

WORDWORKS NEWSLETTER #63

A world-wide challenge to help build spelling and word <knowledge> around the world

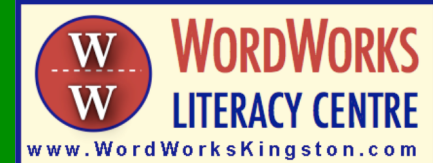
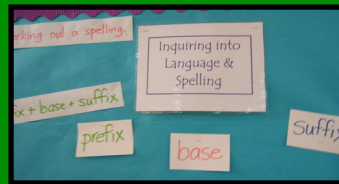
Structured Word Inquiry World Tour, 2011

Visits so far...

- Bali International School
- Singapore American School
- Riffa Views International School (Bahrain)
- NESAWinter Training Institutes (Doha, Qatar)

Visits to come...

- American School of Doha
- International School of Luzern and Zug, Switzerland



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Testing what you and your students <know> about the English spelling system...

This “special edition” *WordWorks Newsletter* provides a detailed model of a structured word inquiry lesson investigating the spelling of the word <know>. The lesson illustrates *concepts about the spelling system* and *strategies for scientific investigation* of that system that teachers of children of all ages and abilities can address in their classroom. I’ve modelled *aspects* of this lesson in classrooms from pre-school to Grade 7 on this “spelling world tour” so far. However, this free lesson comes with a challenge to the entire WW community!

I am challenging teachers to turn this investigation of the word <know> into a school-wide project. Teachers from multiple grades can take on aspects of this lesson at the same time.

Developing a communities of learners

Schools that meet this challenge will have teachers and students from all grades investigate similar spelling concepts at exactly the same time. This strategy will help novice and experienced teachers and students support each other’s learning. Classes that dive into different investigations illustrated in the lesson that follows can share and present their learning with other students and/or parents in any number of ways.

Some teachers may have their classes to create and present large word webs and matrices. Others might create grapheme-phoneme charts relevant to <know> and other words that come up in their study. Some classes could make a chart explaining the difference between function and content words while also explaining the homophone principle. Once a class represents

their own learning in their classroom, they could find all sorts of strategies to present their learning either to other classes, or to students at schools around the world!



Sharing your learning

The new [Real Spellers](#) website offers an excellent forum with which teachers and students can share work that is finished or in process. My hope is that teachers will share images, stories, or videos relating to their investigations.

This will help other teachers see the variety of ways that the spellings and meaning of words are being investigated around the world. To share your learning, or see what others have posted, go to the Real Spellers [link](#), log-in and go to the “Lesson Plans forum” Look for “Pete’s <know> [lesson](#).”

Why a lesson on <know>?

The idea for this challenge was sparked by Kingston teacher, Robb MacKay, who shared a story describing what happened when his student encountered the word <know> at the beginning of his first WW workshop. Ever since I have not been able to get the story out of my head for a few reasons.

First of all, it is a heartbreaking story that illustrates the pain and frustration children experience as they fail to make sense of the writing system. As well the story brings into sharp focus a foundational question that I have been asking educators to consider at my workshops.

Are we sure it our English spelling system that is unreliable, or instead might it actually be our systems for teaching spelling that are failing us?

“Know More Explosions”

Excerpt from Robb’s email

My program is for junior students identified with behaviour problems, problems which make their full-time participation in “standard” classrooms problematic for everyone involved. Most of our students have ADHD identifications, often coincident with LDs and other difficulties, and virtually all of them read more than two grade levels lower than they should. In many instances, the students’ behaviour difficulties and their language deficits pose a chicken-and-egg question.

In a guided reading session I was doing with a burly and eager Grade 4 student reading at PM 9, the student pointed to the work “know” and asked what it said. Knowing my students, I prepared him for my answer with “OK, this is going to blow your mind, but . . .” When I finished with “It says /no/,” he didn’t miss a beat. He tore the book off the table and flung it across the room. And then he started: “It does not f*#!ing say ‘no!’ ” - giving the whole class a language lesson as he tore a path toward the classroom door - “<k> says /k/ and <w> says /w/, so it does not say f*#!ing ‘no!’ ” How am I supposed to learn this sh*!t when the rules change? <K> f*#!ing says /k/!”

After the student de-escalated - and being told that <knight> says /night/ DIDN’T help, I promised him I’d find out why that word is pronounced as it is.

Robb

It is clear from the story above that non of Robb’s teacher training or resources have given him any idea that the spelling of the word <know> conforms perfectly to the conventions of

English spelling. Like most teachers, Robb has no way to see that this word provides a brilliant context to investigate and understand the conventions that drive English spelling. Clearly Robb's student has never encountered a teacher that was excited to encounter the word <know> because it is so helpful for developing systemic understanding of how our fascinating writing system works.

How do you explain the <k> in <know>?

Perhaps the most important and insidious part of this story is revealed by what Robb's student screams out in anger. This student's problem is not that he failed to listen to and learn what his teachers have been trained to teach him. The problem is that what he has been taught and learned fails to make sense of this, and so many of the words that he encounters.

One might argue that what teachers have been trained to teach children about <k> and <w> is not "wrong" because it is usually correct. This argument is dangerously compelling. It suggests to us that we don't need to work to reframe our own understanding and teaching about spelling because the current instruction seems to work for most words and most students.

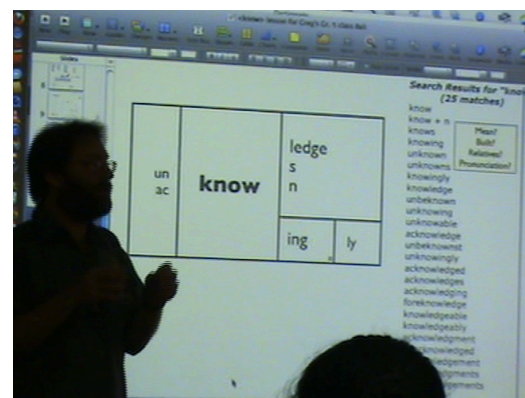
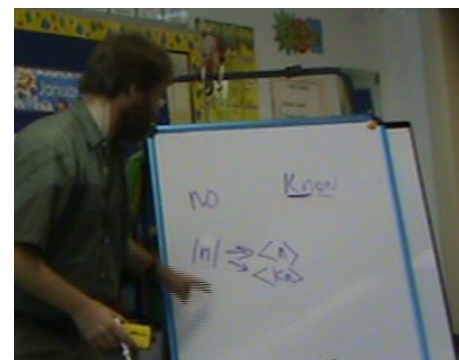
The "good enough" response reinforces the status quo that doesn't address the fact that current instruction fundamentally misrepresents the basic principles of spelling as described in linguistics (see [Chomsky 1970](#)), and which clearly leaves a great number of students to forever struggle with our writing system. Instead words like <know> are treated as an more evidence of just how unreliable and frustrating English spelling is to learn.

Robb's story was particularly striking to me because I regularly use exactly this spelling to investigate how reliable and ordered English spelling really is! This modelled "Inquiry-Led" teaching episode offers the WordWorks community a carefully laid out example of what can happen when teachers learning about the writing system encounter a word like this.

I hope to forcefully demonstrate that the problem with English spelling is not how it works, but how it is taught!

Here are just two images of lessons on <know> from Riffa Views International School.

Right: I'm introducing a lower primary class to the homophone principle and two graphemes for the initial /n/ phoneme.



Right: A lesson with older learners moves from the base word <know> to members of its morphological family. We use the Word Searcher to collect a family of related words. With that, we start to build a matrix.

What might linguistically accurate instruction of the written word look like?

We have looked at a story of a Grade 4 student identified for behaviour issues getting extremely frustrated when he encounters yet another spelling that seems to have nothing to do with the letter-sound correspondences he has been taught in school. Whatever other issues this student has to deal with, one thing he didn't need or deserve was to arrive in Grade 4 in an education system that misunderstood the English spelling so much that it treats a word like <know> as another in a long list of excepting words in a frustratingly irregular system.

It should be uncontroversial to assert that children have a right to accurate instruction about how their writing system works.

Teachers require training and resources that reveal accurate information about how the system works in order to meet this basic standard of accuracy in instruction. Would we accept schools that misrepresented how our number system works?

It turns out that the words that are traditionally treated as “irregular” are often the most interesting and generative words to teach. Recognizing order in something previously assumed to be irregular is an innately positive learning experience. It provides that “light bulb moment” in which something that used to stick out as an annoyance or perhaps just a curiosity is suddenly resolved by deeper understanding.

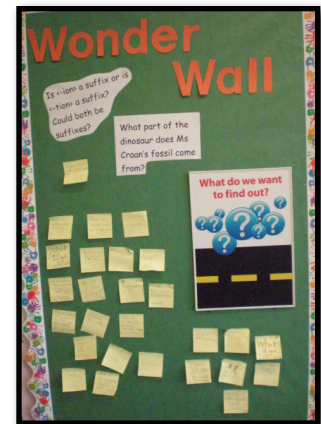
With that premise in mind, I will describe a possible scenario of a student asking about the spelling of the word like <know> in a school with teachers who have been learning how ordered English spelling is with linguistically accurate resources like Real Spelling and WordWorks. I call our hypothetical teacher Mrs. Burns (in honour of my elementary school teacher who long suffered with my spelling!).

1) Mrs. Burns has never specifically thought about the spelling of this word. Through working with Real Spelling and WordWorks she has seen the logic of enough spellings that she used to think were crazy that her first response might be something like this:

“Hmm that’s a great question. I’ve never actually looked closely at that spelling, but I bet there is a good reason for it. Let’s see if we can sort it out.”

The key message signalled to the student from the start is that there likely is a good reason for this spelling even if his/her teacher doesn't know it yet.

Depending on what Mrs. Burns thinks is most helpful for the student and the class at this moment she could start an investigation right now or she could set this question aside for the moment. Putting up a sticky note on their spelling questions “Wonder Wall” helps make sure that the class reminds her to look at this spelling later. This time Mrs. Burns decides they have time to use this question to try an [“inquiry-led” structured word inquiry](#) to see how far they can get as a team of learners.



2) Mrs. Burns has been working with accurate resources for a bit so she does know that <kn> is a digraph for /n/ that is only used initially. Nonetheless, part of the purpose of inquiry-led teaching is to model wise steps to take when investigating spellings you don't

understand, so Mrs. Burns refers to their class reference chart (right) even when she knows something about the spelling. She finds it helps her remember important questions she forgets otherwise.

Mean?
Built?
Relatives?
Pronunciation?

[Note: A chart prompting the same questions, but with more detail can be found on the reference chart booklet [here](#).]

3) Ah yes, the chart reminds Mrs. Burns to discuss the meaning of the word first. She asks for ideas of what the word <know> means. The ensuing discussion brings up the fact that this is the word about “knowing” or “understanding” something. They recognize that this is not the word <no> that sounds exactly the same. Now the class is reminded of the **homophone principle** that they ran into when when they investigated the words <to> <too> and <two>. Mrs. Burns reminds the class that this is the idea that when two words have the same pronunciation but have no connection in meaning, they are spelled differently *where possible* to mark the difference in meaning.

(Mrs. Burns might have learned this idea by working with Real Spelling Themes K1 on early etymology that presents the homophones <hear> / <here> and <to> / <two> / <too>, and/or Kit 11 on homophones part 1).

H	The suffix <-ed>	Compounds -1-
I	Early etymology -1- the families of <hear> and <two>	Homophones -1-
J	Digraphs for 'long' <a>	Phonological matrices -2-

The teacher with the Real Spelling Tool Box who chooses to come back to this question later could pull out their RS overview chart after class and find Kit 2B “The initial phoneme /n/: four ways of writing it”. This theme will provide that teacher with plenty of content to build a lesson not only on the word <know> but many other concepts.

	Kit K	Kit 1	Kit 2
A	Writing and recognising the vowel letters	The <i/y> conventions: the basic pattern	The grapheme <igh> 2: vowel + <igh>
B	The suffixes <-ly> and <-ful>	Plurals -1- whether to use <-es> or just <-s>	the end of bases: <k> or <ck>? <ch> or <tch>?
C	The suffix <-ing>	When suffixes force doubling -1- monosyllables	The initial phoneme /n/: four ways of writing it

Because the reference chart reminded them to start with meaning, the first window of *understanding* this spelling has been offered. It was discussing the meaning of the word that led to the observation that there are two words that sound the same, <know> and <no>. Mrs. Burns reinforces the order of English spelling by pointing out that it is a good thing that we have more than one way to write a word with this pronunciation!


With luck this class has already worked on the concept of “function” and “content” words and have a sticky-note reference chart started. (See next page.)

Now a new homophone pair can be added to their list. Because <no> has only two letters, it must be a function word. The word <know> is more than a grammatical function word, so it can't be spelled with two letters.

Function Words	Content Words									
<div style="border: 1px solid black; padding: 5px;"> <ul style="list-style-type: none"> • Only function words use one or two letters (they can use more). • Content words use at least three letters. </div>										
<div style="border: 1px solid black; padding: 5px;"> <p>homophones If one of a set of homophones is a function word, it will use fewer letters than its homophone(s).</p> </div>										
<div style="border: 1px solid black; padding: 5px;"> <table border="1"> <tr><td>or</td></tr> <tr><td>to</td></tr> <tr><td>be</td></tr> </table> </div>	or	to	be	<div style="border: 1px solid black; padding: 5px;"> <table border="1"> <tr><td>ore</td><td>oar</td></tr> <tr><td>too</td><td>two</td></tr> <tr><td>bee</td><td></td></tr> </table> </div>	ore	oar	too	two	bee	
or										
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too	two									
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he	she									
on	in									

This is another example of the kind of reference charts you can find in this [reference booklet](#) that you can download! I highly recommend that you go to this [link](#) to see a Real Spelling tutorial film that explains what function and content words are. You will see that this concept helps you understand the spelling a great number of words that are treated as early "sight words" to memorize.

Checking the chart, Mrs. Burns decides to go on to the "How is it Built?" question. She knows she will come back to the grapheme-phoneme correspondences later. However, she's pleased that the function/content word relationship of <know> and <no> has given her a good idea why their target word uses <kn> instead of the more typical <n>.


Mean?
Built? 
Relatives?
Pronunciation?

[Hint: Content words need more than two letters!]

- Even though she is sure that that this is a base word, she asks if anyone can see any potential prefixes or suffixes that might be used in this word, or if they think

it a base. There is no tempting affix, so it is agreed that this is a base word. Next question...

- Relatives? Can anyone think of related words? A few students come up with a few words like <knowing>, <knows>, <unknown>. Then someone asks about <knew>.

Mean?
Built?
Relatives? 
Pronunciation?

"Hmm. That's interesting," Mrs. Burns says. "The past tense of <know> doesn't use an <-ed> suffix, but it does use the <kn>."

A student might comment, "hey, <knew> has a homophone too! It's not like something that is 'new' instead of 'old'!"

Mrs. Burns hadn't even thought of that, but agrees that this is an excellent point. She adds that it makes sense that both <know> and <knew> use an initial <kn> to mark that these words are related in meaning. Mrs. Burns and the class are still confused about how to deal with <knew>, so they add a note to the wonder wall to come back to that later.

Mrs. Burns has three words on the board from the class that could be used to make a matrix, but decides to see how big a bank of related words they can find by going to the [Word Searcher](#).

They come up with 25 words (see next page) which is a nice convenient number of words to work with. It looks like all of these words are morphologically related. They do all seem to be related in meaning. They have to do word sums to confirm that they are structurally related as well. As they start to make word

sums, a great question comes up on exactly this point. Struggling to make a word sum for the word <known>, a student asks if there is an <-n> is a suffix. Mrs. Burns doesn't know, so they add another post-it for the Wonder Wall.

After class she looks in the dictionary for this suffix and she finds that <-n> is just a variant of the Old English suffix <-en>. She regrets that she didn't think to look up this suffix up when the student asked. Oh well. Next time!

Mrs Burns gives the class about 5 minutes to work in teams to make as many word sums as they can from the list. After she builds a starter matrix on the board as students shout out affixes from their word sums.

Every time a student suggests an affix, she has them use the word from their sum in a sentence. She has them spell the word out-loud, making sure they pause at the plus signs between morphemes. When she asks what the base of this matrix is, her students know to spell

un ac	know	n
		ing s
		ledge

Search Results for "know" (25 matches)

- know
- known
- knows
- knowing
- unknown
- unknowns
- knowingly
- knowledge
- unknown
- unknowing
- unknowable
- acknowledge
- unknownst
- unknowingly
- acknowledged
- acknowledges
- acknowledging
- foreknowledge
- knowledgeable
- knowledgeably
- acknowledgment
- unacknowledged
- acknowledgement
- acknowledgments
- acknowledgements

out the letters. Mrs. Burns congratulates them for not saying the word <know> -- reminding them that we don't hear that pronunciation in the word <knowledge>!

After representing a handful of the words from the list on her matrix, she decides to copy and paste this word list into a Word document so that in a later class students can work in groups to make their own matrices that go beyond their class matrix.

Since she has a bit more time, and because the kids seem to be focused, Mrs. Burns decides to model looking using dictionaries to look at the etymology of this word (another way to take on the "Relatives?" question). A quick look in a dictionary shows this etymological information:

ORIGIN Old English *cnāwan* (earlier *gecnāwan*) [recognize, identify,] of Germanic origin; from an Indo-European root shared by Latin (g)noscere, Greek *gignōskein*, also by *can* 1 and *ken*.

Mrs. Burns isn't so comfortable with the etymological stuff yet, so she's not sure what to do with this other than to comment that apparently <know> is an Old English word, not a Latin or Greek word that they see a lot when they look up words. Next question....

- 6) "OK," Mrs. Burns says. "Let's look at the pronunciation of <know>. What are the grapheme-phoneme correspondences?"

She points out that first part of <know> is pronounced /n/, so this must be one of those words that uses <kn> for /n/.

Mean?
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[Aside: The <kn> for /n/ was the one thing Mrs. Burns knew when the question was first asked. Think how much has been learned about this spelling so far beyond this one point. If she had not used the reference chart to remind her to start with meaning, structure and relatives before pronunciation, she and her students would have been denied access to many rich spelling concepts.]

Mrs. Burns asks if the students can prove <kn> is a digraph for /n/. They suggest <knight> and <knee> but not many others. Mrs. Burns has trouble thinking of too many more also. A student suggests they try the Word Searcher again. Mrs. Burns types <kn> in the “search” field and...

Whoa! 162 words this time. Below are just a selection of those words.

Search Results for "kn" (162 matches)		
knee	unknown	seasickness
knew	banknote	thicknesses
knit	cockneys	unbeknownst
knob	dankness	unknowingly
knot	darkness	acknowledged
know	doorknob	acknowledges
knack	knackers	camiknickers
knave	knapsack	doorknockers
knead	kneading	homesickness
knead	kneecaps	knuckleheads
kneel	kneeling	pocketknives
knees	knickers	acknowledging
knell	knighted	foreknowledge
knelt	knightly	knowledgeable
knife	knitters	knowledgeably
knits	knitting	knuckleduster
knobs	knitwear	acknowledgment
knock	knockers	knickerbockers
knoll	knocking	knuckledusters
knots	knockoff	unacknowledged
known	knockout	acknowledgement
knows	knottier	acknowledgments
knaves	knotted	acknowledgements
	knuckled	
	knuckles	
	meekness	

Lots of questions follow. What’s a <knoll>? What’s a <knave>?

Mrs. Burns looks up a couple of these words and notices that all the words with a <kn> for /n/ turn out to be of Old English origin. This provides another interesting hypothesis to add to the Word Wall. Is the <kn> digraph for /n/ only found in words of Old English origin?

[Note: This hypothesis will be confirmed when she later looks at that Real Spelling theme on four ways to write the initial phoneme /n/.]

“Hey,” a student notices, “<seasickness> can’t use a <kn> ‘cause that’s a <-ness> suffix.” Mrs. Burns writes a word sum as that student names each morpheme.

sea + sick + ness → seasickness

After the ‘rewrite arrow’, the structure of this word is correctly pronounced like this:

“s--e-a--pause--s--i--c-k--pause--n--e--double-s”

The plus sign helps make it clear that there is no <kn> in this word when they spell it out loud. Spelling-out with the word sums helps show that this word uses a <k> and an <n> not a <kn>. Spelling out the word sum also highlights digraphs like <ea> and <ck>, and that there is a “double s” in the <-ness> suffix.

Bringing it back to the grapheme-phoneme question, Mrs. Burns says, OK we have plenty of evidence for a <kn> digraph for /n/ in <know>. How about the <ow> for the ‘long <o>’? Do you know other words that use that digraph for the ‘long o’? Students offer <row>, <snow>, <grow>, so that is resolved quickly.

“Good. I guess we can add <ow> to our graphemes for the ‘long o’. Now, who can spell <know> for me?” asks Mrs. Burns.

Lots of hand go up as this is obvious now. The first student says, “k-n---o-w” emphasizing the two digraphs. Thinking of the word <knowledge>, but not

Mrs. Burns thought about asking if <ow> can represent any other **phonemes**, but she is not yet comfortable using that language with her students.

A year or two later she laughs at herself for how long she hesitated to use the word ‘phoneme’ with students. The spark for starting to use the term was a student’s question about the word sum for the word <grapheme>. Mr. Burns regularly talked about graphemes, digraphs and trigraphs, but she had never investigated the structure of the word.

Like usual, she wrote the word on the board and asked if students recognized any familiar morphemes. A student raised her hand and said it had the word <graph>, and suggested that would be the base. That meant that there must be a suffix <-eme>. (Could it be a bound base <eme>?)

graph + eme → grapheme

The base <graph> made sense as a unit of ‘writing’. With that word sum in place, Mrs. Burns couldn’t resist introducing the word <phoneme> and it’s word sum.

phone/ + eme → phoneme

When she asked what people thought a “phoneme” was, students suggested that it must be a ‘unit of sound’. Before this investigation Mrs. Burns would say things like “What sound does that grapheme represent?” After this class she started to say things like “What phonemes can that grapheme represent?” The kids didn’t seem to have any problem with the term once it became just another term they used.

saying anything yet, Mrs. Burns asks if anyone can think of any other pronunciations <ow> can represent.

She gets a bunch of blank stares. “Well, look at our matrix, can anyone see a word where the <ow> is not representing the “long <o>?”. Now the hands go up when kids see <knowledge>.

“OK, great work.” Mrs. Burns brings the investigation to a close for now. “We have some questions on our Wonder Wall to keep in mind and some new affixes to add to the morpheme chart. Maybe in our next computer lab time I can give you some time to get in groups to make some matrices on this base.”

Summing up

I would like to emphasize that I am not suggesting that all of this content *should* be taught whenever this word comes up. I do argue that, however, that teachers should have the training and resources that makes it *possible* to present this content when they judge it to be the appropriate time. It is worth noting that content in this hypothetical “inquiry-led” lesson is far less complex than many of the examples that can be found by exploring the WordWorks website and Newsletters.

Given the rich learning available by investigating the conventions that govern the spelling <know> the fact that the it is usually relegated to lists of “irregular” words to memorize is evidence of a fundamental flaw in our education system.

The lack of linguistically accurate resources and training means that this kind of learning experience lies dormant beneath every “exception” word we ask students to memorize.

Peter Bowers, January, 12, 2011