Scoring key for T-BEST (Treiman & Bourassa, 2000) composite measure

Composite scoring of 10 word real word spelling task, Forms A and B

lap, nap   /læp/, /næp/

Score	Explanation	Examples
0	spelling includes only nonletters	25 for nap
1	spelling includes some nonletters and some letters, but letters are not related to the word in any of the ways discussed below	fl7 for lap
2	spelling includes only letters, but letters are not related to the word in any of the ways discussed below	cd for lap y for lap
3	spelling begins with a letter which is related to the initial phoneme of the word SEE KEY This letter may be followed by anything else (which may include nonletters)	rv for lap
	OR, spelling begins with a letter which conventionally represents a phoneme of the word other than the first phoneme SEE KEY This may be followed by anything else (which may include nonletters) or nothing at all	am for lap
4	spelling begins with a conventional initial letter. May be followed by anything else (which may include nonletters) or nothing at all	lx for lap
5	2 of the 3 phonemes represented anywhere in the spelling with related letters or conventional letters. Spelling may include intrusions. When the intrusion is removed the rest of the letters should be in the correct sequence (except allow reversals of V and final C)	ore for lap lvfaj for lap lp for lap ra for lap batq for lap ibst for nap balt for lap ibst for nap
6	all 3 phonemes are represented anywhere	

in the spelling with a mix   larp for lap
of related and conventional letters   noq for nap
count all 3 phonemes as being represented if   lpa for lap
the vowel is spelled with any vowel letter(s),
as long as in the right position.
may include intrusions.
when the intrusion is removed the rest
of the letters should be in the correct
sequence (except allow reversals of V and
final C)

7   all 3 phonemes are represented   lip for lap
both consonant phonemes are spelled   lyp for lap
with conventional letters   nipe for nap
no reversals, no intrusions

8   correct spelling

bar, jar   /bɑr/, /dʒɑr/

Score	Explanation	Examples
0	spelling includes only nonletters	11 for bar
1	spelling includes some nonletters and some letters, where letters are not related to the word in any of the ways discussed below	955t for bar
2	spelling includes only letters, but letters are not related to the word in any of the ways discussed below	eipz for bar
3	spelling begins with a letter which is related to the initial phoneme of the word. It may be followed by anything else (which may include nonletters) or nothing at all	cm for jar dpxu for bar
	OR spelling begins with a letter which conventionally represents a phoneme of the word other that the first phoneme. SEE KEY This may be followed by anything else (which) may include nonletters) or nothing at all.	on for jar
4	spelling begins with a conventional initial letter. May be followed by anything else (which may include nonletters) or nothing at all	blmp for bar
5	2 of the 3 phonemes represented anywhere in the spelling with phonetically related or conventional letters may include intrusions. When intrusion is removed the rest of the letters should be in the correct sequence, except that r + vowel is allowed for /ɑr/ NOTE: the letter r counts as a representation of both the vowel and the consonant, so "r" for bar represents 2 phonemes and "br" for bar represents 3 phonemes	jaxy for jar ur for bar r for jar wmrp for bar biqt for bar
6	all 3 phonemes are represented anywhere in the spelling with a mix of phonetically related and conventional	pr for bar bre for bar

letters
count vowel as represented even if it   jrun for jar
is spelled incorrectly or if vowel and /r/
are together spelled as "r"
may include intrusions
when the intrusion is removed the rest
of the letters should be in the correct
sequence, except that r + vowel is allowed
for /ɑr/

7   all 3 phonemes are represented   bir for bar
consonant phonemes are spelled with   bare for bar
conventional letters,
vowel is spelled with a separate letter
no intrusions, no reversals

8   correct spelling

sank, tank   /sæŋk/, /tæŋk/

Score	Explanation	Examples
0	spelling includes only nonletters	11516 for tank
1	spelling includes some nonletters and some letters, where letters are not related to the word in any of the ways discussed below	3?obi for sank
2	spelling includes only letters, but letters are not related to the word in any of the ways discussed below	x for tank
3	spelling begins with a letter related to the initial phoneme. It may be followed by anything else (which may include nonletters) or nothing at all. OR, spelling begins with a letter that conventionally represents a phoneme of the word other than the first phoneme This may be followed by anything else (which may include nonletters) or nothing at all.	de for tank z for sank ap3 for tank
4	spelling begins with a conventional initial letter. May be followed by anything else (which may include nonletters) or nothing at all.	cm for sank
5	2 of the 4 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. when the intrusion is removed the rest of the letters should be in the correct sequence (except allow n + vowel for vowel + n)	todr for tank rlnip for sank tiolp for tank
6	3 of the 4 phonemes represented with related or conventional letters may include intrusions. when the intrusion is removed the rest of the letters should	tac for tank

be in the correct sequence (except allow
n + vowel for vowel + n)

7   all 4 phonemes are represented with a mix   zenck for sank
of related and conventional letters
count all 4 phonemes as being represented if   tanik for tank
the vowel is spelled with any vowel letter(s),
as long as in the right position   sunge for sank
may include intrusions
when the intrusion is removed the rest
of the letters should be in the correct sequence
(except allow n + vowel for vowel + n)

8   all 4 phonemes are represented   sanc for sank
consonant phonemes are spelled   senck for sank
with conventional letters   tancke for tank
no intrusions, no reversals

9   correct spelling

drip, trip, clean, cream   /trɪp/, /drɪp/, /klin/, /krim/

Score	Explanation	Examples
0	spelling includes only nonletters	76791 for drip
1	spelling includes some nonletters and some letters, where letters are not related to the word in any of the ways discussed below	fo?mt for clean
2	spelling includes only letters, but letters are not related to the word in any of the ways discussed below	i for clean
3	spelling begins with a letter related to the initial phoneme. It may be followed by anything else (which may include nonletters) or nothing at all. OR, spelling begins with a letter that conventionally represents a phoneme of the word other than the first phoneme This may be followed by anything else (which may include nonletters) or nothing at all	go for drip s for trip lr for clean e for clean
4	spelling begins with a conventional initial letter. May be followed by anything else (which may include nonletters) or nothing at all	k for clean
5	2 of the 4 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. when the intrusion is removed the rest of the letters should be in the correct sequence (except allow reversals of V and final C)	ke for clean li for clean ra for trip bu for drip tem for trip
6	3 of the 4 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. when the intrusion is	kaem for cream losgq for drip rma for clean

removed the rest of the letters should
be in the correct sequence (except allow
reversals of V and final C)

7	all 4 phonemes are represented with a mix of related and conventional letters count all 4 phonemes as being represented if the vowel is spelled with any vowel letter(s), as long as the vowel is in the right position may include intrusions when the intrusion is removed the rest of the letters should be in the correct sequence (except allow reversals of V and final C)	crme for cream hlpi for trip
8	all 4 phonemes are represented consonant phonemes are spelled with conventional letters no intrusions, no reversals	crem for cream trape for trip
9	correct spelling	

packed, locked   /pækt/, /lɑkt/

Score	Explanation	Examples
0	spelling includes only nonletters	789 for locked
1	spelling includes some nonletters and some letters, where letters are not related to the word in any of the ways discussed below	9?o for packed
2	spelling includes only letters, but letters are not related to the word in any of the ways discussed below	jo for packed
3	spelling begins with a letter related to the initial phoneme. It may be followed by anything else (which may include nonletters) or nothing at all	bf for packed
	OR spelling begins with a letter that conventionally represents a phoneme of	tl for packed
	the word other than the first phoneme This may be followed by anything else (which may include nonletters) or nothing at all	anrs for locked
4	spelling begins with a conventional initial letter. May be followed by anything else (which may include nonletters) or nothing at all.	p? for packed
5	2 of the 4 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. when the intrusion is removed the rest of the letters should be in the correct sequence (except allow reversal of the 2 final Cs)	pt for packed it for locked nru for locked
6	3 of the 4 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. when the intrusion is	pata for packed ptk for packed

removed the rest of the letters should
be in the correct sequence (except allow
reversal of the 2 final Cs)

7	all 4 phonemes are represented with a mix of related and conventional letters count all 4 phonemes as being represented if the vowel is spelled with any vowel letter(s), as long as the vowel is in the right position may include intrusions when the intrusion is removed the rest of the letters should be in the correct sequence (except allow reversal of 2 final Cs)	pact for packed padc for packed luqt for locked
8	all 4 phonemes are represented consonant phonemes are spelled with conventional letters final /t/ spelled as vowel + d or d + vowel no intrusions, no reversals	locid for locked
9	all 4 phonemes are represented consonant phonemes are spelled with conventional letters final /t/ spelled as ed no intrusions, no reversals	loced for locked
10	correct spelling	

dinner, supper   /dɪnɚ/, /sʌpɚ/

Score	Explanation	Examples
0	spelling includes only nonletters	19 for supper
1	spelling includes some nonletters and some letters, where letters are not related to the word in any of the ways discussed below	4he for supper
2	spelling includes only letters, but letters are not related to the word in any of the ways discussed below	f for supper
3	the spelling begins with a letter related to the initial phoneme. It may be followed by anything else (which may include nonletters), or nothing at all	zn for supper
	OR spelling begins with a letter that conventionally represents a phoneme of the word other than the first phoneme This may be followed by anything else (which may include nonletters) or nothing at all.	p for supper
4	spelling begins with a conventional initial letter. May be followed by anything else (which may include nonletters) or nothing at all.	cm for supper
5	2 of the 4 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. When intrusion is removed the rest of the letters should be in the correct sequence count the final syllabic r as a single phoneme	crt for supper zoi for supper br for dinner
6	3 of the 4 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. When intrusion is removed the rest of the letters should be in the correct sequence (but allow r +	dnr for dinner sbre for supper

vowel for the syllabic r)
NOTE: count the final syllabic r as a single phoneme

7   all 4 phonemes are represented with a mix   dinr for dinner
     of related and conventional letters   stupler for supper
     count all 4 phonemes as being represented if
     the vowel is spelled with any vowel letter(s),
     as long as the vowel is in the right position
     may include intrusions
     when the intrusion is removed the rest
     of the letters should be in the correct
     sequence

8   all 4 phonemes are represented   denir for dinner
     consonant phonemes are spelled
     with conventional letters
     no intrusions, no reversals except
     possibly in final syllable,
     final syllabic r is spelled with vowel
     + r or r + vowel

9   all 4 phonemes are represented   denner for dinner
     consonant phonemes are spelled
     with conventional letters
     no intrusions, no reversals,
     nn in middle for dinner, pp in middle for supper
     final syllabic r is spelled with e + r

10   correct

jelly, belly   /ʤɛli/, /bɛli/

Score	Explanation	Examples
0	spelling includes only nonletters	1012 for belly
1	spelling includes some nonletters and some letters, where letters are not related to the word in any of the ways discussed below	10r for jelly
2	spelling includes only letters, but letters are not related to the word in any of the ways discussed below	oopp for belly
3	spelling begins with a letter related to the initial phoneme. It may be followed by anything else (which may include nonletters) or nothing at all.	pm for belly
	OR, the spelling begins with a letter that conventionally represents a phoneme of the word other than the first phoneme This may be followed by anything else (which may include nonletters) or nothing at all.	y for jelly
4	spelling begins with a conventional initial letter. May be followed by anything else (which may include nonletters) or nothing at all.	bsq for belly
5	2 of the 4 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. when the intrusion is removed the rest of the letters should be in the correct sequence NOTE: the letter "l" counts as a representation of both the /ɛ/ and the /l/, so "l" for belly represents 2 phonemes and "bl" represents 3 phonemes	ba for belly beqs for belly
6	3 of the 4 phonemes represented anywhere in the spelling with	geme for jelly

related or conventional letters
may include intrusions.
when the intrusion is
removed the rest of the letters should
be in the correct sequence
see above note about "l"

bl for belly
zlabi for jelly

7   all 4 phonemes are represented with a mix
of related and conventional letters
count all 4 phonemes as being represented if
the vowel is spelled with any vowel letter(s),
as long as the vowel is in the right position
may include intrusions
when the intrusion is removed the rest
of the letters should be in the correct
sequence
OK if "l" used for both /ɛ/ and /l/

gli for jelly

8   all 4 phonemes are represented
consonant phonemes are spelled
with conventional letters
no intrusions, no reversals
vowel of /ɛl/ must be spelled with its own letter
ll in middle

gelly for jelly

9   correct spelling

snowing, blowing   /snoɪŋ /, /bloɪŋ/

Score	Explanation	Examples
0	spelling includes only nonletters	5 for snowing
1	spelling includes some nonletters and some letters, where letters are not related to the word in any of the ways discussed below	5l for snowing
2	spelling includes only letters, but letters are not related to the word in any of the ways discussed below	bg for snowing
3	the spelling begins with a letter related to the initial phoneme. It may be followed by anything else (which may include nonletters) or nothing at all.	z for snowing
	OR spelling begins with a letter that conventionally represents a phoneme of the word other than the first phoneme This may be followed by anything else (which may include nonletters) or nothing at all.	lt for blowing
4	spelling begins with a conventional initial letter. May be followed by anything else (which may include nonletters) or nothing at all.	bx3? for blowing
5	2 of the 5 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. when the intrusion is removed the rest of the letters should be in the correct sequence	stor for snowing ly for blowing
6	3 of the 5 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. when the intrusion is	sno for snowing bwer for blowing

removed the rest of the letters should
be in the correct sequence

7   4 of 5 phonemes are represented   soen for snowing
     anywhere in the spelling with mix
     of related and conventional letters
     may include intrusions
     when the intrusion is removed the rest
     of the letters should be in the correct
     sequence

8   all 5 phonemes are represented with mix   snoen for snowing
     of related and conventional letters
     letters
     count vowels as being represented if
     spelled with any vowel letter(s),
     as long as is in the right position
     may include intrusions
     when the intrusion is removed the rest
     of the letters should be in the correct
     sequence

9   all 5 phonemes are represented   snoing for snowing
     all consonant phonemes are spelled
     with conventional letters
     no intrusions, no reversals

10   correct spelling

tomato, potato   /təmeɾo/, /pəteɾo/

Score	Explanation	Examples
0	spelling includes only nonletters	8 for tomato
1	spelling includes some nonletters and some letters, where letters are not related to the word in any of the ways discussed below	8?e for tomato
2	spelling includes only letters, but letters are not related to the word in any of the ways discussed below	nraq for tomato
3	the spelling begins with a letter related to the initial phoneme. It may be followed by anything else (which may include nonletters) or nothing at all.	d for tomato
	OR, spelling begins with a letter that conventionally represents a phoneme of the word other than the first phoneme This may be followed by anything else (which may include nonletters) or nothing at all.	m for tomato
4	spelling begins with a conventional initial letter. May be followed by anything else (which may include nonletters) or nothing at all.	tfp for tomato
5	2 of the 6 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. when the intrusion is removed the rest of the letters should be in the correct sequence	to for tomato
6	3 of the 6 phonemes represented anywhere in the spelling with related and conventional letters may include intrusions. when the intrusion is	tmd for tomato

removed the rest of the letters should
be in the correct sequence

7   4 of 6 phonemes are represented
anywhere in the spelling with mix   tmad for tomato
of related and conventional letters   ptoa for potato
may include intrusions   pttow for potato
when the intrusion is removed the rest
of the letters should be in the correct
sequence

8   5 of 6 phonemes are represented
anywhere in the spelling with mix   tmado for tomato
of related and conventional letters
may include intrusions
when the intrusion is removed the rest
of the letters should be in the correct
sequence

9   all 6 phonemes are represented with mix   toamutoer for tomato
of related and conventional letters
count vowels as being represented if
spelled with any vowel letter(s),
as long as is in the right position
may include intrusions
when the intrusion is removed the rest
of the letters should be in the correct
sequence

10   all 6 phonemes are represented   toamutoe for tomato
consonant phonemes are spelled
with conventional letters
no intrusions, no reversals

11   correct spelling

KEY
intrusions: 1 or 2 letters which can fall before, in the middle of, or after appropriate
phonemes (final e as a continuance of earlier vowel is not considered an intrusion, but
part of a related vowel spelling)

nonletter: number or symbol that child writes but can't later identify, which was scored
as ?

related letters (which include phonetically related letters and visual reversals):
     d or p for /b/
     q or c for /ʤ/
     kc or g or q for /k/
     r for /l/
     l for /r/
     l or r for /ɚ/
     m for /n/
     n for /m/
     b or q for /p/
     z for /s/
     d for /t/ (not before /r/)
     t or b for /d/ (not before /r/)
     m or g for /ŋ/
     s or j or g or q or c or h or d for /t/ that precedes /r/
     z or c or h or j or g or q or t or b for /d/ that precedes /r/
     a for /ɛ/
     vowel + n or vowel + ng for "ing" ending
     Any vowel letter or combination of two vowel letters should be considered related
if it is next to a related or conventional phoneme, but only conventional vowels count as
related if there is an intrusion between the vowel and the appropriate consonants
     (count w and y as vowel letters)

conventional letters:
     l or ll for /l/
     n or nn for /n/
     p or pp for /p/
     a for /æ/
     b or bb for /b/
     r or rr for /r/
     j or g for /ʤ/
     c or s for /s/
     c or ck or k for /k/
     t or tt for /t/ (whether before /r/ or not)
     ed for final /t/ that represents a past tense
     t or tt or d or dd for a flap (as in tomato, potato)

d or dd for /d/ (whether before /r/ or not)
n or ng for /ŋ/
m or mm for /m/
n or nn for /n/
e or ea or ee or ey or e followed by final e or ea followed by final e or y for /i/
i for /ɪ/
u for /ʌ/
o or ow or oe or oa or o followed by final e for /o/
ing for /ɪŋ/ ending ("ing")
ng for /ŋ/ in tank and sank
a or o for /ɑ/
any vowel for /ə/
a or a follwed by final e for /e/
er for /ɚ/

Composite scoring of 10 word nonword spelling task, Forms A and B

/næm/, /væm/

Score	Explanation	Examples
0	spelling includes only nonletters	25 for /næm/
1	spelling includes some nonletters and some letters, but letters are not related to the word in any of the ways discussed below	fl7 for /næm/
2	spelling includes only letters, but letters are not related to the word in any of the ways discussed below	cd for /næm/ y for /væm/
3	spelling begins with a letter which is related to the initial phoneme of the word SEE KEY May be followed by anything else (which may include nonletters) OR, spelling begins with a letter which conventionally represents a phoneme of the word other than the first phoneme SEE KEY This may be followed by anything else (which may include nonletters) or nothing at all	mv for /næm/ ap for /næm/
4	spelling begins with a conventional initial letter. May be followed by anything else (which may include nonletters) or nothing at all	nx for /næm/
5	2 of the 3 phonemes represented anywhere in the spelling with related letters or conventional letters. Spelling may include intrusions. when the intrusion is removed the rest of the letters should be in the correct sequence (except allow reversals of V and final C)	ome for /næm/ nvfaj for /næm/ nmm for /næm/ fa for /væm/ natq for /væm/ imst for /væm/ mas for /væm/ ne for /næm/

6   all 3 phonemes are represented anywhere
       in the spelling with a mix   valm for /væm/
       of related and conventional letters   fome for /væm/
       count all 3 phonemes as being represented if   nma for /næm/
       the vowel is spelled with any vowel letter(s),
       as long as in the right position.
       may include intrusions.
       when the intrusion is removed the rest
       of the letters should be in the correct
       sequence (except allow reversals of V and
       final C)

7   all 3 phonemes are represented   vom for /væm/
       both consonant phonemes are spelled   voome for /væm/
       with conventional letters   nime for /næm/
       no reversals, no intrusions

8   a conventional spelling
        in which all 3 phonemes are spelled
        with conventional letters
        no reversals, no intrusions,
        nam, namm, vam, vamm

/dɑr/, /lɑr/

Score	Explanation	Examples
0	spelling includes only nonletters	11 for /dɑr/
1	spelling includes some nonletters and some letters, where letters are not related to the word in any of the ways discussed below	955x for /dɑr/
2	spelling includes only letters, but letters are not related to the word in any of the ways discussed below	eipz for /dɑr/
3	spelling begins with a letter which is related to the initial phoneme of the word. It may be followed by anything else (which may include nonletters) or nothing at all	bm for /dɑr/ bpxu for /dɑr/
	OR spelling begins with a letter which conventionally represents a phoneme of the word other that the first phoneme. SEE KEY This may be followed by anything else (which) may include nonletters) or nothing at all.	ax for /dɑr/
4	spelling begins with a conventional initial letter. May be followed by anything else (which may include nonletters) or nothing at all	dq for /dɑr/
5	2 of the 3 phonemes represented anywhere in the spelling with phonetically	daxy for /dɑr/
	related or conventional letters	ur for /dɑr/
	may include intrusions. When intrusion is removed the rest of the letters should	r for /dɑr/
	be in the correct sequence, except that r + vowel is allowed for /ɑr/	wmrp for /dɑr/
	NOTE: the letter r counts as a representation of both the vowel and the	diqt for /dɑr/
	consonant, so "r" for /dɑr/ represents 2 phonemes and "dr" for /dɑr/ represents 3 phonemes	
6	all 3 phonemes are represented anywhere	

in the spelling with a mix	br for /dɑr/
of phonetically related and conventional	bre for /dɑr/
letters	
count vowel as represented even if it	lrun for /lɑr/
is spelled incorrectly or if vowel and /r/	
are together spelled as "r"	
may include intrusions	
when the intrusion is removed the rest	
of the letters should be in the correct	
sequence, except that r + vowel is allowed	
for /ɑr/	

7   all 3 phonemes are represented   dir for /dɑr/
consonant phonemes are spelled with   dore for /dɑr/
conventional letters,
vowel is spelled with a separate letter
no intrusions, no reversals

8   conventional spelling
 all phonemes, including vowel, spelled
 so that word, when read back, could sound correct
dar, dare, darr, or lar, lare, larr

/mɛli/, /pɛli/

Score	Explanation	Examples
0	spelling includes only nonletters	1012 for /mɛli/
1	spelling includes some nonletters and some letters, where letters are not related to the word in any of the ways discussed below	10g for /mɛli/
2	spelling includes only letters, but letters are not related to the word in any of the ways discussed below	oopp for /mɛli/
3	spelling begins with a letter related to the initial phoneme. It may be followed by anything else (which may include nonletters) or nothing at all.	np for /mɛli/
	OR, the spelling begins with a letter that conventionally represents a phoneme of the word other than the first phoneme This may be followed by anything else (which may include nonletters) or nothing at all.	y for /mɛli/
4	spelling begins with a conventional initial letter. May be followed by anything else (which may include nonletters) or nothing at all.	m for /mɛli/
5	2 of the 4 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. when the intrusion is removed the rest of the letters should be in the correct sequence NOTE: the letter "l" counts as a representation of both the /ɛ/ and the /l/, so "l" for /mɛli/ represents 2 phonemes and "ml" represents 3 phonemes	ma for /mɛli/ lz for /mɛli/
6	3 of the 4 phonemes represented anywhere in the spelling with	ml for /mɛli/

related or conventional letters
may include intrusions.   pli for /mɛli/
when the intrusion is
removed the rest of the letters should
be in the correct sequence
see above note about "l"

7   all 4 phonemes are represented with a mix   mliz for /mɛli/
        of related and conventional letters
        count all 4 phonemes as being represented if
        the vowel is spelled with any vowel letter(s),
        as long as the vowel is in the right position
        may include intrusions
        when the intrusion is removed the rest
        of the letters should be in the correct
        sequence
        OK if "l" used for both /ɛ/ and /l/

8   all 4 phonemes are represented   milly for /mɛli/
        consonant phonemes are spelled
        with conventional letters
        no intrusions, no reversals
        vowel of /l/ must be spelled with its own letter
        must be ll in middle of spelling

9   same as above, but vowel must be spelled
        conventionally – melly or pelly

/vəmeɹə/, /bəmiɹə/

Score	Explanation	Examples
0	spelling includes only nonletters	8 for /bəmidə/
1	spelling includes some nonletters and some letters, where letters are not related to the word in any of the ways discussed below	8?e for /bəmidə/
2	spelling includes only letters, but letters are not related to the word in any of the ways discussed below	nraq for /bəmidə/
3	the spelling begins with a letter related to the initial phoneme. It may be followed by anything else (which may include nonletters) or nothing at all.	p for /bəmidə/
	OR, spelling begins with a letter that conventionally represents a phoneme of the word other than the first phoneme This may be followed by anything else (which may include nonletters) or nothing at all.	mz for /bəmidə/
4	spelling begins with a conventional initial letter. May be followed by anything else (which may include nonletters) or nothing at all.	bfp for/bəmidə/
5	2 of the 6 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. when the intrusion is removed the rest of the letters should be in the correct sequence	po for /bəmidə/
6	3 of the 6 phonemes represented anywhere in the spelling with related and conventional letters may include intrusions. when the intrusion is	bmd for /bəmidə/

removed the rest of the letters should
be in the correct sequence

7   4 of 6 phonemes are represented
anywhere in the spelling with mix   bmad for /bəmidə/
of related and conventional letters   bmoa for /bəmidə/
may include intrusions   bndow for /bəmidə/
when the intrusion is removed the rest
of the letters should be in the correct
sequence

8   5 of 6 phonemes are represented
anywhere in the spelling with mix   bmado for /bəmidə/
of related and conventional letters
may include intrusions
when the intrusion is removed the rest
of the letters should be in the correct
sequence

9   all 6 phonemes are represented with mix   boanidows for
of related and conventional letters   /bəmidə/
count vowels as being represented if
spelled with any vowel letter(s),
as long as is in the right position
may include intrusions
when the intrusion is removed the rest
of the letters should be in the correct
sequence

10   all 6 phonemes are represented   bomudo for /bəmidə/
consonant phonemes are spelled
with conventional letters
no intrusions, no reversals

11   all letters spelled conventionally, including vowels   bomedu for /bəmidə/

/flʌm/, /trʌm/, /trop/, /flop/

Score	Explanation	Examples
0	spelling includes only nonletters	76791 for /flop/
1	spelling includes some nonletters and some letters, where letters are not related to the word in any of the ways discussed below	ta?mt for /flop/
2	spelling includes only letters, but letters are not related to the word in any of the ways discussed below	i for /flop/
3	spelling begins with a letter related to the initial phoneme. It may be followed by anything else (which may include nonletters) or nothing at all. OR, spelling begins with a letter that conventionally represents a phoneme of the word other than the first phoneme This may be followed by anything else (which may include nonletters) or nothing at all	vzm1 for /flop/ s for /trop/ lr for /flop/ o for /flop/
4	spelling begins with a conventional initial letter. May be followed by anything else (which may include nonletters) or nothing at all	f for /flop/
5	2 of the 4 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. when the intrusion is removed the rest of the letters should be in the correct sequence (except allow reversals of V and final C)	fo for /flop/ la for /flop/ vu for /flop/ po for /flop/
6	3 of the 4 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. when the intrusion is	faep for /flop/ rpa for /flop/

removed the rest of the letters should
be in the correct sequence (except allow
reversals of V and final C)

7	all 4 phonemes are represented with a mix	flpe for /flop/
	of related and conventional letters	hlpi for /trop/
	count all 4 phonemes as being represented if	
	the vowel is spelled with any vowel letter(s),	
	as long as the vowel is in the right position	
	may include intrusions	
	when the intrusion is removed the rest	
	of the letters should be in the correct	
	sequence (except allow reversals of V and final	
	C)	
8	all 4 phonemes are represented	flop for /flop/
	consonant phonemes are spelled	
	with conventional letters	
	no intrusions, no reversals	
9	conventional spelling	
	all phonemes spelled conventionally, including vowels	
	floap, flope, troap, or trope	

/pæŋk/, /gæŋk/, /bɪkt/, /mækt/

Score	Explanation	Examples
0	spelling includes only nonletters	11516 for /pæŋk/
1	spelling includes some nonletters and some letters, where letters are not related to the word in any of the ways discussed below	3?ogi for /pæŋk/
2	spelling includes only letters, but letters are not related to the word in any of the ways discussed below	x for /pæŋk/
3	spelling begins with a letter related to the initial phoneme. It may be followed by anything else (which may include nonletters) or nothing at all. OR, spelling begins with a letter that conventionally represents a phoneme of the word other than the first phoneme This may be followed by anything else (which may include nonletters) or nothing at all.	be for /pæŋk/ c for /gæŋk/ ap3 for /gæŋk/
4	spelling begins with a conventional initial letter. May be followed by anything else (which may include nonletters) or nothing at all.	pl for /pæŋk/
5	2 of the 4 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. when the intrusion is removed the rest of the letters should be in the correct sequence (except allow n + vowel for vowel + n)	podr for /pæŋk/ rlnis for /pæŋk/
6	3 of the 4 phonemes represented with related or conventional letters may include intrusions. when the intrusion is removed the rest of the letters should	pak for /pæŋk/

be in the correct sequence (except allow
n + vowel for vowel + n)

7	all 4 phonemes are represented with a mix	penck for /pæŋk/
	of related and conventional letters	
	count all 4 phonemes as being represented if	panik for /pæŋk/
	the vowel is spelled with any vowel letter(s),	
	as long as in the right position	
	may include intrusions	
	when the intrusion is removed the rest	
	of the letters should be in the correct sequence	
	(except allow n + vowel for vowel + n)	

8	all 4 phonemes are represented	penk for /pæŋk/
	consonant phonemes are spelled	pincke for /pæŋk/
	with conventional letters	maced for /mækt/
	no intrusions, no reversals	

9	all phonemes spelled conventionally,	
	pank, gank, bict, bicked, mact,	
	macked	

/gælɚ/, /dɪlɚ/

Score	Explanation	Examples
0	spelling includes only nonletters	19 for /gælɚ/
1	spelling includes some nonletters and some letters, where letters are not related to the word in any of the ways discussed below	4he for /gælɚ/
2	spelling includes only letters, but letters are not related to the word in any of the ways discussed below	f for /gælɚ/
3	the spelling begins with a letter related to the initial phoneme. It may be followed by anything else (which may include nonletters), or nothing at all	c for /gælɚ/
	OR spelling begins with a letter that conventionally represents a phoneme of the word other than the first phoneme This may be followed by anything else (which may include nonletters) or nothing at all.	r for /gælɚ/
4	spelling begins with a conventional initial letter. May be followed by anything else (which may include nonletters) or nothing at all.	gp for /gælɚ/
5	2 of the 4 phonemes represented anywhere in the spelling with	grt for /gælɚ/
	related or conventional letters	goi for /gælɚ/
	may include intrusions. When intrusion is removed the rest of the letters should	gr for /gælɚ/
	be in the correct sequence count the final syllabic r as a single phoneme	
6	3 of the 4 phonemes represented anywhere in the spelling with	glr for /gælɚ/

related or conventional letters   glre for /gælɚ/

may include intrusions. When intrusion is
removed the rest of the letters should
be in the correct sequence (but allow r +
vowel for the syllabic r)
NOTE: count the final syllabic r as a single phoneme

7   all 4 phonemes are represented with a mix   gilr for /gælɚ/

of related and conventional letters   grupler for /gælɚ/

count all 4 phonemes as being represented if
the vowel is spelled with any vowel letter(s),
as long as the vowel is in the right position
may include intrusions
when the intrusion is removed the rest
of the letters should be in the correct
sequence

8   all 4 phonemes are represented   gelir for /gælɚ/

consonant phonemes are spelled
with conventional letters
no intrusions, no reversals except
possibly in final syllable,
final syllabic r is spelled with vowel
+ r or r + vowel

9   all 4 phonemes are represented   geller for /gælɚ/

consonant phonemes are spelled
with conventional letters
no intrusions, no reversals,
ll in middle
final syllabic r is spelled with e + r

10   conventional: galler, diller

/spino/, /steno/

Score	Explanation	Examples
0	spelling includes only nonletters	5 for /spino/
1	spelling includes some nonletters and some letters, where letters are not related to the word in any of the ways discussed below	5j for /spino/
2	spelling includes only letters, but letters are not related to the word in any of the ways discussed below	lg for /spino/
3	the spelling begins with a letter related to the initial phoneme. It may be followed by anything else (which may include nonletters) or nothing at all.	z for /spino/
	OR spelling begins with a letter that conventionally represents a phoneme of the word other than the first phoneme This may be followed by anything else (which may include nonletters) or nothing at all.	nt for /spino/
4	spelling begins with a conventional initial letter. May be followed by anything else (which may include nonletters) or nothing at all.	sx3? for /spino/
5	2 of the 5 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. when the intrusion is removed the rest of the letters should be in the correct sequence	so for /spino/ mat for /spino/
6	3 of the 5 phonemes represented anywhere in the spelling with related or conventional letters may include intrusions. when the intrusion is removed the rest of the letters should	sno for /spino/ bia for /spino/

be in the correct sequence

7   4 of 5 phonemes are represented
     anywhere in the spelling with mix   soen for /spino/
     of related and conventional letters
     may include intrusions
     when the intrusion is removed the rest
     of the letters should be in the correct
     sequence

8   all 5 phonemes are represented with mix   sbomiz for /spino/
     of related and conventional letters
     letters
     count vowels as being represented if
     spelled with any vowel letter(s),
     as long as is in the right position
     may include intrusions
     when the intrusion is removed the rest
     of the letters should be in the correct
     sequence

9   all 5 phonemes are represented   spanoe for /spino/
     all consonant phonemes are spelled
     with conventional letters
     no intrusions, no reversals

10   conventional: spino, speno, speeno, spinow, spenow, speenow, stano, stanow

KEY

intrusions: 1 or 2 letters which can fall before, in the middle of, or after appropriate phonemes (final e as a continuance of earlier vowel is not considered an intrusion, but part of a related vowel spelling)

nonletter: number or symbol that child writes but can't later identify, which was scored as ?

related letters (which include phonetically related letters and visual reversals):
     d or p for /b/
     kc or g or q for /k/
     k or ck or c for /g/
     r for /l/
     l for /r/
     l or r for /ɚ/
     m for /n/
     n for /m/
     b or q for /p/
     z for /s/
     d or ed for /t/ (not before /r/)
     t or b for /d/ (not before /r/)
     m or g for /ŋ/
     s or j or g or q or c or h or d for /t/ that precedes /r/
     z or c or h or j or g or q or t or b for /d/ that precedes /r/
     a for /ɛ/
     vowel + n or vowel + ng for "ing" ending
      f for /v/
     Any vowel or combination of two vowels should be considered related if it is next to a related or conventional phoneme, but only conventional vowels count if there is an intrusion between it and appropriate consonants
     (count w and y as vowel letters)

conventional letters
     l or ll for /l/
     n or nn for /n/
     p or pp for /p/
     a for /æ/
     b or bb for /b/
     r or rr for /r/
     c or s for /s/
     c or ck or k for /k/
     g or gg for /g/
     t or tt for /t/ (whether before /r/ or not)
     for final /t/, ed is also conventional
     t or tt or d or dd for a flap
     d or dd for /d/ (whether before /r/ or not)

n or ng for /ŋ/
m or mm for /m/
v for /v/
e or ea or ee or ey or e followed by final e or ea followed by final e or y for /i/
i for /ɪ/
u for /ʌ/
o or ow or oe or oa or o followed by final e for /o/
But note that in /trop/ and /flop/ the single o spelling is not conventional.
ng for /ŋ/ in /pæŋk/ and /gæŋk/
a or o for /ɑ/
any vowel for /ə/
a or a followed by final e or ai or ay for /e/
er for /ɚ/