul	M	+	N	+	the-capital	Madison	W	+	I	+	the-capital
Jackson	M	+	S	+	the-capital	Cheyenne	W	+	Y	+	the-capital
Jefferson City	M	+	O	+	the-capital						

## MINSPEAK® MATRIX # 20 (*cont.*)

### *Canadian Provinces (Two-letter abbreviation followed by state/prov.)*

Alberta	A + B + state/prov.
British Columbia	B + C + state/prov.
Manitoba	M + B + state/prov.
New Brunswick	N + B + state/prov.
Newfoundland	N + F + state/prov.
Nova Scotia	N + S + state/prov.
Ontario	O + N + state/prov.
Prince Edward Island	P + E + state/prov.
Saskatchewan	S + K + state/prov.

### *Provincial Capitals (Two-letter abbreviation followed by capital)*

Edmonton	A + B + the-capital
Victoria	B + C + the-capital
Winnipeg	M + B + the-capital
Fredericton	N + B + the-capital
St. John's	N + F + the-capital
Halifax	N + S + the-capital
Toronto	O + N + the-capital
Charlottetown	P + E + the-capital
Regina	S + K + the-capital
Quebec City	Q + U + the-capital

## Using AQLS to Access a Personal Computer

This section covers the steps needed to use AQLS to access a personal computer. Once an operator has mastered the Minspeak sequences that make up the AQLS vocabulary, he/she can employ them to create computer text documents. In addition, AQLS has twelve spell mode key assignments and sixteen icon sequences that contain specific commands to help manage a Microsoft Windows, graphical user interface.

### How to Connect Your Minspeak Device to a Personal Computer.

These instructions are only applicable for a PC computer; one that uses the Microsoft Windows, 95, 98 or 2000 operating system.

#### **The Physical Connection.**

You will need a serial cable. Use a MTI-5 cable for either a Liberator or DeltaTalker. Use a PF/VG TO IBM/PC for a Pathfinder. This cable is included with your device.

1. Connect one end of your cable to the serial port of your communication aid.
2. Connect the other end of the cable to the COM1 Serial port of your PC computer. Note: Some PC computers use the COM1 port for other devices such as a modem, in which case you will need to use the COM2 port. Consult your computer documentation if you need help identifying the location of COM1.

#### **Setting up the Computer.**

1. Start your PC computer; wait for the DESKTOP to appear.
2. Use your mouse and point to the MY COMPUTER icon and double click. The MY COMPUTER window will open.
3. Look inside the MY COMPUTER window and locate a folder with the label CONTROL PANEL; double click on this folder. The CONTROL PANEL window will open.
4. Look inside the CONTROL PANEL window and locate an icon with the label ACCESSIBILITY OPTIONS. (it looks like a wheelchair). Double click this wheelchair icon; the ACCESSIBILITY PROPERTIES set up panel with five tabs will appear.
5. Click once on the tab labeled GENERAL, this panel will come to the foreground.
6. Point and click as necessary to clear any check marks in the first three boxes; check the fourth box which has the statement "Support SerialKeys devices".
7. Click on the button marked "Settings"; a small dialog box labeled SETTINGS FOR SERIALKEYS will appear.
8. Set the Serial port to COM1 (unless you are using a different port on your PC); set the Baud rate to 1200. Click the OK button; the little dialog box will close.
9. Click the APPLY button at the bottom of the ACCESSIBILITY PROPERTIES box; after a few seconds the button will turn dim.
10. Click the OK button at the bottom of the ACCESSIBILITY PROPERTIES box; in a few seconds the entire box will disappear.
11. For the SerialKeys settings to take effect, you will need to restart your computer, do this now.

## Setting up the Communication Device

### If you are using a Liberator.

1. Turn on the Liberator; lift the keyguard and select the OUTPUT MENU function located at F2. The Output menu will appear on the display.
2. Set PRINTER MODE = OFF (do this by pressing the "1" key as needed).
3. Set SERIAL OUTPUT MODE TO= IMMEDIATE (do this by pressing the "2" key as needed).
4. Set BAUD RATE = 1200 (do this by pressing the "3" key as needed).
5. Set CHARACTERS PER LINE = UNLIMITED (do this by pressing the "4" key and entering zero for the line length).
6. Press the "7" to advance to the next screen.
7. Set DATA BITS = 8, STOP BITS = 1 and PARITY = NONE.
8. Use the 7 key to advance to the last two screens; turn off or disable all items on these screens.
9. Press the five key to exit from the OUTPUT MENU.

### If you are using a DeltaTalker.

1. Pry off the keyguard and remove the overlay.
1. Open the little door in the upper right corner of the front panel and turn on the DeltaTalker.
2. Press the TOOLS button until the indicator light is illuminated
3. Press the key marked OUTPUT at K2.
4. Repeatedly press the key marked NEXT MENU ITEM at F1 to sequentially view the Output settings.
5. Press the CHANGE ITEM key as necessary to achieve the following settings:  
Serial Output = >ON<  
Serial Output Mode = >IMMEDIATE<  
Send Output From = >RS232 PORT<  
Character Pacing = >OFF<  
Baud Rate = >1200<
6. Press EXIT key at H1 to leave the OUTPUT menu.

### If you are using a Pathfinder.

1. Press the I/O contact pad at the top left of the front panel to start the Pathfinder.
2. Press the Status Pad (illustrated with two little circular gages) at the upper left of the front panel to bring up the STATUS screen.
3. On the dynamic display, press the button marked TOOL BOX ( right side of display)
4. In approximately the middle of the dynamic screen, select the OUTPUT button.
5. Six setting buttons will appear; press these buttons as needed to achieve the following settings.

Output Method - RS232	Output Mode - IMMEDIATE
Output - ON	Baud Rate - 1200
Auto Line Feed - OFF	Character Pacing - OFF

6. Press the OK Button to close the Output set up box.

## Testing Keyboard Emulation

By this point you should have connected your serial cable, set up ACCESSIBILITY OPTIONS on your PC (and restarted your PC) and setup the Output menu on your communication device. It's time to test the system.

1. On your PC, launch a word processor such as Notepad or Microsoft Word. Open a new document and make sure text appears when you type on the computer's regular keyboard.
2. Place your communication device in Spell mode and try entering some alphabet characters. The characters should appear on both the communication aid display and on the computer monitor.
3. Place your communication aid in Minspeak mode. Enter some icon sequences. Words and phrases should appear on both the communication aid display and on the computer monitor.
4. If you cannot get text to appear; recheck your set up steps; contact PRC technical service for further guidance. Their number is (800) 262-1990.

## Using The Computer Access Features Available in AQLS.

AQLS includes two groups of special command tools to aid in operating a PC computer. They are: 1) single hit spell mode assignments and 2) application specific commands stored under icon sequences (In a moment, we'll explain what these terms mean). Regardless of whether you are helping an individual with a disability or have a disability yourself, it's very important to understand the reasons behind the creation of these two distinct tool categories. Please read the next few paragraphs carefully. The information is crucial to successfully using your communication device for computer access.

Graphical User Interfaces (GUI's), the point and click environment provided by Mac OS, and Windows,, have made software much easier to learn and operate and has revolutionize computing. Computers are no longer a math tool for scientists and engineers, they have emerged in the past five years as a full-blown consumer product with many truly exciting life enhancing features such as e-mail, distance learning and every imaginable form of media, entertainment and marketing delivered through the mushrooming Internet. But to enjoy this treasure trove of software, you have to be able to access it.

Within the GUI environment, there are two methods for generating computer commands 1) Navigation; 2) Encoding. When computer operators enter commands by navigation; they execute a sequence of visual inspections and pointing gestures. When operators enter commands by encoding, they already know the precise task they wish the computer to perform and want to convey it with minimum effort. An example will help illustrate how these two quite different methods achieve the same result.

Suppose you are operating a word processor. After several minutes of typing you realize its time to save your file. If you're new to your word processing program, you may not know exactly how to save your project so you use the navigation method. You pick up your mouse, point to the menu bar and click once with the left mouse button. You drag the mouse cursor along the menu bar. The menus drop open one after another revealing every command available in the program. You visually scan and determines that the Save command is four items down

on the File menu. You then point to Save and click and the computer saves the file. Let's jump forward two months. You've used your word processor on a regular basis and know exactly what it means to save your file. You've noticed that to the right of the Save command on the File menu is the abbreviation, Ctrl+S. You've learned that by holding down the Control key and pressing S on the keyboard, you can save your file and never touch the mouse. You are now entering the Save command by encoding. Note: Encoding is also referred to as keyboard alternatives, keyboard shortcuts or keyboard acceleration) Encoding is much quicker and less distracting than navigation.

Let's reflect a moment on these two command methods - navigation and encoding. Each has certain benefits and limitations. Navigation requires less cognitive effort; you don't have to know precisely what you're doing; you can search around the screen with your mouse and seek out the command you need. In terms of motor demands, however, a mouse is clearly very wasteful. Encoding is mechanically simple but allows no ambiguity in your knowledge. Enter the wrong code and you can sink your project and never know why! With encoding, the computer performs the task instantly, often without any feedback.

What are the implications for individuals using a communication device for computer access? Unimpaired persons can use a mouse to drive the graphical user interface and can quickly and easily locate any software command by simply pointing. Individuals with significant motor impairments don't have the luxury of mouse access and must adopt a different strategy to enjoy the bounty of the modern software.

### Single Hit Spell Mode Assignments - your Navigation tools!

Twelve keys on your AQLS overlay on the bottom row have computer control features stored as Spell mode assignments. A complete table of these keys is provided at the end of this section. These keys are used to perform navigation style commands. When you use these keys, you can move about the Windows environment and access just about everything.

Try the following two exercises, you can carry them out either on a regular keyboard or through your communication device.

**Exercise One - Using Alt Mode.** Start your computer and open a word processing application. Press the Alt key on your keyboard or press B-8 (Alt-Mod) on your communication device. (If you're using a communication device, remember your device must be in Spell mode). Nothing seems to happen. Look very closely at the word "File" on the menu bar. You will notice that it's bulged out after you pressed the Alt key and has a rectangular outline. Press the Alt key again and the bulge goes away. Press the Alt key again and the bulge comes back. An event that repeatedly cycles on and off with each key press is called a "toggle". What exactly is going on? You are toggling (switching) the keyboard back and forth between your document (normal mode) and your menu bar (Alt mode).

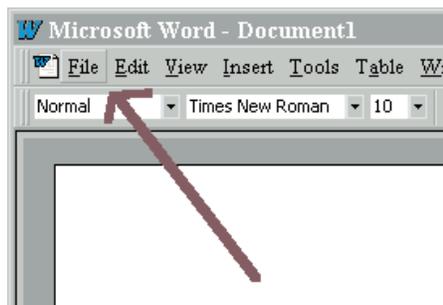


Figure 1. Black arrow points to bulging File button. Alt Mode is active.

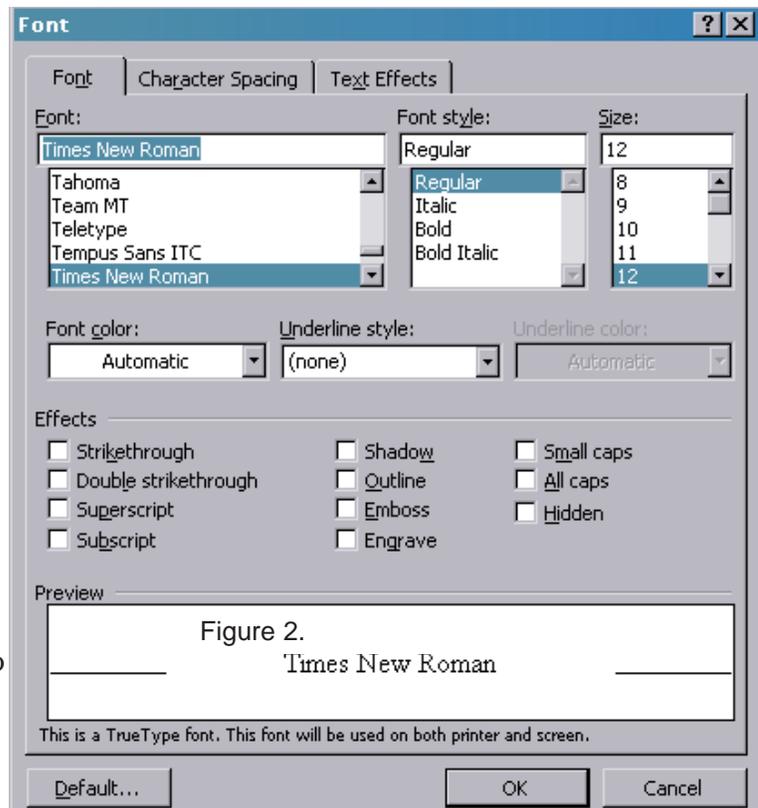
Many powerful and interesting things happen in Alt Mode. With the File bulge visible, try pressing the various arrow keys. You will quickly discover that you can roam the entire menu bar - all the menus and all the sub menus. If you arrow downward to the end of a menu, the highlight will reappear at the top of the menu. Experiment and convince yourself that this circular progression of the highlight works both vertically, horizontally and in either direction. To activate any highlighted menu item, simply press the enter key or select D-8 if you are using a device. And you thought you needed a mouse!

There is an especially powerful feature associated with Alt Mode for individuals who rely on scanning as their access technique. First, set up your communication device so that the keys will auto repeat when the personal switch is held on. Next, activate Alt Mode and scan on your device to an arrow key and hold the switch on. You will observe the menu bar begin to scan; the progression rate will be based on the pace of the auto repeat. You now have a scanning computer menu. While you hold the switch on, the scan takes place on the computer monitor, when you release the switch, the scan returns to the device.

2. Use the arrow and enter keys to activate the Font command on the Format menu. On recent versions of Microsoft Word you will note that the Font command appears as "Font..." The three dots mean that instead of an immediate execution, a dialog box will open to collect further information. The dialog box for Font on Word 2000 is illustrated in Figure 2. Spend a few

minutes experimenting with dialog box minipulation. First try moving around the Font dialog box with the arrows and you will discover that you cannot move from one scroll box to another with the arrow keys. Next, try selecting the tab key on the computer keyboard or J8 on your communication device. You will see a highlight or a dashed rectangle appear on each of the various scroll and check boxes.

The dashed rectangle is called a Focus mark. When an item has focus, you can manipulate its contents with the arrows and Enter key. When a check box has focus, you can change its status from checked to unchecked by pressing the space bar. When focus is on the tab row, you can move from tab to tab with the arrow keys bringing different panels to the foreground.



When you're done playing with the Font dialog box, there are a couple of ways to dismiss it. If you press Enter; any changes you've made will take effect. If you press escape (or put the focus mark on the Cancel button and press Enter), any changes you made in the dialog box will be discarded and the Font dialog box will disappear.

An important point to remember is to be certain that you're not in alt mode when you want to enter regular text. If you send Minspeak words and phrases in alt mode, all manner of dialog boxes may start opening as the text gets interpreted as commands. If this happens, just select the escape key (E8) a couple of times and your text will once again flow properly. For more tricks you can perform with navigation keys, consult any good Windows reference text. (I especially like The Little Windows 95 Book by Kay Yarborough Nelson, Peachpit Press, 1995.)

### **Application Specific Commands Stored Under Icon Sequences**

Now lets shift our attention to the encoding technique for entering commands. One thing you may have noticed about the navigation technique is that it can take a lot of hits to access a command. Consider the last exercise you performed with the Font dialog box. If you started in Minspeak mode, it took you eight hits to open the Font Dialog box. Specifically: 1) Select Spell Mode on the device; 2) Select Alt Mod; 3) Select Right arrow; 4) Select Right Arrow; 5) Select Right Arrow; 6) Select Right Arrow; 7) Select Down Arrow; 8) Select Enter Key. Other commands buried deep in the menus can take up to 15 hits to access. Entering eight to fifteen hits for frequently needed commands can be a real burden for individuals with slow input rates, and imagine having to scan fifteen hits! Here is where encoding is the method of choice.

Let's revisit the Font dialog box example and determine how to open it with encoding. Look closely at the headings on the menu bar. Each heading has one letter underlined. If you hold down the Alt key and press the underlined letter, that menu will drop open. The Font dialog box is on the Format menu and the "o" in format is underlined. Verify this works by selecting Alt+O on your computer keyboard. To select the Font command, press the underlined letter in Font which is "F". (Remember to release the Alt and O keys before pressing F) How about that!- you've reach the Font dialog box with three keystrokes.

You may well ask. "Alt +O F" works great on the regular keyboard, how do I program this on a communication device? The short answer is you don't have to, sixteen commands frequently needed to run Microsoft Word have already been stored under dedicated icon sequences in AQLS. The table at the end of this section lists these commands, provides their Minspeak sequences and describes their function. The Font command, for example, is accessed by selecting the sequence X + F. Try this on your device now; note that we're down two hits compared to the eight required by Navigation.

The last table in this section shows the special codes used to execute Microsoft Word commands. These codes are part of the General Input Devices Emulating Interface (GIDEI, pronounced "giddy") developed by the Trace Center in Madison, Wisconsin. A full discussion of GIDEI is beyond the scope of this manual. You can more about the GIDEI format by visiting the Trace R & D Center Web site at: <http://trace.wisc.edu/gidei/toc.htm>.

Donald M. Spaeth, MA, ATP

## Computer Navigational Keys - Single Hit Spell Mode Assignments in AQLS

Location	Name	Function	Comments
A-8	Control	Latches the Control key; needed to create modified keystroke commands	The Control key remains latched until you select the Release key located at F-8
B-8	Alt/mod	Generates a single press and release of the Alt key	Toggles control between a document and the menubar
C-8	Alt/latch	Latches the Alt key; needed to create modified keystroke commands	The Alt key remains latched until you select the Release key located at F-8
D-8	Enter	Generates a PC keyboard "Enter" keystroke	This is not the same as a communication aid's "Enter" key. They are not interchangeable.
E-8	Escape	Generates a PC keyboard "Escape" keystroke	Useful for backing out of a drop menu.
F-8	Releases	Releases any modifiers that have been latched - (Alt, Shift and Control)	Required after performing a keyboard shortcut
G-8	Shift	Latches the Shift key; used to create modified keystroke commands. The Shift key remains latched until you select the Release key located at F-8.	Shift is used in combination with the arrow keys to High light text for copying, cutting and pasting.
J-8	Tab	Moves focus around dialog boxes	
Varies depending on device	Left Arrow	Performs a left arrow function on both the communication aid and on computer	Can also be used to step through the menu bar items
Varies depending on device	Down Arrow	Performs a down arrow function on both the communication aid and on computer	Can also be used to step through the menu bar items
Varies depending on device	Up Arrow	Performs a up arrow function on both the communication aid and on computer	Can also be used to step through the menu bar items
Varies depending on device	Right Arrow	Performs a up arrow function on both the communication aid and on computer	Can also be used to step through the menu bar items
H8	Backspace	Deletes one character to the left of the cursor.	Does this on both the communication device and the computer monitor

**Microsoft Word Commands  
Stored Under Icon Sequences in AQLS**

<b>Microsoft Word Task</b>	<b>Minspeak Sequence</b>	<b>Description</b>
<b>Launch</b>	<b>X + L</b>	Starts Microsoft Word from a desktop icon. For this to work, your Word desktop icon must have the short cut key "Ctrl-Alt-W" assigned to it. You can learn how to assign shortcut keys to icons by consulting your Windows 95,98 or 2000 Users' Manual.
<b>New</b>	<b>X + N</b>	Opens a new blank document
<b>Open</b>	<b>X + O</b>	Brings up a dialog box so you can select an existing document to open
<b>Save As</b>	<b>X + A</b>	Brings up a dialog box so you can assign a name to a document and save it under that name
<b>Save</b>	<b>X + S</b>	Saves an already named document
<b>Close</b>	<b>X + cl</b>	Closes the current open document
<b>Exit</b>	<b>X + Tr</b>	Terminates your current session with Microsoft Word
<b>Print</b>	<b>X + P</b>	Starts printing the current document
<b>Font</b>	<b>X + F</b>	Opens the Font dialog box in the Format menu. Allows you to modify font style, point size and other text characteristics
<b>Paragraph</b>	<b>X + gr</b>	Opens the Paragraph dialog box in the Format menu. Allows you to modify paragraph characteristics such as line spacing
<b>Bold</b>	<b>X + B</b>	Changes high-lighted text to bold face
<b>Italtic</b>	<b>X + I</b>	Changes high-lighted text to Italtics
<b>Underline</b>	<b>X + U</b>	Changes high-lighted text to underlined
<b>Cut</b>	<b>X+X</b>	Places a copy of high-lighted text on the clipboard; then deletes the original text.
<b>Copy</b>	<b>X + C</b>	Places a copy of high-lighted text on the clipboard; does not remove original.
<b>Paste</b>	<b>X + V</b>	Makes a copy of the clipboard contents and inserts into your document at the I beam cursor location

**Microsoft Word Commands Stored Under Icon  
Sequences in AQLS with GIDEI Code**

<b>Microsoft Word Task</b>	<b>Minspeak Sequence</b>	<b>GIDEI Code</b>
<b>Launch</b>	<b>X + L</b>	<SERIAL MARKER> <-,rel. <-,lock,alt,ctrl.w<-,rel.<SPEECH MARKER> Starting word processor
<b>New</b>	<b>X + N</b>	<SERIAL MARKER> <-,rel. <-,lock,alt,f.<-,rel.n<SPEECH MARKER> Opening new document
<b>Open</b>	<b>X + O</b>	<SERIAL MARKER> <-,rel. <-,lock,alt,f.<-,rel.n<SPEECH MARKER> Opening new document
<b>Save As</b>	<b>X + A</b>	<SERIAL MARKER> <-,rel. <-,lock,alt,f.<-,rel.a<SPEECH MARKER> Name your document and save it
<b>Save</b>	<b>X + S</b>	<SERIAL MARKER> <-,rel. <-,lock,ctrl.s<SPEECH MARKER> Saving current document
<b>Close</b>	<b>X + cl</b>	SERIAL MARKER> <-,rel. <-,lock,alt,f.<-,rel.c<SPEECH MARKER> Closing current document current document
<b>Exit</b>	<b>X + Tr</b>	<SERIAL MARKER> <-,rel. <-alt.<-space.c<SPEECH MARKER> Terminating Microsoft Word program
<b>Print</b>	<b>X + P</b>	<SERIAL MARKER> <-,rel. <-,lock,ctrl.p<-,rel.<SPEECH MARKER> Starting printer
<b>Font</b>	<b>X + F</b>	<SERIAL MARKER> <-,rel. <-,lock,ctrl.p<-,rel.<SPEECH MARKER> Starting printer
<b>Print</b>	<b>X + P</b>	<SERIAL MARKER> <-,rel. <-,lock,alt,o.<-,rel.f<SPEECH MARKER> Opening Font dialog box
<b>Paragraph</b>	<b>X + gr</b>	<SERIAL MARKER> <-,rel. <-,lock,alt,o.<-,rel.p<SPEECH MARKER> Opening Paragraph dialog box
<b>Bold</b>	<b>X + B</b>	<SERIAL MARKER> <-,rel. <-,lock,ctrl.b<-,rel.<SPEECH MARKER> Toggle bold style
<b>Italic</b>	<b>X + I</b>	<SERIAL MARKER> <-,rel. <-,lock,ctrl.i<-,rel.<SPEECH MARKER> Toggle italic style

<b>Microsoft Word Task</b>	<b>Minspeak Sequence</b>	<b>GIDEI Code</b>
<b>Underline</b>	<b>X + U</b>	<SERIAL MARKER> <-,rel.<-,lock,ctrl.u<-,rel.<SPEECH MARKER> Toggle underline style
<b>Cut</b>	<b>X+X</b>	<SERIAL MARKER> <-,rel.<-,lock,ctrl.x<-,rel.<SPEECH MARKER> Cut highlighted text
<b>Copy</b>	<b>X + C</b>	<SERIAL MARKER> <-,rel.<-,lock,ctrl.c<-,rel.<SPEECH MARKER> Copy highlighted text
<b>Paste</b>	<b>X + V</b>	<<SERIAL MARKER> <-,rel.<-,lock,ctrl.v<-,rel.<SPEECH MARKER> Paste in clipboard text

*ALPHABETIC DICTIONARY WITH KEY COMBINATIONS*

AQLS  
Alphabetic Sort

Minspeak® Matrix

Word	1st Key	2nd Key	3rd Key	Rationale
a (PINK)	a/VERB			Single Hit PINK
after (GREEN)	after	after		Double Hit GREEN
Alabama	a	L	an-state/prov.	postal code + an-state/prov.
Alaska	a	K	an-state/prov.	postal code + an-state/prov.
Albany	N	Y	the-capital	postal code + the-capital
Alberta	A	B	state/prov.	letter code + state/prov.
all (GREEN)	all	all		Double Hit GREEN
almost	all	M		all + Most
already	all	R		all + ALrIGHt (tr)
alright	all	tr		all + alRight (tr)
also	all	S		all + alSo
although	all	T		all + alThough
always	all	W		all + alWays
an (PINK)	an			Single Hit PINK
and (PINK)	and			Single Hit PINK
Annapolis	M	D	the-capital	postal code + the-capital
any (YELLOW)	A/any	A/any		Indefinite Pronoun
anybody	A/any	BODY		Indefinite Pronoun - A/any + BODY
anyhow	A/any	HOW		Indefinite Pronoun - A/any + HOW
anymore	A/any	MORE		Indefinite Pronoun - A/any + MORE
anyone	A/any	ONE		Indefinite Pronoun - A/any + ONE
anything	A/any	THING		Indefinite Pronoun - A/any + THING
anytime	A/any	TIME		Indefinite Pronoun - A/any + TIME
anyway	A/any	WAY		Indefinite Pronoun - A/any + WAY
anywhere	A/any	WHERE		Indefinite Pronoun - A/any + WHERE
April	POSS/mos	4		4th month
are (GREEN)	are	are		Double Hit GREEN
aren't	are	N		are + N = aren't
Arizona	A	Z	an-state/prov.	postal code + an-state/prov.
Arkansas	A	R	an-state/prov.	postal code + an-state/prov.
as (PINK)	as/VERB+s			Single Hit PINK
at (PINK)	at			Single Hit PINK
Atlanta	G	A	the-capital	postal code + the-capital
August	POSS/mos	8		8th month
Augusta	M	E	the-capital	postal code + the-capital
Austin	T	X	the-capital	postal code + the-capital
bad	U	DO/ADJ		Weather is <i>bad</i>
Baton Rouge	L	A	the-capital	postal code + the-capital
be (PINK)	be			Single Hit PINK
because(GREEN)	because			Double Hit GREEN
been (GREEN)	been			Double Hit GREEN
Belfast	WHERE	B	E	WHERE + letter code
believe	B	VERB		Do you <i>believe</i> in Father Time
better	L	DOES/ er		er of good
best	L	DID/ est		est of good
big	ph (say)	DO/ADJ		Call with <i>big</i> news
bigger	ph (say)	DOES/ +er		
biggest	ph (say)	DID/ +est		
Birmingham	WHERE	B	I	WHERE + letter code
Bismarck	N	D	the-capital	postal code + the-capital
body	BODY			Single Hit PINK
Boise	I	D	the-capital	postal code + the-capital
Boston	M	A	the-capital	postal code + the-capital
bring	C	C	VERB	The dog <i>brings</i> the paper
British				
Columbia	B	C	state/prov.	letter code + state/prov.

Word	1st Key	2nd Key	3rd Key	Rationale
but(PINK)	but			Single Hit PINK
by (GREEN)	by	by		Double Hit /GREEN
California	C	A	an-state/prov.	postal code + an-state/prov.
call	ph say	ph say	VERB	2nd meaning - call someone
called	ph say	ph say	VERB+ed	
calling	ph say	ph say	VERB+ing	
calls	ph say	ph say	VERB+s	
can (GREEN)	can	can		Double Hit GREEN
can't	can	N		can + N = can't
Cardiff	WHERE	C	A	WHERE + letter code
Carson City	N	V	the-capital	postal code + the-capital
Charleston	W	V	the-capital	postal code + the-capital
Charlottestown	P	E	the-capital	letter code + the-capital
Cheyenne	W	Y	the-capital	postal code + the-capital
Colorado	C	O	an-state/prov.	postal code + an-state/prov.
Columbia	S	C	the-capital	postal code + the-capital
Columbus	O	H	the-capital	postal code + the-capital
come	C(come)	VERB		Tell the dog to <i>come</i>
Concord	N	H	the-capital	postal code + the-capital
Connecticut	C	T	an-state/prov.	postal code + an-state/prov.
could (GREEN)	could	could		Double Hit GREEN
couldn't	could	N		could + N = couldn't
December	POSS/mos	0	2	12th month
Delaware	D	E	an-state/prov.	postal code + an-state/prov.
Denver	C	O	the-capital	postal code + the-capital
Des Moines	I	A	the-capital	postal code + the-capital
did (GREEN)	did	did		Double Hit GREEN
District of Columbia	D	C	an-state/prov.	postal code + an-state/prov.
do (GREEN)	do	do		Double Hit GREEN
does (GREEN)	does	does		Double Hit GREEN
Dover	D	E	the-capital	postal code + the-capital
down (GREEN)	down	down		Double Hit GREEN
Dublin	WHERE	D	U	WHERE + letter code
each (PINK)	each			Single Hit PINK
Edinburgh	WHERE	br		WHERE + letter code
Edmonton	A	B	the-capital	letter code + the-capital
eighteenth	1	8	THING/th	1 + 8 + th returns to Minspeak®
eighth	8	THING/th		8 + th returns to Minspeak®
eleventh	1	1	THING/th	1 + 1 + th + returns to Minspeak®
else (GREEN)	else	else		Double Hit GREEN
England	WHERE	en		WHERE + letter code
every (YELLOW)	E/every	E/every		Indefinite Pronoun (YELLOW)
everybody	E/every	BODY		Indefinite Pronoun - E/every + BODY
everyone	E/every	ONE		Indefinite Pronoun - E/every + ONE
everything	E/every	THING		Indefinite Pronoun - E/every + THING
everytime	E/every	TIME		Indefinite Pronoun - E/every + TIME
everyway	E/every	WAY		Indefinite Pronoun - E/every + WAY
everywhere	E/every	WHERE		Indefinite Pronoun - E/every + WHERE
February	POSS/mos	2		POSS/mos + 2
fifteenth	1	5	THING/th	1 + 5 + th returns to Minspeak®
fifth	5	THING/th		5 + th + returns to Minspeak®
first	1	TIME/st		1 + st + returns to Minspeak®
Florida	F	L	an-state/prov.	postal code + an-state/prov.
for (GREEN)	for	for		Double Hit GREEN
fourteenth	1	4	THING/th	1 + 4 + th returns to Minspeak®

Word	1st Key	2nd Key	3rd Key	Rationale
fourth	4	THING/th		4 + th returns to Minspeak®
Fredericton	N	B	the-capital	letter code + the-capital
Friday	well	5		5th day
from	P	P		Double Hit GREEN
gave	gr give	VERB+ed		past tense of give
Georgia	G	A	an-state/prov.	postal code + an-state/prov.
get	get	VERB		Get up in the morning
gets	get	VERB+s		
getting	get	VERB+ing		
give	gr give	VERB		Give flowers
given	gr give	VERB+en		
gives	gr give	VERB+s		
giving	gr give	VERB+ing		
Glasgow	WHERE	G	L	WHERE + letter code
go	G go	VERB		Green means go
goes	G go	VERB+s		
going	G go	VERB+ing		
gone	G go	VERB+en		
good	L like	do adj.		It's a good day
got	get	VERB+ed		past tense of get
gotten	get	VERB+en		
guess	B believe	B believe	VERB	2nd meaning believe - guess the time
guessed	B believe	B believe	VERB+ed	
guesses	B believe	B believe	VERB+s	
guessing	B believe	B believe	VERB+ing	
had (GREEN)	had	had		Double Hit GREEN
hadn't	had	N		had + N = hadn't
Halifax	V	S	the-capital	letter code + the-capital
Harrisburg	P	A	the-capital	postal code + the-capital
Hartford	C	T	the-capital	postal code + the-capital
has(GREEN)	has	has		Double Hit GREEN
hasn't	has	N		has + N = hasn't
have(GREEN)	have	have		Double Hit GREEN
haven't	have	N		have +N = haven't
Hawaii	H	I	an-state/prov.	postal code + an-state/prov.
he (GREEN)	HE	HE		Double Hit GREEN
he'd	HE	VERB+ed		Pronoun Helping Verb Contractions
Helena	M	T	the-capital	postal code + the-capital
he'll	HE	VERB+ing		Pronoun Helping Verb Contractions
her	SHE	OBJ./day		Personal Pronoun
her	SHE	POSS/mos		Personal Pronoun
hers	POSS/mos	SHE		Personal Pronoun
herself	OBJ./day	SHE		Personal Pronoun
he's	HE	VERB		Pronoun Helping Verb Contractions
he's	HE	VERB+s		Pronoun Helping Verb Contractions
him	HE	OBJ./day		Personal Pronoun
himself	OBJ./day	HE		Personal Pronoun
his	HE	POSS/mos		Personal Pronoun
his	POSS/mos	HE		Personal Pronoun
Honolulu	H	I	the-capital	postal code + the-capital
hope	L like	L like	VERB	2nd meaning - hope it's a nice day
hoping	L like	L like	VERB+ing	
hoped	L like	L like	VERB+ed	
hopes	L like	L like	VERB+s	
how (GREEN)	how	how		Double Hit GREEN
how else	HOW	else		HOW + else
however	HOW	E(every)		HOW + E (every)
I (GREEN)	I	I		Double Hit GREEN

Word	1st Key	2nd Key	3rd Key	Rationale
I'd	I	VERB+ed		I + Helping Verb Contractions
Idaho	I	D	an-state/prov.	postal code + an-state/prov.
if (PINK)	if/VERB+ing			Single Hit PINK
Illinois	I	L	an-state/prov.	postal code + an-state/prov.
I'll	I	VERB+ing		I + Helping Verb Contractions
I'm	I	VERB		I + Helping Verb Contractions
in (PINK)	in/VERB+ed			Single Hit PINK
Indiana	I	N	an-state/prov.	postal code + an-state/prov.
Indianapolis	I	N	the-capital	postal code + the-capital
Iowa	I	A	an-state/prov.	postal code + an-state/prov.
is (GREEN)	is			Double Hit GREEN
isn't	isn't	N		is + N = isn't
it (GREEN)	it	it		Double Hit GREEN
it	IT	OBJ./day		Personal Pronoun
it'd	IT	VERB+ed		Pronoun Helping Verb Contractions
it'll	IT	VERB+ing		Pronoun Helping Verb Contractions
its	IT	POSS/mos		Personal Pronoun
its	POSS/mos	IT		Personal Pronoun
it's	IT	VERB		Pronoun Helping Verb Contractions
it's	IT	VERB+s		Pronoun Helping Verb Contractions
itself	OBJ./day	IT		Personal PronounsoConvention
I've	I	VERB+s		I + Helping Verb Contractions
Jackson	M	S	the-capital	postal code + the-capital
January	POSS/mos	1		1st month
Jefferson City	M	O	the-capital	postal code + the-capital
July	POSS/mos	7		7th month
June	POSS/mos	6		6th month
Juneau	A	K	the-capital	postal code + the-capital
Kansas	K	S	an-state/prov.	postal code + an-state/prov.
Kentucky	K	Y	an-state/prov.	postal code + an-state/prov.
kind	T think	do adj.		the kind woman
kinder	T think	does +er		
kindest	T think	did +est		
knew	K know	VERB+ed		
know	K know	VERB		When you graduate, you know stuff
knowing	K know	VERB+ing		
knows	K know	VERB+s		
Lansing	M	I	the-capital	postal code + the-capital
large	W want	do adj.		the crimmlinal is at large
larger	W want	does +er		
largest	W want	did +est		
learn	N need	N need	VERB	2nd meaning - you learn to write
learned	N need	N need	VERB+ed	
learning	N need	N need	VERB+ing	
learns	N need	N need	VERB+s	
leave	G go	G go	VERB	2nd meaning - the frog is leaving
leaves	G go	G go	VERB+s	
leaving	G go	G go	VERB +ing	
left	G go	G go	VERB +ed	
Lexington	K	Y	the-capital	postal code + the-capital
like	L like	VERB		he's smiling, he's likable
likes	L like	VERB+s		
liked	L like	VERB+ed		
liking	L like	VERB+ing		
Lincoln	N	E	the-capital	postal code + the-capital
little	C come	do adj.		it's a little dog
littler	C come	does +er		

Word	1st Key	2nd Key	3rd Key	Rationale
littlest	C come	did +est		
Little Rock	A	R	the-capital	postal code + the-capital
Liverpool	WHERE	L	I	WHERE + letter code
London	WHERE	L	O	WHERE + letter code
Louisiana	L	A	an-state/prov.	postal code + an-state/prov.
made	M make	VERB+ed		He's making something
Madison	W	I	the-capital	postal code + the-capital
Maine	M	E	an-state/prov.	postal code + an-state/prov.
Manchester	WHERE	M	A	WHERE + letter code
Manitoba	M	B	state/prov.	letter code + state/prov.
many(PINK)	many			Single Hit PINK
March	POSS/mos	3		3rd month
Maryland	M	D	an-state/prov.	postal code + an-state/prov.
make	M make	VERB		He's making something
makes	M make	VERB+s		
making	M make	VERB+ing		
Massachusetts	M	A	an-state/prov.	postal code + an-state/prov.
may (GREEN)	may	may		Double Hit GREEN
May	POSS/mos	5		5th month
me	I	OBJ./day		Personal PronounsoConvention
mean	W want	W want	VERB	2nd meaning - the crimminal's mean
meaning	W want	W want	VERB+ing	
means	W want	W want	VERB+s	
meant	W want	W want	VERB+ed	
Michigan	M	I	an-state/prov.	postal code + an-state/prov.
might (GREEN)	might	might		Double Hit GREEN
mightn't	might	N		might + N = mightn't
mine	POSS/mos	I		Personal Pronoun
Minnesota	M	N	an-state/prov.	postal code + an-state/prov.
Mississippi	M	S	an-state/prov.	postal code + an-state/prov.
MissouriM	O	an-state/prov.		postal code + an-state/prov.
Monday	well/OBJ/day	1		1st day
Montana	M	T	an-state/prov.	postal code + an-state/prov.
Montgomery	A	L	the-capital	postal code + the-capital
Montpelier	V	T	the-capital	postal code + the-capital
more (PINK)	MORE			Single Hit PINK
most	M make	do +est		
much	M make	do adj.		make much work
my	I	POSS/mos		Personal Pronoun
myself	OBJ./day	I		Personal Pronoun
Nashville	T	N	the-capital	postal code + the-capital
Nebraska	N	E	an-state/prov.	postal code + an-state/prov.
need	N need	VERB		you need to sign
needed	N need	VERB+ed		
needing	N need	VERB+ing		
needs	N need	VERB+s		
Nevada	N	V	an-state/prov.	postal code + an-state/prov.New Brunswick
new	get	do adj		it's a new day
newer	get	does+er		
newest	get	did +est		
New Brunswick	N	B	state/prov.	letter code + state/prov.
New Hampshire	N	H	an-state/prov.	postal code + an-state/prov.
New Jersey	N	J	an-state/prov.	postal code + an-state/prov.
New Mexico	N	M	an-state/prov.	postal code + an-state/prov.
New York	N	Y	an-state/prov.	postal code + an-state/prov.
Newfoundland	N	F	state/prov.	letter code + state/prov.
nice	N need	do adj		it's a nice signagure

Word	1st Key	2nd Key	3rd Key	Rationale
nicer	N need	does +er		
nicest	N need	did +est		
nineteenth	1	9	THING/th	1 + 9 + th returns to Minspeak®
ninth	9	THING/th		9 + th + returns to Minspeak®
no (PINK)	NO			Single Hit PINK
no how	N/no	HOW		Indefinite Pronoun - N/no + HOW
no more	N/no	MORE		Indefinite Pronoun - N/no + MORE
no one	N/no	ONE		Indefinite Pronoun - N/no + ONE
no time	N/no	TIME		Indefinite Pronoun - N/no + TIME
no way	N/no	WAY		Indefinite Pronoun - N/no + WAY
nobody	N/no	BODY		Indefinite Pronoun - N/no + BODY
North Carolina	N	C	an-state/prov.	postal code + an-state/prov.
North Dakota	N	D	an-state/prov.	postal code + an-state/prov.
Northern Ireland	WHERE	N	I	WHERE + letter code
not (PINK)	not/control			Single Hit PINK
nothing	N/no	THING		Indefinite Pronoun - N/no + THING
Nova Scotia	N	S	state/prov.	letter code + state/prov.
November	POSS/mos	0	1	11th month
now (GREEN)	now	now		Double Hit GREEN
nowhere	N/no	WHERE		Indefinite Pronoun - N/no + WHERE
October	POSS/mos	0	0	10th month
of (PINK)	of			Single Hit PINK
off (GREEN)	off	off		Double Hit GREEN
Ohio	O	H	an-state/prov.	postal code + an-state/prov.
Oklahoma	O	K	an-state/prov.	postal code + an-state/prov.
Oklahoma City	O	K	the-capital	postal code + the-capital
old	B believe	do adj		he's an old man
older	B believe	does +er		
oldest	B believe	did +est		
Olympia	W	A	the-capital	postal code + the-capital
on (PINK)	on/VERB+en			Single Hit PINK
one (PINK)	ONE			Single Hit PINK
Ontario	O	N	state/prov.	letter code + state/prov.
or (GREEN)	or	or		Double Hit GREEN
Oregon	O	R	an-state/prov.	postal code + an-state/prov.
other (PINK)	other			Single Hit PINK
our	WE	POSS/mos		Personal Pronoun
ours	POSS/mos	WE		Personal Pronoun
ourselves	OBJ./day	WE		Personal Pronoun
out (GREEN)	out	out		Double Hit GREEN
over (GREEN)	over	ovre		Double Hit GREEN
own (PINK)	own			Single Hit PINK
Pennsylvania	P	A	an-state/prov.	postal code + an-state/prov.
Phoenix	A	Z	the-capital	postal code + the-capital
Pierre	S	D	the-capital	postal code + the-capital
prettier	gr give	does +er		
prettiest	gr give	did +est		
pretty	gr give	do adj		pretty flowers
Prince Edward Island	P	E	state/prov.	letter code + state/prov.
Providence	R	I	the-capital	postal code + the-capital
put	get	get	VERB	
puts	get	get	VERB+s	
putting	get	get	VERB+ing	
Raleigh	N	C	the-capital	postal code + the-capital
Regina	S	K	the-capital	letter code + the-capital

Word	1st Key	2nd Key	3rd Key	Rationale
Quebec	Q	U	state/prov.	postal code + the-capital
Quebec City	Q	U	the-capital	letter code + the-capital
remember	T think	T think	VERB	2nd meaning - it's in your head
remembered	T think	T think	VERB+ed	
remembering	T think	T think	VERB+ing	
remembers	T think	T think	VERB+s	
Republic of Ireland	WHERE	R	I	WHERE + letter code
Rhode Island	R	I	an-state/prov.	postal code + an-state/prov.
Richmond	V	A	the-capital	postal code + the-capital
Sacramento	C	A	the-capital	postal code + the-capital
said	ph say	VERB+ed		
Salem	O	R	the-capital	postal code + the-capital
Salt Lake City	U	T	the-capital	postal code + the-capital
Santa Fe	N	M	the-capital	postal code + the-capital
Saskatchewan	S	K	state/prov.	letter code + state/prov.
Saturday	well	6		6th day
save	U use	U use	VERB	2nd meaning - save for a rainy day
saved	U use	U use	VERB+ed	
saves	U use	U use	VERB+s	
saving	U use	U use	VERB+ing	
say	ph say	VERB		you say things on the phone
saying	ph say	VERB+ing		
says	ph say	VERB+s		
Scotland	WHERE	S	C	WHERE + letter code
second	2	MORE/nd		2 + nd returns to Minspeak®
September	POSS/mos	9		9th month
seventeenth	1	7	THING/th	1 + 7 + th returns to Minspeak®
seventh	7	THING/th		7 + th returns to Minspeak®
she (GREEN)	she	she		Double Hit GREEN
she'd	SHE	VERB+ed		Pronoun Helping Verb Contractions
she'll	SHE	VERB+ing		Pronoun Helping Verb Contractions
she's	SHE	VERB		Pronoun Helping Verb Contractions
she's	SHE	VERB+s		Pronoun Helping Verb Contractions
should (GREEN)	should	should		Double Hit GREEN
sixteenth	1	6	THING/th	1 + 6 + th returns to Minspeak®
sixth	6	THING/th		6 + th returns to Minspeak®
small	G go	do adj		small frog
smaller	G go	does +er		
smallest	G go	did +est		
so (PINK)	so			Single Hit PINK
some (YELLOW)	S/some	S/some		Indefinite Pronoun
some more	S/some	MORE		Indefinite Pronoun - S/some + MORE
some way	S/some	WAY		Indefinite Pronoun - S/some + WA
somebody	S/some	BODY		Indefinite Pronoun - S/some + BODY
somehow	S/some	HOW		Indefinite Pronoun - S/some + HOW
someone	S/some	ONE		Indefinite Pronoun - S/some + ONE
something	S/some	THING		Indefinite Pronoun - S/some + THING
sometime	S/some	TIME		Indefinite Pronoun - S/some + TIME
somewhere	S/some	WHERE		Indefinite Pronoun - S/some + WHERE
South Carolina	S	C	an-state/prov.	postal code + an-state/prov.
South Dakota	S	D	an-state/prov.	postal code + an-state/prov.
Springfield	I	L	the-capital	postal code + the-capital
St. John's	N	F	the-capital	letter code + the-capital
St. Paul	M	N	the-capital	postal code + the-capital
Sunday	well/OBJ/day	7		7th day
Swansea	WHERE	S	W	WHERE + letter code
take	gr give	gr give	VERB	

Word	1st Key	2nd Key	3rd Key	Rationale
taken	gr give	gr give	VERB+en	
takes	gr give	gr give	VERB+s	
taking	gr give	gr give	VERB+ing	
Tallahassee	F	L	the-capital	postal code + the-capital
Tennessee	T	N	an-state/prov.	postal code + an-state/prov.
tenth	1	0	THING/th	1 + 0 + th returns to Minspeak®
Texas	T	X	an-state/prov.	postal code + an-state/prov.
that(GREEN)	that	that		Double Hit GREEN
the (PINK)	the/capital			Single Hit PINK
their	THEY	POSS/mos		Personal Pronoun
theirs	POSS/mos	THEY		Personal Pronoun
them	THEY	OBJ./day		Personal Pronoun
themselves	OBJ./day	THEY		Personal Pronoun
then (GREEN)	then	then		Double Hit GREEN
there(GREEN)	there	there		Double Hit GREEN
these(GREEN)	these	these		Double Hit GREEN
they (GREEN)	they	they		Double Hit GREEN
they'd	THEY	VERB+ed		Pronoun Helping Verb Contractions
they'll	THEY	VERB+ing		Pronoun Helping Verb Contractions
they're	THEY	VERB		Pronoun Helping Verb Contractions
they've	THEY	VERB+s		Pronoun Helping Verb Contractions
thing (PINK)	THING			Single Hit PINK
third	3	BODY/rd		3 + rd returns to Minspeak®
thirteenth	1	3	THING/th	1 + 3 + th returns to Minspeak®
thirtieth	3	0	THING/th	3 + 0 + th returns to Minspeak®
this (GREEN)	this	this		Double Hit GREEN
those (GREEN)	those	those		Double Hit GREEN
Thursday	well 4			4th day
time (PINK)	TIME			Single Hit PINK
to(PINK)	to/to+VERB			Single Hit PINK
to believe	B believe	to+VERB		
to bring	C come	C come	to+VERB	
to call	ph say	ph say	to+VERB	
to come	C come	to+VERB		
to get	get	to+VERB		
to give	gr give	to+VERB		
to go	G go	to+VERB		
to guess	Bbelieve	B believe	to+VERB	
to hope	L like	L like	to+VERB	
to know	K know	to+VERB		
to learn	N need	N need	to+VERB	
to leave	G go	G go	to+VERB	
to like	L like	to+VERB		
to make	M make	to+VERB		
to mean	W want	W want	to+VERB	
to need	N need	to+VERB		
to put	get	get	to+VERB	
to remember	T think	T think	to+VERB	
to save	U use	U use	to+VERB	
to say	ph say	to+VERB		
to take	gr give	gr give	to+VERB	
to think	T think	to+VERB		
to understand	K know	K know	to+VERB	
to use	U use	to+VERB		
to want	W want	to+VERB		
to work	M make	M make	to+VERB	

<b>Word</b>	<b>1st Key</b>	<b>2nd Key</b>	<b>3rd Key</b>	<b>Rationale</b>
think	T think	VERB		Use your head to think
thinking	T think	VERB+ing		
thinks	T think	VERB+s		
thought	T think	VERB+ed		
took	gr give	gr give	VERB+ed	
Topeka	K	S	the-capital	postal code + the-capital
Toronto	O	N	the-capital	letter code + the-capital
Trenton	N	J	the-capital	postal code + the-capital
Tuesday	well 2			2nd day
twelfth	1	2	THING/th	1 + 2 + th + returns to Minspeak®
twentieth	2	0	THING/th	2 + 0 + th + returns to Minspeak®
twenty-eighth	2	8	THING/th	2 + 8 + th + returns to Minspeak®
twenty-fifth	2	5	THING/th	2 + 5 + th + returns to Minspeak®
twenty-first	2	1	TIME/st	2 + 1 + st + returns to Minspeak®
twenty-fourth	2	4	THING/th	2 + 4 + th + returns to Minspeak®
twenty-ninth	2	9	THING/th	2 + 9 + th + returns to Minspeak®
twenty-second	2	2	MORE/nd	2 + 2 + nd + returns to Minspeak®
twenty-seventh	2	7	THING/th	2 + 7 + th + returns to Minspeak®
twenty-sixth	2	6	THING/th	2 + 6 + th + returns to Minspeak®
twenty-third	2	3	BODY/rd	2 + 3 + rd + returns to Minspeak®
understand	K know	K know	VERB	2nd meaning - understand in school
understanding	K know	K know	VERB+ing	
understands	K know	K know	VERB+s	
understood	K know	K know	VERB+ed	
up (PINK)	up			Single Hit PINK
us	WE	OBJ./day		Personal Pronoun
use	U use	VERB		You use an umbrella when it rains
used	U use	VERB+ed		
uses	U use	VERB+s		
using	U use	VERB+ing		
Utah	U	T	an-state/prov.	postal code + an-state/prov.
Vermont	V	T	an-state/prov.	postal code + an-state/prov.
very	M make	does+er		
Victoria	B	C	the-capital	letter code + the-capital
Virginia	V	A	an-state/prov.	postal code + an-state/prov.
Wales	WHERE	W	A	WHERE + letter code
want	W want	VERB		the criminal is wanted
wanted	W want	VERB+ed		
wanting	W want	VERB+ing		
wants	W want	VERB+s		
was (GREEN)	was	was		Double Hit GREEN
Washington	W	A	an-state/prov.	postal code + an-state/prov.
wasn't	was	N		was + N = wasn't
way (PINK)	WAY			Single Hit PINK
we (GREEN)	we	we		Double Hit GREEN
we'd	WE	VERB+ed		Pronoun Helping Verb Contractions
Wednesday	well 3			3rd day
well (GREEN)	well	well		Double Hit GREEN
we'll	WE	VERB+ing		Pronoun Helping Verb Contractions
went	G go	VERB+ed		Past tense of go
were (GREEN)	was	was		Double Hit GREEN
we're	WE	VERB		Pronoun Helping Verb Contractions
weren't	were	N		were + N = weren't
West Virginia	W	V	an-state/prov.	postal code + an-state/prov.

<b>Word</b>	<b>1st Key</b>	<b>2nd Key</b>	<b>3rd Key</b>	<b>Rationale</b>
we've	WE	VERB+s		Pronoun Helping Verb Contractions
what (GREEN)	what	what		Double Hit GREEN
what else	WHAT	else		what else
whatever	WHAT	E(every)		WHAT + E (every)
when (GREEN)	when	when		Double Hit GREEN
whenever	WHEN	E(every)		WHEN +E (every)
where(GREEN)	where	where		Double Hit GREEN
where else	WHERE	else		where else
wherever	WHERE	E(every)		WHEREVER + E (every)
which(GREEN)	which	which		Double Hit GREEN
whichever	WHICH	E(every)		WHICH + E (every)
who (GREEN)	who	who		Double Hit GREEN
whoever	WHO	E(every)		WHO + E (every)
whoever	WHO	E(every)		WHO + E (every)
whomever	WHO	OBJ/day		WHO + OBJ/day
whose	WHO	POSS/mos		WHO + POSS/mos
why (GREEN)	WHY	WHY		Double Hit GREEN
why else	WHY	sl		why else
why ever	WHY	E(every)		WHY + E (every)
will (GREEN)	will	will		Double Hit GREEN
Winnipeg	M	B	the-capital	letter code + the-capital
Wisconsin	W	I	an-state/prov.	postal code + an-state/prov.
with (GREEN)	with	with		Double Hit GREEN
won't	will	N		will + N = won't
work	M make	M make	VERB	2nd meaning - make things at work
worked	M make	M make	VERB+ed	
working	M make	M make	VERB+ing	
works	M make	M make	VERB+s	
worse	U use	does+er		the weather is worse
worst	U use	did+est		
would (GREEN)	would	would		Double Hit GREEN
wouldn't	would	N		would + N = wouldn't
Wyoming	W	Y	an-state/prov.	postal code + an-state/prov.
yes (PINK)	YES			Single Hit PINK
you (GREEN)	you	you		Double Hit GREEN
you	YOU	OBJ./day		Personal Pronoun
you	YOU	POSS/mos		Personal Pronoun
you'd	YOU	VERB+ed		Pronoun Helping Verb Contractions
you'll	YOU	VERB+ing		Pronoun Helping Verb Contractions
young	K know	do adj.		young people go to school
younger	K know	does+er		
youngest	K know	does+est		
you're	YOU	VERB		Pronoun Helping Verb Contractions
yours	POSS/mos	YOU		Personal Pronoun
yourself	OBJ./day	YOU		Personal Pronoun
you've	YOU	VERB+s		Pronoun Helping Verb Contractions

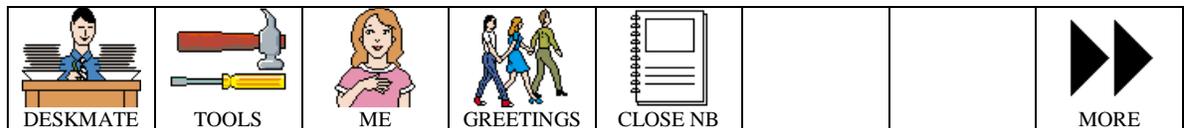
## Special Shortcuts

Included in the AQLS Alphabetic software are a number of shortcuts that some people may find useful.

Function	Location	Comments
Speak Sentence	X + THE/CAPITAL	Adds a period and speaks the whole sentence prior to it. It also adds a space and turns the first letter of the next word produced into upper case.
Delete Word (MINSPEAK MODE)	X + BEEN	In MINSPEAK MODE, this sequence will delete vocabulary word by word.
Delete Word (SPELL MODE)	BEEN	In SPELL MODE, this key deletes vocabulary word by word.

## Special Pathfinder Activities

Selecting the sequence D + D on the Pathfinder communication aid will bring a set of special Activities onto the display. You should see the following on your “(D)ynamic (D)isplay:”



You should note that (1) the CLOSE NB will Close any Notebook you have open and (2) MORE will scroll to new Activities only when you add them. If you want to modify these or add new ones, please refer to your ‘Pathfinder Operators Manual’ that came with your device.

## **Adding Word Prediction to your Pathfinder Communication Aid keyboard**

The default setting for Word Prediction in the Pathfinder is to have predicted words selected from the screen. This makes optimum use of the touch-screen feature.

However, some clients may have difficulty using the screen directly and so they will need to have Word Prediction selector keys on the keyboard. You can set up “predictor” keys on the Pathfinder that correspond to the Word Prediction keys on the display. This way you can press or scan to the appropriate key on the keyboard to select the word you want.

Predictor keys are only active when you are spelling a word. If you are in Minspeak mode, the predictor keys will act as icons and you can select them as part of a sequence. In Spell mode, if no words are currently in the Word Prediction list, the regular spelling assignment for each key is active.

### **Set your own Predictor Keys:**

1. Turn the Toolbox On, open the WORD PREDICTION menu.
2. Activate *Set Predictor Keys*. The keys will say, *Unassigned*, or if they are already set up, they will show the location where each is assigned.
3. Activate option #1.
4. Choose the key on your overlay that you want to use to pick the first word from the list of predicted words.
5. Choose option #2.
6. Choose the key on your overlay that you want to use to pick the second word from the list of predicted words.
7. Continue in this manner until you have assigned all the predictor keys.
8. When you have finished, activate OK.
9. Exit the menu.